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**JSSH**

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## *Journal of Social Sciences & Humanities*

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Pertanika is an international peer-reviewed journal devoted to the publication of original papers, and it serves as a forum for practical approaches to improving quality in issues pertaining to tropical agriculture and its related fields. Pertanika began publication in 1978 as the Journal of Tropical Agricultural Science. In 1992, a decision was made to streamline Pertanika into three journals to meet the need for specialised journals in areas of study aligned with the interdisciplinary strengths of the university.

The revamped Journal of Social Sciences & Humanities (JSSH) aims to develop as a pioneer journal for the Social Sciences with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities, particularly in the Asia Pacific region. Other Pertanika series include Pertanika Journal of Tropical Agricultural Science (JTAS); and Pertanika Journal of Science and Technology (JST).

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## Foreword

Welcome to the **Final Issue 2014** of the Journal of Social Sciences and Humanities (JSSH)!

JSSH is an open-access journal for the Social Sciences and Humanities that is published by Universiti Putra Malaysia Press. It is independently owned and managed by the university and run on a non-profit basis for the benefit of the world-wide social science community.

This issue contains **16 articles**. The authors of these articles come from different countries, namely, **Malaysia, Pakistan, India, Iran and Indonesia**.

The articles cover a wide range of topics, from a study intended to understand users' perception of recreational forest landscape maintenance and management in Selangor, Malaysia (*Mohd Kher Hussein*), an analysis of proportion and geometrical principles used in traditional houses in hot-arid, Iran (*Nabavi, F., Yahaya, A. and Goh, A.T.*), to a study that examined the influence of some pre-defined factors (namely, playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media (*Norazah M.S.*).

The research studies, on topics related to education, psychology, language and literature, include a study that examined the effects of PowerPoint presentation on Iranian university students' performance and attitudes (*Jalali, Sara*), an exploration of teachers' attitudes towards Information and Communication Technology in secondary schools in the island state of Penang, Malaysia (*Termit Kaur Ranjit Singh and Vickneswarinee Ganisha*), research work that investigated the religious maturity of Hindu, Christian and Muslim adolescents studying at secondary level in Pakistan (*Buzdar, M.A. and Ali, A.*), a study to determine the extent of risk-taking behaviour, and its relationship with the demographic variables of Malaysian motorcyclists (*Siti Maryam Md Nor and Haslinda Abdullah*), an analysis of commuters and their families, including gender differences and the impacts of commuting among young families in Malaysia (*Adriana Ortega, Haslinda Abdullah and Samsilah bte Roslan*), research work examining the multiple mediation effects of positive identity and commitment to learning on the relationship between support and positive values embraced by urban youths living in the inner city of Kuala Lumpur (*Abdul Kadir, N.B., Samsudin, A.R., Zaidah, M., Mimi Hanida, A.M., Sheau Tsuey, C. and Subhi, N.*), a work that developed a machine translation system from English to Tamil using a novel pre-processing methodology (*Anand Kumar M, Dhanalakshmi V, Soman K P and Rajendran S*), a review on the effect of disciplinary variation and linguistic differences on the use of lexical bundles in academic writing (*Kashiha H. and Chan S. H.*), a study investigating the effect of consciousness-raising activities on learning grammatical structures by Iranian guidance school EFL learners (*Farrokhlagha Heidari and Nourullah Mansourzadeh*), a study that explored the commonalities and variations in ontological

metaphor conceptualisations of thought as food in a cross-cultural comparative study of English and Persian (*Zahra Khajeh, Imran Ho-Abdullah and Tan Kim Hua*), a report on the strategies in responding to an offer or invitation among Indonesians (*Yazid Basthomi*), a discussion on humanity's alienation from nature and the role of forgotten tradition in Keris Mas' *Jungle of Hope* and K. S. Maniam's *Between Lives* (*Zainor Izat Zainal*), and an article that analysed the issue of formation of cultural identity in the immigrant community of Japanese-Americans in the early 20th century portrayed in Wakako Yamauchi's *And The Soul Shall Dance* (*Nahidh F. Sulaiman*).

I anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking, and useful in reaching new milestones. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

I would also like to express my gratitude to all the contributors who have made this issue possible, as well as the authors, reviewers and editors for their professional contribution. Last but not least, the editorial assistance of the journal division staff is also fully appreciated.

JSSH is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

**Chief Executive Editor**

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*Review Article*

## **Cross-Linguistic and Cross-Disciplinary Investigation of Lexical Bundles in Academic Writing**

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### **ABSTRACT**

The present paper reviews the use of lexical bundles in academic writing from two different viewpoints namely linguistic and discipline, directed at how academic writers belonging to different disciplines or linguistic backgrounds construct their discourses through lexical bundles. As cohesive devices, lexical bundles are an indispensable part of the text and play a crucial role in shaping propositions, evolving the text, guiding readers through the flow of information and gaining the writer's proffered meaning. By using lexical bundles, academic writers are able to attain naturalness in their writings and create a more reader-friendly approach to the unfolding text. Bearing the significance of lexical bundles in mind, this review paper aims to examine the effect of disciplinary variation and linguistic differences on the use of lexical bundles in academic writing. Most researchers believe that the frequency as well as the use of lexical bundles is different across disciplines and from one language to another language. Therefore, through a review of previous studies, there is a systematic investigation of evidence to support the above claims. Possible limitations of previous studies are discussed and some implications for further research are presented.

*Keywords:* Academic writing, linguistic variations, disciplinary variations, lexical bundles

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### **INTRODUCTION**

Language learners have always been interested in learning and using multi-word expressions to show that they have a good command of the target language. These multi-word fixed expressions are one of key elements of fluent linguistic production

and play an important role in the process of language learning (Hyland, 2008). They also attract many academic writers who use the language for specific or academic purposes. With the arrival of computer technology, the calculation and analysis of word-combinations has become much easier (Jablonkai, 2010). *The Longman Grammar of Spoken and Written English* (Biber, Conrad & Cortes, 1999) was the first corpus framework for studying and calculating the frequency of longer word combinations. The next step was to introduce lexical bundles as corpus investigation; they are, also known as clusters and chunks (Hyland, 2008) as a new term to differentiate these recurrent word chains from other types of multi-word expressions (e.g. idioms). Biber and Conrad (1999) define lexical bundles as “multi-word expressions which occur frequently and with accidental sequences of three or more words (e.g. *in the case of the, do you want me to*)” (p. 183). Bundles are frequently occurring series of unexpected word forms that do not have any special sequence pattern and appear to come together by chance. Nonetheless, they play an important role in understanding the meaning of specific contexts and contribute significantly to the coherence of the text (Hyland, 2008). In addition, they are manifested differently according to the nature of the text. Phrases like *what I want to say* or *as far as I know* would refer to group discussions and conversations while *as it was noted before* or *in accordance with* would belong to an academic corpus.

Recent studies (Biber *et al.*, 1999; Wray & Perkins, 2000; Biber, 2006; Cortes, 2002, 2004; Hyland, 2008) have witnessed the significance of lexical bundles as a major source of coherence in academic texts of different discourse communities. A majority of the studies conducted on the notion of lexical bundles have focused on structural and functional analysis of these recurring expressions (Hyland, 2008; Cortes, 2004; Strunkyt & Jurkūnait, 2008; Adel & Erman, 2012; Bal, 2010; Chen & Baker, 2010). Structural categorization of bundles was first introduced by Biber and his colleagues (1999). They found lexical bundles structurally complex, usually incomplete and not fixed and they classified them into 8 broad structural categories: *noun phrase + of, other noun phrases, Prepositional phrase + of, other prepositional phrases, passive + prep phrase fragment, anticipatory it + verb/adj, be + noun/adjectival phrase* and *others* (Biber *et al.*, 1999). Accompanying the identification of the forms, there was also the need to have other frameworks for analyzing the functions or meanings of lexical bundles in a text. Biber *et al.* (2004) identified three major discourse functions for lexical bundles: *stance bundles, discourse organizer bundles* and *referential bundles*. They define stance bundles as the “overt expression of an author’s or speaker’s attitudes, feelings, judgments, or commitment concerning the message”. They argue that discourse organizer bundles try to “indicate the general overview of the sentence”, while, referential bundles

“signalize and point out some important features of a unit to be important in a way” (pp. 386-388). Hyland (2008) proposed another functional taxonomy as a more refined version of Biber’s classification. Hyland’s classification identified three major discourse functions for lexical bundles and introduced sub-categories which specifically reflect the concerns of research writing. The main functions are: *research-oriented bundles*, *text-oriented bundles* and *participant-oriented bundles*. Research-oriented bundles “help writers to structure their activities and experiences of the real world”. Text-oriented bundles have to do with the cohesion of the text and its meaning in the form of logical arguments and “participant-oriented bundles focus on the writer or reader of the text” (p. 14).

A number of differences can be found studying the two frameworks regarding their realizations to functional categories. For example, Biber *et al.* (2004) assign stance as a super-ordinate category while Hyland (2008) has grouped it into a category in which such bundles refer to the connection they can make to either the writer or reader. Another difference is, while Biber *et al.* (2004) categorize *as a result of* and *on the basis of* as referential expressions stating the representation of the reality, Hyland (2008) takes them in the category of text organizers that establishes logical relations in the discourse. It seems that each framework has its own approach and reasons for the explanation and classification. The advantage of Biber’s taxonomy is that it can be used on a wide corpus and

can cover studies of lexical bundles in both spoken and written registers. On the other hand, Hyland’s classification is more focused on research writing and cannot specifically be applicable for studies on spoken discourse, and this is seen as a limitation. As Hyland (2008, p.13) himself argues, Biber *et al.* (2004) had introduced a “much broad corpus of both spoken and written registers including casual conversation, textbooks, course packs, service encounters, institutional texts, and so on,…” while he had concentrated more on the idea of lexical bundles in relation to research focused genres.

In the last 20 years, many researchers have also branched into the issue of disciplinary variation while analyzing lexical bundles (Cortes, 2004; Hyland, 2008; Strunkyt & Jurkūnait, 2008). Some other researchers have considered linguistic variation as a factor that influences the use of lexical bundles (Chen & Baker, 2010; Rafiee, Tavakoli & Amirian, 2011; Adel & Erman, 2012; Karabacak & Qin, 2013). Yet, in the existing studies, little research has been done on the roles of linguistic and disciplinary variations in the use of lexical bundles in academic writing. Therefore, the purpose of this review is to shed more light on the notion of lexical bundles in academic writing focusing on two different perspectives, linguistic and discipline. The aim is to gather evidence that can explain how native and nonnative writers from different disciplinary and cultural backgrounds are influenced in the use of lexical bundles in order to

generally contribute to the coherence in a text, create a realistic academic voice and attain naturalness in writing. This is particularly with reference for the authors in different fields and contexts to come up with disciplinary and linguistic specific bundles. Secondly, it is also concerned with the method that enables the investigation. Based on the non-quantitative and non-empirical nature of review papers, the methodology section will be discussed first and then followed by substantial review of related studies.

#### **METHODOLOGY OF REVIEW**

In meeting the aim of the study, there were some steps taken in finding and synthesizing the reviewed articles related to this study. First, different online websites were searched using key words such as lexical bundles, disciplinary variation, cultural background, academic writing, functional and structural classification of bundles. Then, reading through reference sections of the findings introduced some new related articles. The electronic databases used for the literature search for the related studies were Google Scholar and *Scencedirect*. The criterion behind choosing the two electronic databases is mainly their popularity among the scholars in searching for empirical published articles. *Scencedirect* is considered as one of the largest online databases including collections of journals with published academic articles. Google Scholar is also one of the mostly visited web search engines which encompass a variety of scholarly literature across many publishing

topics and disciplines. On the whole, the exploration included 35 published articles on lexical bundles that spanned the last 20 years. Out of them, six most related articles were selected to be reviewed. The reason for not selecting the remaining articles was because they were not straightforwardly or directly relevant to the focus of this study. Some of them were only disciplinary, focusing on one single discipline rather than being cross-disciplinary. A few others investigated the use of lexical bundles in only one language, rather than being cross-linguistic. However, they were studied and used as background literature. Articles in the cross-disciplinary section examined the use of bundles across a variety of fields including, biology, history, electrical engineering, applied linguistics, business studies, physics and a few others. In the same line, articles in the cross-linguistic section investigated the manifestation of bundles in different cultural contexts such as Swedish, Persian, Chinese, Turkish and English.

This paper employs the review method proposed by Creswell (1994), in that, the major purpose of a review is first to summarize the current state of knowledge on the basis of what has been reviewed so far and second to shed light on the important parts that have not been focused on in previous studies. The method of the review in this study started by dividing the selected articles into two sections: cross-disciplinary and cross-linguistic. Each section was assigned three most relevant articles to be reviewed. Each article was then reviewed on

the basis of its topic, corpus, model, method, and findings. Then next step was to draw attention to the positive and negative points and possible shortcomings in the survey. Finally, the last stage discussed the strengths, flaws, and limitations of the reviewed studies and put forwards some implications for future research. The description of the corpus is shown in Table 1.

### REVIEW OF RELATED STUDIES ON LEXICAL BUNDLES

Review of related studies was done on the basis of two main categories: 1) Cross-disciplinary studies, and 2) Cross-linguistic studies. The most related studies in each category are reviewed and explained in detail.

#### *Cross-disciplinary Studies*

As mentioned, having control over lexical bundles or other multi-word expressions is one of the most important aspects in linguistic production that leads to fluency. These recurring expressions are also referred to as extended collocations (Cortes, 2004) that can help shape the meaning in context and build coherence in a text (Hyland, 2008). Therefore, they attract many English for Academic Purposes (EAP) scholars but only scant attention had been paid to their difference in use across disciplines.

Hyland (2008) addressed this issue in his study. He analyzed the frequency, structure and function of 4-word lexical bundles in research articles, doctoral dissertations and master's theses, across four disciplines namely electrical engineering and biology from the applied and pure sciences, and business studies and applied linguistics from the social sciences, forming a 3.5 million word corpus. The corpus of research articles included 120 published papers with 30 in the most important journals of each of the four disciplines. The PhD and master's corpora contained 20 texts in each discipline written by Cantonese L1 speakers at Hong Kong universities. The purpose was to calculate the frequency of lexical bundles to find out the disciplinary variation. The results revealed that electrical engineering articles have the greatest number of bundles, with 213 different bundles. Biology articles on the other hand, have the smallest range of lexical bundles, 131 different bundles. He also found that the other three disciplines did not seem to use the bundles found in the engineering texts leading to the conclusion that engineering writers appear to depend more on pre-fabricated structures compared to writers in other fields. To provide a firm reason for the phenomenon is difficult, but "speculatively it could be a consequence of the relatively abstract and graphical nature of technical communication" (Hyland,

TABLE 1  
Description of the corpus

| Perspectives             | Cross-disciplinary | Cross-linguistic | Total |
|--------------------------|--------------------|------------------|-------|
| No. of reviewed articles | 3                  | 3                | 6     |

2008, p. 11). Both Biology and Electrical engineering appear to rely more on statistics and visual representations to support their arguments. Hyland (2008) concluded that writers of different fields make use of a variety of ways to “develop their arguments, establish their credibility and persuade their readers, with less than half of the top 50 bundles in each list occurring in any other list” (p. 19).

Addressing the question, as to what extent fixed expressions are exclusive to particular registers and also as to the difference between disciplinary professional and beginner writing in relation to the use of frequent word combinations, Cortes (2004) conducted a study on the use of the most frequent four-word lexical bundles (called *target bundles*) in the writing of university students of two disciplines, history and biology. Through a comparison of the published writings from history and biology journals, the results showed some disciplinary differences in the use of epistemic–impersonal/probable–possible stance markers in biology articles. To Cortes (2004), these bundles are used in a variety of ways to show “the effect of an affirmation, or to make an affirmation or argument more tentative” (p. 411) in the corpus of published biology writings. History writers, on the other hand, did not use these bundles frequently. The findings proposed that in order for the history writers to communicate the same functions, they prefer to use much ‘simpler’ vocabularies which are probably shorter than those of the lexical bundles investigated.

The frequency of occurrence, and structural and functional analysis of lexical bundles are affected by the disciplinary variation. To affirm this contention, Strunkyt and Jurkūnait (2008) investigated the use of lexical bundles in research articles in two disciplines: humanities, represented by research articles in linguistics and educology, and natural sciences, represented by research articles in physics and astronomy. The research analyzed and compared structural and functional types of lexical bundles in 40 research articles (20 from each discipline). The findings revealed that writers in the humanities used a larger number of lexical bundles compared to those in natural sciences. They also employed more structural types of bundles which indicated that the language of humanities is more mixed and varied than the language of the research articles in natural sciences. As for the functional analysis, research articles in natural sciences resorted to more text organizing bundles in order to set up a communication with the reader. Stance and referential bundles were more frequent in humanities than in natural sciences. However, the referential bundles included a higher level of transactional information, such as exemplification, relationship between topics, evaluations, qualifications in both humanities and natural sciences.

#### *Cross-linguistic studies*

In general, investigation and research in the area of second language acquisition has always been integrated by a comparison

of different or similar aspects of language use among native and non-native users. Comparing native and non-native learners in terms of using combinations of words that carry out specific meaning in a text is also of a great interest in the area of academic writing. Adel and Erman (2012) compared L1 speakers of Swedish with British native-speakers in terms of using lexical bundles in advanced academic writing of undergraduate university students of linguistics. The investigation involved both quantitative and qualitative analysis of four-word lexical bundles in the Swedish local corpus; Stockholm University Student English Corpus (SUSEC) which included 325 essays and over one million words. The results revealed that native speakers in general, used more lexical bundles than the non-natives, with 130 different bundles as compared with 60. In terms of types of bundles, they also found some similarities and differences between native and non-native learners. Both native and non-native speakers used bundles such as *the result from the* and *can be used to*, while bundles like, *as a result of*, *at the beginning of*, *the aim of this* and *to look at the* were only found in the writing of native speakers.

Teaching both L1 and L2 apprentice writers to use lexical bundles in their writing could to a great extent play a crucial role in competent English academic writing (Karabacak & Qin, 2013). With this concern and on the basis of their hypothesis, Karabacak and Qin (2013) conducted a comparative study and looked

at cross-cultural variations concerning the use of lexical bundles in writings of Turkish (EFL), Chinese (EFL) and American (native speakers of English) university students. To this end, 29,532 articles were collected from the *New York Times* and *SF Gate* newspapers as a corpus in order to extract target bundles out of one million words. Then the students' papers were analyzed to see the extent they had used such bundles in comparison. Results showed that there were some considerable differences between three groups of writers concerning the frequency of the types of bundles. American papers had the largest number of 5-word lexical bundles, while the number used is the lowest for the Chinese writers. Regarding target and reference bundles, the result showed that American and Turkish students employed these bundles quite similarly. Again, Chinese students used the lowest number of target bundles. They concluded that natural acquisition of some lexical bundles through simple exposure may be difficult even for advanced English learners. Therefore, they need to be taught explicitly to hasten their acquisition process.

Analyzing the frequency of lexical bundles in journalistic writing would be a great help to both native and non-native academic authors and at the same time, guide readers to follow the information in the text and thus get a better understanding of the point of the writer. With regards to this idea, Rafiee, Tavakoli and Amirian (2011) analyzed lexical bundles to investigate the frequency and distribution of structural

types of lexical bundles between English newspapers published in native and non-native contexts. To this end, a 3 million word corpus of four English newspapers, two published in Iran (the Iran Daily and Tehran Times) and the two others published in England (The Times and Independent) from 1/1/2009 to 15/1/2010 were used. Their first finding was in line with the findings of previous studies conducted by Biber *et. al.* (1999) and a few others, in that most of the bundles in their corpus were phrasal rather than clausal bundles. In fact, Biber *et. al.* (1999) made an important note that the register of academic writing is distinguished from other modes such as conversation, in that it includes more phrasal rather than clausal bundles.

The investigation showed marked similarities and differences between two groups of journalists in their use of lexical bundles. Overall, Iranian journalists used more lexical bundles compared with native speaker journalists. To Rafiee, Tavakoli and Amirian (2011), the reason for such a higher tendency to use lexical bundles among non-native writers “could be due to the fact that they have already been exposed to such word sequences several times in their prior readings of various kinds of English literature” and thus the ability to use these lexical bundles is well inculcated and influenced by this EFL experience (p.13). There was a remarkable inclination to use the structural types of lexical bundles among both Iranian and English journalists. The analysis based on structures of bundles showed that both Iranian and English

journalists used the same structures in constructing lexical bundles, probably showing the high degree of competence needed in journalistic writing.

## SUMMARY OF FINDINGS

After reviewing the above related studies in regards to their methodology, total data, obtained results, explanation of ideas, discussion of findings and, of course, recommendation and implication, the researchers found that each of the above studies has its own strong and weak points. Both the research gap and the purpose of the study were fulfilled and described in all the reviewed studies. From the overlaps, frequency and corpus-based investigation of lexical bundles, many researchers established that such word combinations are very text-dependent in academic writing. On the other hand, the nature of lexical bundle use in oral discourse has yet to be firmly established, and this leads to growing interest among researchers to study lexical bundles in spoken academic discourse. The supporters of studies on spoken discourse argue that the distribution of lexical bundles could be dependent on the genre and the mode. As Biber and Barbieri (2007) pointed out, “the extent to which a speaker or writer relies on lexical bundles is strongly influenced by their communicative purposes, in addition to general spoken/written differences. The explanation for the infrequent use of lexical bundles in the academic written registers (textbooks and academic prose) apparently lies in the restricted communicative goals of

those registers—focused on informational communication—rather than the written mode *per se*”. (p. 273)

Concerning the discussion of findings, among the studies, Rafiee, Tavakoli and Amirian (2011) and Karabacak and Qin’s (2013) works suffered from the fact that they did not provide explicit details on the examples of their corpus while discussing their findings. In contrast, however, Hyland (2008), Cortes (2004), and Adel and Erman (2012) supported their results by giving ample examples and explanations exploited from their analyzed data and discussed them in a lucid and comprehensive way. From the critique, it is also noted that Biber *et. al.*’s (1999, 2004) framework stands out as the dominant one in analyzing the structural types of lexical bundles. Almost all the studies have applied the framework proposed by Biber *et. al.* to analyze the frequency and distribution of structural types of lexical bundles but concerning functional analysis, Hyland (2008) used his own taxonomy which was extended from Biber’s (Biber 2006, Biber *et. al.*, 2004). Studies conducted by Cortes (2004) and Strunkyt and Jurkūnait (2008) also made use of functional categorization designed by Biber *et. al.* (1999, 2004). Studies done by Rafiee, Tavakoli and Amirian (2011) and Adel and Erman (2012) compared and contrasted their results with those of previous researchers but other studies did not compare nor contrast their findings with earlier studies. Points of comparison and contrast would have helped in establishing greater credence to any findings.

In terms of the amount of data used in the related studies, findings showed that the corpora used in most of the studies such as those by Hyland (2008), Cortes (2004), Rafiee, Tavakoli and Amirian (2011), and Adel and Erman (2012), were sufficiently large and could help in the generalization and representation of the results. Biber (2006) believes that a corpus must be large enough to adequately represent the occurrence of the features being studied. The study by Strunkyt and Jurkūnait (2008) was restricted in the number of disciplines studied leading to the use of a small corpus, thus affecting the reliability of the claims made. Another study by Karabacak and Qin (2013) also lacked in number of adequate texts (with only two American newspapers) as a reference corpus needed for representing written English in general and the results in specific. For the genre in question, therefore, a larger corpus would be needed to discover lexical bundles within each sub-corpus which could serve as a point of departure for further research.

In comparing the findings to point out similarities or differences, some studies such as those by Adel and Erman (2012) and Rafiee, Tavakoli and Amirian (2011) were quite lucid, comparing their findings to those of previous studies or were able to evoke similarities and differences between them, but such comparison could not be seen in those by Karabacak and Qin (2013) and Strunkyt and Jurkūnait (2008) whose findings lacked comparison and related elaboration. Cortes (2004) compared the writing of university students of two

disciplines, history and biology, with those of published writing from history and biology journals in terms of using lexical bundles but she discussed the disciplinary differences in two separate sections. Instead, she could have compared the use of target bundles in history and biology in one specific section since she was conducting a cross-disciplinary study.

Regarding recommendation and implication, Cortes (2004) and Hyland (2008) did not provide any recommendations for further research but identified some implications for their studies. Hyland (2008) addressed EAP practitioners and course designers to increase the learning of these multi-word units in their EAP courses through greater exposure and

use of activities like item matching and identification, and productive tasks such as consciousness raising which require learners to produce the items in their extended writing. Adel and Erman (2012), on the other hand, directed researchers towards several issues in design and methodology but did not talk about the implications of their findings. Karabacak and Qin (2013) did not take into account these two factors. They neither direct researchers to make further studies nor provide any implications. A section on recommendation and implication would be a great help to novice writers and could direct them to future research. The description of the strengths and weaknesses of the reviewed studies is illustrated in Table 2 and Table 3.

TABLE 2  
Description of the reviewed cross-disciplinary studies

| Study   | Author(s)/ Year of publication | Strengths   | Weaknesses  |
|---|--------------------------------|---|---|
| 1. As can be seen: Lexical bundles and disciplinary variation                                       | Hyland (2008)                  | 1. Using ample examples from the data to support the results.<br>2. Data was sufficiently large.  | 1. No recommendation for further research   |
| 2. Lexical bundles in published and student disciplinary writing: examples from history and biology | Cortes (2004)                  | 1. Using ample examples from the data to support the results.<br>2. The data was sufficiently large.<br>3. Compared the findings to those of previous studies | 1. No recommendation for further research   |
| 3. Written Academic Discourse: Lexical bundles in humanities and natural sciences                   | Strunkyt and Jurkūnait (2008)  | -----   | 1. Suffering from inadequate corpus size.<br>2. Findings lacked comparison and related elaboration.<br>3. No implication and recommendation for further research. |

## CONCLUSION

This paper aimed to look at the effects of disciplinary variation and linguistic differences on the use of lexical bundles in academic writing. In general, all the above mentioned cross-disciplinary and cross-linguistic studies have been conducted using different languages, context, frameworks, methodologies, analyses and points of view. Many researchers agree that lexical bundles are one of the most important aspects of fluent linguistic production and thus play an important role in the process of language learning. Lexical bundles also help many

academic writers to use the language for specific or academic purposes. Scholars also attest to the fact that the manifestation of lexical bundles is restricted and conditioned by the discipline's public goals, norms, and conventions and writer's native language writing culture. It is suggested that more work needs to be done on the notion of lexical bundles cross-disciplinarily and cross-linguistically, through other genres of academic written discourse. This includes a variety of published written materials such as textbooks, theses and dissertations in different disciplines. Of some significance

TABLE 3  
Description of the reviewed cross-linguistic studies

| Study   | Author(s)/ Year of publication      | Strengths   | Weaknesses  |
|---|-------------------------------------|---|---|
| 1. Recurrent word combinations in academic writing by native and non-native speakers of English: A lexical bundles approach | Adel and Erman (2012)               | <ol style="list-style-type: none"> <li>Using ample examples from the data to support the results.</li> <li>Compared the findings to those of previous studies</li> <li>Data was sufficiently large</li> </ol> | <ol style="list-style-type: none"> <li>The study did not provide any implication.</li> </ol>  |
| 2. Comparison of lexical bundles used by Turkish, Chinese, and American university students                                 | Karabacak and Qin (2013)            | <ol style="list-style-type: none"> <li>Significant findings regarding the use of lexical bundles in the three languages.</li> </ol>   | <ol style="list-style-type: none"> <li>No implication and recommendation for further research.</li> <li>The study did not provide explicit details from the examples to support the findings.</li> <li>It lacked in the number of texts used</li> </ol> |
| 3. Structural analysis of lexical bundles across two types of English newspapers edited by native and non-native speakers   | Rafiee, Tavakoli and Amirian (2011) | <ol style="list-style-type: none"> <li>Compared the findings to those of previous studies</li> <li>Data was sufficiently large</li> </ol>   | <ol style="list-style-type: none"> <li>The study did not provide explicit details from the examples to support the findings.</li> </ol>   |

is the notion that lexical bundles should be extended in investigation with reference to its use in different genres and modes.

As an extension, there is the possibility of giving more details to building a framework that deals with spoken data thus widening the scope on the investigation of lexical bundles for such different text purposes. Findings reveal that having a good command of lexical bundles can highly ensure the degree to which members of different disciplinary communities acquire the discipline-specific knowledge as these multi-word expressions contribute to the coherence in a text, create a realistic academic voice and attain naturalness in the language. Findings of this study are beneficial to experts and academic writers from different disciplinary or cultural backgrounds in using formulaic expressions in their specific disciplines or contexts. In the same line, course designers can also realize the significance of multi-word sequences to include them in their disciplinary or linguistic specific syllabus.

## REFERENCES

- Adel, A., & Erman, B. (2012). Recurrent word combinations in academic writing by native and non-native speakers of English: A lexical bundles approach. *English for Specific Purposes*, 31(2), 81–92
- Bal, B. (2010). Analysis of four-word lexical bundles in published research articles written by Turkish scholars. Unpublished MA Thesis. Georgia State University.
- Biber, D. (2006). *University Language: A Corpus-based Study of Spoken and Written Registers*. Amsterdam: Benjamin.
- Biber, D., & Barbieri, F. (2007). Lexical bundles in university spoken and written registers. *English for Specific Purposes*, 26(3), 263–286.
- Biber, D., & Conrad, S. (1999). Lexical bundles in conversation and academic prose. In H. Hasselgard & S. Oksefjell (Eds.), *Out of Corpora: Studies in Honour of Stig Johansson* (pp. 181–190). Amsterdam: Rodopi.
- Biber, D., Conrad, S., & Cortes, V. (2004). *If you look at...: Lexical bundles in university teaching and textbooks*. *Applied Linguistic*, 25(3), 371–405.
- Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). *Longman Grammar of Spoken and Written English*. London: Longman.
- Chen, Y., & Baker, P. (2010). Lexical bundles in L1 and L2 academic writing. *Language learning and technology*, 14(2), 30–49.
- Cortes, V. (2002). Lexical bundles in published and student academic writing in history and biology. *Unpublished Ph. D dissertation*, Northern Arizona University.
- Cortes, V. (2004). Lexical bundles in published and student disciplinary writing: examples from history and biology. *English for Specific Purposes*, 23, 397–423.
- Creswell, J. W. (1994). *Research design*. Thousand Oaks, CA: Sage publications.
- Haswell, R. (1991). *Gaining Ground in College Writing: Tales of Development and Interpretation*. Dallas: Southern Methodist University Press
- Hyland, K. (2008). As can be seen: Lexical bundles and disciplinary variation. *English for Specific Purposes*, 27, 4–21
- Jablonkai, R. (2010). English in the context of European integration: A corpus-driven analysis of lexical bundles in English EU documents. *English for Specific Purposes*, 29 (4), 253–267
- Karabacak, E., & Qin, B. (2013). Comparison of lexical bundles used by Turkish, Chinese, and

- American university students. *Procedia. Social and Behavioral Sciences*. 70, 622-628
- Rafiee, M., Tavakoli, M., & Amirian, Z.(2011). Structural analysis of lexical bundles across two types of English newspapers edited by native and non-native speakers. *Modern Journal of Applied Linguistics*. 3(2), 218-236.
- Strunkyt, G., & Jurkūnait, E.(2008). *Written academic discourse: Lexical bundles in humanities and natural sciences*.(Unpublished master's thesis). Vilnius University.
- Wray, A., & Perkins, M. (2000). The functions of formulaic language. *Language and Communication*, 20, 1–28

## APPENDIX

## Cross-disciplinary Studies

| Study                         | Sample                                    | Purpose  | Type of data  | Main findings  |
|-------------------------------|---|--|---|--|
| Hyland (2008)                 | 120 published papers-<br>20 dissertations | To analyze the frequency, form and function of four-word lexical bundles to find out the disciplinary variations.                                | Academic research articles, PhD and Master dissertation written by authors in four disciplines. | Disciplinary variations in the use and discourse functions of lexical bundles among the disciplines.   |
| Cortes (2004)                 | 277 university papers                     | Aimed to investigate the difference between disciplinary professional and beginner writing in relation to the use of frequent word combinations. | University papers written by university students belong to two different disciplines.           | Differences in the use of epistemic-impersonal/probable-possible stance markers in the two disciplines. Unlike biology, these bundles were not frequently found in history.  |
| Strunkyt and Jurkūnait (2008) | 40 research articles                      | Attempted to investigate the frequency of occurrence, and structural and functional analysis of lexical bundles in two disciplines.              | Experimental research articles written by authors in each fields                                | Cross-disciplinary differences regarding the use of bundles in the two disciplines. Natural sciences resorted to more text organizing bundles. Stance and referential bundles were more frequent in humanities than in natural sciences. |

### Cross-linguistic Studies

| Study                               | Sample               | Purpose  | Type of data   | Main findings  |
|-------------------------------------|----------------------|--|--|--|
| Adel and Erman (2012)               | 325 essays           | Compared the use of lexical bundles in advanced academic writing of L1 speakers of Swedish and British native-speakers undergraduate university students to scrutinize the possible cultural variations. | Advanced academic papers in the form of essays   | Some similarities and differences were found across two languages. Native speakers in general, used more lexical bundles than the non-natives. Both writers used bundles such as the result from the and can be used to, while bundles like, as a result of, the aim of this were only frequent in the writing of native speakers. |
| Karabacak and Qin (2013)            | 51 academic papers   | Explored the cross-cultural differences between academic papers written by Turkish, Chinese and American university students regarding lexical bundle use.   | University students' papers to be compared with 29,532 articles collected from the New York Times and SF Gate newspapers | They found that American papers had the largest number of 5-word lexical bundles, while the number used is the lowest among the Chinese writers. American and Turkish students employed target and reference bundles quite similarly.  |
| Rafiee, Tavakoli and Amirian (2011) | 4 English newspapers | Aimed to supply a cross-cultural investigation on the use and structure of lexical bundles in English newspapers published in native and non-native contexts.  | 2 English newspapers published in Iran and another 2 published in England.   | They found that both Iranian and English journalists use the same structural groups in constructing lexical bundles, probably showing the high degree of competence needed in journalistic writing. Most of the bundles in their corpus were phrasal rather than clausal.  |



## **Customer Satisfaction in the Context of the Use of Viral Marketing in Social Media**

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### **ABSTRACT**

Businesses could sustain their market presence at traditional brick and mortar or through the Internet by facilitating and encouraging the public to pass along a marketing message known as viral marketing. Nonetheless, it should be conducted in ethical manner to disseminate credible and trusted message content among both parties. This study aims to analyse the influence of some pre-defined factors (namely, playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media. For this purpose, 200 respondents were randomly drawn from among students at a public university in the Federal Territory of Labuan, Malaysia. A questionnaire was implemented and the results were analyzed using multiple regression analysis. Results revealed that critical mass stood out as the most the important predictor of customer satisfaction with viral marketing via SNS, followed by playfulness. Meanwhile, social network website with high level of critical mass has more influence on potential users to believe and participate in viral marketing activity. Conclusion and recommendations for future study are also discussed.

*Keywords:* Community driven, critical mass, multiple regression analysis, peer pressure, perceived playfulness

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### **INTRODUCTION**

Viral marketing, which is known as an online form of word-of-mouth/Internet word-of-mouth/electronic word-of-mouth,

enables satisfied customers to randomly broaden simple messages of a company's product to existing and potential customers directly via channels such as email, blogs, YouTube, social networking sites (SNS) like Facebook, MySpace, Twitter, etc. (Larson, 2009). SNS are virtual communities that bring together people who have created personal information profiles with other

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inviting friends with shared interests to interact together after having access to those profiles by posting comments and messages, uploading videos, subscribing to a channel, etc. SNSs “permit individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (Boyd & Ellison, 2007, 211).

Social networking via the Internet is becoming widely accepted by adolescents and young adults (Allen, Evans, Hare, & Mikami, 2010; Anderson & Butcher, Ball, Brzozowski, Lasseigne, Lehnert, & McCormick, 2010; DeGroot, Ledbetter, Mao, Mazer, Meyer, & Swafford, 2011; Regan & Steeves, 2010). SNS presents potentially interesting opportunities for new forms of product communication and commerce between marketers and consumers to spread the company’s product information (Miller & Lammas, 2010; Thevenot & Watier, 2001) at anytime and anywhere via the Internet. Customers in developed and developing countries provide diverse perceptions on viral marketing and/or social networks from the perspective of microeconomics and macroeconomics that could influence their satisfaction.

Prior studies have examined consumers’ behaviors of receiving, using, and forwarding viral marketing messages using SNS (e.g., Bolar, 2009; Boyd & Ellison, 2007; Chu & Choi, 2010; Chu & Kim, 2011). Research should focus on the manner SNS delivering

new forms of virtual experience in promoting virtual marketing that affects the satisfaction of online consumers. In relation to this, minimal studies shed light on insights among Malaysian customers. Therefore, this study aims to analyse the influence of some pre-defined factors (namely, playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media among Malaysian customers. The key contribution of this empirical study is to grant a finding that could bring interest to researchers and practitioners interested in understanding the factors that influence customer satisfaction in the context of the use of viral marketing in social media among Malaysian customers.

The next section presents review of literature related to the variables being investigated. Methodology is elaborated in section three, followed by data analysis in section four. Conclusion and recommendations for future study are discussed in the last section, i.e. section five.

## LITERATURE REVIEW

Social network component (namely, playfulness, critical mass, community-driven, and peer pressure) is one of the methods used to test the social network site that influences customer satisfaction on viral marketing. Customer’s satisfaction of a company’s product affects significantly on the manifestation of word-of-mouth about that company (Heitmann, Lehmann, & Herrmann, 2007; Wangenheim & Bayon, 2007).

### *Playfulness*

Playfulness, which is also known as enjoyment, refers to the playful actions of the SNS that users can experience (Rao, 2008; Sledgianowski & Kulviwat, 2009). Preceding studies found that perceived playfulness influenced users' behavioural intention to use a computer system (Lee, Cheung & Chen, 2007; Norazah & Norbayah, 2009). The initiation of SNS is rapidly changing human interaction, with millions of people worldwide are living much of their lives on Facebook, MySpace, Twitter and LinkedIn (Zhong, Hardin, & Sun, 2011). Users will continue on using SNS if they perceive it as enjoyable (Kang & Lee, 2010). Prior research of Lin and Yu (2006) and Moon and Kim (2001) found that perceived playfulness has a direct effect on extent viral marketing content. Users have pleasure in SNS in terms of posting photos, sending product information and sharing website links with thier circle of friends (Powell, 2009; Tapscott, 2008). Kelly (2008) noted that people are motivated to use SNS due to mood enhancement in order to relieve boredom. It is expected that social communication via SNS may enable users to enhance their sense of pleasure and maintain contacts with connected online friends that could affect their satisfaction in the context of the use of viral marketing in social media. Hence, the study posits that:

*H1: Playfulness has a significant effect on customer satisfaction in the context of the use of viral marketing in social media.*

### *Critical Mass*

Perceived critical mass is defined as “the degree to which a person believes that most of his or her peers are using the system” (Lou, Luo, & Strong, 2000, p. 95). Critical mass is related to an innovation sufficiently adopted by an individual who later convinces and influences other people to follow suit for further adoption (Rogers, 1995). Some previous research has found that perceived critical mass influence customers' behavioral intention to use communication technologies (see for e.g., Li, Chau, & Lou, 2005; Lou *et al.*, 2000; Van Slyke, Illie, Lou, & Stafford, 2007). In the case of SNS, an individual creates an account in SNS and actively participates in a social network at any time and any where to carry out continuous updates on information exchange and knowledge sharing activities with his or her circle of friends in the contact lists who will later invite others to join the communication network. This has smoothened the progress of critical mass.

“When the number of adoption by current users' increases, the innovation is perceived as increasingly beneficial to both previous and potential adopters” (Van Slyke *et al.*, 2007, p. 274). The potential users may develop favourable interest to be part of the communication network via SNS when a social network website has many current members, indicating that critical mass is achieved (Markus, 1994). Thereafter, it could influence customer satisfaction in the context of the use of viral marketing in social media. Therefore, the study hypothesises that:

*H2: Perceived critical mass has a significant effect on customer satisfaction in the context of the use of viral marketing in social media.*

#### *Community-driven*

Community-driven refers to a group of people who look for information, share and disseminate it to those who are in the contact lists with common interests. Community driven ties together friends with other circles of friends in communicating any kind of information and those who appreciate the benefits of the connection via the computer network (Huang & Xia, 2009; Moon & Kim, 2001). The virtual community post comments to express their agreement or disagreement on any issues that include technological, political, economic, legal, social and environmental. They also show concern for others (Hennig-Thurau & Walsh, 2004; Holme, Edling & Liljeros, 2004). Prior research found a significant correlation between customer connection with the other customer with regards to attitude and behavioral usage (Holbrook, 1992). This group of people can interact to each other through social network by looking for old friends or getting new friends and sharing information or product knowledge. "Social media introduced substantial and pervasive changes to communication between organizations, communities, and individuals (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011, p. 250). Community-driven may influence customer satisfaction in the context of the use of viral marketing in social media as the message shared by

customers is highly trusted based on their own experiential usage of the products or service after virtually communicating with the circle of communities via SNS. Thus, it is expected that:

*H3: Community-driven has a significant effect on customer satisfaction in the context of the use of viral marketing in social media.*

#### *Peer Pressure*

Peer pressure is related to the influence or invitation by friends to join and to participate in SNS such as Facebook, LinkedIn, Twitter, etc. for social communication. Viral marketing works because satisfied friends will transmit viral product messages to each other for information sharing and product knowledge (Bulkeley, 2002). In short, SNS make it possible for users to learn from peer experiences and advices (Kelly, 2008). They share with their peers news stories, blog posts, photo albums, etc. on SNS. Pressure from friends and family members can be seen as social influences that are perceived to be important to consumers in promoting and encouraging a greater dependency on communication technologies such as smartphones (Auter, 2007). Thus, peer pressure could help to increase the number of the social network members and affect customer satisfaction in the context of the use of viral marketing in social media. Accordingly, the study hypothesises that:

*H4: Peer pressure has a significant effect on customer satisfaction*

*in the context of the use of viral marketing in social media.*

The proposed research framework is presented in Fig.1.

**METHODOLOGY**

Two hundred respondents were randomly drawn from among the students at a public university in the Federal Territory of Labuan, Malaysia, utilizing a convenience sampling technique. Explanation for the objective of this study was given to the respondents prior to distributing the questionnaires. The questionnaires were collected immediately after the respondents had completed them so as to avoid low response rate. This whole process took around two weeks to complete with the responses rate of 100 percent. Quantitative method was applied as it is the type whereby to test the significance of hypotheses . A self-administered questionnaire with closed-ended questions was used to enable the respondents to

check the appropriate answers from a list of options. The questionnaire is divided into three sections: Section A consists of four questions to derived information related to the respondents’ demographic profile. Section B asked the respondents to provide responses on the four questions related to their experiences in social network on viral marketing via SNS. Section C was designed and included twenty measurement items that required the respondents to furnish their perceptions on certain factors such as playfulness, critical mass, community-driven, peer pressure, and customer satisfaction with viral marketing via SNS.

Items for customer satisfaction in the context of the use of viral marketing in social media was adapted from Helm (2000) and Dobele (2005), playfulness and community driven from Moon and Kim (2001) and Rao (2008), and critical mass from Van Slyke *et al.* (2007). Meanwhile, peer pressure items were adapted from Ajzen (2002) and Rogers (2005). These

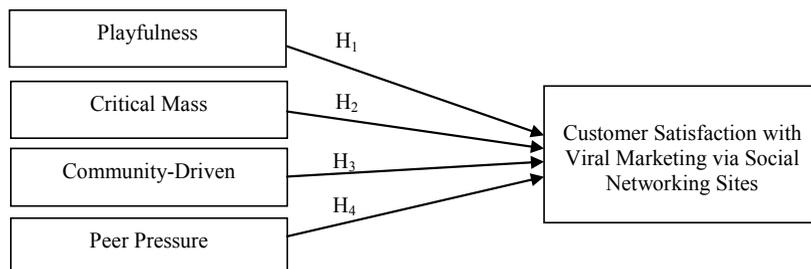


Fig.1: Proposed Research Framework

variables were measured with four items using a five-point Likert scale anchored by 1 (strongly disagree) to 5 (strongly agree). All of the variables and its measurement of instruments are presented in Appendix 1. Statistical Package for the Social Sciences (SPSS) computer programme version 17 was used to perform data analysis, including descriptive statistics such as frequencies, as well as sophisticated inferential and multivariate statistical procedures (Sekaran & Bougie, 2009). Multiple regression analysis was performed to describe the relationship between independent variables and a dependent variable based on the proposed research framework.

## RESULTS

Table 1 depicts the respondents' demographic profile. The analysis of the respondents' gender revealed that more than half (56.5%) of the respondents are males and 43.5% are females. Most of the respondents were predominantly Malays, who accounted for 56%, followed by Chinese (28%) and Indians (16%). As for the respondents' education level, they were mostly pursuing bachelor degree (95.5%) and in the age range of 20 to 29 years old. The fact that 99% of the students are below 29 years is considered as normal as university students are among the highest contributors to the increasing number of smartphone sales (Jacob & Isaac, 2008) and they are also users who actively access SNS (DeGroot *et al.*, 2011; Regan & Steeves, 2010).

TABLE 1  
Respondents' demographic profile

| Demographic Characteristics | Frequency | Percentage |
|-----------------------------|-----------|------------|
| <b>Gender</b>               |           |            |
| Male                        | 113       | 56.5       |
| Female                      | 87        | 43.5       |
| <b>Ethnicity</b>            |           |            |
| Malay                       | 112       | 56.0       |
| Chinese                     | 56        | 28.0       |
| Indian                      | 32        | 16.0       |
| <b>Educational Level</b>    |           |            |
| Matriculation               | 7         | 3.5        |
| Degree                      | 191       | 95.5       |
| Master                      | 2         | 1.0        |
| <b>Age (years old)</b>      |           |            |
| Below 20                    | 8         | 4.0        |
| 20-29                       | 191       | 95.5       |
| 30-39                       | 1         | 0.5        |

### *Experiences on Viral Marketing via SNS*

Table 2 describes the respondents' experiences in social network on viral marketing via SNS. Results showed that 97% of the respondents knew what viral marketing is, and only 3% did not know the definition of viral marketing. More than three-quarter of the respondents (97%) agreed that viral marketing had an impact on them, and 3% of respondents felt that viral marketing did not have any effect on them. Almost all of the respondents (98%) had a social network membership, while only 2% did not have it. Indeed, majority of the respondents (97%) had come across viral marketing through the social network that they joined, and only 3% of them had not encountered it through the social network.

*Reliability Analysis*

Reliability analysis was performed to check internal consistency of the variable items via Cronbach’s coefficient alpha. Hair, Black, Babin, Anderson and Tatham (2010) stated that values ranging from 0 to 1, with higher values indicating greater reliability. Findings in Table 3 demonstrate that all values are more than 0.7. Thus, the survey instrument is reliable to measure all the constructs consistently and free from random error.

*Correlation Analysis*

Correlation coefficients are calculated to check correlations between variables either

significant positive correlation or negative correlation. Lind, Marchal, and Wathen (2010) stated that the correlation value can be interpreted as weak when the correlation value is  $r=0.10$  to  $0.29$  or  $r=-0.10$  to  $-0.29$ , moderate when the value is  $r=0.30$  to  $0.49$  or  $r=-.30$  to  $-.49$ , and satisfying when the value is  $r=0.50$  to  $1.0$  or  $r=-0.50$  to  $-1.0$ . Table 4 reveals that playfulness, critical mass, community driven and peer pressure are significantly correlated in a positive direction with customer satisfaction in the context of the use of viral marketing in social media, with  $r$  value between  $0.301$  and  $0.595$ . Meanwhile, playfulness is the strongest factor that has positive correlation

TABLE 2  
Experiences on viral marketing via SNS

|  | Frequency | Percentage |
|--|-----------|------------|
| Do you know what is viral marketing?   |           |            |
| Yes  | 194       | 97.0       |
| No   | 6         | 3.0        |
| Does viral marketing have had an impact on you?  |           |            |
| Yes  | 194       | 97.0       |
| No   | 6         | 3.0        |
| Do you have any social network membership?   |           |            |
| Yes  | 196       | 98.0       |
| No   | 4         | 2.0        |
| Have you ever come across any viral marketing through the social network that you have joined? |           |            |
| Yes  | 194       | 97.0       |
| No   | 6         | 3.0        |

TABLE 3  
Reliability analysis

| Variable              | No. of Items | Cronbach’s alpha |
|-----------------------|--------------|------------------|
| Customer satisfaction | 4            | 0.868            |
| Playfulness           | 4            | 0.745            |
| Critical mass         | 4            | 0.892            |
| Community driven      | 4            | 0.826            |
| Peer pressure         | 4            | 0.778            |

with customer satisfaction in the context of the use of viral marketing in social media ( $r=0.587, p<0.01$ ), followed by critical mass ( $r=0.425, p<0.01$ ). There was a moderate positive correlation between peer pressure ( $r=0.352, p<0.01$ ) and community driven ( $r=0.422, p<0.01$ ), with customer satisfaction in the context of the use of viral marketing in social media.

Table 5 portrays mean, standard deviation, skewness, and kurtosis of each variable. The skewness of all the items ranged from 0.091 to 0.613, which is below  $\pm 2.0$ . Similarly, the values of kurtosis ranged from -0.483 to 1.489, which is well below the cut-off value of  $\pm 10$ . Both skewness and kurtosis are lower than the said value, signifying that the scores approximate a “normal distribution” or “bell-shaped curve”.

*Relationship with Customer Satisfaction in the Context of the Use of Viral Marketing in Social Media*

Multiple regression analysis was carried out to assess the direct effect/relationships between playfulness, critical mass, community-driven and peer pressure (independent variables) with customer satisfaction in the context of the use of viral marketing in social media (dependent variable). Table 6 illustrates that the independent variables explained 57.4% variance in customer satisfaction in the context of the use of viral marketing in social media ( $F=11.506, p<0.05$ ).

Hypothesis 1 postulates that playfulness has significant impact on customer satisfaction in the context of the use of viral marketing in social media. As evident in Table 6, customer satisfaction in the context

TABLE 4  
Correlation between the variables

|                           | 1       | 2       | 3       | 4       | 5 |
|---------------------------|---------|---------|---------|---------|---|
| (1) Customer satisfaction | 1       |         |         |         |   |
| (2) Playfulness           | 0.587** | 1       |         |         |   |
| (3) Critical mass         | 0.425** | 0.595** | 1       |         |   |
| (4) Community driven      | 0.422** | 0.583** | 0.563** | 1       |   |
| (5) Peer pressure         | 0.352** | 0.401** | 0.323** | 0.301** | 1 |

\*\* Correlation is significant at 0.01 level (2-tailed)

TABLE 5  
Mean, Standard Deviation, Skewness and Kurtosis of the Variables

|                       | Mean  | Std Deviation | Skewness | Kurtosis |
|-----------------------|-------|---------------|----------|----------|
| Customer satisfaction | 2.175 | 0.763         | 0.613    | 0.651    |
| Playfulness           | 2.036 | 0.431         | 0.578    | 0.729    |
| Critical mass         | 3.210 | 0.397         | 0.337    | 1.489    |
| Community driven      | 1.918 | 0.495         | 0.091    | 0.483    |
| Peer pressure         | 2.233 | 0.555         | 0.315    | 0.735    |

of the use of viral marketing in social media is significantly influenced by playfulness ( $\beta_1=0.160$ ;  $t\text{-value} = 1.990$ ;  $p<0.05$ ). Hence, H1 is accepted as having direct effect. The estimates are consistent with the expectation because its hypothesized relationship was significant ( $p<0.05$ ) and in the expected direction. Next, hypothesis 2 proposes that critical mass has significant impact on customer satisfaction in the context of the use of viral marketing in social media. The data confirmed the importance of critical mass in influencing customer satisfaction in the context of the use of viral marketing in social media ( $\beta_2=0.221$ ;  $t\text{-value} = 2.329$ ;  $p<0.05$ ). These results provided support for hypothesis H2. Critical mass factor carried as the heaviest weight in explaining customer satisfaction in the context of the use of viral marketing in social media.

Hypothesis 3 hypothesizes that community driven has significant impact on customer satisfaction in the context of the use of viral marketing in social media. The results presented in Table 6 demonstrate that community driven is unable to significantly predict the customers' satisfaction in the context of the use of viral marketing in social media ( $\beta_3=0.095$ ;  $p>0.05$ ). Thus, H3

is rejected. Further investigation of the study examined hypothesis 4 which postulated that peer pressure had significant impact on customer satisfaction in the context of the use of viral marketing in social media. The findings revealed insignificant outcome as its  $p\text{-value}>0.05$  ( $H4\ p= n.s.$ ). For this reason, H4 is not supported.

**DISCUSSION**

The research examines the influence of some pre-defined factors (i.e., playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media. The results, as illustrated in Fig.2, demonstrate that critical mass and playfulness have direct effects on customer satisfaction in the context of the use of viral marketing in social media, with asterisks denoting the significant results, i.e.  $p\text{-value}<0.05$ .

It is worthy noting that critical mass has the strongest direct effect with customer satisfaction in the context of the use of viral marketing in social media, followed by playfulness. This result aligns with prior research studies by Li *et al.* (2005), Lou *et al.* (2000), and Van Slyke *et al.* (2007) that social network website with high level

TABLE 6  
Relationship with customer satisfaction in the context of the use of viral marketing in social media

| Variable         | <i>b</i> | SE <i>b</i> | $\beta$ | t     | Sig.  | Result        |
|------------------|----------|-------------|---------|-------|-------|---------------|
| Playfulness      | 0.176    | 0.089       | 0.160*  | 1.990 | 0.048 | Supported     |
| Critical mass    | 0.205    | 0.088       | 0.221*  | 2.329 | 0.021 | Supported     |
| Community driven | 0.070    | 0.063       | 0.095   | 1.119 | 0.264 | Not Supported |
| Peer pressure    | 0.037    | 0.062       | 0.051   | 0.607 | 0.544 | Not Supported |

\* Significant at the 0.05 level; Adjusted R<sup>2</sup> = 0.574; F = 11.506; Sig. = 0.000

of critical mass has more influence on potential users to believe and participate in viral marketing activity. For the social network users, the mass that can be created in SNS and a website with playfulness element are the influencing factors with regards to their satisfaction on SNS content in viral marketing as these motivate them to join and remain with the social network. While information or messages can be communicated through viral marketing widely, coupled with the increasing use of SNS, viral marketing has become one of the marketing strategies for cost saving that supports customer satisfaction in the context of the use of viral marketing in social media. SNS imposes low cost but has greater influence on customers for marketers because they have trust in their friends than in company's advertisement when making any purchasing decisions. Customers do it in ethical manner where they spread electronic word-of-mouth known as viral marketing for social benefits. The playfulness of SNS attracts more users to stay on with the page satisfactorily, while attracting more users to actively participate in the social network

at the same time. This is consistent with the findings of Kang and Lee (2010), Lin and Yu (2006), and Moon and Kim (2001).

Next, this study reveals an insignificant relationship between community driven and peer pressure with customer satisfaction in the context of the use of viral marketing in social media. Though consumers have good understanding and perception of viral marketing via SNS as the social network website is expanding widely, they are not attracted to use SNS for viral marketing about company's product based on the influence and pressure by community peer. This result seems to oppose the findings of Abedniya and Mahmouei (2010) which reveal that social network websites with high level of community driven are predicted to be more likely to share and diffuse in viral content. Even though latest information can be achieved, transferred and responded to through social network, it still does not influence customer satisfaction with the information achieved through viral marketing using SNS. Despite the fact that customers could forward viral messages to their listed friends for message exposure

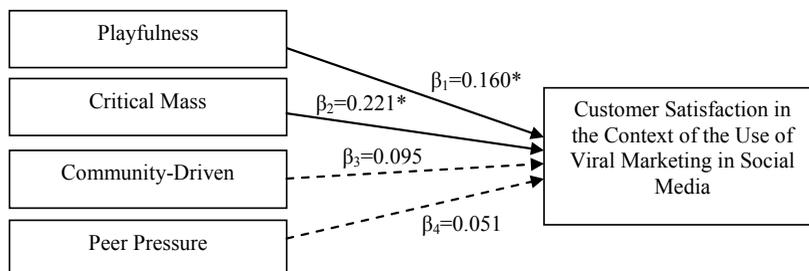


Fig.2: Results of the Full Model

and further action besides building social relations to share activities, ideas, interests, events within individual networks globally, they are still not attracted to use SNS for viral marketing of company's product. In other words, social network website with high level of peer pressure has not influenced customer satisfaction with viral marketing via SNS. Hence, the finding is incoherent with the discovery by Park and Chen (2007).

## CONCLUSION

The research examined the influence of some pre-defined factors (i.e. playfulness, critical mass, community driven, and peer pressure) on customer satisfaction in the context of the use of viral marketing in social media. Factors such as playfulness and critical mass have significant relationships with customer satisfaction in the context of the use of viral marketing in social media. This study has several implications. Special attention needs to be given to the community driven and peer pressure factors if SNS providers wish to retain and enlarge their customers' satisfaction when using viral marketing in social media. Apart from that, this study has brought about insights for SNS providers such as Facebook, Twitter, etc. and for them to focus more on issues requiring special attention such as playfulness and critical mass in devising their marketing strategies to encourage the use of SNS with ethical comportment. This could then boost up customer satisfaction with SNS and motivate them to employ viral marketing for any products and services via SNS. As

for academic researchers, the framework could be the basis for further research that investigates customer satisfaction in the context of the use of viral marketing in social media.

The current study however has some limitations. The first limitation is related to the use of student sample. Expanding the number of sample coverage should be done in any future research in order to increase sample generalizability. It is also recommended separating the population sample into geographical locations that does not only focus on students in a public university in the Federal Territory of Labuan, Malaysia. For instance, individuals living in other areas may have different perceptions towards viral marketing contents offered by companies, owing to their different cultures, levels of education and some other demographic factors. Next, the impacts of certain environmental variables and their influence in shaping SNS need to be further explored. Investigation of potential moderating variables such as demographic factor is also relevant. Future research could also study on the influence of satisfaction towards SNS content in viral marketing with service quality dimensions such as tangibles, assurance, reliability, responsiveness and empathy so as to fulfill users' unlimited needs.

## REFERENCES

- Abedniya, A., & Mahmoudi, S. S. (2010). The impact of social networking websites to facilitate the effectiveness of viral marketing. *International Journal of Advanced Computer Science and Applications*, 1, 139-146.

- Ajzen, I. (2002). *Constructing a TPB questionnaire: Conceptual and methodological considerations*. Retrieved on April 28, 2011, from <http://www.people.umass.edu/aizen/pdf/tpb.measurement.pdf>.
- Allen, J. P., Evans, M. A., Hare, A. L., & Mikami, A. Y. (2010). Adolescent peer relationships and behavior problems predict young adults' communication on social networking websites. *Developmental Psychology, 46*(1), 46-56.
- Anderson-Butcher, D., Ball, A., Brzozowski, M., Lasseigne, A., Lehnert, M., & McCormick, B. L. (2010). Adolescent weblog use: risky or protective? *Child Adolescent Social Work Journal, 27*, 63-77.
- Auter, P. J. (2007). Portable social groups: Willingness to communicate, interpersonal communication gratifications and cell phone use among young adults. *International Journal of Mobile Communications, 5*(2), 139-156.
- Bolar, K. P. (2009). Motives behind the use of social networking sites: An empirical study. *ICFAI Journal of Management Research, 8*(1), 75-84.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*, 210-230.
- Bulkeley, W. (2002). E-commerce: Advertisers find a friend in viral marketing. *The Wall Street Journal Europe, 25*.
- Chu, S. C., & Choi, S. M. (2010). Social capital and self-presentation on social networking sites: A comparative study of Chinese and American young generations. *Chinese Journal of Communication, 3*(4), 402-420.
- Chu, S. C., & Kim, Y. (2011). Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. *International Journal of Advertising, 30*(1), 47-75.
- DeGroot, J. M., Ledbetter, A. M., Mao, Y., Mazer, J. P., Meyer, K. R., & Swafford, B. (2011). Attitudes toward online social connection and self-disclosure as predictors of facebook communication and relational closeness. *Communication Research, 38*(1), 27-53.
- Dobele, A., Lindgreen, A., Beverland, M., Vanhamme, J., & Van Wijk, R. (2007). Why pass on viral messages? Because they connect emotionally. *Business Horizons, 50*(4), 291-304.
- Hair, J. F., Black, B., Babin, B., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate Data Analysis: A Global Perspective*. NJ: Pearson Education Inc.
- Heitmann, M., Lehmann, D. R., & Herrmann, A. (2007). Choice goal attainment and decision and consumption satisfaction. *Journal of Marketing Research, 44*, 234-250.
- Helm, S. (2000). Viral marketing – Establishing customer relationship by word-of-mouse. *Electronic Markets, 10*(3), 158-161.
- Hennig-Thurau, T., & Walsh, G. (2004). Electronic word-of-mouth: Motives for and consequences of reading customer articulations on the Internet eWOM: The impact of customer-to-customer online know-how exchange on customer value and loyalty. *International Journal of Electronic Commerce, 8*(2), Winter, 51-74.
- Holme, P., Edling, C. R., & Liljeros, F. (2004). Structure and time-evolution of an Internet dating community. *Social Networks, 26*, 155-174.
- Huang, L., & Xia, Z. (2009). Measuring user prestige and interaction preference on social network site. 8<sup>th</sup> IEEE/ACIS International Conference on Computer and Information Science.
- Jacob, S. M., & Isaac, B. (2008). The mobile devices and its mobile learning usage analysis. *Proceedings of the International Multiconference of Engineers and Computer Scientists, 1*, 19-21.

- Kang, Y. S., & Lee, H. (2010). Understanding the role of an IT artifact in online SNS continuance: An extended perspective of user satisfaction. *Computers in Human Behavior*, 26(3), 353-364.
- Kelly, B. (2008). *A review of current and developing international practice in the use of social networking (Web 2.0) in higher education*. Retrieved on May 9, 2011, from: <http://franklin-consulting.co.uk/Reports.html#Topic5>.
- Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media: Get serious: Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251.
- Larson, R. J. (2009). The rise of viral marketing through the new media of social media: An analysis and implications for consumer behavior. Retrieved on April 6, 2011, from <http://digitalcommons.liberty.edu/busifacpubs/6>.
- Lee, M. K. O., Cheung, C. M. K., & Chen, Z. H. (2007). Understanding user acceptance of multimedia messaging services: An empirical study. *Journal of the American Society for Information Science and Technology*, 58(13), 2066-2077.
- Li, D., Chau, P. Y. K., & Lou, H. (2005). Understanding individual adoption of instant messaging: an empirical investigation. *Journal of the Association for Information Systems*, 6(4), 102-129.
- Lin, C., & Yu, S. (2006). Consumer adoption of the Internet as a channel: The influence of driving and inhibiting factors. *Journal of Academy of Business*, 9(2), 112-117.
- Lind, D. A., Marchal, W. G., & Wathen, S. A. (2010). *Basic Statistics for Business and Economics* (7<sup>th</sup>ed.). United States: McGraw-Hill.
- Lou, H., Luo, W., & Strong, D. (2000). Perceived critical mass effect on groupware acceptance. *European Journal of Information Systems*, 9, 91-103.
- Markus, M. L. (1994). Electronic mail as the medium of managerial choice. *Organization Science*, 5(4), 502-527.
- Miller, R., & Lammas, N. (2010). Social media and its implication for viral marketing. *Asia Pacific Public Relations Journal*, 11, 1-9.
- Moon, J., & Kim, Y. (2001). Extending the TAM for a world-wide-web context. *Information & Management*, 38, 217-230.
- Norazah, M. S., & Norbayah, M. S. (2009). Exploring the relationship between perceived usefulness, perceived ease of use, perceived enjoyment, attitude and subscribers' intention towards using 3G mobile service. *Internet Journal*, 3(3), 1-11.
- Park, Y., & Chen, J. V. (2007). Acceptance and adoption of the innovative use of smartphone. *Industrial Management & Data Systems*, 107(9), 1349-1365.
- Powell, J. (2009). *33 Million People in the room: How to create, influence, and run a successful business with social networking*. NJ: FT Press.
- Rao, V. (2008). Facebook Applications and playful mood: The construction of Facebook as a third place. *Proceedings of the 12<sup>th</sup> International Conference on Entertainment and Media in the Ubiquitous Era*, Tampere, Finland.
- Regan, P., & Steeves, V. (2010). Kids R Us: Online social networking and the potential for empowerment. *Surveillance & Society*, 8(2), 151-165.
- Rogers, E. M. (1995). *Diffusion of innovations*. New York: The Free Press.
- Sekaran, U., & Bougie, R. (2009). *Research Methods for Business-A Skill Building Approach* (5<sup>th</sup> ed.). United Kingdom: John Wiley and Sons.
- Sledgianowski, D., & Kulviwat, S. (2009). Using social network sites: The effects of playfulness, critical mass and trust in a hedonic context. *Journal of Computer Information Systems*, 49(4), 74-83.

- Tapscott, D. (2008). *Grown up digital: How the next generation is changing your world*. New York: McGraw-Hill.
- Thevenot, C., & Waitier, K. (2001). *Viral marketing. Communications, Culture & Technology Program*, May.
- Van Slyke, C., Illie, V., Lou, H., & Stafford, T. (2007). Perceived critical mass and the adoption of a communication technology. *European Journal of Information Systems*, 16, 270-283.
- Wangenheim, F. V., & Bayón, T. (2007). The chain from customer satisfaction via word-of-mouth referrals to new customer acquisition. *Journal of the Academy of Marketing Science*, 35(2), 233-249.
- Zhong, B., Hardin, M., & Sun, T. (2011). Less effortful thinking leads to more social networking? The associations between the use of social network sites and personality traits. *Computers in Human Behavior*, 27(3), 1265-1271.

**APPENDIX 1****Measurement of Items**

| Construct  | Label | Measure  |
|--|-------|--|
| Playfulness  | P1    | The social network website is attractive.  |
|  | P2    | The social network website's application is interesting.   |
|  | P3    | The social network website is pleasure.  |
|  | P4    | The perceived playfulness has a direct effect on extent viral marketing content.   |
| Critical Mass                                      | CM1   | Most of my friends joined the same social network.   |
|  | CM2   | Information can be exchanged in the social network.  |
|  | CM3   | People share common interest in social network.  |
|  | CM4   | Perceived critical mass has an initiation to intention to use other communication technologies (such as groupware, instant messaging). |
| Community Driven                                   | CD1   | Information can be transferred through social network.   |
|  | CD2   | Immediate respond can be achieved through social network.  |
|  | CD3   | Members in social network are willing to share information.  |
|  | CD4   | Latest information can be achieved through social network.   |
| Peer Pressure                                      | PP1   | Most of my friends joined the same social network (such as Facebook).  |
|  | PP2   | The social network website has a strong influence upon decisions.  |
|  | PP3   | The social network website is important.   |
|  | PP4   | The social network website is expanding widely.  |
| Customer Satisfaction with Viral Marketing via SNS | S1    | In thinking about my most recent experience with the viral marketing, the information I received is clear.                             |
|  | S2    | The information received helps me.   |
|  | S3    | I am satisfied with the information achieved through viral marketing.  |
|  | S4    | Overall, the information achieve through viral marketing is reliable.  |



## **Users' Perception Towards Selected Recreational Forest Landscape Maintenance In Selangor Darul Ehsan, Malaysia**

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### **ABSTRACT**

Landscape maintenance plays an important role in ensuring the landscape sustainability of recreational forest. Proper landscape maintenance can enhance park's quality as well as increase user experience in the park. As new recreational forests are developed, the need for good landscape maintenance and management geared towards sustainability is crucial. The goal of this study is to understand users' perception towards recreational forest landscape maintenance and management. The objective of this study is to analyze users' perception towards landscape maintenance of recreational forests in relation to their existing management programs, and to discuss implications of maintenance and management of recreational forest towards sustainability. The study is conducted at three selected recreational forests in Selangor, namely Sungai Tekala Recreational Forest, Sungai Chongkak Recreational Forest and Templer Recreational Forest. A total of 533 respondents participated in this study. Results indicate that the present landscape maintenance standards of these sites are low reflecting weaknesses in the management system. Therefore, the management team of these recreational forests must improve their landscape maintenance and management approaches for sustainability including improving users' convenience, safety and experience.

*Keywords:* Landscape maintenance, perception, recreational forest and sustainability

### **INTRODUCTION**

Landscape maintenance and management play important role in achieving recreational forest landscape sustainability. A good landscape maintenance approaches can enhance good appearance and longevity of the existing site facilities (Wan Mohammad,

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1995). Proper and detailed landscape maintenance can reduce environmental destruction, increase quality of life, increase users' experiences and enhance the beauty of the landscape. Therefore, the management of the recreational forests should prioritize the landscape maintenance as most users give high priority to these aspects when using the parks. Users are more sensitive towards the weaknesses of landscape maintenance in recreational forests especially when it relates to environmental quality and quality of life. Uncollected rubbish, damaged or dead trees, improper man-made landscape elements etc. may tarnish the image of the park resulting negative perception to the users. Giving priority to the landscape maintenance can increase users' perception towards recreational forest landscape as well as ensure sustainability of recreational forest landscapes in the future (Mohd Kher, 2012).

Landscape management and maintenance are the ways an evolving landscape keeps pace with evolving human needs and demands (Thompson & Sorvig, 2000). Maintenance works include routine checkup, recurring work, minor and major repair work and minor construction works (Sternloff & Warren, 1977). Landscape maintenance must be geared towards sustainability through good management and should be according to the highest possible standards (Sternloff & Warren, 1977) and best management practices. Unfortunately, most of the recreational forests have low maintenance standards and weaknesses in planning (Reeves, 2000). Often times, it is due to park managers working in the absence

of proper management standards and without any management philosophy (Osman *et al.*, 2006). Therefore, landscape maintenance must be planned and implemented in a proper way and with detailed program schedule in order to achieve the accepted goal and objectives. It is essential to have proper recreational forest landscape maintenance and management system with well-defined goals and objectives in order to achieve a quality of recreational forest landscape (Osman *et al.*, 2006). Proper documentation of the maintenance system is useful in employees' succession.

Field observations done by scholars on several recreational forest sites in Peninsular Malaysia, namely Gunung Ledang Recreational Forest at Tangkak, Johor; Kanching Recreational Forest at Rawang, Selangor; Lentang Recreational Forest at Bentong, Pahang; and Bukit Hijau Recreational Forest at Baling, Kedah find that landscape maintenance problems are crucial and in need of urgent actions. For instance, uncollected rubbish visible all over the parks affects flora and fauna and becomes a major problem to the recreational forests (Azilah & Raslinda, 2006).

How the users perceive the status of park maintenance to be is also a very important issue. It is important because user perception provides feedback to management about what people like or dislike and view of maintenance works. Indirectly, factors contributing to poor landscape maintenance planning and management can be gathered to contribute a better co-ordinated and systematic planning for the benefit of the

public and environment. On the other hand, perception study can also be applied as part of the management strategy towards sustainable development of recreational forests in Malaysia (Mohd Kher *et al.*, 2009). Users may see aspects that the management take for granted and may have different views about landscape maintenance and management for the areas (Deng, 2007). Thus, user information through perception study can aid in upgrading existing recreational forest management and maintenance approaches.

#### **LANDSCAPE MAINTENANCE AND HUMAN PERCEPTION**

The development of recreational forests in Malaysia aimed at conserving natural forests provides leisure, relaxation activities and improves quality of live through eco-system services. Therefore, their development must also take into account human needs and environment quality. Good environmental quality can be gained through quality development and management including good quality maintenance aspects (Osman, 2002). Thus, information gained from the users' perception helps in achieving good quality development of recreational forests in Malaysia. It is owing to the fact that perception is an active process where it not only depends on brain stimulus but also on experiences, motivation and attitude towards environment (Walgito, 1993).

It is believed that recreational forest landscape, in Malaysia, faces many management issues and problems resulting from how the landscape is perceived.

Landscape is often seen as efforts at planting of trees, shrubs and flowers. In actuality, landscape is a complex phenomenon that evolves continuously through time and space (Isil, 2012). It is a reflection of both natural processes and cultural changes throughout time. Landscapes can be a product of either only natural processes (natural landscapes) or human intervention on natural eco-systems (cultural landscapes).

Unfortunately, most recreational forests, in Malaysia, are not designed by trained landscape architects. Consequently, lower quality designed landscapes leads to problems in maintaining quality standard of elements in these parks (Roziya *et al.*, 2009). Insufficient of maintenance workers contributes to visual quality degradation of park elements (Chee, 1986).

Insufficient budget also contributes to the landscape maintenance problems (Nor Azian, 2008) specifically poor maintenance such as uncollected rubbish and broken gazebos. Furthermore, park managers themselves do not prioritize the importance of landscape maintenance in of the parks (Osman, 2005). The author strongly believes that the two factors contribute to the current low quality of maintenance in recreational forests.

On other aspects, studies by Osman *et al.* (2006) and Reeves (2000) show that low maintenance standards without good management procedures can lead to low landscape quality of landscape development areas and influence users' experiences. Low landscape maintenance issues and problems have resulted inconveniences to

users and affect their overall experiences in the park (Dorwart, 2004). The management team need to realize that having a good management procedure is the first step to accomplish the maintenance objectives as well to improve users' perception towards recreational forest landscape. Indirectly, it helps in achieving sustainable landscape of recreational forests.

Information on users' perceptions may play an important role in establishing standards of quality for recreational forest landscape maintenance (Dorwart, 2004). It is also valuable to establish maintenance and management priorities of recreational forests (Dorwart, 2004). The most important point is good and efficient landscape maintenance provides enjoyment and convenience to users and prolongs the existence of recreational forests (Fogg & Shiner, 1989). These studies also believe that good landscape maintenance will ensure users' safety especially while utilizing the provided facilities or even being within the vicinity.

It is also believed that users share similar perception on the importance of landscape maintenance (Elmendorf *et al.*, 2005). For instance, visitors perceive litter one of the most undesirable impacts in natural resource areas. In some ways, what people see in recreational forests portrays the aspect of management and maintenance of the park. If the surrounding environments appear to be under good maintenance, it portrays the efficiency of the management planning. It is due to majority of the landscapes been evaluated,

appreciated and perceived according to situations with good maintenance functions as the enhancement (Nassauer, 1997). For example, visitors' have positive perception towards jungle trekking of the Great Smoky Mountain National Park due to its good maintenance (Dorwart, 2007). They might have low perception if they find parts of the trails have uneven surfaces, potholes, over-littered with animal waste and display of poor maintenance work (Gobster, 1995).

Landscape maintenance plays an important role in the perception towards recreational forest landscape. It is due to good and proper maintenance increases people perception towards natural forests and increases the quality experience during visits. Based on this statement, the goal of this study is to understand park users' perception towards recreational forests' landscape maintenance and management. The objectives of the study are to analyse users' perception towards landscape maintenance of recreational forest in relation to their existing management programs and to discuss the implications of maintenance and management of recreational forests towards sustainability.

## STUDY AREA

This study was conducted in Sungai Tekala Recreational Forest (S2), Sungai Chongkak Recreational Forest (S5) and Templer Recreational Forest (S7) in Selangor, Malaysia (Fig.1). These sites are easy to access by the public using public transport such as bus or taxi or use their own vehicles. The sites are also a popular spot for outdoor

activities of Klang Valley dweller as well as it became as tourist attraction.

Sungai Tekala Recreational Forest and Sungai Chongkak Recreational Forest are located in the Sungai Lalang Forest Reserved, a lowland dipterocarp forest. The total acreages of these parks are approximately 2,062 hectares and 2,865 hectares respectively. Templer Recreational Forest is located in the Templer Forest Reserved which is also a lowland dipterocarp forest. The total acreages of this park is approximately 853 hectares.

## METHODS

The study is conducted using survey form through structured questionnaire to gather information from users' regarding landscape

maintenance of these recreational forests. The questionnaire is divided into two sections of demography and landscape maintenance aspects. Demographic information is needed for respondent's background data. The other section in the questionnaire attempts to elicit various aspects of landscape maintenance, management system, approaches, weaknesses, problems and satisfaction level. A '3' point Likert scales is used to measure users' perceptions. The scale is used in order to avoid a neutral response found in 5-point scales that can cause biasness to the middle response.

This study uses simple random technique approach in which users are selected based on their willingness to participate, availability on site (Rea & Parker, 1997)

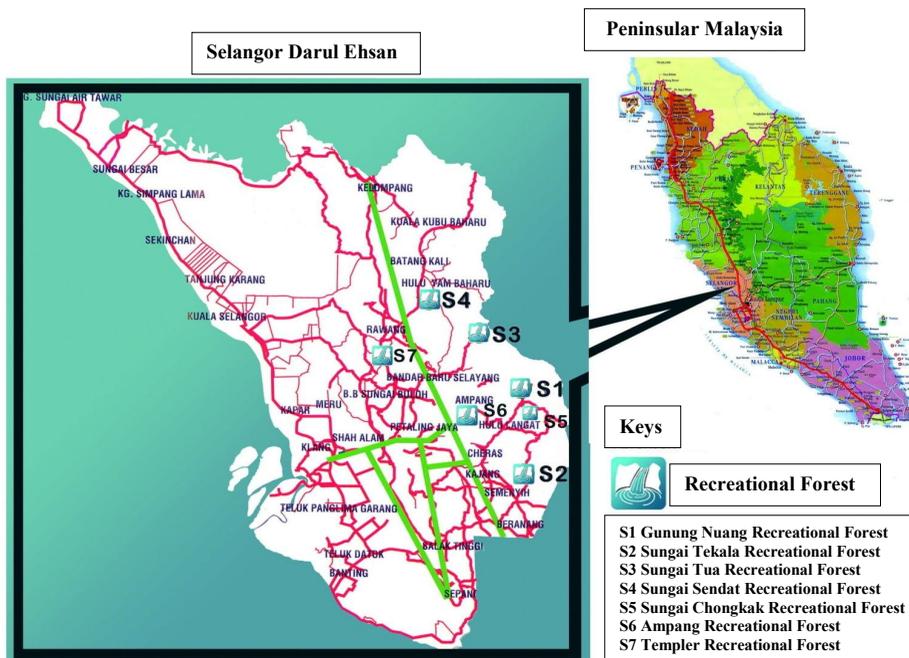


Fig.1: Map of Study Sites (Source: Forestry Department Peninsular Malaysia 2009)

and ability to respond to questions. List of visitors are approached and asked whether they agree to become respondents. The participation is strictly on voluntary basis.

A total of 533 respondents participate in this study. The respondents are users of the sites with breakdown of 189 users of Sungai Tekala Recreational Forest; 174 users of Sungai Chongkak Recreational Forest; and 170 users of Templer Recreational Forest. The Statistical Programme Social Science (SPSS) package analyzes the data for descriptive statistics such as frequencies.

**RESULTS AND DISCUSSION**

*Demographic Profile of Respondents*

Respondents background indicates almost equal numbers of male (53.7%) and female (46.3%) respondents (TABLE 1). This study divides the age of respondents into three

category with scale interval of 14 years; Young (18 - 32 years), Middle (33 - 47 years) and Old (48 - 62 years) (Pallant 2001; Ahmad Mahdzan 1983). The scale interval is derived by deducting the lower ages (18 years) from the higher age of respondents (62 years) and divide by three (3). The results show that half of the respondents are Young (52.0%), followed by Middle ages (34.5%) and Old age (13.5%). The Malays (72.8%) is found to be the majority participants in this survey, followed by Chinese (18.0%), Indians (9.0%) and others (0.2%). Almost half of the respondents (49.5%) hold certificate / Diploma / STPM / SPM / SRP, followed by bachelor degree (41.7%), master degree (3.8%) and PhD (0.4%). The distribution of academic qualifications shows that all selected respondents are rather well educated.

TABLE 1  
Respondents Background

| Respondents             | Total | Percentage ( % ) |
|-------------------------|-------|------------------|
| Gender: Male            | 286   | 53.7             |
| Female                  | 247   | 46.3             |
| Age: 18 - 32 (Young)    | 277   | 52.0             |
| (Year) 33 - 47 (Middle) | 184   | 34.5             |
| 48 - 62 (Old)           | 72    | 13.5             |
| Ethnic: Malay           | 388   | 72.8             |
| Chinese                 | 96    | 18.0             |
| Indian                  | 48    | 9.0              |
| Others                  | 1     | 0.2              |
| *Education: Bachelor    | 222   | 41.7             |
| Master                  | 20    | 3.8              |
| PhD                     | 2     | 0.4              |
| Others                  | 264   | 49.5             |

Note: \*Some respondents did not reply in this section (25 respondents)

*User Perception Towards Landscape Maintenance Condition*

TABLE 2 shows the results of users' perception towards landscape maintenance in the selected recreational forests. A high percentage of respondents (69.4%) perceive that the landscape maintenance of recreational forest with soft landscape elements are in bad condition. 73.1% perceive that man-made landscape elements are in bad conditions. In addition, 72.2% perceive that the site cleanliness is also in bad conditions. The mean score in TABLE 2 shows that respondents have similarity in perceiving the condition of the sites (M=2.26 to 2.35, SD=0.52 to 0.53). They agree that the managements presuppose and perform maintenance with lesser concerns on soft landscape, human-made landscapes and cleanliness of the recreation sites.

The management must increase their landscape maintenance activities and improve the current maintenance practice systems. This is critical considering landscape maintenance is the way to preserve landscape in order to fulfil the demand and user requirements (Thompson & Sorvig, 2000). In situations when landscape

maintenance and management is improved, visitors' satisfaction increases and the use of recreational forests is optimized (Reeves, 2000).

*Users' Perception Towards the Main Problems of Landscape Maintenance*

Results in TABLE 3 shows that majority of respondents agree that the managements face various main problems such as irresponsible visitors littering rubbish (96.9%), neglect use of rubbish bins (96.1%), vandalism (95.3%), vandalism of facilities (93.9%) and lack of maintenance staff (90.0%). Respondents agreed that these problems contributed to lower landscape maintenance quality in the recreational forests (M=2.50 to 2.70, SD=0.53 to 0.67).

In fact, it is difficult for the managements to resolve the issues of vandalism (Wahida, 2006) owing to the fact that they are closely related to human behavior. Vandalism is also an international problem, not isolated to Malaysia alone (Nurhayati, 2009). Vandalism transpires due to tension, anger, revenge or individual or group's tendencies to destroy something intentionally (Azilah & Raslinda, 2006). Thus, educational

TABLE 2  
Respondents' Perception Towards Landscape Maintenance Condition

| Subject   | Good  |      | Not Good |      | Other |     | Mean Score | Std. Deviation |
|---|-------|------|----------|------|-------|-----|------------|----------------|
|   | Total | %    | Total    | %    | Total | %   |            |                |
| State the condition of soft landscape maintenance       | 106   | 29.4 | 250      | 69.4 | 4     | 1.1 | 2.35       | 0.52           |
| State the condition of human made landscape maintenance | 88    | 24.4 | 263      | 73.1 | 9     | 2.5 | 2.27       | 0.53           |
| State the condition of cleanlines of the area           | 89    | 24.7 | 260      | 72.2 | 11    | 3.1 | 2.26       | 0.53           |

programs are one of the solutions that should be delivered to visitors in order to increase their civic awareness. Visitors must be educated regarding the importance of natural environment, sensitivities involved, do's and don'ts and management activities of recreational forests.

Environmental education programs can also be used to resolve the issues of environmental management. The programs increase the awareness on the relationships between eco-system functions, human intervention, and continuous management activities (Schneider, 1992). These programs also change people's environmental attitudes, beliefs, and emotions (Pooley & O'Conner, 2000). Therefore, this study suggests that environmental education programs should be introduced and emphasized on "activity based learning programs". The initiatives directly expose the participants to the real environment (Hudson, 2001).

*User Perception Towards Landscape Maintenance and Management*

TABLE 4 shows that the majority of respondents (92.2%) perceive that the study

sites lack in maintenance and management system. It should clearly indicate to the management that landscape maintenance is very important; in fact one of the main components in site management (Osman, 2005). Failure in giving serious attention to this aspect may possibly cause failure to the development and sustainability of the recreational forests (Osman, 2005; Reeves, 2000). Many landscape projects in urban area face quality degradation due to low maintenance standard and weak in development planning (Osman, 2005). This situation can happen in recreational forests if there is no concrete and immediate actions taken to resolve the problems. The managers of recreational forest need to prepare a comprehensive landscape maintenance plan. The plan should include maintenance schedules or programs in order to ensure their sustainability leading to improvement of users' perception (Ismail, 1997). The schedule of maintenance should be established for the maintenance crew to take care of recreational forest and its landscape (Fauzi, 1997). With the schedule, the crew can plan their work efficiently and

TABLE 3  
Perception Towards Main Problems of Landscape Maintenance

| Subject                                  | Strongly Agree |      | Agree |      | Not Agree |      | Mean Score | Std. Deviation |
|--|----------------|------|-------|------|-----------|------|------------|----------------|
|  | Total          | %    | Total | %    | Total     | %    |            |                |
| Vandalism                                | 275            | 76.4 | 68    | 18.9 | 17        | 4.7  | 2.70       | 0.54           |
| Irresponsible visitors littering rubbish | 246            | 68.3 | 103   | 28.6 | 11        | 3.1  | 2.64       | 0.53           |
| Vandalism of facilities                  | 229            | 63.6 | 109   | 30.3 | 22        | 6.1  | 2.57       | 0.60           |
| Neglect use of rubbish bins              | 223            | 62.1 | 122   | 34.0 | 14        | 3.9  | 2.55       | 0.57           |
| Shortage of maintenance staff            | 231            | 64.2 | 93    | 25.8 | 36        | 10.0 | 2.50       | 0.67           |

ensure the park can be used at any time.

The results from this study also indicate that majority of respondents (84.8%) perceive that the maintenance system, specifically man-made landscape elements such as shelters, benches, toilets, bridges, and walkways, affect the quality of parks (TABLE 4). These problems are visible at the study sites where most of those elements are in bad conditions for example damaged roofs, unsafe benches, and decaying bridges. Such observable facts occur due to maintenance workers require more time on maintaining soft landscape elements such as the grass, trees, shrubs and flowers grown in the parks (Sternloff *et al.*, 1997). Maintenance works for man-made landscape elements are regarded

less important and carried out only when necessary. Osman (2005) also supports the same fact. Thus, today's recreational forests must be concerned about outdoor recreation and man-made facilities in order to maintain the park and facilities in good condition. It requires managers to provide a good management-maintenance systems and standards that include man-made landscape elements (Sternloff & Warren, 1997).

Furthermore, majority respondents (92.2%) perceive that lack of understanding on the importance of landscape maintenance as one of the major components in recreational forest management that contribute to the maintenance problems (TABLE 4). It is related to Osman's (2005) argument that the way the management takes

TABLE 4  
Perception Towards Landscape Maintenance and Management

| Subject  | Strongly Agree |      | Agree |      | Not Agree |      | Mean Score | Std. Deviation |
|--|----------------|------|-------|------|-----------|------|------------|----------------|
|  | Total          | %    | Total | %    | Total     | %    |            |                |
| Recreational forest problems are due to the management taking for granted and not being serious in landscape maintenance works       | 181            | 50.3 | 149   | 41.4 | 30        | 8.3  | 2.30       | 0.67           |
| Weaknesses in management systems and low maintenance development plans contribute to the failure of recreational forest developments | 106            | 29.4 | 225   | 62.5 | 29        | 8.1  | 2.30       | 0.62           |
| Recreational forest has weak maintenance management  | 165            | 45.8 | 167   | 46.4 | 28        | 7.8  | 2.24       | 0.65           |
| Management is lacking in understanding, not clear about the importance and the needs of landscape maintenance                        | 158            | 43.9 | 174   | 48.3 | 28        | 7.8  | 2.24       | 0.65           |
| Recreational forest does not have landscape maintenance systems especially for man-made landscape elements                           | 74             | 20.6 | 231   | 64.2 | 55        | 15.3 | 1.98       | 0.59           |

landscape for granted causes many urban landscape issues. His argument supports the finding of majority (91.3%) of respondents in agreement that landscape maintenance problems in recreational forests are related to the failure of management team in giving enough priority to landscape maintenance works. At the same time, it is also due to the fact that most people perceive landscape mainly focuses on the beautification of land or space, planting of trees and addition of landscape elements to their aesthetic value (Osman, 2005). Consequently, lack of proper landscape maintenance systems is developed. Furthermore, the management ignores most of new landscape development areas after few years of development when difficulties arise in identifying their maintenance needs (Osman, 2005).

On another aspect, majority of respondents (94.5%) also agree that weaknesses in management systems and low maintenance standards without proper development plans contribute to the failure of recreational forest development (TABLE 4). This result supports Greenhalgh and a Worpole (1995) statement that often times the landscape managers work with no proper management standards and without any management philosophies. These results are also in line with Reeves (2000) argument that low maintenance standards with poor quality development plans contribute to landscapes deterioration. Moreover, Osman (2005) argues that landscape management in Malaysia, as a whole, faces major problems resulting from the lack of management systems. Therefore, the recreational forest

management team needs to design precise landscape maintenance and management plans in order to improve the quality of the park and ensure its sustainability.

Results in TABLE 4 show that respondents perceive park management teams fail in providing good maintenance management system for their parks ( $M=1.98$  to  $2.30$ ,  $SD=0.59$  to  $0.67$ ). Therefore, the management of the parks need to realize that the maintenance of the landscape is an important predictor for preference, in need of proper maintenance systems as well as ground maintenance.

#### *Users' Perception Towards the Effect of Landscape Maintenance on Site Development*

TABLE 5 shows that more than 90% of respondents agree that lack of landscape maintenance leads to abandonment syndrome (97.5%), reduction in number of visitors (96.4%), degradation of visual quality (96.7%) and diminishing of visitor's experience (92.5%). Abandon syndrome ( $M=2.70$ ,  $SD=0.53$ ) is perceived as the most important effect of lack of maintenance followed by the diminishing of visitors' experience ( $M=2.45$ ,  $SD=0.67$ ).

In this regard, the park managers have the vital role in ensuring that their parks are properly maintained. It is necessary for the park managers to have good understanding of many fields including landscape architecture, horticulture, forestry and personnel management. The park managers do not have to be expert in all of these fields, he / she should have certain

degree of knowledge on each field. He / she must know when to seek the advice of an expert and must be able to discuss pertinent problems intelligently with such specialists. The park managers also should be able to find or get budget as well to put some allocation for maintenance purposes. At the same time, the staff that has the duty to maintain the park must also ensure he / she performs his / her due responsibilities.

### LANDSCAPE MAINTENANCE AND MANAGEMENT IMPLICATIONS

The weaknesses of park management in giving priority to landscape maintenance of recreational forest have great implications towards healthy environment. Indirectly, it creates management issues such as low and weak landscape maintenance standard for recreational forests. Reeves (2000) argues that most of the development failure of recreational sites is close related with low maintenance standard and weak planning. It leads to abandonment syndrome happening to recreational forests in Malaysia.

Generally, the present community sees that the roles and functions of recreational forest landscape are important in their lives

and the management should be conscious of that. Today, recreational forest landscape development is not just for preserving and conserving the existing forest landscape, but also covers environment, social and economy aspects. Therefore, the maintenance and management aspects of recreational forest must also change in order to fulfil the needs from community, economy and environmental without sacrificing the needs of current generation and neglecting the necessity of future generation. Approaches in maintaining recreational forest landscapes should be changed from focusing only on *ad hoc* cleanliness activities without proper planning to maintenance with systematic plans.

Daily maintenance activities refer to effort in preserving, restoring and keeping all existing landscape elements in satisfaction and good conditions. The activities encompass cleaning works (floor, bench, chair and table), sweeping fallen leaves and throwing rubbish. While the purpose of preventive maintenance is for deterrent of damages or curbing of damage deterioration performed in periodic schedule that is weekly, monthly or annually. On the

TABLE 5  
Perception Towards The Effect of Landscape Maintenance on Site Development

| Subject                             | Strongly High |      | High  |      | Low   |     | Mean Score | Std. Deviation |
|-------------------------------------|---------------|------|-------|------|-------|-----|------------|----------------|
|                                     | Total         | %    | Total | %    | Total | %   |            |                |
| Abandon syndrome                    | 285           | 79.2 | 66    | 18.3 | 9     | 2.5 | 2.70       | 0.53           |
| Reduction in number of visitors     | 242           | 67.4 | 104   | 29.0 | 13    | 3.6 | 2.56       | 0.58           |
| Degradation in visual quality       | 213           | 59.2 | 135   | 37.5 | 12    | 3.3 | 2.47       | 0.60           |
| Diminishing of visitors' experience | 230           | 63.9 | 103   | 28.6 | 27    | 7.5 | 2.45       | 0.67           |

other hand, corrective maintenance is to ensure landscape elements are functional and safe to use. It is accomplished through repairing or changing all the damaged elements. In this context, effective, efficient and comprehensive maintenance program and schedule are indeed necessary.

Landscape maintenance and management processes of recreational forest in Malaysia require an immediate paradigm shift. It is crucial to prepare and implement effective management systems leading to superior park environment and eradicating the possibility of users abandoning these recreational sites. Indirectly, it helps in increasing users' satisfaction and avoiding forest environment degradation.

## CONCLUSION

In general, results from this study find that the quality of landscape maintenance and management of the study sites are low, weak, and seriously need improvement. The weaknesses are due to the managements' lack of systematic maintenance plans. Mere focus on site cleanliness such as sweeping, rubbish collection, toilet cleaning and chalets housekeeping is insufficient to cover the overall landscape maintenance tasks. Rationally, landscape maintenance should include all landscape elements which encompass soft landscapes, man-made landscapes, site cleaning and quality of water. Maintenance works must be programmed at regular intervals such as daily, weekly, monthly and annually based on needs and requirements of landscape types.

The management team also needs to change the management system of landscape maintenance considering this aspect is related to users' convenience and safety, especially on man-made landscape elements. If the management is able to provide proper and systematic landscape maintenance, it helps in increasing users' satisfaction on recreational forest landscape. The most important aspect is effective, efficient, comprehensive and systematic plans must be designed in order to achieve the management goals.

Landscape maintenance activities must not be taken for granted. The management team must give full commitment in ensuring the work is successful. Commitments in terms of staffing, time, budget and equipment are necessary. Good landscape maintenance can produce a healthy and safe environment in the park. It can also make the park available for users to use without any obstacles. It helps in achieving the sustainable development goal.

Results of people's perception on landscape maintenance in this study urge the management to take serious actions. If the management team fails or neglect to take urgent actions, it can lead to abandonment issue, decrease in numbers of visitors, degradation on visual quality and user experience. There is a need for the management to provide enough budgets every year for landscape maintenance aspect. It is of no point to increase the number of accommodation and facilities in the parks if the landscape maintenance has been neglected. In the end, it creates

various problems as discussed earlier. Maintenance of the man-made and soft landscape elements of the recreation area is mandatory for visitors' enjoyment and ultimately continuous use and existence of the recreation areas (Fogg & Shiner, 1989).

Landscape maintenance should be given priority from the time of early development planning stage. The nature of tasks actually is of service function and must be geared to meet the function, user need and environmental protection. Retaining good landscape maintenance can ensure sustainable recreational forest in the future.

## REFERENCES

- Ahmad Mahdzan Ayob. (1983). *Kaedah Penyelidikan Sosioekonomi: Suatu Pengenalan*. Kuala Lumpur: Dewan Bahasa Dan Pustaka Malaysia.
- Azilah Kasim & Raslinda Mohd Ghazali. (2006). *Keperluan, Peranan dan Isu-isu Pengurusan Rekreasi*. Penerbit Universiti Utara Malaysia.
- Chee, T. Y. (1986). *Forest Recreation Development in Peninsular Malaysia*. Paper presented in Persidangan Perhutanan Malaysia ke 9 on 13 – 20 October, 1986. Forestry Department Head Quarter, Kuala Lumpur, Malaysia.
- Deng, J. (2007). *Visitors' Perceptions of Tourism Development In West Virginia*. Proceedings of the 2007 Northeastern Recreation Research Symposium. GTR-NRS-P-23.
- Dorwart, C. E. (2007). *Exploring visitors' perceptions of the trail environment and their effects on experiences in the Great Smoky Mountains National Park*. (Thesis Ph.D. North Carolina State University).
- Dorwart, C. E., et al. (2007). *Managing Visitors' Perceptions*. USA: National Recreation and Park Assoc.
- Dorwart, C. (2004). *Managing Visitors' Perceptions: Find Out Why Park Managers Need to Understand How A Visitor Perceives Recreation Resource Impacts*. National Recreation and Park Association. Gale Group.
- Elmendorf, W. F., Willits, F. K., Sasidharan, V., & Godbey, G. (2005). Urban park and forest participation and landscape preference: a comparison between Blacks and Whites in Philadelphia and Atlanta, U.S. *Journal of Arboriculture*, 31(6), 318-326.
- Fauzi Abu Bakar. (1997). Transforming the Landscape the Role of Landscape Architecture in Osman et. al. (1999). *Ke Arah Negara Taman: Wawasan dan Cabaran*. Institut Arkitek Landskap Malaysia.
- Fogg, G. E., & Shiner, J. W. (1989). *Management Planning for Park and Recreational Areas*. National Recreation and Park Association.
- Forestry Department Peninsular Malaysia. (2009). *Guide Book of Amenity Forests (and State Park Forests) in Peninsular Malaysia*. Forestry Department Peninsular Malaysia, Ministry of Natural Resources and Environment.
- Gobster, P. (1995). Perception and use of a metropolitan greenway system for recreation. *Landscape and Urban Planning*, 33, 401-413.
- Greenhalgh, L., & Worpole, K. (1995). *Park Life: Urban Parks and Social Renewal, Comedia Association with Demos*, UK.
- Hudson, S. J. (2001). Challenges for Environmental Education: Issues and Ideas for the 21<sup>st</sup>. century. *BioScience*, 51(4), 283-288.
- Ismail, N. (1997). *Landskap Negara Ke Arah Merealisasikan Negara Taman. Ke Arah Negara Taman: Wawasan dan Cabaran*. Malaysia: Institute Landscape Architects Malaysia (ILAM).
- Isil Cakci Kaymaz (2012). *Landscape Perception, Landscape Planning*, Dr. Murat Ozyavuz (Ed.), ISBN: 978-953-51-0654-8, InTech. Retrieved from <http://www.intechopen.com/books/landscape-planning/landscapeperception>

- Mohd Kher, H. (2012). *Persepsi Pihak Berkepentingan Terhadap Pembangunan dan Pengurusan Landskap Hutan Rekreasi di Selangor, Malaysia*. (Unpublished PhD Thesis, Universiti Kebangsaan Malaysia, Bangi, Malaysia).
- Mohd kher, H., Saiful Arif, A., Shahrudin, M. I., & Chamhuri, S. (2009). Issues and the Need of Perception Study for Recreational Forest Landscape Development in Peninsular Malaysia. *Proceeding, Universiti Malaysia Terengganu 8<sup>th</sup> International Annual Symposium on Sustainability Science and Management (UMTAS 2009)*, pp. 573-578.
- Nassauer, J.I. (1997). *Placing Nature: Culture and Landscape Ecology*. Washington D.C.: Island press.
- Nor Azian Mohd Hanafiah. (2008). *Amalan Pengurusan Landskap Yang Efektif: Kajian Kes Projek Taman Rekreasi Oleh Pihak Berkuasa Tempatan Negeri Perak*. (Tesis MSc. Universiti Sains Malaysia).
- Nurhayati Abdul Malek., & Manohar Mariapan. (2009). Visitors perception on vandalism and safety issues in a Malaysian urban park. *Theoretical and Empirical Researches in Urban Management*, 4(13) (November 2009), 93-107
- Osman Mohd Tahir. (2005). *Urban Landscape Management In Malaysia*. (Unpublished PhD Thesis, University of Newcastle upon Tyne, United Kingdom).
- Osman Mohd Tahir. (2002). Pembudayaan landskap berkualiti pemangkin kehidupan dan persekitaran berkualiti. *Alam Cipta*, 3 (Jun 2002), 4-9. Fakulti Rekabentuk dan Senibina, Universiti Putra Malaysia.
- Osman, M. T., Mohd Johari, M. Y., & Mohd Kher, H. (2006). *Urban Landscape Development and Management Towards Sustainability*. Paper presented at Urban Forestry Conference: Managing Urban Green for Sustainable Cities, 6-8 June, 2006, Crown Princess Hotel Kuala Lumpur, Malaysia.
- Pallant, J. (2001). *SPSS Survival Manual. A Step By Step Guide to Data Analysis Using SPSS for Windows (Version 10)*. Australia: Allen & Unwin.
- Pooley, J. A., & O'connor, M. (2000). Environmental Education and Attitudes: Emotions and Belief is what is Needed. *Environment and Behaviour*, 32(5), 711-723.
- Rea, L. M., & Parker, R. A. (1997). *Designing and Conducting Survey Research (2 ed.)*. San Francisco: Jossey Bass Publisher.
- Reeves, N. (2000). The Condition of Public Urban Parks and Green Space in Britain. *The Chartered Inst. Of Water and Environmental Management* 14(3), 157-163.
- Roziya Ibrahim, Nordin Abdul Rahman, & Osman Mohd Tahir. (2009). Developing a soft-scape standard for improving the landscape quality in Malaysia. *Alam Cipta. International Journal on Sustainable Tropical Design Research and Practice*, 4(Sept. 2009): 29-36.
- Schneider, H. (1992). Introduction: Concepts and Issues. In H. Schenider & J. Vinke & W. Weekes-Vagliani (Eds.). *Environmental Education: An Approach to Sustainable Development* (pp. 13-25). Paris: Organization for Economic and Co-operation and Development.
- Sternloff, R. E., & Warren, R. (1977). *Park and Recreation Maintenance Management*. Allyn and Bacon, Inc., Boston, United States of America.
- Thompson, J. W., & K. Sorvig. (2000). *Sustainable Landscape Construction: A Guide to green building outdoors*. Island Press, Washington DC.
- Wahida Ayob. (2006). *Pengurusan Hutan Rekreasi Sungai Tekala, Hulu Langat, Selangor: Analisis Kajian Pada Hujung Minggu in Hamidi et. al., 2006. Pengurusan Persekitaran Dan Pelancongan Di Malaysia: Konsepsi Dan Kajian*. Penerbit Universiti Utara Malaysia.

Walgito, Bimo. (1993). *Pengantar Psikologi Umum*.  
Yogyakarta: Andi Offset.

Wan Mohammad Wan Mohamood. (1995). *Quality sports and recreational facilities for effective utilization*. Paper presented in Seminar Kemudahan Sukan at ITM Shah Alam, Selangor on 13-15 Jun 1995.



## **Comparing Religious Maturity of Hindu, Christian and Muslim Secondary School Students**

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### **ABSTRACT**

The current study attempted to examine the religious maturity of Hindu (N=1050), Christian (N=1073) and Muslim (N=1394) adolescents studying at secondary level in Pakistan. This research is based on the theory of religious orientations presented by Allport (1950). Age universal I-E scale (revised version of ROS – Religious Orientation Scale) developed by Kirkpatrick (1988) and Maltby (1999) was adopted as research instrument. Findings contribute in establishing associations among students' religious faiths and orientations. The study concludes that the students' religious affiliations are significant predictors of their religious maturity.

*Keywords:* Age universal I-E scale, religious orientations, Pakistan

### **INTRODUCTION**

The Religious Orientation Scale (ROS) developed by Allport and Ross (1967) started a tradition of Allportian research in the field of religious psychology. Allport (1950) has divided individuals' religious orientation into two major forms i.e. intrinsic

and extrinsic religious orientations. Intrinsic religious orientation has intension to follow the religion as a self-serving agent. Allport denoted it as mature religiousness. The concept of intrinsic religiosity is referred to genuine, heartfelt and devout faith of a person in his religion. McFarland and Warren (1992) assert that intrinsically religious persons have commitments to their religious beliefs and values for their internal self-satisfaction. Extrinsic religious orientation, in contrast, refers to the use of religion as a means of getting security, sociability, and status. Motives for being religious, in this category, rest on social or

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external values. Allport expressed extrinsic religious orientation as immature religion. Kirkpatrick (1988) and Maltby (1999) divide extrinsic religious orientation into two further categories i.e. extrinsic personal and extrinsic social religious orientations. Extrinsic personal religiosity is to use religion for gaining personal acceptance in society whereas extrinsic social religiosity aims to ensure social security of its followers and protect their societal interests.

Research demonstrates that people with different cultural backgrounds show variations in the levels and directions of their religious orientations. Gorbani, Watson, Ghramaleky, Morris, and Hood (2002) and Flere and Lavric (2008) reveal that students with religious differences demonstrate different levels of religious maturity in different socio-cultural environments. Wald, Silverman, and Fridy (2005) Wald and Wilcox (2006) and Olson (2011), also, verify that culture, politics and society are among the major determinants of individuals' religious orientations. It raises the importance to measure and compare religious orientations of persons with different religious faiths who are living in a common socio-cultural environment.

### **THE CURRENT RESEARCH**

Variations in people's religious orientations were observed majorly in their social, cultural, and political backgrounds. The current study challenged this idea and examined religious orientations of secondary school students who had religious affiliations with Hinduism, Christianity and

Islam. It explored the religious orientations of Hindu, Christian and Muslim Secondary school students and attempted to determine their religious maturity. The commonality among the three groups of students was their Pakistani citizenship and regular studentship of Pakistani schools (public and private) that follow Government prepared curricula.

### **RESEARCH OBJECTIVES**

The study aimed to verify the null hypothesis that students' religious affiliations have no impact on their religious orientations. The concept of religious orientations/maturity presented by Allport (1950) was adopted in this regard. To further shape the research methodology, the study compared the religiousness of the Pakistani secondary school students who were affiliated to three major international religions i.e. Hinduism, Christianity and Islam. The trace out relationship among different aspects of the students' religious orientations was accepted as a supplementary objective of the study.

### **RESEARCH METHODOLOGY**

Three samples of Hindu (N=1050) Christian (N=1073) and Muslim (N=1394) secondary school students were selected from 10 districts of the country. The mean ages of the Hindu, Christian and Muslim secondary school students were 13.95, 14.95 and 14.32 years respectively. The revised edition of ROS entitled age universal I-E (intrinsic-extrinsic) scale presented by Kirkpatrick (1988) and Maltby (1999) was used to assess religious orientations of the samples. Maltby and Day (2000) reported high

internal reliabilities for the subscales of age universal I-E scale in previous research.

**FINDINGS**

In the initial phase of the statistical analysis of data, consistency and accuracy of the adopted instrument were estimated on the Pakistani sample. Average scores of split-half reliability and Cronbach’s alpha coefficients for three subscales on separate and combined samples were highly satisfactory (Table 1).

The three factors model for age universal I-E scale was tested applying Confirmatory

Factor Analysis (CFA) on the data (Table 2). The values of Root Mean Square Error of Approximation (RMSEA), Goodness-of-Fit Statistic (GFI), Root Mean Square Residual (RMR), and Comparative Fit Index (CFI) are sufficiently appropriate for the scales according to criteria presented by Jaccard and Wan (1996) and Hu and Bentler (1999).

It is important that Pakistani Hindu, Christian, and Muslim secondary school students demonstrate reserved attitude toward extrinsic social religious orientation (Table 3). Results show that the presence of extrinsic personal religiosity is

TABLE 1  
Average scores of split-half reliability and Cronbach’s alpha coefficients

| Sub-Scales | Hindu | Christians | Muslim | Combined |
|------------|-------|------------|--------|----------|
| IR         | 0.77  | 0.79       | 0.80   | 0.78     |
| EPR        | 0.69  | 0.68       | 0.66   | 0.67     |
| ESR        | 0.68  | 0.70       | 0.70   | 0.70     |

IR=Intrinsic Religiosity, EPR=Extrinsic Personal Religiosity, ESR=Extrinsic Social Religiosity

TABLE 2  
Basic statistics from confirmatory factor analysis testing the goodness of fit of three factors model of religious orientations

| Sample    | RMSEA | 90% CI for RMSEA | GFI  | RMR   | CFI  |
|-----------|-------|------------------|------|-------|------|
| Hindu     | 0.069 | 0.063-0.074      | 0.94 | 0.054 | 0.92 |
| Christian | 0.066 | 0.060-0.072      | 0.94 | 0.062 | 0.90 |
| Muslims   | 0.061 | 0.056-0.066      | 0.95 | 0.058 | 0.93 |

RMSEA=Root Mean Square Error of Approximation, GFI=Goodness-of-Fit Statistic, RMR=Root Mean Square Residual, CFI=Comparative Fit Index

TABLE 3  
Comparison of Mean Scores Revealing Religious Orientations of the Students

| Students   | N    | IR   | EPR  | ESR  |
|------------|------|------|------|------|
| Hindu      | 1050 | 2.99 | 3.26 | 1.92 |
| Christians | 1073 | 3.07 | 3.47 | 2.07 |
| Muslims    | 1394 | 3.16 | 3.39 | 1.97 |

IR=Intrinsic Religiosity, EPR=Extrinsic Personal Religiosity, ESR=Extrinsic Social Religiosity

comparatively higher than intrinsic and extrinsic social religiosities in the three samples.

Values of adjusted  $R^2$  to demonstrate the impacts of students' religious affiliations on their intrinsic, extrinsic personal and extrinsic social religious orientations are 0.030, 0.026, and 0.028 respectively (Table 4). It reveals that according to Cohen's classification of effect size, the students' religious affiliations have small size effects on their religious orientations (Cohen, 1992). The results of ANOVA and multiple comparison tests reject the null hypothesis and verify the impacts of students' religious affiliations on their religious maturity.

Statistics demonstrate that the students' religious faiths have significant impacts on their religious orientations. Muslim secondary school students possess more intrinsic religious orientation than their Christian (MD=0.091) and Hindu (MD=0.177) fellows. The Christian students have more extrinsic personal religious orientation than their Muslim (MD=0.080) and Hindu (MD=0.208) fellows. The Christian secondary school students also possess higher extrinsic social religious orientation than their Muslim (MD=0.095) and Hindu (MD=0.146) fellows.

Values of Pearson correlation coefficient reveal that intrinsic religious orientation of the three groups of students has direct and significant relationship to their extrinsic personal religiousness (Table 5). Students' intrinsic religiosity, in contrast, has significant and indirect correlation with their extrinsic social religious orientation in the

three samples. Extrinsic personal religiosity has significant indirect correlation with extrinsic social religiosity only in the Hindu sample. The Pearson's values indicate that students' intrinsic religiosity has strong correlation with their extrinsic personal religious orientation. However the correlation between students' intrinsic religious orientation and extrinsic social religiosity is of medium size (Cohen, 1992).

## DISCUSSION

Scale wise description of the data reveals that Hindu, Christian, and Muslim secondary school students possess higher extrinsic personal religious orientation than their intrinsic and extrinsic social religiousness. Flere and Lavric (2008) found similar presence of extrinsic personal religious orientation among Slovenian Catholics, Bosnian Muslims, and Serbian Orthodox. US Protestants, in contrast, reported stronger affiliation with intrinsic religious orientation than extrinsic personal and extrinsic social religiosities. Khan, Watson and Habib (2005) claimed that Pakistani Muslim university students demonstrated higher extrinsic personal religiousness than their intrinsic and extrinsic social religious orientations. It shows symmetry of religious orientations among Slovenian Catholics, Serbian Orthodox, Bosnian and Pakistani Muslim university students, as well as Pakistani Hindu, Christian and Muslim secondary school students. However the exclusion of US Protestants university students from this cohort urges to investigate driving factors of religious orientations in

TABLE 4  
Impacts of Students' Religious Affiliations on their Religious Orientations

| Religious Orientations         | (I) Religion | (J) Religion | Mean Difference (I-J) | <i>F</i> | Adj. <i>R</i> <sup>2</sup> |
|--------------------------------|--------------|--------------|-----------------------|----------|----------------------------|
| Intrinsic Religiosity          | Christians   | Hindu        | 0.087*                | 54.686*  | 0.030                      |
|                                | Muslims      | Hindu        | 0.177*                |          |                            |
|                                |              | Christians   | 0.091*                |          |                            |
| Extrinsic Personal Religiosity | Christians   | Hindu        | 0.208*                | 31.395*  | 0.026                      |
|                                |              | Muslims      | 0.080**               |          |                            |
|                                | Muslims      | Hindu        | 0.128*                |          |                            |
| Extrinsic Social Religiosity   | Christians   | Hindu        | 0.146*                | 9.196*   | 0.028                      |
|                                |              | Muslims      | 0.095***              |          |                            |

\*The value is significant at the 0.001 level.

\*\*The value is significant at the 0.01 level.

\*\*\*The value is significant at the 0.05 level.

TABLE 5  
Relationships among Different Religious Orientations of the Students

|                                |            |      | Intrinsic Religiosity | Extrinsic Personal Religiosity | Extrinsic Social Religiosity |
|--------------------------------|------------|------|-----------------------|--------------------------------|------------------------------|
| Intrinsic Religiosity          | Hindu      | 1050 | 1                     |                                |                              |
|                                | Christians | 1073 | 1                     |                                |                              |
|                                | Muslims    | 1394 | 1                     |                                |                              |
| Extrinsic Personal Religiosity | Hindu      | 1050 | 0.419*                | 1                              |                              |
|                                | Christians | 1073 | 0.462*                | 1                              |                              |
|                                | Muslims    | 1394 | 0.423*                | 1                              |                              |
| Extrinsic Social Religiosity   | Hindu      | 1050 | -0.288*               | -0.110*                        | 1                            |
|                                | Christians | 1073 | -0.214*               | -                              | 1                            |
|                                | Muslims    | 1394 | -0.332*               | -                              | 1                            |

Note: \*= Correlation is significant at the 0.001 level (2-tailed), \*\*= Correlation is significant at the 0.01 level (2-tailed)

different cultures and subcultures.

To verify the research hypothesis, One-way ANOVA and multiple comparison tests were applied in General Linear Model (GLM). Values of adjusted *R*<sup>2</sup> reject the null hypothesis and show small size effects of the students' religious faiths on the three religious orientations. Multiple comparison tests confirm that the Muslim students are comparatively more intrinsically religious

than their Hindu and Christian fellows. It indicates comparatively higher presence of religious maturity among the Muslim students. The Christian students are strongly affiliated with extrinsic personal and social religious orientations than their Hindu and Muslim fellows. The correlations among the three religious orientations in Pakistani Hindu, Christian and Muslim secondary school students verify the results of previous

studies conducted on non-Pakistani samples. Religious orientations demonstrate similar correlations in the three samples.

## CONCLUSION

Results support the use of age universal I-E scale on Pakistani sample and validate its Urdu translation. They also contribute in exploring religious orientations of Pakistani secondary school students having three different religious faiths. Confirmatory factor analysis endorses three factors model for measuring religious orientations of Pakistani Hindu, Christian and Muslim secondary school students through age universal I-E scale.

The study concludes that religious affiliations of the Pakistani secondary school students have significant impacts on their religious orientations. There are variances among the Hindu, Christian and Muslim secondary school students in the levels of their religious maturity. The Muslim students are more intrinsically religious than their Hindu and Christian peers. They are inclined to utilize their beliefs and religious commitments for their self-satisfaction. They prefer to accept faith for the sake of faith. In contrast, the Christian students are comparatively more intended toward extrinsic personal and social religious orientations. They prefer to create religion based groups and social cohorts to serve and secure their social and societal interests. The religious attitude of Hindu secondary school students is balanced among intrinsic, extrinsic personal and extrinsic social religiousness. Intrinsic Religiousness in

all three groups of samples is directly associated with students' extrinsic personal religiousness and inversely correlated with their extrinsic social religious orientations. Extrinsic personal and extrinsic social religious orientations of Hindu secondary school students are inversely correlated whereas this relationship is insignificant in Christian and Muslim samples.

Significant correlations between religious orientations of Hindu, Christian and Muslim secondary school students and their directions endorse the findings of previous research conducted on non-Pakistani samples. Major contribution of the current study is exploration of variances among the religious orientations of Hindu, Christian and Muslim secondary school students. Sampled students were studying the same curricula in similar educational institutions and living under common social, political and cultural environments. However findings reveal that the Muslim students are more intrinsically religious whereas the Christian students demonstrate themselves comparatively more extrinsic personal and extrinsic social religious. It elaborates the assumed role of adolescents' religious affiliations in strengthening their religious orientations. The study also suggests examining the process of developing religious orientations of Hindu, Christian and Muslim students beyond the impacts of their religious affiliations. It proposes to find out exclusive factors which play a role in developing religious orientations among the three cohorts of Pakistani students separately.

## REFERENCES

- Allport, G. W. (1950). *The individual and his religion*. New York: Macmillan.
- Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, 5(4), 432-443. DOI: 10.1037/h0021212
- Cohen, J. (1992). Statistics a power primer. *Psychology Bulletin*, 112(1), 155–159. DOI:10.1037/0033-2909.112.1.155
- Flere, S., & Lavric, A. (2008). Is intrinsic religious orientation a culturally specific American Protestant concept? The fusion of intrinsic and extrinsic religious orientation among non-Protestants. *European Journal of Social Psychology*, 38(3), 521-530, DOI: 10.1002/ejsp.437
- Gorbani, N., Watson, P. J., Ghramaleki, A. F., Morris, R. J., & Hood, R.W. (2002). Muslim-Christian religious orientation scales: Distinctions, correlations and cross-cultural analysis in Iran and the United States. *The International Journal for the Psychology of Religion*, 12(2), 69–91. DOI: 10.1207/S15327582IJPR1202\_01
- Hu, L., & Bentler, P.M. (1999). Cut-off criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modelling*, 6(1), 1–55. DOI:10.1080/10705519909540118
- Jaccard, J., & Wan, C.K. (1996). *LISREL approaches to interaction effects in multiple regression*. Thousand Oakes, CA: Sage.
- Kirkpatrick, L. A. (1988). A psychometric analysis of the Allport- Ross and Feagin measures of intrinsic-extrinsic religious orientation. In D. O. Moberg & M. L. Lynn (Eds.), *Research in the social scientific study of religion*, (Vol. 1). Greenwich, CT: JAI Press.
- Maltby, J. (1999). The internal structure of a derived, revised, and amended measure of the Religious Orientation Scale: The ‘Age-Universal’ I-E scale 12. *Social Behaviour and Personality*, 27(4), 407-412. DOI: <http://dx.doi.org/10.2224/sbp.1999.27.4.407>
- Maltby, J., & Day, L. (2000). Depressive symptoms and religious orientation: examining the relationship between religiosity and depression within the context of other correlates of depression. *Personality and Individual Differences*, 28, 383-393. DOI: 10.1016/S0191-8869(99)00108-7
- Olson, L. R. (2011). The essentiality of “culture” in the study of religion and politics. *Journal for the Scientific Study of Religion*, 50(4), 639-653. DOI:10.1111/j.1468-5906.2011.01608.x
- Wald, K. D., Silverman, A. L., & Fridy, K. (2005). Making sense of religion in political life. *Annual Review of Political Science*, 8(1), 121–43. DOI:10.1146/annurev.polisci.8.083104.163853
- Wald, K. D., & Wilcox, C. (2006). Getting religion: Has political science rediscovered the faith factor? *American Political Science Review*, 100(4), 523–29. DOI:10.1017/S0003055406062381



## **Alienation from Nature and The Role of Forgotten Tradition in Keris Mas' *Jungle of Hope* and K. S. Maniam's *Between Lives***

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### **ABSTRACT**

This essay looks at Keris Mas' *Jungle of Hope* (1984) and K.S. Maniam's *Between Lives* (2003) and discusses how humanity's alienation from nature gets different treatments by these two prominent Malaysian writers. This estrangement resonates with current environmentalism as it is seen as complicit in conditioning humanity's thinking that they are not a part of nature, causing them to take the anthropocentric and utilitarian attitudes that contribute further to environmental woes. Alienation from nature is to a large extent, the reflection of the environmental conditions in which the writers find themselves and the different phases in the country's environmental history, in which the texts are placed. Keris through *Jungle of Hope* delves into the onset of this alienation, focusing on the trauma felt by Malay peasants, caught between environmental realities and tradition. Maniam through *Between Lives* also delves into this rift. He, however, offers a way to heal this rupture – by going back to cultural and religious tradition. Indeed, forgotten tradition is reclaimed and revived in both texts but Maniam seems to foreground forgotten tradition as a way to heal this estrangement from nature. Both texts nevertheless, serve as valuable resources for thinking about alienation and its effects on humanity; and the immense capacity that humanity has to amend their relationship with nature.

*Keywords:* Malaysian literature, Postcolonial ecocriticism, Alienation from nature, Forgotten tradition, K.S. Maniam, Keris Mas

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### **INTRODUCTION**

Humanity's estranged relationship with nature is usually understood in the sense that humanity is 'detached', 'cut off' from and 'out of touch' with nature. This sense of disconnection is reflected in many different

forms of modern, industrialised lifestyle, from having little contact with nature to being obsessed more about the latest technology than nature. This estrangement is also replicated in the commonly-held view that humanity is apart from nature, causing humanity to take the hubristic and utilitarian attitudes that contribute further to environmental woes.

The alienation of humanity from nature owes its intelligent discussion from the Marxist tradition (Eagleton, 2011, p. xii). Indeed, Marx was an early critic of this estrangement. When Marx wrote "*Economic and Philosophical Manuscript*" in 1844, he revealed his concern with the problem of human relationship with nature. Under capitalist modernity, humanity under the conditions of industrial labour suffers from a four-fold alienation: from nature, from the products of their labour, from other people, and from themselves. This alienation is further reinforced by the privatization of land and the making of all things into commodities, cutting humans off from the land and the freedom to co-evolve with it. This estrangement is what Foster and Clark have singled out as the "metabolic rift" between humans and nature (2003, p. 188) which reconstructs nature as an alien "Other" (Layfield, 2008, p. 88) and perpetuates anthropocentric and utilitarian thinking and attitudes towards nature.

Keris Mas (1922-1992) represents a prominent voice in Malaysian literature. An avid observer, recorder and commentator of economic and socio-cultural changes that affect the Malays, Keris' corpus of

works comprises five novels, ten collections of short stories, a memoir, and about 200 critical essays, covering topics on writing, literature, culture and nationalism. Critical examination of Keris's works hardly explores the environmental aspect even though some of his works, for instance *Jungle of Hope*, engages in environmental themes which are as indispensable as his varied Malay and Islamic-centred themes. I believe that *Jungle of Hope* offers a critical account of alienation, which, to this day, has had a bearing on the ways of thinking about some of the environmental issues faced by the nation.

A prolific and versatile writer, Maniam writes in all of the major genres of the Malaysian English literary tradition: poetry, plays, short stories, and novels. To date, he has written numerous critically-acclaimed and award-winning collections of poems, short stories, plays and novels that look into the Malaysian Indian community. Scholarly writings and criticisms on his works however, have mainly centred around his first two novels: *The Return* (1981) and *In A Far Country* (1993). His third novel, *Between Lives* (2003), delves into the theme of attachment to land, and the challenges and hurdles that accompany this overpowering process. This theme has characteristically run through most of his works, but I believe that this concern is dealt with more thoroughly in *Between Lives* than in his other two novels.

Aided by the interplay of memory, history, and forgotten tradition, Keris delineates the onset of alienation and

how the protagonist tries to cope with it, whilst Maniam deals with the outcomes of alienation and the possible ways of healing this rift. Tradition, other than the usual understanding of the handing down of practices from generation to generation, is often regarded as the opposite of modernity, usually associated with Westernization, industrialization, science, secularism, individualism, democracy, and rationalism. In non-Western nation-building, tradition validates things in terms of their fit with the history and identity of a society, whereas modernity validates things by comparison to other societies, usually European and American (Rhum, 1996, p. 351; Andaya, 1997, p. 391). In postcolonial nations, tradition is usually revered, reclaimed and revitalized extensively following independence since colonialism had disrupted cultural traditions and imposed European ways of thinking and organizing society (Ciaffa, 2008, p. 121). Some traditional beliefs, ideas, behaviours and rituals however, tend to be dismissed as impediments to progress and modernisation, thus forgotten or abandoned, especially by the younger generation. Modernity however, has not replaced tradition, and traditional ways of knowing and perceiving the relationship of humanity and nature continue to be the basis of human experience. Keris Mas and K.S. Maniam tapped into and revived these forgotten traditions through their treatments of alienation.

### *Jungle of Hope*

Keris Mas wrote *Jungle of Hope* (hereafter, *JOH*) based on his memories as a youth growing up in Pahang, coupled with extensive research of colonial history. These were clearly utilized by Keris to reconstruct and critique the environmental damage produced by colonialism, particularly the alienation of Malay peasants from their land. Set in the 1920s-1930s in colonial Malaya, *JOH* traces the life of a traditional Malay rice farmer, Pak Kia, who is forced to move from Ketari to the jungle of Janda Baik when a disastrous flood destroys his land. At the same time, the British grant a permit to British-backed companies to buy the lands in Ketari and its adjacent areas, including Pak Kia's land, for conversion into a sledge tin mine that would ultimately inundate and destroy them. Villagers are asked by the agents of these British-backed companies to sell their ancestral lands in Ketari with the option to relocate to Janda Baik, a nearby frontier area. Forced by the impending environmental disaster, Pak Kia reluctantly sells his land. His family and he suffer a lot of hardships to clear the forest of Janda Baik and set up a new rice field.

The settings in *JOH* allude to real locations and past events in Bentong, Pahang. Ketari, Janda Baik, and Benus are all adjacent areas around Bentong. Janda Baik, the main setting in which *JOH* takes place, is a small idyllic village town in Pahang, Malaysia. Founded in 1932, Janda Baik is surrounded by thick rainforests and cool rushing brooks and waterfalls. The flood that affected Benus in 1926 and

the displacement of the villagers that led to their relocation to Janda Baik, were resurrected in *JOH* to highlight the perils of colonial capitalist enterprises to the Malayan environment and how these changed the relationship the Malay peasants have with their land. The colonial authorities, keen to exploit the natural resources that were abundant in Malaya in order to fulfill the needs to industrialize Europe, facilitated British investments in tin-mining and rubber plantations. Land was quickly earmarked for mining and plantation purposes (Butcher, 1979, p. 15; Jomo, Chang & Khoo, 2004, p. 63). Rice cultivation, which was a major occupation of the Malays, was considered an insignificant industry due to the Malays' reluctance to be involved in commercial agriculture (Chai, 1967, p. 143). British lack of interest in improving the Malays' inefficient systems of irrigation and primitive agricultural implements further limited the growth of rice cultivation (Chai, p. 146). Subsequently, the Malays were forced to either sell their land or take up rubber planting. Those bent on cultivating wet rice were encouraged to do so as wet rice farmers would eventually relent to sell off their rice fields (Jomo, Chang & Khoo, p. 63). By the 1920s, having developed large tracts of land in Selangor, Perak and Penang for mining and rubber, the colonial administration set their sights on unoccupied adjacent territories that had not already been developed. Vast tracts of land in Pahang, Johor, Kedah and Kelantan were identified. Bentong in the 1920s was already part of this massive expansion.

The landscape depicted in *JOH* mediates many of the environmental changes caused by the colonial economic engineering. On his way to the new village to see Zaidi for instance, Pak Kia sees

*...two verdant rubber estates,  
reaching up to the hills beyond.  
In the estate bordering the village,  
the rubber trees had grown tall and  
leafy, forming a lush, dark expanse.  
Each villager owned a few acres of  
that dark green stretch. In the one  
farther away, which extended half-  
way up the hills, the rubber trees  
were young, sparse and light green  
in hue...(p. 6).*

The land that used to be dominated by forests is now dominated by planted rubber trees. What he sees marks the already wide-spread plantation-based colonial capitalism. Prior to colonisation, much of pre-colonial Malay society was organised around agrarian production at the fringe of forests. They either practised shifting cultivation or rice cultivation. Hill or dry rice cultivation predominated most rice cultivation until 1860s when wet rice cultivation gained prominence (Jomo, Chang & Khoo, p. 81). Most Malays were living at subsistence level, with no pressures to increase outputs or to exploit the environment as a commodity. The environment provides the basic needs that they need. They take only what they need from the land for their survival, which means that ecological change was generally

minimal, compared to the more extensive and intensive forms of land use enforced under colonialism. This relation is not merely a physiological labour between the Malays and the natural world but also a cultural one. The environment and its richness provides the basis on which traditional lifestyles and beliefs are constructed; it holds the family together, and it is around land that the social organization of family and community revolves (Brookfield, Abdul Samad Hadi & Zaharah Mahmud, 1991, p. 29). As Kathiritambhy-Wells (2005) has noted, the relationship that the Malays had with the environment around them was one where “culture and nature are inextricably linked” (p. 7).

This traditional lifestyle continued to some extent during colonial administration, as exemplified by Pak Kia in *JOH*. Although restrictive new laws and regulations regarding the land were enforced, and tin mining and rubber plantation become the order of the day, Pak Kia still works religiously on his rice field. In contrast, most of the villagers around him have opted for growing rubber. Enticed by the material progress that came with the new economy, more and more Malays sell their land and open up new settlements and/or grow rubber. Pak Kia, on the other hand, works even harder in the rice field (p. 8). At one time, when droughts affect his rice fields, Pak Kia has no choice but to tap rubber on Zaidi’s plantation. “Tapping rubber, for Pak Kia, was sheer hell. He yearned to return to his heaven, his ricefield” (p. 9). The rice fields, rivers and orchards were the world to him (p. 11).

*JOH* positions Pak Kia at the forefront of the changing environmental reality that is sweeping Ketari, which he unwaveringly resists. His resistance is echoed by a number of Malays in his village like Jusuh, who refuse to “work as coolies”, “clinging even more firmly to their old way of life”, to “their original rice fields and village”, which “they felt, were their last bastion” (pp. 62-65). This form of resistance has typically been propagated in colonialist discourse, resulting in Malays being stereotyped as indolent, lazy and unproductive (Syed Hussein Alatas, 1977, p. 95). Adas (1981) however, sees this resistance as a typical avoidance protest in pre-colonial and colonial Southeast Asia, by which “dissatisfied peasants seek to attenuate their hardships and express their discontent through flight, sectarian withdrawal, or other activities that minimize challenges to or clashes with those whom they view as their oppressors” (p. 217).

Through *JOH*, Keris stresses that such resistance is rooted in the rural Malay culture, which revolved around non-capitalist relations of production. The new forces and relations of productions that are taking roots in the land around him are radically different from the relations of production nurtured by the pre-capitalist Malay culture. This brings Pak Kia into conflict, and he resolves this by refusing to give up his land and his vocation. The capacity to be his own person in control of his labour with nature, without interference from manipulative external forces – is liberating to Pak Kia. In contrast, his fellow village men may be working on their land growing cash crops like rubber, but they

are subjected to laws, restrictions and manipulations by the colonial administration and the global market. Unlike Pak Kia, those involved in growing rubber have to rely on other external production factors in their labour. Keris highlights this through the hardship suffered by the villagers in Ketari when the price of rubber goes down and money becomes scarce (p. 231).

Pak Kia's long-standing relationship with the land has shaped his personal identity. To Pak Kia, an important aspect of his identity lies in ties to the land and the kind of labour he engages in. When most people in his village are lured by easy money gained from selling their land and growing rubber, Pak Kia chooses to stay on his land and endure hardships. Amidst the changing cultural and environmental identity of the majority of the Malay peasants at that time who are assimilating into the colonial capitalist plantation agriculture by growing rubber, Pak Kia intractably asserts his own identity by refusing to be alienated from his land and labour. Pak Kia's strong affiliation with his land is what Tuan (1974) refers to as a peasant's deep attachment to land, which is "compounded of this physical intimacy, of material dependence and the fact that the land is a repository of memory and sustains hope" (pp. 96-97).

The landslide at Kutu Hill, which causes a disastrous flood to Ketari, destroys Pak Kia's land beyond hope. To make matters worse, Ketari is also being threatened by "Tuan Pekok's mining ravages", the openings of a sledge tin mine that would ultimately inundate and destroy the land

(p. 48). Powerless, Pak Kia sells his land and decides to move to Janda Baik. This decision however, is made with the aim to continue with the subsistence lifestyle, to "...work hard to develop the land in Janda Baik into a village that replaces the one we lost" (p. 190). He is determined to see that the relationship that he has always had with the land would continue undisrupted, "living the Malay way" (p. 72). When most of his fellow village men are abandoning their tradition of rice planting, Pak Kia seeks to restore this culture.

In *JOH*, Keris affirms the role of the forest in shaping the identity of traditional Malay societies. When his land is destroyed, Pak Kia resorts to the forest in Janda Baik. The forest offers hope for Pak Kia to make a living and Keris invokes this hope by making it a site of refuge for Pak Kia, fleeing the onslaught of colonial drive for mining and plantation agriculture. While the colonial administration sees the forest as a resource for commodities, Pak Kia sees the forest as the provider of his livelihood and a marker of his identity.

Pak Kia's efforts to make a living at Janda Baik bear fruit. However, his autonomy in the subsistence living is underscored towards the end when he "yielded to Zaidi's and Jusuh's persuasion and promised to apply for land to plant rubber when the time came" (p. 306). Malaysia's subsequent history during and after colonialism indicates that Pak Kia's obstinacy is fragile and idealistic, that environmental change is inevitable, and that a return to a pre-colonial lifestyle is

not feasible. Keris seems to suggest that Malay peasants like Pak Kia are inevitably caught in this ferocious circle, doomed to the colonial economy subordination as well as the four-fold alienation from nature: from nature, from the products of their labour, from other people, and from themselves. *JOH* may well be Keris' effort to underscore the onset of the rift between the Malay peasants and their ancestral land, coerced into colonial capitalist economy that is set to create physical, emotional, psychological and spiritual distance from the land. *JOH* may also be Keris' effort to partially reclaim the Malay cultural and environmental tradition, forgotten and abandoned under the menace of colonial capitalist rule.

#### *Between Lives*

K.S. Maniam's *Between Lives* (hereafter, *BL*) centres on the lives of two Indian women in contemporary Malaysian society, Sellamma and Sumitra. Sellamma is an old, second-generation Indian woman who owns a beautiful piece of land at the outskirts of a city. The land that she treasures however is being eyed by developers for the proposed building of a condominium block and a theme park. Sumitra is a young, third-generation Indian woman working as a counsellor in the Social Reconstruction Department (SRD), assigned to persuade Sellamma to sell her land and move into a welfare home. Sellamma refuses to budge. Suffering from memory loss due to old age, Sellamma lives in her own world where the past is the present and the present is the past. As a result, Sellamma mistakes

Sumitra for her long deceased sister, Anjali. Sumitra finds herself swept along a tide of memories that change her life and her world view. Upon her death, Sellamma bequeaths the land to Sumitra, who is determined to preserve it.

*BL* spans significant phases in Malaysia's history: from British colonization to contemporary Malaysia. These phases, as depicted in *BL*, also chart the various social realities experienced by the Indian diaspora in Malaysia. Malaysian Indians represent about 7.3 percent of the total population ("Penduduk Malaysia", 2012). A non-homogenous ethnic community, nearly 90 percent of Malaysian Indians are of South Indian origin, brought into Malaya under the colonial indentured system (Periasamy and Lee, 2007, p. 6). The rest were brought in from Ceylon and North India to run the administrative, technical, defence and security services. Today, the Indian community in Malaysia, once largely a community of plantation workers, has become diversified economically, although they are still perceived as "marginalized" in socio-economic and political terms (Muzaffar, 1993, p. 21; Appudurai & Dass, 2008, pp. 8-12; Tate, 2008, p. 179; Manickam, 2009, p. 379).

The reasons for the marginalization of Indians in Malaysia can be traced to their immigration history. The middle of the 19<sup>th</sup> century marked the cultivation of cash crops in Malaya, especially rubber. Indian labour immigrants were brought in by the British on a large scale to work in the rubber plantations, especially during the period of

1911-1930 (Sandhu, 1993, p. 155). Pitted against the indenture system of labour recruitment which chained the labourer to low wages, harsh working conditions, and British manipulative regulations, the Indian community lived in abject poverty and was “deprived ... of the economic foundation necessary for a politically significant role” (Muzaffar, pp. 212-213).

Independence did not change the role of Malaya as the producer of rubber, further confining the rubber plantation Indians to a life of poverty although they gained benefits like education, health care, water supply, and electricity from the government’s developmental efforts (Muzaffar, p. 221). Political representations during and after independence were generally weak and ineffectual on the sidelines, failing to lobby the powers that be to address the marginalization of the Indians (Tate, p.180). The New Economic Policy (1970-1990), implemented in the aftermath of the May 13 1969 riot, sought to redress Tunku Abdul Rahman’s *laissez faire* attitude towards development which continued the economic pattern initiated by the British and neglected some pertinent social issues such as poverty, landlessness, and income disparity between the races in Malaysia. This action policy however, had helped to elevate the economic status of the other predominant races but not the Indians, contributing further towards their marginalization (Manickam, 2009, p. 146).

As descendants of migrants from India, the Indian diaspora in Malaysia practise an integral part of the Indian culture,

maintaining link with their ancestral home. The Hindu religion, the Tamil language, Indian films, music and the performing arts play a big role in helping them to maintain the Indian identity and tradition. This attachment however, has not deterred them from assimilating and blending into the multicultural and multiracial society that characterizes the makeup of Malaysia. After almost 40 years of independence however, and after the implementation of so many economic policies and strategies that are said to be oblivious to the plight of the Malaysian Indians, the socio-economic status of Malaysian Indians is still questionable, contributing to “a strong sense of alienation and hopelessness” (Jegathesan, 2002, “Alienated Malaysian Indians”).

The land central to the unfolding of events in *BL* belongs to Sellamma, a second-generation Indian woman. Her picturesque land is “valuable land...stretching from the laterite trail to the river and on to the fringes of a jungle...a bit of scenic country...” (p. 1). The land, which is referred to as a “settlement” during the colonial times, is passed down from her “rubber plantation parents” (p. 16). Living off the land her entire life, Sellamma’s father, Arokian, is given the land title by a “white *thurai*” – his British employer at the estate. As the British-run rubber estate that Sellamma’s father works at is no longer hiring workers, Arokian finds himself trying to make ends meet. The settlement fortunately is fertile and he finds himself working on the land, growing fruits, herbs, vegetables and rearing cattle, living a sustainable way of

life. He is respected by the community and is regarded as their leader. He also makes friends with the Malays and has an especially good relationship with Pak Mat, who assures him that “Our wings are here on the land, Arokian” (p. 184). His family is also “better off than the others in the settlement” as “the land was flourishing” (pp. 16-17). But the Japanese Occupation throws his family into hardships, coerced into supplying vegetables to the Japanese army. His family unit too, slowly crumbles after the Japanese occupation. His two sons leave the settlement to join construction works. His two daughters get married and leave the settlement. The uncertain political climate brought on by World War II, the Japanese occupation and British’s return to Malaya at that time leave a big impact on Arokian. In addition, the nationalist movement among the Malays is also escalating; Malay hegemony is becoming more and more relevant to the Malays. Plagued by a feeling of displacement, which typically characterizes the older-generation Indian diaspora who are still emotionally and physiologically attached to their homeland, Arokian and his wife opt to return to India. Sellamma and her youngest brother however, choose to stay on the land. When her youngest brother disappears and is taken for dead, Sellamma disappears for a few years before returning to her land, keeping things pretty much to herself. This goes on for many years until Sumitra comes into the picture.

Different from Sellamma, Sumitra has assimilated into the multicultural Malaysia.

She makes friends with people from the other races, receives good education, and epitomises the modern Malaysian woman. Sumitra’s father epitomizes the Malaysian Indian man who has worked hard to have a good social standing in the Malaysian society; “retired from a fourth or fifth ranking job in the local branch of some ministry – a job that brought him a substantial gratuity and a comfortable pension” (p. 9). Sumitra’s father’s success in some ways marks the socioeconomic success of post-independent Malaysia. This success however, comes with a price. Living in an increasingly secular and capitalist society, where material possessions, social ranking and urban culture dictate the order of the day, cultural tradition and religion have less and less influence in Sumitra’s daily life. Steering clear from saris and religious rituals like the puja and puberty coming-out ceremony, Sumitra has shed most of the religious and cultural values and rituals usually practised by the Indian community, much to the disappointment of her mother and grandmother (p. 80). Able to speak English, Malay and Tamil, Sumitra feels she is the right person to persuade Sellamma to abandon her land and move into the old folks’ home.

Shifting away from questions of attachments to the ancestral land, cultural dominance and assimilation foregrounded in his earlier novels, Maniam’s *BL* elevates the Malaysian land as sacred. To “be part of the earth” (p. 62) seems to be Sellamma’s mantra. Working on the land tirelessly, she reinstates the personal relationship one

establishes with the land through one's own labour, "Appa always said be part of the handle, and you'll be part of the earth" (p. 62). Sellamma's relationship with the land goes beyond the physical. Maniam offers this different mode of interpreting to interpret the land and its link to humanity, going beyond the secular and scientific realms.

For Sellamma, a vital aspect of her personal identity lies in ties to the land and the family history connected to it. The land is particularly relevant to her as family history and cultural tradition intertwine. As first and second-generation Indian migrants in Malaya, Sellamma's family retains their Indian identity by practising integral parts of the motherland culture such as the Tamil language and the Hindu religion. The Hindu religion especially, plays a defining role in governing the norms, values and rituals practised by her family. Sellamma's family spends most nights reading the Ramayana: an epic Hindu scripture central to Hinduism that teaches the duties of relationships and the ideal characters for father, servant, brother, wife and king. The Ramayana, according to Arokian, should be read so that they "feel the magical plentifulness of the land, and to treat everything that grew (on the land) with the greatest respect" (p. 108). The Ramayana song also becomes the family's anthem. Sellamma's father is also likened to Rama while her mother is likened to Sita. The allegorical reference to Rama and Sita serves to foreground Sellamma's family's origin and ancestral ties to the motherland. Rama and his wife,

Sita, were exiled to a forest as a result of his stepmother's greed to install her son, Bharat, as the King. Without complaining, Rama and Sita live in the forest for fourteen years. Similarly, Sellamma's father and mother were exiled, albeit voluntarily – separated and distanced from the homeland. For many years, they make a living out of the piece of land they settled to, in Malaya.

Many aspects of the land are ascribed with religious identities and rituals that Sellamma's family used to practise. The Sacred Rama-Sita grove serves to highlight one of the important aspects of the Indian diasporic tradition in Malaysia: creating and/or building sacred places of worship similar to the ones found in their ancestral land. Sellamma's family is no different. Sacred groves, such as the one that sprawls over Sellamma's land, has its origin in India. The sacred grove institution in India is very ancient and dates back to the pre-agrarian hunting-gathering stage, before humans had settled down to raise livestock or till the land (Malhotra *et. al.*, 2001, p.6). A time-honoured means of biodiversity conservation, these groves are similar to what is now referred to as natural sanctuaries, where all forms of living creatures are under protection. Dedicated to a certain deity, no one is allowed to cut any tree or plant, kill animals and birds, or harm any form of life in the sacred grove area. Ancient Indian texts have many references to sacred groves (Malhotra *et. al.*, p. 12). In terms of religion, these groves serve to propitiate certain deities and/or ancestral spirits. These groves also

have a sociocultural function in that they provide a cultural space to the community as the common property resource where festivals, social gatherings and weddings are held. Sacred groves too, have an economic function whereby village folks collect and extract dead plant and animal material for fuel or energy. Lastly, sacred groves also have a political dimension in that they provide the territorial affiliation and village membership. As sacred groves serve religious, sociocultural, economic and political functions, they are invaluable in lessening human impact on the environment and ensuring uninterrupted ecological process (Malhotra *et. al.*, p. 18). By ascribing a religious identity to the Rama-Sita Grove, Sellamma keeps ties to the land, her family, and the Indian cultural tradition. Similar to the sacred groves in India, Sellamma's Rama-Sita grove are not excluded from threats. The first threat is during the Japanese Occupation, when Sellamma's family had to kowtow to the Japanese soldiers' demand for vegetables. This human threat was treated with determination and faith by Sellamma's family, "The Ravana's will be defeated" (p. 149). Like the story in Ramayana, human threats are likened to Ravana, who comes to the forest Rama and Sita live in, kidnaps Sita, and after many ensuing battles, is defeated by Rama. In the current setting however, Maniam foregrounds different kinds of threat: development projects and the erosion of the Indian cultural tradition. The Rama-Sita Grove in *BL* therefore serves to emphasize how the land not only provides for Sellamma's livelihood but also

the cultural space that gives her a sense of identity and belonging.

The river is also sacred to Sellamma, just as water is considered sacred in Hinduism. Water is of special significance in Hinduism because it is related to physical cleanliness and spiritual well-being. This explains why most rituals and holy places are usually found on the banks of rivers, coasts, seashores and mountains. To Hindus, water has spiritually cleansing powers, especially rivers, and there are seven sacred rivers in India, namely the Ganges, Yamuna, Godavari, Sarasvati, Narmada, Sindhu and Kaveri. Bathing in rivers is considered sacred for it is believed to cleanse the bather off his or her sins. The river that runs through Sellamma's land is given the same religious significance. Swimming together with Sumitra, Sellamma reinforces the importance of the river to her family, "We always come here after working in the Rama-Sita grove. And after family quarrels or celebrations. More after the quarrels" (p. 64). The river therefore cleanses the whole family from physical impurities as well as spiritual ones.

Throughout the different phases of Malaysian history, from being colonized to the present day, Sellamma's land serves as a meaningful source of self-identity. Sumitra laments, "Why doesn't Sellamma see what I see? I mean the breaking off and the discontinuity" (p. 76). Sumitra's lack of empathy and sensitivity to the land serve to foreground the effects of rapid industrialisation in town areas, which causes the urbanites lose their link to nature.

Maniam underscores this rift by focusing on a bigger issue - humanity's lost link to the land and its sacredness.

In *BL*, Maniam ascribes religious identity to the land, endowing it with spiritual significance rather than scientific and anthropomorphic, showing a different understanding of the environment. Through Sellamma's filial devotion to the land, Maniam foregrounds the Indian cultural tradition – the forgotten traditional ways of knowing and perceiving the land, which continues to be the basis of human experience. In *BL*, modernity and rapid development may have elevated alienation, but they have not replaced tradition. When the tradition of maintaining sacred groves and rivers is quickly vanishing and forgotten, Maniam revives this, offering it as a way to heal the detachment of humanity from nature.

## CONCLUSION

Overall, the notion of alienation is central in *JOH* and *BL*. Alienation is to a large extent the reflection of the environmental conditions in which the writers find themselves in and the different phases in the country's environmental history, in which the texts are variously placed. It is a four-fold process that overtakes humanity's relationship with the land; the effects are felt and dealt with by Keris and Maniam. *JOH* delves into the onset of this alienation, focusing on the trauma felt by Malay peasants, caught between environmental realities and tradition. Maniam through *BL* also delves into this rift. He, however,

offers a way to heal this rupture – by going back to cultural and religious tradition. Indeed, forgotten tradition is reclaimed and revived in both texts but Maniam foregrounds forgotten tradition as a way to heal estrangement from nature. Both texts nevertheless, serve as valuable resources for thinking about alienation and its effects on humanity, and the immense capacity that humanity has to amend their estranged relationship with nature.

## REFERENCES

- Adas, M. (1981). From avoidance to confrontation: Peasant protest in precolonial and colonial Southeast Asia. *Comparative Studies in Society and History*, 23, 217-47.
- Andaya, B. W. (1997). Historicising “modernity” in Southeast Asia. *Journal of the Economic and Social History of the Orient*, 40, 391-409.
- Appudurai, J., & Dass, G. A. D. (2008). *Malaysian Indians: Looking forward*. Petaling Jaya: Strategic Information and Research Development Centre.
- Brookfield, H., Abdul Samad Hadi., & Zaharah Mahmud. (1991). *The city in the village: The in-situ urbanization of villages, villagers and their Land around Kuala Lumpur, Malaysia*. Singapore: Oxford University Press.
- Butcher, J. G. (1979). *The British in Malaya 1880-1941: The Social history of a European community in colonial South-East Asia*. Kuala Lumpur: Oxford University Press.
- Chai, H. C. (1967). *The development of British Malaya 1896-1909* (2<sup>nd</sup> ed.). Kuala Lumpur: Oxford University Press.
- Ciaffa, J. A. (2008). Tradition and modernity in postcolonial African philosophy. *Humanistas*, 21, 121-145.

- Eagleton, T. (2011). *Why Marx was right*. New Haven and London: Yale University Press.
- Foster, J. B., & Clark, B. (2004). Ecological Imperialism: The Curse of Capitalism. *Socialist Register*, 40, 186-201.
- Jegathesan, M. (2002, June 3). Alienated Malaysian Indians a 'breeding ground for terrorism'. *Malaysiakini*. Retrieved from <http://m2.malaysiakini.com/news/11633>
- Jomo, K. S., Chang, Y. T., & Khoo, K. J. (2004). *Deforesting Malaysia: The political economy and social ecology of agricultural expansion and commercial logging*. London: Zed Books Ltd.
- Kathirithamby-Wells, J. (2005). *Nature and nation: Forest and development in Peninsular Malaysia*. Copenhagen: Nordic Institute of Asian Studies.
- Keris Mas. (2009). *Jungle of hope*. (Adibah Amin, Trans.). Kuala Lumpur: Institut Terjemahan Negara Malaysia Berhad. (Original work published 1984).
- Layfied, D. (2008). *Marxism and Environmental Crises*. Suffolk: Arena Books.
- Rhum, M. R. (1996). 'Modernity' and 'Tradition' in Thailand. *Modern Asian Studies*, 30, 325-355.
- Jomo, K. S., Chang, Y. T., & Khoo, K. J. (2004). *Deforesting Malaysia: The political economy and social ecology of agricultural expansion and commercial logging*. London: Zed Books Ltd.
- Jegathesan, M. (2002, June 3). Alienated Malaysian Indians a 'breeding ground for terrorism'. *Malaysiakini*. Retrieved from <http://m2.malaysiakini.com/news/11633>
- Malhotra, K. C., et al. (2001). *Cultural and ecological dimensions of sacred groves in India*. New Delhi: Indian National Science Academy.
- Maniam, K. S. (2003). *Between lives*. Petaling Jaya: Maya Press.
- Manickam, J. R. (2009). *The Malaysian Indian dilemma: The struggles and agony of the Indian community in Malaysia*. Klang: Nationwide Human Development and Research Centre.
- Muzaffar, C. (1993). Political Marginalization in Malaysia. In K. S. Sandhu and A. Mani (Eds.), *Indian Communities in Southeast Asia* (pp. 211-236). Singapore: Institute of Southeast Asian Studies.
- Penduduk Malaysia kini 28.3 juta. (2012, October 18). *Berita Harian*. Retrieved from [http://www.bharian.com.my/bharian/articles/PendudukMalaysiakini28\\_3juta/Article/artikel](http://www.bharian.com.my/bharian/articles/PendudukMalaysiakini28_3juta/Article/artikel)
- Periasamy, M., & Lee, K. C. (2007). Indian Migration into Malaya and Singapore during the British Period. *Biblioasia*, 3, 4-16.
- Rhum, M. R. (1996). 'Modernity' and 'Tradition' in Thailand. *Modern Asian Studies*, 30, 325-355.
- Sandhu, K. S. (1993). The Coming of the Indians to Malaysia. In K. S. Sandhu and A. Mani (Eds.), *Indian Communities in Southeast Asia* (pp. 151-189). Singapore: Institute of Southeast Asian Studies.
- Syed Hussein Alatas. (1977). *The myth of the lazy native*. London: Frank Cass and Company Limited.
- Tate, M. D. (2008). *The Malaysian Indians: History, problems and future*. Petaling Jaya: Strategic Information and Research Development Centre.
- Tuan, Y. (1974). *Topophilia: A study of environmental perception, attitudes and values*. New Jersey: Prentice Hall.



## **The Relationships between Demographic Variables and Risk-Taking Behaviour among Young Motorcyclists**

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### **ABSTRACT**

In a previous study, it is well documented that adolescents are more likely than adults to engage in risky behaviour (Arnett, 1992). Most evidence suggests that risk-taking is the most important major factor underlying the high crash rates among teens. The objectives of this study were: 1) to examine the extent of risk-taking behavior of Malaysian motorcyclists, and 2) to investigate the relationship between demographic variables of motorcyclists and risk-taking behavior. A total of 540 respondents from six different areas in the Klang Valley (Jalan Kapar, Jalan Meru, Jalan Ampang, Lebuhraya Damansara Puchong, Jalan Tun Razak and Jalan Kuala Selangor-Sungai Buloh) were surveyed. The study found that there were significant gender differences in term of 'riding over speed limit' and 'riding without crash helmet'. In terms of age, there are significant differences between age and 'riding without crash helmet'. In terms of personal income, the result showed that there are significant differences between personal income and 'riding without crash helmet' and 'riding without headlights and not stopping at three-way junction'. However, there are no significant difference between race and highest education level and risk-taking behavior dimensions.

*Keywords:* Headlight, motorcyclists, risk-taking behaviour, speed limit, three-way junction

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### **INTRODUCTION**

In many countries, motorcycle is one of the most popular modes of transportation among road users. Because of the reasonable price, easy to handle, and the economical usage of petrol, motorcycle has been chosen as one of the better transportation modes to move

from one place to another. According to the Road Transport Department, there were 8.9 million registered motorcycles in 2009, with an average of 468,054 motorcycles being registered annually from 2005 to 2009. In total, about 47% of the registered vehicles in Malaysia are motorcycles (RTD, 2010).

Malaysia has quite a high road accident rate (Mohd Rasdan & Mohamed Rehan, 2005). The number of vehicles that was on Malaysian roads in 2002 is 12,021,939. Almost 50 percent (5,842,617) of them are motorcycles. These numbers are still growing at a rate of more than 6 percent a year. Road crash statistics reported by the Royal Police Malaysia revealed that in 2002, out of 5886 fatality due to road accidents, 3030 of them involved motorcyclists. From the number, those accident fatalities for motorcyclists were almost 51 percent of the total accidents in Malaysia.

In 2009, the total motorcyclist fatality figure was 4,067 or 60% of the total recorded road fatalities (RMP, 2010). This figure represented an increase of 9% in the number of fatalities from the 2002 data. Fifteen years prior to that, motorcyclist in Malaysia were reported to have an overall relative risk of 20 times greater than that of car drivers' (Radin Umar, Mackay & Hills, 1995).

In general, this study endeavoured to examine the risk-taking behaviour of motorcyclists. In more specific, the main objectives of this study were to examine the extent of risk-taking behaviour of Malaysian motorcyclists and to investigate the relationship between the demographic variables of motorcyclists and risk-taking behaviour.

## BACKGROUND OF THE STUDY

Different groups of people have different exposures to risk. As population changes over time, so does the overall exposure of that population. Fluctuations in the relative sizes of different population groups will have a strong effect on the road traffic toll. The risk of a motorcyclist to be involved in an accident depends on several factors such as rider's age, sex, experience, type of road, characteristics of the motorcycle and exposure. The assessment of risks is complicated by the interactions between these and other factors (Sexton, Fletcher, & Hamilton, 2004). The current study proposed five demographic variables that would have impacts on risk-taking behaviour, namely gender, age, race, highest education and personal income.

Chesham, Rutter and Quine (1993) found that young male motorcyclists are at a higher risk of accident involvement than motorcyclists of other age groups. In general, young male drivers as a group behave more riskily than female and older drivers and are also worse at hazard perception than older drivers (McKenna, Waylen, & Burke, 1998). This factor is likely to influence accident liability. Young male drivers have a higher accident liability than females (Maycock, Lockwood, & Lester, 1991; McKenna *et al.*, 1998).

There is a common belief that men are more inclined to take risks than women (Byrnes, Miller, & Schafer, 1999). In Delhi, however, not wearing a helmet was the only risk behaviour which was found to be prevalent more in females (77.7%) than

in males (70.3%) (Rahul, Vijay, Grover, & Chaturvedi, 2007). The explanation for this was that currently wearing helmet while riding a motorized two-wheeler was only mandatory for male riders.

It is well documented that adolescents are more likely than adults to engage in risky behaviour. For example, adolescents are more likely than adults to drive recklessly, to drive while intoxicated, to use varied illicit substances, to have unprotected sex, and to engage in both minor and more serious antisocial behaviours (Arnett, 1992). Most evidence suggests that risk-taking is the most important major factor underlying the high crash rates among teens (Finn & Bragg, 1986; Jonah, 1986; Williams, 2001).

The tendency for young drivers to engage in high-risk driving activities has been well documented (see for e.g., Cooper, 1987; Evans & Wasielewski, 1983; Jonah, 1986, 1990). For example, risk-taking behaviour in young drivers has even been identified as a major factor in young drivers' basic motivations not to use seatbelts, which is one of the reasons that their fatal crash rates are higher than those of the older age groups (Begg & Langley, 2000; Chliaoutakis, Gnardellis, Drakou, Darviri, & Sboukis, 2000; Hodgdon, Bragg, & Finn, 1981; Jonah, 1986; Mayhew & Simpson, 1999; Williams & Shabanova, 2002).

Motorcyclists who possess lower level of education tend to use motorcycles more. In a study conducted in Taiwan, they found that people of lower education level make up the higher number of motorcycle users (Hsu *et al.*, 2003).

Numerous studies on adolescent risk behaviour have revealed significant differences among racial or ethnic groups, with the highest cigarette and alcohol uses reported among white teens, whereas earlier onset of intercourse has been consistently found among black youths (Robert *et al.*, 2000).

Some adolescent health risk behaviours appear to be disproportionately high among youths of colour, adolescents of lower-income families and those living in poverty, but these demographic factors do not predict youth health risk behaviours well (Robert *et al.*, 2000). Helmet use varies from slightly over zero in some low-income countries to almost 100 percent in places where laws on helmet use are effectively enforced. In several low-income countries, helmet use has been found to be lower at night (Ichikawa, Chadbunchachai, & Marui, 2003). Though the wearing of helmets is generally widespread in most high-income countries, there is some evidence of a decline. In the United States, for example, helmet use fell sharply to 58 percent in 2002 from 71 percent recorded two years previously (Glassbrenner, 2002).

## METHODOLOGY

This is a quantitative research that employed the quantitative survey method for data collection. Survey research is widely used to determine specific characteristics of groups and to measure the attitudes and opinions of groups towards certain issues (Ary, Jacobs, & Razaveih, 2002). A survey was conducted to examine the risk-taking

behaviour of Malaysian motorcyclists in the Klang Valley. The survey was carried out within three weeks (one week for two areas) from 8 March 2010 to 31 March 2010.

### *Research Instrument*

The questionnaire consisted of three pages excluding the cover page. The questionnaire contained 11 demographic questions. This part sought information on the respondents' background, which is important for data analysis (e.g., the relationship between gender and crash experience). In more specific, the questions in this part include gender, age, race, highest education level, personal income and experience in riding motorcycle.

Measurement items in this study were generally generated from a previous research. However, minor modifications were done to suit the context of the current study. This was done following the feedback from the pre-testing. Nevertheless, the modifications do not alter the content of the constructs. Even though most of the measurement items were modified from the existing scales, some of the items were newly developed based on the perspectives of the current study .

Originally, this questionnaire was developed using the English language because all the adapted questions from the previous literature used the English version. The researcher translated the questionnaire into the Malay language. The translation of the questions into the Malay language was deemed appropriate since the levels of English language proficiency among

Malaysians are different. Furthermore, the translation must be simple and easily understood by the respondents in order to get more meaningful answers. Both languages are presented in sequences in the questionnaire.

The questionnaire consisted of 11 pages excluding the cover page. The questionnaire in Part A was divided into six sections. Instructions were clearly and precisely stated on the first page of each section. The instruction was given to guide the respondents when answering the questionnaire. Itemized scales rating, i.e., Likert-type scale, was applied to all the questions in Part A. All statements and questions in Part A used a 5-point Likert scale (1= strongly disagree, 2= disagree, 3= not sure, 4= agree and 5= strongly agree).

### *Sampling*

A total of 550 questionnaires were distributed in the Klang Valley to collect the data. The minimum targeted sample size was set at 540 respondents. This sample size is considered to be feasible, as well as being time and cost efficient for the researcher. A sample size that is too small might affect the generalizability of the results, whereas a sample size that is too large will not be feasible for the researcher to complete the data collection due to time and cost constraints.

Klang Valley is an area that comprises Kuala Lumpur and its suburbs and adjoining cities and towns in the state of Selangor, Malaysia. Six places were chosen from the Klang Valley area. These places were chosen

because they have recorded the highest number of road accidents. The selection of the area in this study was based on an area which was recorded as the route with the highest number of motorcycle accidents in the Klang Valley. Furthermore, the two routes from each area with the highest number of motorcycle accidents are Klang, Petaling Jaya and Jalan Bandar (MIROS Road Accident Analysis and Database System, M-Roads, 2008).

In this case, area sampling was used. In selecting the respondents in these localities, convenience sampling was used to select the target respondents. It was a self-administered and drop-off method of survey where no personal interview was involved but short briefing was given to the respondents prior to distributing the questionnaire. Using the convenience sampling, the researcher got the respondents from any places that the researcher could see motorcyclists such as in front of the shops, side of the road, shopping centres, etc.

## ANALYSIS OF RESULTS

The demographic profile of the respondents, namely, age, gender, race, higher education level and personal income, were included in this study. Frequency distribution and percentage distributions were used to describe responses on categorical demographic variables. In terms of gender, majority of the respondents are males (76%), whilst females contributed to about 24% of the respondents. In terms of age, most of the respondents were in the 21 – 30 age bracket (46.6%). In terms of race, majority

of the respondents are Malays (90.2%). As for the education level, the majority of the respondents are SPM or MCE holders (46.4%). In terms of personal income, approximately half of the total respondents earned less than RM1,000 .

*Objective 1: To examine the extent of risk-taking behaviour of Malaysian motorcyclists.*

Generally, as shown in Table 1, most motorcyclists are not risk takers. They generally abide traffic laws. Only for statement no. 5, i.e., “I always ride my motorcycle without using a crash helmet in a residential area.”, they tend to violate the traffic law (Mean=3.127). The highest level of agreement was for the statement no. 14, i.e. “While riding on motorcycle, as I am overtaking or turning into a junction, I will indicate or signal to the other drivers and ensure that it is safe to do so.”, about 85 percent of the respondents agree with the statement (Mean=4.259).

*Objective 2: To investigate the relationship between demographic of motorcyclists and risk-taking behaviour.*

The result of the factor analysis shows a KMO value of 0.842, indicating that it is adequate to use the factor analysis. In addition, the Barlett’s test of sphericity also exhibited  $p < 0.001$ , indicating the appropriateness of using the factor analysis. A summary of the factor analysis results are presented in Table 2.

Table 2 shows that there are four factors extracted (see Table 3). There were five items on Factor 1, labelled as ‘Riding over

TABLE 1  
Risk-Taking Behaviour: Mean Scores and Standard Deviation

| Risk-Taking Behaviour   | Mean** | Standard Deviation | Agree*** | Not Sure | Disagree**** |
|---|--------|--------------------|----------|----------|--------------|
| 1. When I ride on my motorcycle, I always stop at a stop sign.*   | 3.860  | 1.137              | 70.7     | 14.9     | 14.4         |
| 2. When I ride on my motorcycle, I used to overtake another vehicle in an area where overtaking is not allowed.   | 2.438  | 1.260              | 24.6     | 13.4     | 62.0         |
| 3. I always ride my motorcycle over the speed limit.  | 2.615  | 1.302              | 28.7     | 18.1     | 53.2         |
| 4. I always ride my motorcycle along a deserted road without using a crash helmet.  | 2.832  | 1.406              | 39.1     | 13.4     | 47.5         |
| 5. I always ride my motorcycle without using a crash helmet in a residential area.  | 3.127  | 1.384              | 51.0     | 11.5     | 37.5         |
| 6. I always take off my crash helmet while riding motorcycle before reaching my destination.  | 2.415  | 1.289              | 25.4     | 10.6     | 64.0         |
| 7. When I ride on motorcycle, I like to ride fast (over the speed limit).   | 2.589  | 1.360              | 29.6     | 15.6     | 54.8         |
| 8. I will ride fast on motorcycle even though I am not late for an appointment.   | 2.524  | 1.254              | 57.7     | 16.6     | 25.7         |
| 9. I like to beat the 'traffic light' when I ride on my motorcycle.   | 2.285  | 1.245              | 20.4     | 12.3     | 67.3         |
| 10. Sometimes I feel it is unnecessary to keep my motorcycle headlights on while I am driving in the daytime.   | 2.582  | 1.418              | 33.0     | 10.4     | 56.5         |
| 11. Wearing a crash helmet while riding a motorcycle is uncomfortable.  | 2.386  | 1.383              | 25.7     | 8.6      | 65.7         |
| 12. When riding on motorcycle, I do not have to stop at a three-way junction if there are no vehicles coming from the right and left directions.                    | 2.407  | 1.350              | 62.6     | 11.6     | 25.8         |
| 13. While riding on motorcycle, I will indicate/signal to other vehicles behind me before turning left or right.*   | 4.108  | 1.046              | 80.4     | 9.0      | 10.6         |
| 14. While riding on motorcycle, as I am overtaking or turning into a junction, I will indicate or signal to the other drivers and ensure that it is safe to do so.* | 4.259  | 0.938              | 85.0     | 8.0      | 6.9          |

\* Reversed Score

\*\* Based on 5-point scale from 1= strongly disagree, 2= disagree, 3= not sure, 4= agree, 5= strongly agree

\*\*\*Category 'Strongly Agree' and 'Agree' were merged into one category called "Agree".

\*\*\*\*Category 'Strongly Disagree' and 'Disagree' were merged into a category called "Disagree".

Speed Limits', which depicts motorcyclists who are riding over the limit. On the other hand, Factor 2 was loaded by the items related to 'riding without crash helmet'. In total, three items were loaded on this factor. Factor 2, 'Riding without Crash Helmet', portrays individuals who do not wear helmet when riding their motorcycle. For the items, 'riding without using signal', it was basically loaded into the third factor. In total, two items were loaded into Factor 3. Factor 3, which is labelled as 'Riding without using Signal', refers to motorcyclists who do not like to use signal before they turn right or left. In Factor 4, two items from 'riding without headlights and not stopping at three-way junction' were loaded into this factor. Factor 4, 'Riding without Headlights and not Stopping at Three-way Junction', reflects individuals who think that riding with headlights is unnecessary. They also do not want to stop at three-way junction.

#### *The Relationship between Demographic and Risk-Taking Behaviour Dimensions*

Tests of significance were performed on the demographic variables including gender, age, race, personal income and higher education level. Independent sample t-test was used when comparing the means for two-group demographic variables, namely, gender and race. Meanwhile, one-way ANOVA was used to compare the means for three or more groups of the demographic variables, which include age, highest education level and personal income.

#### *The Relationship between Gender and Risk-Taking Behaviour Dimensions*

An independent sample t-test was used to test whether or not significant differences existed between the male and female respondents with regards to their means of the risk-taking behaviour dimensions. From Table 4, two dependent variables were found to be significant between the male and female respondents, namely, "riding over speed limit" and "riding without crash helmet" ( $p < 0.05$ ). In terms of "riding over speed limit", the results suggested that the male respondents were more inclined to ride above the speed limit as compared to the female respondents. In terms of "riding without crash helmet", the result showed that the male respondents tended to have a higher tendency of not wearing helmet compared to their female counterparts.

The other two variables, namely, "riding without using signal" and "riding without headlights and not stopping at 3-way junction" indicated [ $t(df) = 0.97, p > 0.01$ ]. Therefore, no significant differences were found between gender with regards to these dimensions.

#### *The Relationship between Age and Risk-Taking Behaviour Dimensions*

In terms of "riding without crash helmet", age was found to be significant ( $F = 6.120, p = 0.000$ ). The results indicated that mean differences could be found among the various age groups. Younger respondents were found to have higher mean scores in terms of "riding without crash helmet". The

TABLE 2  
Results of Exploratory Factor Analysis on Risk-Taking Behaviour

| Risk-Taking Behaviour  | Factor Loadings |      |      |      |
|--|-----------------|------|------|------|
|  | F1              | F2   | F3   | F4   |
| 1. When I ride on my motorcycle, I always stop at a stop sign.   | .515            |      |      |      |
| 2. When I ride on my motorcycle, I used to overtake another vehicle in an area where overtaking is not allowed.  | .797            |      |      |      |
| 3. I always ride my motorcycle over the speed limit.   |                 | .788 |      |      |
| 4. I always ride my motorcycle along a deserted road without using a crash helmet.   |                 | .816 |      |      |
| 5. I always ride my motorcycle without using a crash helmet in a residential area.   |                 | .660 |      |      |
| 6. I always take off my crash helmet while riding motorcycle before reaching my destination.   | .816            |      |      |      |
| 7. When I ride on motorcycle, I like to ride fast (over the speed limit).  | .735            |      |      |      |
| 8. I will ride fast on motorcycle even though I am not late for an appointment.  | .701            |      |      |      |
| 9. I like to beat the 'traffic light' when I ride on my motorcycle.  |                 |      |      | .761 |
| 10. Sometimes I feel it is unnecessary to keep my motorcycle headlights on while I am driving in the daytime.  |                 |      |      |      |
| 11. Wearing a crash helmet while riding a motorcycle is uncomfortable.   |                 |      |      | .800 |
| 12. When riding on motorcycle, I do not have to stop at a three-way junction if there are no vehicles coming from the right and left directions.                   |                 |      | .875 |      |
| 13. While riding on motorcycle, I will indicate/signal to other vehicles behind me before turning left or right.   |                 |      | .868 |      |
| 14. While riding on motorcycle, as I am overtaking or turning into a junction, I will indicate or signal to the other drivers and ensure that it is safe to do so. |                 |      |      |      |

TABLE 3  
Risk-Taking Behaviour Dimensions

| Factor | Risk-Taking Behaviour Dimension                              | No of Items |
|--------|--|-------------|
| F1     | Riding over Speed Limit                                      | 5           |
| F2     | Riding without Crash Helmet                                  | 3           |
| F3     | Riding without using Signal                                  | 2           |
| F4     | Riding without Headlights and not Stopping at 3-way Junction | 2           |

study also revealed that the respondents in the 16-20 years old age group had a greater tendency to not wearing their crash helmet when riding a motorcycle compared to those in the 21-30 and 31-40 years old age group. In terms of “riding over speed limit”, “riding without using signal” and “riding without headlights and not stopping at three-way junction”, the results showed that there was no significant mean difference between the respondents of different age groups.

This finding implies that the respondents do not differ in their attitudes in “riding over speed limit”, “riding without using signal” and “riding without headlights and not stopping at three-way junction” when compared to their age groupings. Therefore, age is not a significant indicator of the “riding over speed limit”, “riding without using signals and riding without headlights and not stopping at three-way junction”. Nonetheless, the results of this study cannot be compared with previous study because

no previous studies have looked into this particular issue, which is the relationship between age and “riding without crash helmet”.

However, it can be concluded that in terms of age, younger Malaysian motorcyclists tend to have a higher tendency to not wearing crash helmet compared to older Malaysian motorcyclists.

#### *The Relationship between Highest Education Level and Risk-Taking Behaviour Dimensions*

The mean differences between groups with regard to the respondents’ highest education level were analyzed. The original highest education level was regrouped into three groups: UPSR/PMR/SRP/LCE, SPM/MCE/STPM/HSC, and College/ Diploma/ Degree/Master/PhD. The p-value indicated that there were no significant differences between highest education level and the four risk-taking behaviour dimensions.

TABLE 4  
Relationship between Gender and Risk-Taking Behaviour Dimensions

| Dependent Variables  | Gender | N   | Mean  | t-value | Sig. <sup>^</sup> |
|--|--------|-----|-------|---------|-------------------|
| Riding over Speed Limit                                      | Male   | 408 | 13.11 | 5.37    | .000**            |
|  | Female | 129 | 10.48 |         |                   |
| Riding without Crash Helmet                                  | Male   | 408 | 8.57  | 2.23    | .026*             |
|  | Female | 129 | 7.83  |         |                   |
| Riding without Using Signal                                  | Male   | 408 | 8.37  | -0.04   | .966              |
|  | Female | 129 | 8.38  |         |                   |
| Riding without Headlights and not Stopping at 3-way Junction | Male   | 408 | 5.04  | 1.02    | .310              |
|  | Female | 129 | 4.80  |         |                   |

\* - significance at  $p \leq 0.05$

\*\* - significance at  $p \leq 0.01$

<sup>^</sup> - test of significance using the independent sample t-test

*The Relationship between Personal Income and Risk-Taking Behaviour Dimensions*

The mean differences between the groups with regard to the respondents' personal income were assessed using one-way ANOVA. Only two constructs, namely, "riding without crash helmet" and "riding without headlights and not stopping at three-way junction" were found to be significant (see Table 6).

With regards to "riding without crash helmet", the mean difference was found to be significant, with  $F=8.50$ ,  $p=0.000$ . When the post-hoc test using the Scheffe test was performed, the results showed that the mean difference could be found between those earning between "Less than RM1,000" and those earning "RM2,000 to RM2,999". Those earning "Less than RM1,000" had a greater tendency to not wearing crash

helmet compared to those earning RM2,000 - RM2,999. Meanwhile, other relationships were not found to be significant.

For the "riding without headlights and not stopping at three-way junction" variable, the results in Table 6 show that it is significant at  $[F = 3.86, p=0.009]$ . From the Scheffe post-hoc test, the significant mean differences were between "Less than RM1,000" and "RM1,000 – RM1,999". This means that those earning "Less than RM1,000" tended to have a greater inclination to "ride without having headlights and not stopping at three-way junction" compared to those earning "RM1,000 – RM1,999".

The results also showed no significant differences between personal income and the other two dependent variables in this study. Similarly, there were no significant mean differences between the subgroups in the personal income with regard to "riding

TABLE 5  
The Relationship between Age and Risk-Taking Behaviour Dimensions

| Dependent Variables  | Age             | Mean  | F     | Sig. <sup>^</sup> | Diff <sup>^^</sup> |
|--|-----------------|-------|-------|-------------------|--------------------|
| Riding over Speed Limit                                      | 16-20 years old | 12.97 | 1.211 | .305              | -                  |
|  | 21-30 years old | 12.42 |       |                   |                    |
|  | 31-40 years old | 11.81 |       |                   |                    |
| Riding without Crash Helmet                                  | 16-20 years old | 9.11  | 6.120 | .000**            | I > II I > III     |
|  | 21-30 years old | 7.98  |       |                   |                    |
|  | 31-40 years old | 7.52  |       |                   |                    |
| Riding without Using Signal                                  | 16-20 years old | 8.32  | 1.352 | .257              | -                  |
|  | 21-30 years old | 8.28  |       |                   |                    |
|  | 31-40 years old | 8.75  |       |                   |                    |
| Riding without Headlights and not Stopping at 3-way Junction | 16-20 years old | 5.27  | 2.379 | .069              | -                  |
|  | 21-30 years old | 4.94  |       |                   |                    |
|  | 31-40 years old | 4.4   |       |                   |                    |

\*\* significance at  $p \leq 0.01$

<sup>^</sup> test of significance using the one-way ANOVA

<sup>^^</sup> to assess the pair-wise differences, the Scheffe post hoc analysis was used: I=16 to 20 years old; II=21 to 30 years old and III=31 to 40 years old

over speed limit” and “riding without using signal”.

In general, for personal income, motorcyclists in the lower income group have a greater tendency to not wearing crash helmet and “riding without headlights and not stopping at three-way junction” compared to those in the higher income group. This study is consistent with the previous study by Ichikawa *et al.* (2003). In the study, they found that helmet use varied from slightly over zero in some low-income countries to almost 100% in places where laws on helmet use are effectively enforced. Helmet constructed in some low-income and middle-income countries are not always appropriately designed. In several low-income countries, helmet use has been found to be lower at night.

## CONCLUSION

This study was initiated with two objectives. The first objective of the study was to examine the extent of risk-taking behaviour of Malaysian motorcyclists. It was found that most motorcyclists are generally not risk takers. Instead, they generally abide traffic laws.

The second objective was to investigate the relationship between demographic of motorcyclists and risk-taking behaviour. The study found that the male respondents tended to be involved in “riding over speed limit” and “riding without crash helmet” when compared to female respondents. As such, road safety campaign in the future should target male motorcyclists. The campaign might need to emphasize on the dangers of “riding over speed limit”

TABLE 6  
The Relationship between Personal Income and Risk-Taking Behaviour Dimensions

| Dependent Variables  | Personal Income   | Mean  | F     | Sig. <sup>^</sup> | Diff <sup>^^</sup> |
|--|-------------------|-------|-------|-------------------|--------------------|
| Riding over Speed Limit                                      | Less than RM1,000 | 12.79 | 1.269 | .284              | -                  |
|  | RM1,000 – RM1,999 | 11.98 |       |                   |                    |
|  | RM2,000 – RM2,999 | 12.42 |       |                   |                    |
|  | RM3,000 and above | 11.58 |       |                   |                    |
| Riding without Crash Helmet                                  | Less than RM1,000 | 9.04  | 8.504 | .000**            | I > II             |
|  | RM1,000 – RM1,999 | 7.46  |       |                   |                    |
|  | RM2,000 – RM2,999 | 8.08  |       |                   |                    |
|  | RM3,000 and above | 7.74  |       |                   |                    |
| Riding without Using Signal                                  | Less than RM1,000 | 8.27  | 0.982 | .401              | -                  |
|  | RM1,000 – RM1,999 | 8.52  |       |                   |                    |
|  | RM2,000 – RM2,999 | 8.25  |       |                   |                    |
|  | RM3,000 and above | 8.63  |       |                   |                    |
| Riding without Headlights and not Stopping at 3-way Junction | Less than RM1,000 | 5.31  | 3.857 | .009**            | I > II             |
|  | RM1,000 – RM1,999 | 4.60  |       |                   |                    |
|  | RM2,000 – RM2,999 | 4.61  |       |                   |                    |
|  | RM3,000 and above | 4.95  |       |                   |                    |

\*\* significant at  $p \leq 0.01$

<sup>^</sup> test of significant using the one-way ANOVA

<sup>^^</sup> to assess the pair-wise differences, the Scheffe post-hoc analysis is used: I=Less than RM1,000; II=RM1,000 – RM1,999; III=RM2,000 – RM2,999 and IV=RM3,000 and above.

and “riding without crash helmet”. The study also revealed that teenagers tended to have higher inclination to “ride without crash helmet” compared to those of other age groups. Awareness campaign directed toward teenagers must emphasize the importance of wearing crash helmet when riding motorcycle.

When personal income of the respondents was examined, the study revealed that those in the lower income group tended to “ride without crash helmet” and “ride without headlights and not stopping at three-way junction” more often than those of the other personal income groups. Stricter enforcement of traffic laws might be able to reduce this tendency among motorcyclists, especially those of the lower income group.

## REFERENCES

- Ahmad Hariza, H., Mohd Nasir M. T., Musa, A. H., Radin Umar, R.S., & Kulanthayan, S. (1999). Motorcyclists' knowledge, attitude and practice on road safety in Malaysia. *Road Safety Research Centre, RR4/99*.
- Arnett, J. (1992). Reckless behavior in adolescence: A developmental perspective. *Developmental Review, 12*, 339–373.
- Begg, D. J., & Langley, J. D. (2000). Seat-belt use and related behaviours among young adults. *Journal of Safety Research, 31*, 211-220.
- Begg, D. J., Langley, J. D., & Williams, S. M. (1999). A longitudinal study of lifestyle factors as predictors of injuries and crashes among young adults. *Accident Analysis and Prevention, 31*, 1-11.
- Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin, 125*, 367-383.
- Chesham, D. J., Rutter, D. R., & Quine, L. (1993). Motorcycling safety research: A review of the social and behavioral literature. *Social Science Medicine, 37*, 419-429.
- Cooper, P. J. (1987). *Young drivers as represented in the accident data*. In J. P. Rothe (Ed.), *Rethinking Young Drivers* (pp. 253-280). New Brunswick, NJ: Transaction.
- Evans, L., & Wasielewski, P. (1983). Risky driving related to driver and vehicle characteristics. *Accident Analysis and Prevention, 15*, 121-136.
- Finn, P., & Bragg, B. W. E. (1986). Perception of the risk of an accident by young and older drivers. *Accident Analysis and Prevention, 18*, 289-298.
- Hsu, T.-P., Ahmad Farhan, M. S., & Nguyen, X. D. (2003). *A comparison study on motorcycle traffic development in some Asian countries – case of Taiwan, Malaysia and Vietnam*. The Eastern Asia Society for Transportation Studies (EASTS), International Cooperative Research Activity.
- Jonah B. A. (1986). Accident Risk and risk taking behavior among young drivers. *Accident Analysis and Prevention, 18*, 255-271.
- Jonah, B. A. (1990). Age differences in risky driving. *Health Education Research, 5*, 139-149.
- Maycock, G., Lockwood, C. R., & Lester, J. F. (1991). *The accident liability of car drivers* (RR 315), Transport and Road Research Laboratory, Crowthorne, UK.
- Mohd Rasdan, I., & Mohamed Rehan, K. (2005). *Current Road Safety Studies and Research Activities*. Department of Civil Engineering : University of Malaya.
- Radin Umar, R. S., Mackay, G. M., & Hills, B. L. (1995). Preliminary Analysis of Motorcycle Accidents: Short-Term Impacts of the Running Headlights Campaign and Regulation. *Journal of Traffic Medicine, 23*(1), 17-28.

- Rahul, S., Vijay, L., Grover, S., & Chaturvedi, S. (2007). Health-risk behaviours related to road safety among adolescent students. *Indian Journal of Medical Sciences*, 61(12), 656-662.
- Royal Malaysian Police (PDRM). (2008). *Statistical Report of Road Accidents in Malaysia*. Traffic Branch, Bukit Aman, Kuala Lumpur.
- Sexton, B., Fletcher, J., & Hamilton, K. (2004). *Motorcycle accidents and casualties in Scotland 1992-2002*. Edinburgh: Scottish Executive Social Research.



## **The Emerging Commuter Families and Changes in Psychosocial and Health Behaviour Profile**

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### **ABSTRACT**

The present paper provides a descriptive analysis of commuters and their families. It also explores gender differences and the impacts of commuting among young families in Malaysia. The study was conducted in the Klang Valley, and the sample consisted of commuters working outside the Klang Valley. Data were collected using in-depth interviews and a descriptive survey. The findings showed that 44.4% of commuters were working away from home because it was requested by their employers. Although there were more men than women who perceived the commuting lifestyle as a positive situation, there were not gender differences observed on how commuting impacted personal wellbeing. Nonetheless, significant differences were found between those with a positive outlook of the commuting life and those with a negative perception of the commuting lifestyle. The emerging commuter family dynamics and its impact on work-home life balance for young Malaysian families need to be further investigated.

*Keywords:* Commuting, family, marriage and the family, wellbeing

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### **INTRODUCTION**

‘Commuter families’ is a term that describes families who combine the work location of one parent on a large national or international scale with the other parent’s work location and the family home on a local scale (Van der Klis & Karsten, 2009). According to Rhodes (2002), these commuter families normally

consist of dual-career marriages that choose to establish separate homes to fulfill their career commitments. Van der Klis and Karsten (2009) suggest two main types of commuter families: (1) the traditionalizing and (2) the egalitarian commuter families. Traditionalizing commuter families consist of a full-time working father and a mother who stays at home with homemaker or housewife responsibilities. Meanwhile, egalitarian is constituted by dual-career marriages with shared household and family responsibilities; and although one partner would remain locally oriented, it would not always be the wife/mother.

Trend in the whole world and especially in Malaysia showed the phenomenon of commuter families and long-distance relationships between husband and wife are becoming more common. It is difficult to estimate the number of commuter families in Malaysia because there are no official figures available and the research in this area is almost non-existent in Malaysia.

According to the international data available, commuter marriages and families are a widespread phenomenon around the world, and have been researched within the mobility and migration and family and marriage literature (Jackson, Brown, & Patterson-Stewart, 2000, Magnuson & Norem, 1999). The figures available indicate that since 1999, the number of commuters in the United States has increased from 700,000 to over a million (Jackson, Brown, & Patterson-Stewart, 2000); and about a million married couples have chosen to become commuter families (Magnuson &

Norem, 1999) and these figures increase every year.

In west European countries, it is estimated that most people between 25 and 54 year old choose to travel long distances daily or weekly to work. However, the exact figures of commuter marriages and families are not available. According to Glotzer and Federlein (2007), the lack in detailed demographic data on commuters has made them an invisible group despite the increase in the numbers of commuters and commuter families. As a result, commuters and their families are still not considered as distinct group in many countries.

The existing data indicate that commuter marriages and families are characterized by one of the spouses living at home with both working and child-care responsibilities and the other spouse working and living away from home for an extended period of time (e.g., 2 weeks, 3 months, etc.). Although the commuter family structure is different from the traditional family model, relevant data are still limited, while there are very few empirical studies on challenges and issues faced by commuter marriages and families (Glotzer & Federlein, 2007).

Earlier studies have reported a number of benefits related to commuting such as increased satisfaction, more autonomy, better self-esteem; absence of daily family constraints and hassle; increased of career opportunities, etc. Authors have also indicated that long-distance commuting not only increases career opportunities and higher income, but also offers an alternative to migration, allows commuters to maintain

social security and to keep their social network (Lungholm, 2008; Lundholm, Garvill, Malmberg & Westin 2004; Green, Hogarth & Shackleton, 1999). In Germany, for example, Fannrich-Lautenschläger (2008) reported that people chose to travel long distances daily or weekly in order to keep their home, school, social environment and personal relationships.

According to Ferik (2005), among the most common reasons for people to opt for long distance commuting is their desirability of keeping their current job, wanting to stay in a particular occupation; the shortage of job opportunities near home location, potentially higher income and better opportunities for career advancement. However, according to Stutzer and Frey (2007), life as a commuter becomes challenging and difficult to manage due to a range of factors including time spent on traveling back and forth every week, increased expenditure and financial cost, as well as changes in the relationship dynamics with spouses, family and friends. In turn, stress, anxiety, and the burdens related to these and other commuting related challenges will impact negatively individual commuters' health and quality of life. Not to mention that this arrangement of commuting marriages and families entails a unique set of stressors in terms of emotional and financial cost and sacrifices for the commuter and his/her family (Jackson, Brown & Patterson-Stewart, 2000).

Previous research has identified a few challenges related to commuting to work that have negative impacts on commuters and their families. These include, for example,

pressures to divide time and energy between temporarily and family home, difficulties in balancing family and career demands, feelings of loneliness and isolation, poor time management and lack of understanding and social support (Stutzer & Frey, 2007). Similarly, earlier studies reported that long-distance commuting impacts family and their interpersonal relationships, changes the family dynamics and roles, lessens opportunities for socializing and leisure activities with family and friends, as well as increases household responsibility for the spouse that stays home (Hjorthol, 2000; Hanson & Hanson, 1993; Cassidy, 1992; Green, Hogarth & Shackleton 1999).

It is no doubt that long-term commuting changes marriage and family dynamics (Coontz, 2005; Gross, 1980) and these changes may increase the toll of stress and anxiety levels, negative impacts on the quality of life and the relationships within the family, as well as increase living expenses (Stutzer & Frey, 2007; Weiser, 2006; Kiefer, 2000; Lareau, 2003; Elkind, 1995). Hence, it can be argued that although commuting may result in better or higher salaries, it also increases stress, family disruptions and lessen commuter's psychosocial well-being.

In Malaysia, there is a rapid growth of two-earner households, and thus rapidly changing the 'traditional family' where men work and women manage their households and families. As both spouses residential mobility does not often coincide, the long distance commuter marriages and families are also growing in numbers. Thus, family

life where there is a temporary absence spouse/parent is becoming an acquainted setting in Malaysia. Without a doubt, the unique commuter family lifestyle has implications on the quality of family life in Malaysia.

Nonetheless, to the authors' knowledge, there has not been any study conducted in Malaysia that investigates the challenges faced by commuters and their families and/or the impacts of these challenges on commuters and their families' health, wellbeing and quality of life. The study from which this paper is derived is the first research project conducted in Malaysia (Impact and challenges for Commuter families, 2011) to investigate the overall challenges that this emerging commuting family lifestyle may exert upon commuters, their family and social relationships, as well their own personal psychosocial and health profile.

The present paper is a descriptive study based on the first research project carried out in Malaysia to survey the challenges faced by commuters and their families. The paper aimed to: (1) provide an overall description of commuters and their families in Malaysia, and (2) examine the impacts of perception of commuting on positive determination, and health behaviour.

## **METHODOLOGY**

### *Research Design*

A mixed method approach that combines quantitative and qualitative methodologies was used in the study. A quantitative descriptive survey was used to gather

general information from a large number of commuters, whereas the qualitative approach was used to get more in-depth information on some interesting patterns. The present paper is based on the data obtained from the questionnaire.

### *Procedure*

The study was conducted in the Klang Valley, Malaysia, where a number of ministries, agencies, universities and private companies are located. Data were collected using a questionnaire that was distributed among the people using the interstate bus services located at Jalan Duta Bus Terminal, Bukit Jalil, Integrated Bus Terminal (TBS) and Kajang to return home during the weekends.

Copies of the simple questionnaire to gather the names and contacts of commuters and a brief pamphlet explaining the intended study were given out to the various bus service providers who were asked to distribute them in their respective buses. Those passengers who fulfilled the criteria of commuters and were interested to participate in the study were invited to give their contacts and to nominate other commuters in their workplace. Based on this information, the respective offices identified as having large number of commuters were contacted to request their permission to engage their staff in the study. Then, trained enumerators were sent to these offices to give out the set of questionnaires to the respondents. The snowballing technique was used to recruit a larger number of participants.

### *Sample*

A pool of 293 respondents were identified. The respondents consisted of people commuting back to Klang Valley from their work. A total 226 commuter completed and returned the survey to the research team.

The study population consisted of 226 married commuters who lived separately from their families, and only went home on weekly, fortnightly or monthly basis. More specifically, the sample comprised 136 married men and 90 married women working away from their home, husband and family. The mean age of the sample was 34.10 (SD= 8.21) years old, with 62.6% of them were working in the government sector.

### *Instrument and Measurements*

The data were collected using a questionnaire that was specifically developed to enable researchers to gather information related to the challenges faced by commuters and their families and the impacts of these challenges. The questionnaire consists of eight (8) sections which include social demographic and economic backgrounds, family challenges, psychosocial, relationships, health and children development indicators, assessment of positive communication, moral values, and behavior of children. The researchers referred to previous studies and existing instruments to come up with the items that measured the intended constructs. These items were verified by a panel of experts in the field of this study. Meanwhile, the instrument was validated by a panel of psychologists and sociologists at Universiti

Putra Malaysia. Reliability analysis was conducted to determine the reliability of the instrument. All the items included in the questionnaire met the psychometric standards of a Cronbach's alpha of not less than 0.70; these have also been reported elsewhere (OLEH, 2011).

For the purpose of this study, psychosocial profile ( $\alpha$  0.76 No. Item=18) and personal health profile ( $\alpha$  0.78 No. Item=7) were used. The participants were asked to indicate using a 4-point Likert scale (strongly disagree- strongly agree) the changes they experienced since they started commuting and working away from home. These changes were classified as positive determination at work; general psychosocial profile and feeling of guilt. Similarly, the respondents indicated using a 4-point likert scale their personal health behaviour (strongly disagree; strongly agree) since they started commuting and working away from home. Table 1 summarizes the psychometric characteristics of the 4 scales.

### *Data Analysis*

Descriptive statistics and chi-square test of independence were used. The statistical analyses were conducted using IBM® SPSS® Statistics 21.

## **RESULTS**

The descriptive statistical analysis, summarized in Table 1, indicates that around 60% of the commuters who took part in the studies were men, and that the majority of the sample was Malay (87.6%); Muslim (89.4%); aged below 30 years old

TABLE 1  
Subscales' and scale's psychometric properties

| Scale                          | Mean  | SD   | Reliability test** | No item | N    |
|--------------------------------|-------|------|--------------------|---------|------|
| Positive determination at work | 19.67 | 3.76 | $\alpha$ 0.89      | 7       | 220  |
| Stress and Anxiety             | 9.26  | 2.33 | $\alpha$ 0.83      | 4       | 225  |
| Felling of guilt               | 5.61  | 1.57 | r. .99*            | 2       | .218 |
| Health behavior                | 15.09 | 2.97 | $\alpha$ 0.78      | 7       | 90   |

\*\* Cronbach's alpha; \* for 2 items subscale the inter-item correlation (r.) was used as reliability test

(46.6%); and have been married for 1 to 5 years (39.9%).

Table 3 summarizes the respondent's work and home geographical location. Majority of the participants (44.2%) are working in Wilayah Persekutuan. As for the participants' home, where their spouse and family live, while 16.4% reported that they were living in Selangor, 13.8% in Perak, 13.8% in Kelantan and 13.3% in Terengganu.

Table 3 shows that the majority of the participants are working in the government sector (61.6%); have between 6 and 10 years of work experiences (34.7%), have been working away from their family between 1 to 3 years (45.3%), and have been travelling once a week to see their families (46.2%).

Based on the frequency analysis presented in Table 4, 44.4 percent of the respondents are working away from home because they are required by their employer, while the remaining 55.6% are working away from home by choice, i.e. to obtain better job opportunities (14.3%), chance for career advancement (13.9%) or better (20.6%) (Table 2). The frequency analysis showed that 80.6% of the male respondents

and 96.5% of the female respondents perceived commuter life as negative (*Chi-square* (1) = 11.40,  $p < 0.001$ ).

TABLE 2  
Respondents' Demographic Characteristics

| Gender           | N   | %    |
|------------------|-----|------|
| Male             | 136 | 60.2 |
| Female           | 90  | 39.8 |
| Ethnicity        |     |      |
| Malay            | 198 | 87.6 |
| Chinese          | 5   | 2.2  |
| Indian           | 19  | 8.4  |
| Religion         |     |      |
| Muslim           | 202 | 89.4 |
| Hindu            | 3   | 1.3  |
| Buddhist         | 16  | 7.1  |
| Christian        | 5   | 2.2  |
| Age group        |     |      |
| 20-30 years old  | 104 | 46.6 |
| 31-40 years old  | 71  | 31.8 |
| 41-50 years old  | 38  | 17   |
| >50 years old    | 10  | 4.5  |
| Year of marriage |     |      |
| < 1 year         | 28  | 14.1 |
| 1-5 years        | 79  | 39.9 |
| 6-10 years       | 37  | 18.7 |
| 11-20 years      | 36  | 18.2 |
| > 20 years       | 18  | 9.1  |

TABLE 3  
Respondents' geographical distribution

| State where the spouse/family live | N  | %    | State where the respondents work | N  | %    |
|------------------------------------|----|------|----------------------------------|----|------|
| Selangor                           | 37 | 16.4 | Wilayah Persekutuan              | 99 | 44.2 |
| Perak                              | 31 | 13.8 | Selangor                         | 34 | 15.2 |
| Kelantan                           | 31 | 13.8 | Pahang                           | 22 | 9.8  |
| Terengganu                         | 30 | 13.3 | Luar Negara                      | 16 | 7.1  |
| Wilayah Persekutuan                | 23 | 10.2 | Melaka                           | 10 | 4.5  |
| Pahang                             | 17 | 7.6  | Johor                            | 8  | 3.6  |
| Johor                              | 14 | 6.2  | Negeri Sembilan                  | 8  | 3.6  |
| Melaka                             | 14 | 6.2  | Kedah                            | 6  | 2.7  |
| Negeri Sembilan                    | 8  | 3.6  | Kelantan                         | 6  | 2.7  |
| Kedah                              | 8  | 3.6  | Terengganu                       | 5  | 2.2  |
| Pulau Pinang                       | 6  | 2.7  | Perak                            | 3  | 1.3  |
| Sabah                              | 3  | 1.3  | Pulau Pinang                     | 2  | .9   |
| Perlis                             | 2  | .9   | Sabah                            | 2  | .9   |
| Luar Negara                        | 1  | .4   | Sarawak                          | 2  | .9   |

TABLE 4  
Job and commuting profile

|                                 | N   | %    |  | N   | %    |
|---------------------------------|-----|------|--|-----|------|
| Occupational sector             |     |      | Frequency of travelling back to see the family |     |      |
| Government sector               | 138 | 61.6 | every week                                     | 104 | 46.2 |
| Private sector                  | 80  | 35.7 | once a week                                    | 72  | 32.0 |
| Self-employed                   | 4   | 1.8  | once a month                                   | 36  | 16.0 |
| Work experience                 |     |      | every 2 months                                 | 8   | 3.6  |
| 1-5 years                       | 70  | 31.1 | every 6 months                                 | 4   | 1.8  |
| 6-10 years                      | 78  | 34.7 | once a year                                    | 1   | 0.4  |
| 11-20 years                     | 40  | 17.8 |  |     |      |
| > 20 years                      | 37  | 16.4 |  |     |      |
| Years of working away from home |     |      |  |     |      |
| Less than 1 year                | 26  | 11.7 |  |     |      |
| 1-3 years                       | 101 | 45.3 |  |     |      |
| 4-6 years                       | 60  | 26.9 |  |     |      |
| 7-9 years                       | 14  | 6.3  |  |     |      |
| > 10 years                      | 22  | 9.9  |  |     |      |
| Reason for commuting            |     |      |  |     |      |
| Better income                   | 46  | 20.6 |  |     |      |
| Career advancement              | 31  | 13.9 |  |     |      |
| Required by the employers       | 99  | 44.4 |  |     |      |
| Get better jobs                 | 32  | 14.3 |  |     |      |

The respondents were asked to indicate how they perceived their commuter life. About 86.8% of them reported a negative perception of their commuting life. Table 5 shows that 48.1% of the respondents indicated they were required by their employers to work away from their homes (48.1%), while 30% of those who had a positive perception reported Career Development as the main reason for taking a job away from their family for their career development [Chi Square (4)= 10.13;  $p=0.4$ ].

Regarding the family challenges faced after starting working away from home, gender was significantly associated with changes in the way the family decided about leisure, recreation and vacation activities. In more specific, while 71.4% of the male commuters reported no changes in the way they decided with their spouses about leisure and recreational matters, 59.1% of the female commuters reported to have conflicting views with their husband's when taking decisions on recreational and leisure matters (*Chi-square* (1)= 9.32,  $p = 0.009$ ) (Table 6). The independent t-test analysis shows that men have generally been commuting for longer periods of time (4.95; SD= 4.60) than women have (3.08; SD=2.09), ( $t$  (213) =3.68;  $p<0.001$ ), but no gender differences were found in the impact of commuting.

Table 7 summarizes the most commonly reported changes linked to working away. The most commonly reported was the impact on family relationship (43.45%) and the least reported was getting better income

(10%).

Significant differences were found between people with a positive perception or outlook of their commuting life and those with a negative perception of the commuting lifestyle. More specifically, those with a positive perception scored higher in positive determination ( $M=21.69$ ;  $SD=4.73$ ) compared to those with a negative perception (19.45;  $D=3.48$ ), ( $t$  (211) = 2.94;  $p=.004$ ). Meanwhile, the participants with a positive perception of commuter life reported to have lesser feeling of guilt (4.86;  $SD=1.43$ ) than those with negative perception (5.71;  $SD=1.42$ ); ( $t$  (210) = -2.99  $p= .003$ ); and better general health behaviour (49.96;  $SD=7.67$ ) than those with negative perception of commuter life (48.22;  $SD=5.04$ ); ( $t$  (90) =3.17;  $p=.002$ ).

## DISCUSSION

The present paper provides a descriptive analysis of the Malaysian commuting marriages and families. In particular, it explored the impacts of commuting among young commuter families in Malaysia. The results indicated that more men than women work away from their home and families. The findings also suggest that in Malaysia, working away from home are more often reason for working away as an imposition from employers than as a voluntary choice.

According to the literature, long distance commuting and/or working away from home is usually a decision and a choice made by commuters to improve their lifestyle and/or to peruse better opportunities and obtain higher family income (Glutzer & Federlein,

2007; Ferk, 2005). In contrast with what have been reported in the international literature, however, the majority of the commuters that took part in this study reported that working away from their home and families was not a choice they made, but rather an imposition from their employers. In Malaysia, for those working as government servant, it is normal to be instructed to transfer to different locations as part of their work. Particularly in this study,

majority of the respondents are government servants, and hence, commuting is perceived as an imposition.

Consequently, most people who took part in this study reported to have a negative perception of their commuting lifestyle. This finding might be explained by the fact that the majority of these commuters not only did not choose to work away from home and their families, but also that they did not receive any financial incentive or

TABLE 5  
Reasons for working away from the family by those with positive and negative Perceptions

| Negative perception   | N  | %    | Positive perception   | N | %    |
|-----------------------|----|------|-----------------------|---|------|
| Getting a better job  | 25 | 13.2 | Getting a better job  | 6 | 21.4 |
| Better income         | 39 | 20.6 | Better income         | 6 | 21.4 |
| Career Development    | 22 | 11.6 | Career Development    | 8 | 28.6 |
| Required by employers | 91 | 48.1 | Required by employers | 6 | 21.4 |

TABLE 6  
Gender and perception of commuting and the challenges associated with it

| Perception of commuter life | Deciding about leisure, recreation and vacation activities |              |                   |             |             |
|-----------------------------|--|--------------|-------------------|-------------|-------------|
|                             | Positive   | Negative     | Conflicting views | No change   | Agreement   |
| Male                        | 26<br>19.4%  | 108<br>80.6% | 9<br>40.9%        | 65<br>71.4% | 62<br>55.4% |
| Female                      | 3<br>3.5%  | 82<br>96.5%  | 13<br>59.1%       | 26<br>28.6% | 50<br>44.6% |

TABLE 7  
Changes Reported by commuters

|  | N  | (%)   |
|--|----|-------|
| Impacts on family relationships        | 63 | 43.45 |
| Too many challenges and conflicts      | 50 | 34.48 |
| Emotional Stress                       | 19 | 13.10 |
| Increased of living costs and spending | 13 | 8.97  |
| Improvement on quality of Life         | 5  | 16.7  |
| Getting Experience                     | 4  | 13.3  |
| Becoming Independence                  | 4  | 13.3  |
| Getting better income                  | 3  | 10    |

stipend to cover commuting expenses such as accommodation, transport or food while working away from their hometown. Most of these commuters also reported that they have been working away from their spouse and young children for more than half of their marriage life, and this might be another reason for their negative perception of commuting and/or working away from home. Interestingly, although most changes associated to commuting and working away from home were perceived as negative, there were no significant negative implications for commuters' family challenges, psychosocial profile or well-being.

An interesting finding, however, was the fact that only significant gender differences were found in this study; decision regarding leisure, recreation and vacation activities. Commuter women reported to have conflicting views when taking decisions on recreational and leisure matters, that is, they did not agree with their husbands' choices or decision. This suggests the possibility of resistance, from these women working away from home, to accept changes in their traditional gender roles at home. Conventionally, women are the ones who have the responsibility of making decisions about household matters, childcare and maintaining the emotional and organizational functioning of their families (Friedman & Greenhaus, 2000; Williams, 2000; McGoldrick, 1999; Walsh, 1999; Hochschild & Machung, 1989). Therefore, in societies where traditional gender roles are fundamental for women's social identity, they may find it difficult to let go of their

care-taker role and/or their status as the decision maker in their domestic life.

Although there were not significant gender differences on the commuting impact of individual's well-being, there were significant differences between those with a positive perception of their commuting life in comparison to those with a negative perception. That is, people with a positive perception of commuting have a significantly better scores in positive determination at work and in health behaviour scales than those with negative perception of commuter life, and reported less feeling of guilt than those with negative perception of commuter life.

Nonetheless, these findings should be interpreted with caution, as the cross-sectional nature of the study does not allow examining whether these differences might be a product of the negative or positive affectiveness of commuters, or if, indeed, their perception of commuting impacts their overall wellbeing. Furthermore, although in this paper the financial constrains of commuting were not examined, it seemed plausible that these commuter families might be facing financial turbulence due to the extra expenses that commuting brings to their family.

According to the literature, commuting is chosen when it compensates either family or job situation. However, the findings of this study suggest that commuting benefits neither of these two important spheres in a person's life. Moreover, it can be argued that overtime these young commuters will experience health problems, unbalanced

well-being and financial burden as a result of their imposed commuter lifestyle. Therefore, the emerging commuter family dynamics and the extend of its impacts on work-home life balance demands for dual income commuter families and migration patterns among young Malaysian families represent new areas of research that need to be further investigated. Furthermore, future research could focus on how the family members adapt to the changes that emerge from being a commuter family/marriage. This is another related topic that can be a longitudinal survey of the changes overtime in commuter families and marriages and the implications for family dynamics and children positive development.

## REFERENCES

- Cassidy, T. (1992). Commuting related stress: Consequences and Implications. *Employee Counseling Today*, 4(2), 15-21.
- Coontz, S. (2005). *Marriage, a history: how love conquered marriage*. New York: Viking Press
- Elkind, D. (1995). *Ties that stress: The new family imbalance*. Cambridge, MA: Harvard University Press.
- Ferk, D. (2005). Organizational commitment among married dual-career employees: travelling commuter versus single residence, *Sam Advanced Management Journal*, 21-27.
- Friedman, S. D. & Greenhaus, J. H. (2000). *Work and family -allies or enemies? What happens when business professionals confront life choices?* New York: Oxford University Press.
- Glotzer, R. & Federlein, A.C. (2007) Miles That Bind: Commuter Marriage and Family Strengths. *Michigan Family Review*, 12, 7-31.
- Green, A.E, Hogarth, T., & Shackleton, R.E. (1999). Longer distance commuting as a substitute for migration in Britain: A review of trends, issues and implications'. *International Journal of Population Geography*, 5(1), 49-67.
- Gross, H. (1980). Dual career couple who live a part: Two types. *Journal of Marriage and the Family*, 42, 567-576
- Hanson, S. & Hanson, P. (1993). The geography of everyday life. In T. Gärling, & R. Golledge (Eds.) *Behaviour and Environment: Psychological and geographical approaches*, 249–269. Amsterdam: Elsevier.
- Hanson, S. & Hanson, P. (1993). The geography of everyday life. In T. Gärling and R. Stroh, L. K. (1999). Does relocation still benefit corporations and employees? An overview of the literature. *Human Resource Management*, 9, 279-304.
- Hjorthol, R. (2000). Same city—different options. An analysis of the work trips of married couples in the metropolitan area of Oslo. *Journal of Transport Geography*, 8(3), 213–220.92, 1.
- Hochschild, A.R. & Machung, A. (1989). *The Second Shift: Working Parents and the Revolution at Home*. New York: Viking Penguin.
- Jackson, A.P., Brown R. P., & Patterson-Stewart, K. E. (2000). African Americans in Dual-Career Commuter Marriages: An Investigation of their Experiences. *The Family Journal*, 8 (1)22-36. doi: 10.1177/1066480700081005.
- Kiefer, F. (2000). Commuter marriages test more Americans. *Christian Science Monitor*, 92, 1.
- Fannrich-Lautenschläger, I. (2008). Constant Corset: Commuting is part of everyday working life. Economy and Social Matters in Germany – Panorama. Retrieved from <http://www.goethe.de/ges/soz/pan/en3950533.htm>
- Lareau, A. (2003). *Unequal childhoods: Class race and family life*. Berkeley, CA: University of California Press.

- Lungholm, E. (2008). New motives for migration? On interregional mobility in the Nordic context. Doctoral Thesis, Department of Social and Economic Geography, Umeå University, Sweden.
- Lundholm, E., Garvill, J., Malmberg, G., & Westin, K. (2004). Forced or free movers? The motives, voluntariness and selectivity of interregional migration in the Nordic countries. *Population, Space and Place*, 10(1), 59–72.
- McGoldrick, M. (1999). Women and the family life cycle. In B. Carter & M. McGoldrick (Eds.), *The expanded family life cycle: Individual, family, and social perspectives* (pp. 106–123). 3<sup>rd</sup> Edn.), Boston, MA: Allyn & Bacon.
- Magnuson, S. & Norem, K. (1999). Commuter marriages: Challenges for couples and counselors who work with them. *The Family Journal*, 7, 125-134.
- OLEH, Children at risk in education (C.A.R.E.) Research group (2011). *Impact and challenges for Commuter families*, Faculty of Education, Universiti Putra Malaysia. Ministry of women and family, [Laporan Impak dan cabaran keluarga komuter, Fakulti Pengajian pendidikan, Universiti Putra Malaysia, dan Kementerian Pembangunan Wanita, keluarga & Masyarakat]
- Rhodes, R.A (2002). Long-Distance Relationship In Dual-Career Commuter Couples: A Review of Counseling Issues: *The Family Journal: Counseling and Therapy for Couples and Families*, 10, 398-404.
- Stutzer, A. & Frey B. S. (2008). Stress that Doesn't Pay: The Commuting Paradox," *Scandinavian Journal of Economics*, Wiley Blackwell, 110(2), 339-366, 06.
- Klis, van der M. & Karsten, L. (2009). The Commuter Family as a Geographical Adaptive Strategy for the Work-Family Balance. *Community, Work & Family*, 12(3), 339 - 354. ISSN 13668803.
- Walsh, F. (1999). Families in later life: Challenges and opportunity. In B. Carter & M. McGoldrick (Eds.), *The expanded family life cycle: Individual, family and social perspectives* (pp. 307-326).
- Weisser, C. (2006). Two cities, two careers: Too much? Money. Retrieved from [http://money.cnn.com/magazines/moneymag/moneymag\\_archive/2006/01/01/8365210/index.htm](http://money.cnn.com/magazines/moneymag/moneymag_archive/2006/01/01/8365210/index.htm)
- Williams, J. (2000). *Unbending gender: Why work and family conflict and what to do about it*. New York: Oxford University Press.

## **Geometry and Proportion of Traditional Houses in Hot-Arid Region, Iran**

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### **ABSTRACT**

The majority of Iranian traditional houses, especially those in the hot-arid region, are best known for their courtyards. In these inward-looking houses, all of the main spaces are shaped around a central open space, which corresponds to the local context and culture. Iranian traditional architecture adhered to certain principles, which are detectable in traditional buildings such as inward-looking, human's scale, modular design, geometry and specific proportion systems. This paper aims to extend analysis of proportion and geometrical principles used in traditional houses, especially the Iranian golden ratio and modularization and their role in creating harmony between culture, built-form and the environment, with special focus on courtyards, main rooms and openings. Thirty courtyard houses in hot-arid region of Iran were selected as case study. The research employs qualitative method, which involves archival documents from Iran's Cultural Heritage Organization, technical visits, on-site documentation and design analysis. This research reveals significant golden rules and modularization are adopted in the design of traditional houses, which is applicable in contemporary house design.

*Keywords:* Geometry, modular, proportion, traditional courtyard houses

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### **INTRODUCTION**

It has long been recognized by scholars that geometry plays a significant role in the traditional architecture of Iran (Ardalan, Bakhtiar, & Haider, 1973; El-Said, El-Bouri, Critchlow, & Damlūji, 1993). Since the 1930s, in Soviet Central Asia, the subject of proportion has been studied with great

interest by scholars such as Ratiia (1950), Wilber (1955), Golombek and Mankovskaia (1985), Rempel and Voronina (1990), and Herdeg and Doshi (1990). The precise understanding of geometry and its relevant terms have enabled Iranian architecture to present more durable, stable forms which are based on circle, square or rectangular geometrical characteristics. The uses of these geometrical aspects, proportions and measurement have helped architects to develop a set of modular design concept (Vakili-Ardebili & Boussabaine, 2006).

According to the 10<sup>th</sup> century philosopher, Abu Nasr al- Farabi, the fundamental of architecture were derived from mathematical science. Furthermore, the basic science of architecture was the knowledge of *hiyal*. This term is difficult to translate without making any reference to Farabi's discussion of the sciences, from which *hiyal* emerged from. Literally, *hiyal* means "skill, art, cunning", concerning the ingenious and artistic manipulation of geometric forms (Golombek, Wilber, & Allen, 1988). Thus, geometry was the foundation of an architect's training.

There is evidence to suggest that classical Greek architecture utilized a system of geometric proportion, which was probably derived from the intermediary of Euclid's treatise on geometry (Hartshorne, 2000). It was then adopted by the Arabs, and further developed during the Islamic Era. Early Arabic treatises on mathematics paid special attention to the needs of the architect, and it is primarily in these works that the aesthetics of architecture were discussed

(Golombek *et al.*, 1988). While there is nothing comparable to Vitruvius's treatise on architecture, there are texts dealing with geometry for the architect, geometric designs for craftsmen, and comments throughout general texts on mathematics that are relatable to architectural practice (Golombek *et al.*, 1988).

The geometrical basis of Iranian design is apparent in many facets of the architecture: in the proportion of spatial design, in the creation of three- dimensional geometric objects and in two- dimensional surface decoration. Any system of proportion works toward creating a unity of design that renders the product aesthetically pleasing. It has been stressed by many writers that no particular set of proportions is innately preferred by the human psyche. Experiments attempting to prove the contrary, such as those undertaken to elucidate the properties of the "golden section", have at best been inconclusive. The popularity of the "golden section" is related to its flexibility. The Islamic system of proportion, which utilizes irrational numbers, is based on the geometrical proportion of the square, the double square, the equilateral triangle and the pentagon (El-Said *et al.*, 1993).

It should also be pointed out that the same methods for developing geometric designs were also used in determining the proportions of a room, its length, width and height. Proportion is one of the determinant criteria in architecture for the perception of harmony. Grütter (1987) said "Harmony is the discipline and regularity which exists between components of phenomena".

Vitruvius and Morgan (1960) said “when we call a building beautiful, it means that the proportion among the components is based on specific rules”. Le Corbusier (1931) said “Geometry is the language of man and rhythms are at the very root of human activities”.

The emphasis of the Iranian architecture is on beauty and harmony. Proportion and module in components can be observed in many parts of buildings with the aims to reduce the sizes of the components and for the ease of construction in terms of building and matching different components.

### TRADITIONAL HOUSES IN HOT-ARID REGION

Diverse climate in Iran has led to different architectural styles and construction in different areas. Hot-arid region includes most parts of Iran and famous cities such as Isfahan, Yazd and Kashan (see Fig.2). In this climate, summer is very hot and arid, while winter is very cold, with less rain and snow (Moosavi, 2011; Zarkesh, Moradchelleh, & Khnlari, 2012).

In the hot-arid region in Iran, traditional building designs, especially house design for all intents and purposes, have solved the climatic situations (Qobadian, 2006). Most traditional houses are introverted with all spaces being arranged around an open, rectangular courtyard (see Fig.1) forming a link between various areas of the house (Pirnia, 2005, 2007; Shabani, Tahir, Shabankareh, Arjmandi, & Mazaheri, 2011). This geometry imposes a corresponding hierarchy to its different spaces. Courtyard house type is commonly found in hot-arid climate regions in many historical cities in the Middle East (Bekleyen & Dalkiliç, 2011). In Iran, courtyard houses are the most prominent house type (Bemanian & Moradchelleh, 2011; Moradi & Akhtarkavan, 2008).

Courtyard becomes one of the determining and organizing factors in traditional building design in hot-arid regions (Qobadian, 2006). The central courtyard is a significant element of traditional Iranian houses where the important spaces were formed. A courtyard is commonly made up



Fig.1: A Typical Traditional Courtyard House, hot- arid region of Iran

of a central pool, small gardens around the pool, and the water pathways, which differ in shapes and sizes due to differing weathers and environments.

The idea of garden and courtyard complements the hot-arid plateau of Iran, and remains as the representation of the concept of paradise during the Islamic era (Belakehal, Tabet Aoul, & Bennadji, 2004). A courtyard can provide security, privacy and comfort to its users within the house. It functions as the core of the house: spatially, socially and environmentally (Ratti, Raydan, & Steemers, 2003).

This study aims to examine the geometric patterns in traditional house plans and sectional elevations in order to conclude a comprehensive utilization of proportion and harmony in the Iranian architecture. It is hoped that via this study, prominent and salient points can be adopted into the contemporary houses in Iran. This is because contemporary houses in Iran are mostly poor in design, proportion and applications

and are often described with terms such as “rootless, poor, unhealthy and materialistic” (Barati, 2003; Talischi & Ansari, 2000).

## METHODOLOGY

The study employs qualitative method of several steps: (1) Archival research at Cultural Heritage Organization of Iran; (2) Technical visits to several case study houses within hot-arid region (see Fig.2); (3) On-site documentation; and (4) Design analysis.

Archival research from the Cultural Heritage Organization in Iran has helped to identify thirty traditional courtyard houses in the hot-arid region of Iran. All the thirty traditional houses selected were registered in Cultural Heritage Organization in Iran as heritage buildings, built during Qajarian era between 1850-1880 AD and have remained authentic in term of their built form. During that era, housing was the most prominent point in the Iranian architecture (Pirnia, 2005; Soltanzadeh, 2005), and



Fig.2: Hot- arid region of Iran

represented the best examples of the finest Iranian traditional houses. Although there are more samples with the same criteria, this study focused on thirty traditional houses due to direct observation, these study samples currently function as exhibitions for tourists. Five of these cases are different parts of Cultural Heritage Organization in different cities. Eight of them are hotels with traditional decoration. Two of them are the Faculty of Architecture of Yazd University. Three of them are Handcraft exhibition for tourists. The others are under the supervision of Cultural Heritage Organization and used as museums for tourists.

These are the finest buildings that have been recognized with high heritage values. For each identified house, there are some write-up on the history of the house, basic information such as house address, owner, year built and site location. Technical information such as scaled floor plans, sections and elevations are also available. Technical visit conducted between July–September 2011 confirmed the locations

of these houses and critical measurements. Missing dimensions were also recorded.

There are some limitations for this study. Although these case studies are the best samples of registered valuable buildings in Cultural Heritage Organization, the conditions of a few houses were bad with some parts being damaged and destroyed, thus limits any direct observation.

## PROPORTION

### *Iranian Golden Rectangle*

In order to find the best solutions to form the buildings, Iranian architects used geometrical shapes. The geometrical shapes with commensurate ratio have been used by architects and designers in the design of most spaces in traditional houses. This system gives greater advantages for perceiving geometry and providing idea of its building structure and increasing the speed of construction (Bozorgmehri, 1981; Memarian, 2008; Pirnia, 2005). They chose regular hexagonal that could be drawn by regular triangles (see Fig.3).

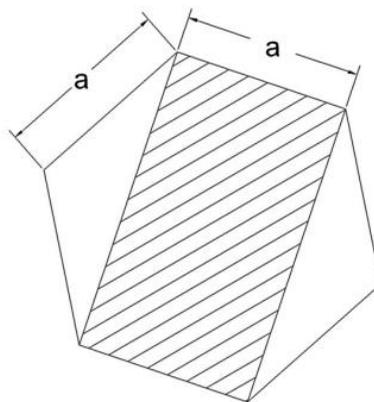


Fig.3: Iranian Golden Rectangle

The levels of scales are achieved through the proper use of a ratio known as the golden ratio. The proper use of the golden ratio is evident in the architecture of many cultures.

In the Iranian architecture, it is known as the “Iranian golden ratio” and is equivalent to the proportions of a rectangle which is embedded inside a hexagon and is slightly different from the ratio of the Fibonacci sequence (a golden rectangle is a rectangle whose side lengths are in the golden ratio).

- The proportions of the rectangle: 3.4×4 or 2×1.7
- The Iranian golden ratio: 1.176
- The Fibonacci sequence: 1,1,2,3,5,8,13,21,...
- The Fibonacci golden ratio: 1.618

In fact, it is believed that the Fibonacci golden ratio is also extracted from the Eastern geomancy, introduced to Europe through translation of an Arabic text by Fibonacci in the 13<sup>th</sup> century. The golden ratio is believed to be a ratio recurring in the creations of man and nature and as a model of spiral grow. Such spiral grow can be seen in the growing patterns of leaves, pine cones, animal shells and human chromosomes, which were also commonly used in the construction of traditional dwellings (Ardalan *et al.*, 1973; Bozorgmehri, 1981; Bozorgnia, 2005).

As Pirnia (2005) said, ”this form has the best proportion between their sides” In designing Iranian traditional buildings, architects and designers used this shape frequently. In traditional houses with

courtyards, most of the room and yard forms followed this proportion.

#### *Units of Traditional Measurement in Iran*

Utilization of specific units in traditional measurements is well-known in designing traditional buildings. By using specific modules, architects and designers can harmonize all the elements. These units are derived from human scale such as the dimension from fingers to elbow in a medium size person or an open hand (Bozorgmehri, 1981; Pirnia, 2005).

Specific units were adopted for most parts of a traditional building. One of the examples is the used of a specific brick size. Architects could easily use specific bricks to harmonize various buildings together.

The measurement unit in Iran is called *Gaz* (Table 1). All elements, especially openings, used to be built based on this unit and its proportion.

TABLE 1  
Units of Traditional Measurement

|   |  |
|---|--|
| 1 | One <i>Gereh</i> = 1/16 <i>Gaz</i> = 6.66 cm |
| 2 | One <i>Gaz</i> = 16 <i>Gereh</i> = 106.66 cm |

## **RESULTS AND DISCUSSION**

After analyzing thirty traditional houses in the hot-arid region (Table 2), it can be concluded that most Iranian architectural principles, highlighted by Pirnia (2005 & 2007), are applicable in these houses. However, unlike the public traditional buildings (such as Bazars, mosques, gardens and schools), the principles in the traditional houses are different in that:

- a. All of these houses have inner rectangular courtyard and main spaces surrounding the courtyard. The author examined the proportion of these rectangular (length/width) and cross-checked this value against the Iranian golden ratio. It is not similar across board, but in some cases, it was repeated. The proportion of these rectangular (length/width) courtyards ranges between 1:3 to 1:7, depending on land size and building forms.
- b. There is a meaningful proportion between the two main rooms in traditional houses. Bedroom (with three opening) and living room (with five opening). The dimension of the rooms are related to their respective function, *sedari*; is a room with three doors (see Fig.4), has played the role of a bedroom, was smaller than a living room and is suitable for regular human heights. According to literature review, rooms are classified according to their corresponding morphology

(Mirmoghtadaee, 2009), and the number of doors or windows: *panjdari* (see Fig.4), is a room with five doors, and functions as a living room. Bedrooms were designed in accordance with human height, and enough space for a man to lie in the room. All these spaces are rectangular in a traditional layout, and according to their function, *panjdari* is bigger than *sedari*, with a ratio between their respective widths and lengths (Pirnia, 2005).

If a room was built larger than another, its height, as well as its architectural elements such as the arches, the shelves, and the doors, would need to be built bigger following the same ratio. Thus, all of the elements of any architectural space would be proportionate to the size of the place (Mirmoghtadaee, 2009; Soltanzadeh, 2005).

- c. The rectangular rooms with five doors (*panjdari*), located around the courtyard were examined. Most of them possess

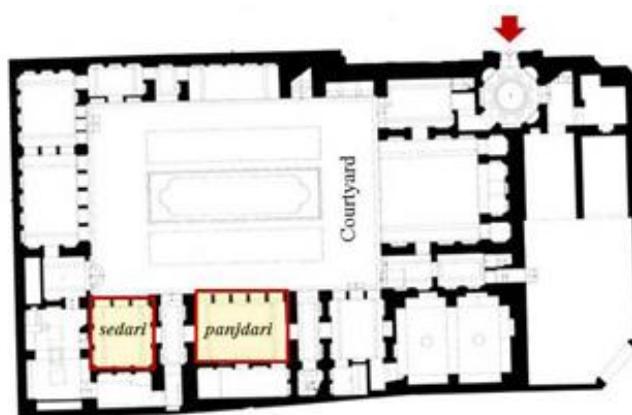


Fig.4: *Sedari* and *Panjdari* in Traditional House

similar proportion of length/ width. The ratio of Iranian golden rectangular was used when designing this space. With the exception of houses that lacks living spaces around the courtyard, the proportion of the others (19 from 23) is 1.70.

- d. The openings of rooms are examined, and the traditional measurements were checked as well. All opening widths were equal to 14 *Gereh* (93.5 cm), which is suitable for passing a normal size person. These types of opening are present in almost all parts of a traditional house. For example, for *panjdari* (living room) five of them are placed right next to each other, and three of them for *sedari* (bedroom). It plays an important role in providing harmony in the main façade of traditional houses that surrounds a courtyard. As per the literature review; the elements of openings in traditional houses matches the size of an average person (Memarian, 2008; Pirnia, 2005).

They were suitable and quite enough for a person to pass through, and also allow ample daylight in. An opening in an Iranian courtyard house is composed of multiple details that are salient towards the optimizing of daylight (Pirnia, 2005). Furthermore, the defined proportion of opening increases the speed of construction, due to the exact dimension of the different rooms.

- e. All of these openings are made using a lattice frame and a beautiful wooden frame with unique motifs to control daylight, especially intense sun rays in the hot summer. These frames are covered with colorful glasses.

## CONCLUSION

From the thirty samples selected from the hot-arid region of Iran, it can be concluded that there are many different ways of utilizing the module in the traditional houses. Due to the fact that these are private houses, it could not utilize these modules in a way that traditional buildings can with regards to proportion and geometry in every

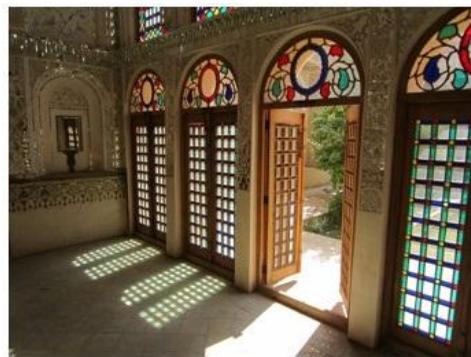
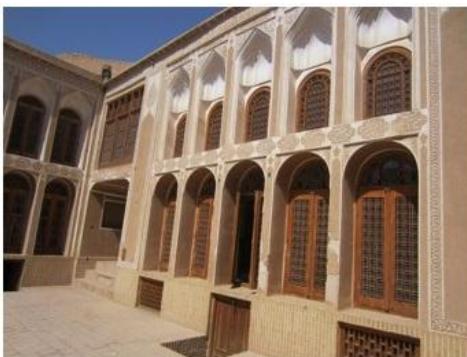


Fig.5: Typical living room (*Panjdari*) - Outside and inside

TABLE 2  
Courtyard, Room proportion and Opening proportion in Traditional House

| Name | Place/ Year of Built (AD) | Courtyard     | Courtyard ratio (length/width) | Room with five opening ( <i>Panjdari</i> ) |                                     | Having <i>sedari</i> and <i>panjdari</i> with specific proportion |   |
|------|---------------------------|---------------|--------------------------------|--|-------------------------------------|---|---|
|      |                           |               |                                | Length/ width                              | Opening width                       |   |   |
| 1    | Al- e Yasin               | Kashan/ 1860  | Rectangular                    | 1.4  | 1.6                                 | 14 <i>Gereh</i>   | √ |
| 2    | Akhavan                   | Yazd/ 1864    | Rectangular                    | 1.6  | No <i>Panjdari</i> around courtyard |   |   |
| 3    | Ardakanian                | Yazd/ 1868    | Rectangular                    | 1.6  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 4    | Arab- alireza             | Yazd/ 1860    | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 5    | Arab- bibirq              | Yazd/ 1860    | Rectangular                    | 1.7  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 6    | Arab- ha                  | Yazd/ 1855    | Rectangular                    | 1.4  | No <i>Panjdari</i> around courtyard |   |   |
| 7    | Abbasian                  | Kashan/ 1850  | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 8    | Broujerdi- ha             | Kashan/ 1853  | Rectangular                    | 1.5  | No <i>Panjdari</i> around courtyard |   |   |
| 9    | Emam- zadee               | Isfahan/ 1872 | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 10   | Esfehanian                | Isfahan/ 1863 | Rectangular                    | 1.4  | No <i>Panjdari</i> around courtyard |   |   |
| 11   | Farhangi                  | Yazd/ 1870    | Rectangular                    | 1.4  | 1.2                                 | 14 <i>Gereh</i>   | √ |
| 12   | Fateh- ha                 | Yazd/ 1867    | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 13   | Gerami                    | Yazd/ 1873    | Rectangular                    | 1.4  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 14   | Golshan                   | Yazd/ 1870    | Rectangular                    | 1.3  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 15   | Keroghli                  | Yazd/ 1865    | Rectangular                    | 1.3  | No <i>Panjdari</i> around courtyard |   |   |
| 16   | Lari- ha                  | Yazd/ 1855    | Rectangular                    | 1.7  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 17   | Mahmoodi                  | Yazd/ 1855    | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 18   | Malek                     | Yazd/ 1877    | Rectangular                    | 1.3  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 19   | Malek- zadeh              | Yazd/ 1860    | Rectangular                    | 1.3  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 20   | Mashrooteh                | Yazd/ 1871    | Rectangular                    | 1.3  | No <i>Panjdari</i> around courtyard |   |   |
| 21   | Mozaffari                 | Yazd/ 1864    | Rectangular                    | 1.3  | 1.3                                 | 14 <i>Gereh</i>   | √ |
| 22   | Meshkian                  | Yazd/ 1870    | Rectangular                    | 1.3  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 23   | Mortaz                    | Yazd/1852     | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 24   | Mr. wye                   | Yazd/ 1860    | Rectangular                    | 1.7  | 1.7&1.9                             | 14 <i>Gereh</i>   | √ |
| 25   | Olumi- ha                 | Yazd/ 1875    | Rectangular                    | 1.6  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 26   | Rasoolian                 | Yazd/ 1856    | Rectangular                    | 1.3  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 27   | Rismanian                 | Yazd/ 1864    | Rectangular                    | 1.5  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 28   | Semsar                    | Yazd/ 1868    | Rectangular                    | 1.3  | 1.5                                 | 14 <i>Gereh</i>   | √ |
| 29   | Shokoohi                  | Yazd/ 1858    | Rectangular                    | 1.3  | 1.7                                 | 14 <i>Gereh</i>   | √ |
| 30   | Tehrani- ha               | Yazd/ 1855    | Rectangular                    | 1.7  | No <i>Panjdari</i> around courtyard |   |   |

available space. Limitations of land and owners' opinions and demands have resulted in pronounced differences. By and large, there are logical proportions and scales in important spaces of the traditional houses in the hot-arid region of Iran. These include building forms and courtyards, important rooms for family members and guests. It is suggested that these techniques have improved the speed of construction while harmonising and beautifying these houses at the same time.

It is also concluded that despite the fact that it is impossible to adopt and apply all of the traditional strategies and techniques to contemporary houses, it is possible to adopt suitable corresponding strategies that apply to a modern layout. By using these rules in contemporary houses, the dimension of the rooms are related to their functions and also all the elements of those spaces will be in harmony with their dimension. For example, a bedroom will have enough space for one or two persons and specific opening of this particular space will receive sufficient daylight for bedroom. This process can be generalised for all spaces in the contemporary layout. New houses can be designed by using harmonious proportion in order to establish proportional spaces and improve aesthetics, which might be suitable for contemporary houses.

## REFERENCES

- Ardalan, N., Bakhtiar, L., & Haider, S. G. (1973). *The sense of unity: the Sufi tradition in Persian architecture*. Chicago: University of Chicago Press.
- Barati, N. (2003). Rediscovering the Concept of House in Persian Language and Culture. *Journal of Art and Culture*, 24-55.
- Bekleyen, A. & Dalkiliç, N. (2011). The influence of climate and privacy on indigenous courtyard houses in Diyarbakır, Turkey. *Scientific Research and Essays*, 6(4), 908-922.
- Belakehal, A., Tabet Aoul, K., & Bennadji, A. (2004). Sunlighting and daylighting strategies in the traditional urban spaces and buildings of the hot arid regions. *Renewable Energy*, 29(5), 687-702.
- Bemanian, M. R., & Moradchelleh, A. (2011). Residential Architecture of Bushehr, Connector of Introversion and Extraversion in Architecture. *World Applied Sciences Journal*, 13(7), 1643-1648.
- Bozorgmehri, Z. (1981). *Geometry in Iranian Architecture*. Iran, Tehran: Protection of National Monuments Organization.
- Bozorgnia, Z. (2005). *Iranian Architects from Islamic era till Qajarian era*. Tehran, Iran: Cultural Heritage Organization.
- Corbusier, L. (1931). *Towards a new architecture*. United States: Courier Dover Publications.
- El-Said, I., El-Bouri, T., Critchlow, K., & Damlūji, S. S. (1993). *Islamic art and architecture: the system of geometric design*, Garnet Pub.
- Golombek, L., Wilber, D. N., & Allen, T. (1988). *The Timurid Architecture of Iran and Turan (Vol. 1)*. New Jersey: Princeton University Press.
- Golombek, L. & Mankovskaia, L. (1985). *Towards the Study of Forms in Central Asian Architecture at the End of the Fourteenth Century: The Mausoleum of Khvāja Ahmad Yasavī*. British Institute of Persian Studies, 23, 109-127.
- Grütter, J. K. (1987). *Ästhetik der Architektur: Grundlagen der Architektur-Wahrnehmung*: Verlag W. Kohlhammer.

- Hartshorne, R. (2000). *Geometry: Euclid and beyond*. New York: Springer-Verlag.
- Herdeg, K. & Doshi, B. (1990). *Formal structure in Indian architecture*. New York: Rizzoli.
- Memarian, G. H. (2008). *Iranian architecture*. Tehran, Iran: Soroosh Danesh.
- Mirmoghtadaee, M. (2009). Process of housing transformation in Iran. *Journal of Construction in Developing Countries*, 14(1), 69-80.
- Moosavi, M. (2011). An Analysis to Historic Roots of Climatic Design in Ancient Architecture of Central Zone of Iran. *International Proceedings of Economics Development & Research*, 17.
- Moradi, A. M. & Akhtarkavan, M. (2008). Sustainable architecture in the hot, arid and sunny regions of Iran. *Architect Engineering Special Issue*, 19(6), 21-29.
- Pirnia, M. K. (2005). *Introduction to Islamic Architecture in Iran (Vol. 10)*. Tehran, Iran: Soroosh Danesh.
- Pirnia, M. K. (2007). *Architectural styles in Iran (Vol. 5)*. Tehran, Iran: Soroosh Danesh.
- Qobadian, V. (2006). *A Survey on the Climatic design of the Iranian traditional buildings*. Tehran, Iran: Tehran University.
- Ratiia, Sh. E. (1950). *The Bibi Khanum Mosque in Samarkand. A Study and Essay at a Restoration*. Moska: Gos. izd- vo. Arhitektury i gradostroitel' stva.
- Ratti, C., Raydan, D., & Steemers, K. (2003). Building form and environmental performance: archetypes, analysis and an arid climate. *Energy and Buildings*, 35(1), 49-59.
- Shabani, M. M., Tahir, M. M., Shabankareh, H., Arjmandi, H., & Mazaheri, F. (2011). Relation of cultural and social attributes in dwelling, responding to privacy in Iranian Traditional House. *e-BANGI: Jurnal Sains Sosial dan Kemanusiaan*, 6(2), 273-287.
- Soltanzadeh, H. (2005). From House to Apartment. *Architecture and Culture Quarterly*, 142-154.
- Talisch, G. & Ansari, H. (2000). Trends and Challenges in Contemporary Architecture of Iran. *Tavoos Online Artistic Journal*, 11(4).
- Vakili-Ardebili, A. & Boussabaine, A. H. (2006). *Quality concept in Persian precedent architecture: A lesson in eco-building design*. PLEA 2006.
- Vitruvius, P. & Morgan, M. H. (1960). *The ten books on architecture*. New York: Dover Publications.
- Voronina, V., Rempel, A. (1990). Architecture of India and Central Asia. *Research Comparison. Indian National Science Academy*, 2, 285.
- Wilber, D. N. (1955). *The Architecture of Islamic Iran. The II Khānid Period*. USA: Princeton University Press.
- Zarkesh, A., Moradchelleh, A., & Khnlari, E. (2012). Region Based Classification of Design and Construction Consistent with Climate. *Middle-East Journal of Scientific Research*, 11(1), 66- 76.



## **Factored Statistical Machine Translation System for English to Tamil Language**

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### **ABSTRACT**

This paper proposes a morphology based Factored Statistical Machine Translation (SMT) system for translating English language sentences into Tamil language sentences. Automatic translation from English into morphologically rich languages like Tamil is a challenging task. Morphologically rich languages need extensive morphological pre-processing before the SMT training to make the source language structurally similar to target language. English and Tamil languages have disparate morphological and syntactical structure. Because of the highly rich morphological nature of the Tamil language, a simple lexical mapping alone does not help for retrieving and mapping all the morpho-syntactic information from the English language sentences. The main objective of this proposed work is to develop a machine translation system from English to Tamil using a novel pre-processing methodology. This pre-processing methodology is used to pre-process the English language sentences according to the Tamil language. These pre-processed sentences are given to the factored Statistical Machine Translation models for training. Finally, the Tamil morphological generator is used for generating a new surface word-form from the output factors of SMT. Experiments are conducted with nine different type of models, which are trained, tuned and tested with the help of general domain corpora and developed linguistic tools. These models are different combinations of developed pre-processing tools with baseline models and factored models and the accuracies are evaluated using

the well known evaluation metric BLEU and METOR. In addition, accuracies are also compared with the existing online “Google-Translate” machine translation system. Results show that the proposed method significantly outperforms the other models and the existing system.

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## INTRODUCTION

Machine translation is an automatic translation of one natural language text to another using computer. Now, internet users need a fast automatic translation system between languages. Generally, several approaches such as theLinguistic based and Interlingua based methods are used to develop an automatic machine translation system. Currently, the Statistical Machine Translation (SMT) systems play a major role in developing automatic machine translation between languages. The Statistical Machine Translation method draws the knowledge from an automata theory, artificial intelligence, data structure and statistics. It treats the translation of natural language as a machine learning problem. Learning algorithms produce a model from parallel corpora and using this model, new sentences are translated. Parallel corpora are sentences in one language along with its translation. It is easy to build a bi-lingual baseline SMT system, if sufficient parallel corpora are available. The accuracy of the system is highly dependent on the quality and quantity of the parallel corpus and the domain. The main advantage of using the Statistical Machine Translation is that it is language independent and it disambiguates the sense automatically with the use of large quantity of data. Importantly, SMT systems provide good accuracy for similar language pairs in specific domains

or languages that have huge availability of bi-lingual corpora. If the sentences in the language pair are not structurally similar then the translation patterns are difficult to learn by statistical methods. Huge amounts of parallel corpora are required for learning the dissimilar pattern, therefore statistical methods are difficult to use for “less resourced” and dissimilar languages. To enhance the translation performance of dissimilar language pairs and less resourced languages, an external pre-processing is required in the SMT system. Pre-processing includes conversion of source language sentence into similar representation of target language sentence and adding linguistic information using language processing tools.

## FACTORED STATISTICAL MACHINE TRANSLATION SYSTEM

The Baseline Statistical Machine Translation system only considers the surface word-forms of sentences and does not include the linguistic knowledge of the languages, therefore its performance is significantly less for dissimilar language pair when compared to similar language pair. To resolve this issue, factored models are introduced in SMT system. The factored model, which is a subtype of phrase based SMT (Philipp Koehn & Hieu Hoang, 2007), will allow multiple levels of representation of the word from the most specific level to more general levels of analysis such as lemma, part-of-speech and morphological features. The phrase based translation model is based on the noisy channel models. Bayes

rule is used to reformulate the translation probability for translating a source language sentence into target language sentence. The objective of the translation model is to find the probability of target language sentence  $T$ , given a source language sentence  $S$ .

$$P(T/S) = (P(S/T)P(T)) / P(S) \quad [1]$$

$$\check{T} = \operatorname{argmax} P(S/T)P(T)/P(S) \quad [2]$$

$$\check{T} = \operatorname{argmax} P(S/T)P(T) \quad [3]$$

From the equation (2), the denominator  $P(S)$  is removed, since the probability of the source sentence is constant.  $P(S/T)$  is given by translation model and  $P(T)$  is given by language model. In addition, to find a best translation a decoder is required, which given a source sentence  $S$ , produces the best probable target sentence  $T$ , or possibly an n-best list of the most probable translations. The probability of best translation is calculated from the translation probability and language model and *argmax* chooses the highest probable one ( $T$ ) among the all possible target language sentences ( $T$ ). Factored translation models can be seen as the combination of several components (language model, reordering model, translation steps, and generation steps) (Philipp Koehn & Hieu Hoang, 2007). These components define one or more feature functions that are combined in a log-linear model.

$$P\left(\frac{t}{s}\right) = \frac{1}{Z} \exp \sum_{i=1}^n \lambda_i h_i(t, s) \quad [4]$$

$z$  is a normalization constant that is ignored in practice. Evaluate each feature function  $h_i$  to compute the probability of a translation  $t$  given an input sentence  $s$ .

## RELATED WORKS

This section discusses the literature review about adding linguistic information into the Statistical Machine Translation system and existing English to Tamil Machine Translation systems.

Reordering methods using linguistic knowledge attained a significant improvement in performance for translation from French to English (Xia & Mc-Cord, 2004) and from German to English (Collins *et. al.*, 2005). Panagiotis (2005) proposed a novel algorithm for incorporating morphological knowledge from English to the Greek Statistical Machine Translation (SMT) system. She/He suggested a method for improving the translation quality of existing SMT systems, by incorporating word-stems. Avramidis *et. al.*, (2008) addressed the problem of translating morphologically poor language into morphologically rich language and the improvement in performance is shown for translating from English to Greek and English to Czech. Ananthkrishnan R *et. al.*, (2008) developed a syntactic and morphological pre-processing for the English to Hindi SMT system. They reordered the English source sentence as per Hindi syntax, and segmented the suffixes of Hindi for morphological processing. Sara Stymne (2009) explored how compound processing can be used to improve the accuracy of Phrase-Based

Statistical Machine Translation (PBSMT) between English and German/Swedish. For translation into Swedish and German the segmented parts are merged after translation. Ann Clifton (2010) examined various pre-processing methods for augmenting SMT models with morphological information to improve the quality of English-Finnish automatic translation task. Reyyan Y *et. al.*, (2010) reported a novel scheme for translating languages with very disparate structure. In this method, syntax of the source language sentence is mapped to morphology of the target language sentence in Factored Statistical Machine Translation.

Various automatic machine translation systems have been developed for translating the English language to the Tamil language. Ulrich Germann (2001) reported his experience with building a statistical MT system from scratch, including the creation of a small parallel Tamil-English corpus. Fredric C. Gey (2002) reported the prospects of machine translation of the Tamil language. The major problems in connection with machine translation and cross-language retrieval of Tamil (and other Indian languages) are discussed. Vasu Renganathan (2002) proposed an interactive approach to develop a web based English to Tamil machine translation system. AUKBC research centre developed a Human Aided Machine Translation System from English to the Tamil language. This machine translation system has three major components, viz. source language morphological analyzer, mapping unit and the target language generator. This

prototype version handles simple sentences and only works for limited vocabulary and grammar. Vetrivel *et. al.*, (2010) proposed a statistical based machine translation system using HMM based alignment for words and phrases in a parallel text and Tamil transformation rules and word combination rules are also used. Loganathan R (2010) developed the English-Tamil machine translation system using rule-based and corpus-based approaches. For the rule based approach, the structural difference between English and Tamil is considered and syntax transfer based methodology is adopted for translation. Saravanan *et. al.*, (2010) developed a Rule based Machine translation system for English to Tamil. Saraswathi *et. al.*, (2011) developed a machine system for English to Tamil as well as Tamil to English using rule based Machine Translation and knowledge based Machine Translation. Loganathan R (2012) developed the English-Tamil statistical machine translation system using morphological processing. He separated the morphological suffixes of English and Tamil to improve the quality of phrase based and hierarchical machine translation systems. Using the statistical machine translation approach, Google developed a web based machine translation engine for English to Tamil language. The phrase and word selection is excellent in this system but it failed to produce morphologically fluent Tamil sentences for even simple English sentences. Even though machine translation research is started in the 1950s, however, high-quality English-Tamil Machine translation system is not available

at present. Statistical models require huge amounts of parallel data, which are not readily available for English-Tamil pair.

## METHODS

### *Overall System Architecture*

Automatic machine translation into morphologically-rich languages remains a highly challenging task because manual translation itself is difficult. Tamil is a morphologically rich language with free word-order and English is a morphologically simple language with the fixed word order. This morphological and structural divergence increases the challenges in translating from English to Tamil language. The overall architecture of the proposed English to Tamil factored SMT system is illustrated in Fig.1. In this figure, the training of the SMT system is shown using dotted and bold lines. The dotted line represents the formation of the language model and the bold line denotes the creation of translation model. The light blue line shows the testing of the SMT system.

The pre-processing module is externally attached to the SMT system. This module converts the bilingual corpora into factored bilingual corpora using morphology based linguistic tools and reordering rules. After pre-processing, the representation of the source language syntax is closely follows the structure of the target language. This transformation decreases the complexity in alignment, which is a key problem in baseline SMT system. Parallel corpora and monolingual corpora are used to

train the statistical translation models. Parallel corpora are collected and converted into factored parallel corpora using pre-processing. English sentences are factored using Stanford Parser and Tamil sentences are factored using Tamil POS Tagger and Morphological analyzer. The Monolingual corpus is collected from various online newspaper websites and then used in the Language model. Finally, in post processing, the Tamil morphological generator is used for generating Tamil surface words from the output factors of SMT decoder.

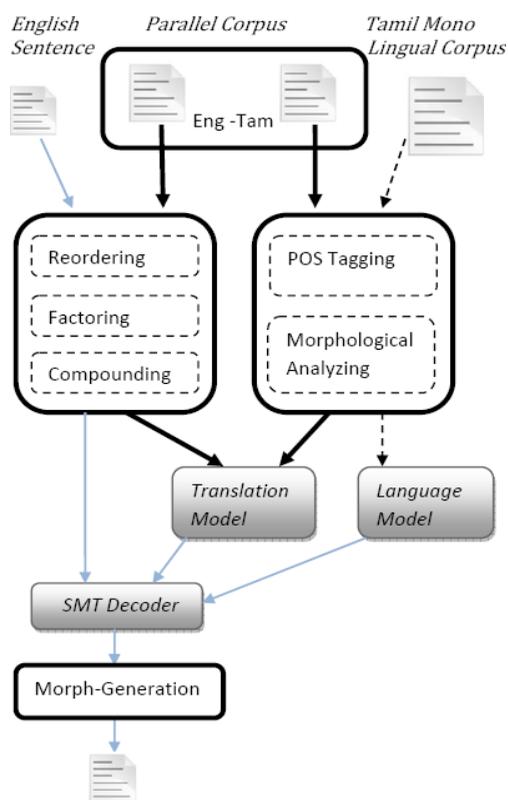


Fig.1: The Factored SMT system for English to Tamil language

### Details of Pre-processing English Language Sentences

The proposed preprocessing module for the English language sentence consists of reordering, factorization and compounding. This language specific pre-processing prior to translation notably improves the translation quality.

### Reordering English Language Sentences

Reordering means, rearranging the word order of one natural language sentence into the word order that is closer to that of another natural language sentence. It is an important task in translation for languages which differs in their syntactic structure. English and the Tamil language pair has disparate syntactic structure. The word order of the English language sentence is Subject-Verb-Object (SVO) whereas in Tamil sentence, the word order is Subject-Object-Verb (SOV). For instance, the main verb of a Tamil sentence always comes at the end but in English it comes between the subject and object. English syntactic relations are retrieved from the Stanford Parser tool (Klein & D Manning, 2003).

Based on the developed reordering rules, the source language sentence is reordered. Reordering rules are handcrafted based on the syntactic word order difference between English and the Tamil language. One hundred and eighty reordering rules are created based on the structure of English and Tamil. Sample reordering rules are shown in Table 1 Reordering significantly improves the performance of machine translation system. Automatic Lexicalized reordering is implemented in the Moses toolkit. Automatic reordering in this toolkit is not a language specific method so it is not good for short range and simple sentences. Therefore, the external component is needed for dealing with the sentences which are not reordered properly.

TABLE 1  
Reordering rules for English language sentences

| Source            | Target              |
|-------------------|---------------------|
| S -> NP VP        | # S -> NP VP        |
| PP -> TO NP-PRP   | # PP -> TO NP-PRP   |
| VP -> VB NP* SBAR | # VP -> NP* VB SBAR |
| VP -> VBD NP      | # VP -> NP VBD      |
| VP -> VBD NP-TMP  | # VP -> NP-TMP VBD  |
| VP -> VBP PP      | # VP -> PP VBP      |

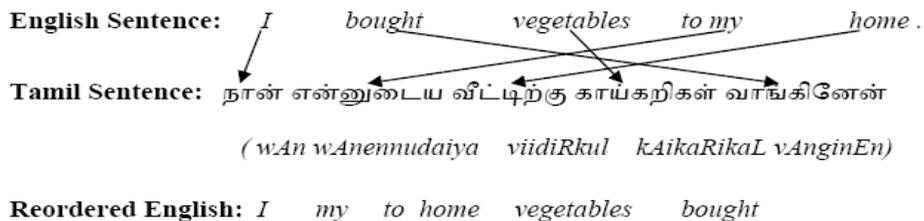


Fig.2: Reordering of an English language sentence

### Factorization of the English Language Sentence

Factored models are predominantly used for morphologically rich languages, in order to reduce the amount of bilingual data. Factorization refers to splitting the word into linguistic factors and integrating it as a vector. The English parsed tree which is obtained from Stanford Parser is used to retrieve the linguistic information such as lemma, part-of-speech tags, syntactic information and dependency information. This linguistic information is integrated as factors in the original English word. Factorization is one way of representing morphological knowledge to Statistical machine translation explicitly. Factorization also reduces the Out-Of-Vocabulary (OOV) rate. Table 2 shows the factors of words in an example of an English language sentence. In this table, *word* refers surface word, *lemma* represents the dictionary word or root word, *w-c* represents word-class category and *morph* tag represents compound tag which contains morphological information and/or function words. In some cases the *morph* tag also contains the dependency relations and/or PNG (Person-Number-Gender) information.

### Compounding for English Language Sentence

During automatic translation from morphologically simpler language to morphological rich language, it is very hard to retrieve the required morphological information from the source language sentence. This morphological information is an important term for producing an exact target language word-form. Morphologically rich languages have a large number of surface forms in the lexicon to compensate for a free word-order. This large number of word-forms in the Tamil language is very difficult to generate automatically from the English language words. The pre-processing phase compounding is referred as adding extra morphological information to the morphological factor of the source (English) language words. Additional morphological information includes function words, subject information, dependency relations, auxiliary verbs, and modal verbs. This information is based on the morphological structure of target language sentence. In compounding, English function words are identified from the factored corpora using dependency information and these identified function words are included in a morphological factor

TABLE 2  
Factors of Words in English sentence

| WORD       | LEMMA     | W-C | MORPH | FACTORS                          |
|------------|-----------|-----|-------|----------------------------------|
| I          | I         | PRP | PRP   | I   i   PN   prn                 |
| bought     | buy       | V   | VBD   | bought   buy   V   VBD           |
| vegetables | vegetable | V   | NNS   | vegetables   vegetable   N   NNS |
| to         | to        | PRE | TO    | to   to   TO   TO                |
| my         | my        | PRP | PRP\$ | my   my   PN   PRP\$             |
| home       | home      | N   | NN    | home   home   N   NN             |

of the corresponding content word. Finally these function words are removed from the factored sentence.

For instance, the sentence “*I bought vegetables to my home*” is pre-processed. The word “*to*” is identified as a function word and it is removed from the sentence and attached to the morphological factor of the word “*home*”. The main reason to perform the compounding process in English sentence is that the words like “*to*” (or any prepositions) does not has the equivalent individual word in Tamil. Actually, “*to home*” in English sentence is equivalent to the Tamil word “*vittiRkku*”. Compounding reduces the length of the English language sentence during pre-processing. Similar to the function words, auxiliary verbs and modal verbs are also removed from sentence and attached in a morphological factor of the corresponding content word or head word. Now the representation of the English language sentence is similar to that of the Tamil language sentence. This compounding step indirectly integrates dependency information and other required morphological information into the source language factor.

## Details of Pre-processing Tamil Language Sentence

Similar to the pre-processing of English language sentence, the Tamil language sentences are also pre-processed using linguistic tools such as POS tagger and morphological analyzer. Tamil surface words are segmented into linguistic units and these segments are annotated and integrated as linguistic factors in SMT training corpora. At first, the Tamil sentence is given to the Tamil Part-of-Speech Tagger tool (Dhanalakshmi V *et. al.*, 2008) and then using the part-of-speech information, the minimized part-of-speech tag (or Course-grained tag) is identified. Based on the minimized tag, the words are given to the Tamil morphological analyzer tool (Anand Kumar *et. al.*, 2010b). The Morphological analyzer splits the word into lemma and morphological information. Pre-processing is carried out in parallel corpora as well as the monolingual corpora. The pre-processing phase in the Tamil language converts the corpora into factored corpora. Tamil words and its factors are shown in Table 3. Fig.3 and Fig.4 show the alignment of the English and Tamil sentences before and after pre-processing.

TABLE 3  
Tamil factored sentence

| WORD       | FACTORS                     |
|------------|-----------------------------|
| நான்       | நான்   நான்  P  null        |
| என்னுடைய   | என்னுடைய என் P  poss        |
| வீட்டிற்கு | வீட்டிற்கு வீடு N  DAT      |
| காய்கறிகள் | காய்கறிகள் காய்கறி N PL     |
| வாங்கினேன் | வாங்கினேன் வாங்கு V PAST_1S |

### Factored SMT System for English to Tamil Language

The Statistical Machine Translation consists of three key components viz. translation modeling, language modeling and decoding. These components are implemented using GIZA++, SRILM and Moses toolkits. GIZA++ is a statistical machine translation toolkit that is used to train IBM models 1-5 and an HMM word alignment model. It is an extension of GIZA which is designed as a part of the SMT toolkit. SRILM is a toolkit for language modeling that is used in speech recognition, statistical tagging and statistical machine translation. Moses is an open source statistical machine translation toolkit that allows to automatically training the translation models for any language pair. A collection of parallel translated

texts is only required for a language pair. An efficient search algorithm finds quickly the highest probability translation among the exponential number of choices. Morphologic, syntactic and semantic information are integrated in preprocessing. Pre-processed English and Tamil language sentences are used in SMT training. Fig.5 explains the mapping of English factors and Tamil factors in Factored SMT System.

Initially, English factors “Lemma” and “Minimized-POS” are mapped into the Tamil factors “Lemma” and “Minimized-POS Tag” then “Minimized-POS” and “Compound-Tag” factors of English language is mapped to “Morphological information” factor of Tamil language.

Here, the remarkable thing is that the Tamil surface word forms are not

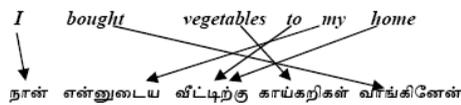


Fig.3: Alignment before pre-processing

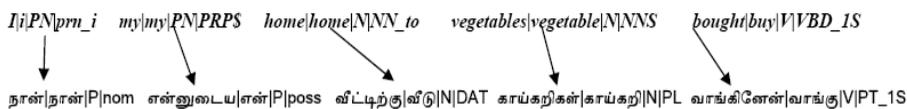


Fig.4: Alignment after pre-processing

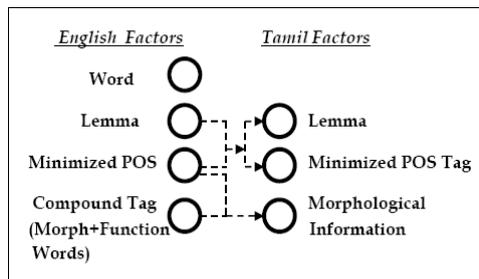


Fig.5: Mapping English factors to Tamil Factors

generated using the SMT decoder, only the factors are generated from SMT and the new surface word is generated in the post-processing stage. This is because the target language Tamil is morphologically rich and the parallel corpora which is used in this system is also small in size. The Tamil morphological generator is used in post-processing to generate a Tamil surface word from output factors. The developed English-Tamil prototype machine translation system properly handles the noun-verb agreement. This is an essential requirement for translating into morphologically rich languages like Tamil.

### **Post Processing for English to Tamil Factored SMT**

Post processing is applied to generate a Tamil surface word from the output factors. In this proposed factored SMT system, the main aim is to translate the factors only, not to generate the surface word-form. Due to the morphological rich nature of Tamil language, word generation is handled separately.

### **Tamil Morphological Generator**

The Morphological generator is a language processing tool which is used to generate a surface word from its lemma and morphological description. It is a reverse process of morphological analyzer. Tamil morphological generator (Anand Kumar *et. al.*, 2010a) receives the output factors from the SMT decoder in the form of “*lemma + word\_class + morpho-lexical information*”,

where *lemma* denotes the lemma of the word form to be generated, *word\_class* specifies the grammatical category and *morpho-lexical information* specifies the type of inflection.

## **EXPERIMENTS AND RESULTS**

This section describes the experimental setup and data used in the English to the Tamil statistical machine translation system. The corpora consist of approximately 8.5K English to Tamil parallel sentences. General domain English-Tamil parallel corpora are used in the experiments. The training set is built with 6,500 parallel sentences and a test set is constructed with 1462 sentences. 500 parallel sentences are used for tuning the system. For language model, sizes of 90k Tamil sentences are used. Total words and average word length of sentences in baseline and pre-processed parallel corpora used in these experiments are shown in the Table 4 and 5. After pre-processing the average word length of the English sentences are reduced, according to the word-length in Tamil sentences.

Nine different types of models are trained, tuned and tested with the help of parallel corpora. The general categories of the models are Baseline and Factored systems. The detailed models are,

1. Baseline (BL)
2. Baseline with Automatic Reordering (BL+AR)
3. Baseline with Rule based Reordering (BL+RR)
4. Factored system + Morph-Generator

- (Fact)
5. Factored system + Auto Reordering +Morph-Generator (Fact+AR)
  6. Factored system +Rule based Reordering + Morph-Gen (Fact+RR)
  7. Factored system + Compounding + Morph-Generator (Fact+Comp)
  8. Factored system + Auto Reordering +Compounding +Morph-Generator (Fact+AR+Comp)
  9. Factored system +Rule based Reordering +Compounding+ Morph-Generator (Fact+RR+Comp)

For a baseline (BL) system, a standard phrase based system is built using the surface forms of the words without any additional linguistic knowledge and with a 4-gram language model in the decoder. Cleaned and tokenized raw parallel corpus is used for training the system. Lexicalized reordering model (msd-bidirectional-fe) is used in

the baseline with automatic reordering (BL+AR) model. Another baseline system is built with the use of rule based reordering (BL+RR). In all the developed factored models, the Tamil morphological generator is commonly used in post processing stage.

Instead of using the surface form of the word, a root, part-of-speech and morphological information are included into the word as an additional factors in factored machine translation system. A factored parallel corpus is used for training the system. English factorization is done by using Stanford Parser tool and for Tamil, POS Tagger (Dhanalakshmi V *et. al.*, 2008) and Morphological analyzers (Anand Kumar *et. al.*, 2010b) are used to factor the sentence. In this factored model, a token/word is represented with four factors as *Surface|Root|Wordclass|Morphology*. The first factored model (Fact) is built without Reordering and Compounding the English sentences. Factored system with

TABLE 4  
Details of Baseline Parallel corpora

| Corpora | Total Sentences | Total Words |       | Average Word Length |       |        |
|---------|-----------------|-------------|-------|---------------------|-------|--------|
|         |                 | English     | Tamil | English             | Tamil |        |
| General | Training        | 6500        | 56760 | 34926               | 8.732 | 5.3723 |
|         | Tuning          | 500         | 4144  | 2684                | 8.288 | 5.368  |
|         | Testing         | 1462        | 8860  | -                   | 6.060 | -      |

TABLE 5  
Details of Pre-processed Parallel corpora

| Corpora | Total Sentences | Total Words |       | Average Word Length |       |        |
|---------|-----------------|-------------|-------|---------------------|-------|--------|
|         |                 | English     | Tamil | English             | Tamil |        |
| General | Training        | 6500        | 45317 | 34926               | 6.97  | 5.3723 |
|         | Tuning          | 500         | 3405  | 2684                | 6.81  | 5.368  |
|         | Testing         | 1462        | 6554  | -                   | 4.482 | -      |

lexicalized reordering (Fact+AR) and rule based reordering (Fact+RR) models are also constructed to discover the impact of reordering in the performance of the Factored statistical machine translation system. Another factored system is built with the use of Compounding (Fact+Comp). Here the *Morphology* factor contains morphological information and function words on English side, and morphological tags on Tamil side. Factored system with Compounding is developed with lexicalized reordering (Fact+AR+Comp) and rule based reordering (Fact+RR+Comp). In this model, English words are factored and reordered using the developed rules. In addition to this Compounding is also performed in the English language side. The pre-processing methodology used in this paper reduces the Out-Of-Vocabulary (OOV) words drastically. Table 6 shows the number of OOV words and OOV rate for the developed models. The approximate OOV rate for all the Baseline models are 0.24 and for Factored models, it ranges from 0.136 to 0.254. In factored models, compared to the

other systems, Compounding based models provide high OOV rate except the final one. Whereas, rule based reordering reduces the OOV rate in all the models.

All the developed models are evaluated with the same test-set which contains 1462 English sentences. The well known Machine Translation metrics BLEU (Kishore Papineni, 2002) and METOR (Alon Lavie, 2010) are used to evaluate the developed models. In addition to that the existing “Google Translate” online English-Tamil machine translation system is also evaluated to compare with the developed models. The results are in terms of Mert-BLEU, Multi-BLEU and METOR score and it is shown in the Table 7. Table 8 indicates the Lemma-wise scores for the developed factored models. Mert-BLEU represents the Minimum Error Rate Tuning BLEU score which is obtained while tuning. Multi-BLEU perl script in Moses toolkit is used for evaluating the multi-BLEU scores. Table 7 depicts the Baseline and Factored models’ performance in terms of a well-known machine translation metrics BLEU

TABLE 6  
Out-of-Vocabulary Rate

|          | Models            | Number of OOV Words | OOV Rate |
|----------|-------------------|---------------------|----------|
| BASELINE | BL                | 2134                | 0.240    |
|          | BL+AR             | 2134                | 0.240    |
|          | BL+RR             | 2142                | 0.241    |
| FACTORED | Fact+Mgen         | 1617                | 0.182    |
|          | Fact+AR+Mgen      | 1617                | 0.182    |
|          | Fact+RR+Mgen      | 1205                | 0.136    |
|          | Fact+Comp+Mgen    | 2256                | 0.254    |
|          | Fact+AR+Comp+Mgen | 2256                | 0.254    |
|          | Fact+RR+Comp+Mgen | 1104                | 0.168    |

and Metor. Here, the scores are calculated by considering the word's surface level (word-from). The proposed method shows that 18% Multi-Bleu score improvement and 61% Metor score improvement against the existing "Google Translate" system.

Table 8 shows the lemma-wise accuracies of Factored models. In factored models, lemma with word-class information in English is getting translated into lemma and word-class in Tamil. So the lemma-wise accuracies are calculated in the factored model only. Similar to word-wise accuracies, lemma-wise accuracies for the proposed system (Fact+RR+Comp+Mgen) shows

the improvement in BLEU and METOR evaluation scores.

In addition to that, the developed F-SMT based system also handles the noun-verb agreement perfectly. This is an important and challenging job for translating into morphologically rich languages like Tamil. The example given below shows the comparison between the proposed system and existing system in-terms of agreement handling. The compounding phase in the proposed system maps the English dependency and subject information into the Tamil morphology and this mapping handles the noun verb agreement accurately.

TABLE 7  
BLEU and Metor Score

|          | Models            | Mert-BLEU | Multi-BLEU | Metor |
|----------|-------------------|-----------|------------|-------|
| BASELINE | BL                | 0.0107    | 1.13       | 0.123 |
|          | BL+AR             | 0.0112    | 0.92       | 0.121 |
|          | BL+RR             | 0.0098    | 0.85       | 0.121 |
| FACTORED | Fact+Mgen         | 0.035     | 1.18       | 0.138 |
|          | Fact+AR+Mgen      | 0.0343    | 0.81       | 0.075 |
|          | Fact+RR+Mgen      | 0.0368    | 0.82       | 0.126 |
|          | Fact+Comp+ Mgen   | 0.0335    | 1.55       | 0.123 |
|          | Fact+AR+Comp+Mgen | 0.0337    | 1.39       | 0.123 |
|          | Fact+RR+Comp+Mgen | 0.0414    | 7.86       | 0.377 |
|          | Google Translate  | -         | 6.66       | 0.234 |

TABLE 8  
BLEU and Metor Scores for Lemma

| Models            | Multi-BLEU | BLEU-1 | BLEU-4 | Metor |
|-------------------|------------|--------|--------|-------|
| Fact+Mgen         | 15.50      | 49.9   | 4.0    | 0.377 |
| Fact+AR+Mgen      | 12.25      | 49.5   | 2.0    | 0.366 |
| Fact+RR+Mgen      | 18.70      | 53.2   | 5.8    | 0.418 |
| Fact+Comp+Mgen    | 5.19       | 38.9   | 0.9    | 0.217 |
| Fact+AR+Comp+Mgen | 5.33       | 39.0   | 0.9    | 0.217 |
| Fact+RR+Comp+Mgen | 30.23      | 57.7   | 16.6   | 0.499 |

English Sentence:

*I went to school with her.*

Google Translate's Output:

நான் அவளுடன் பள்ளி

சென்றார்

Proposed System's Output:

நான் அவளுடன் பள்ளிக்கு

சென்றேன்.

## CONCLUSION AND FUTURE WORK

Automatic machine translation is a challenging task for languages which are different in morphological structure and word order. For training the SMT system, both monolingual and bilingual sentence-aligned parallel corpora of significant size are essential. But, in most of the cases only small amounts of bilingual corpora are available for the desired domain and language pair. Therefore, linguistic knowledge is used in SMT to reduce the need of massive amounts of data. This is especially desirable for the English-Tamil language pair where massive amounts of parallel corpora are not available.

This paper presents the novel methods for incorporating linguistic knowledge in SMT to achieve an enhancement in the English to Tamil statistical machine translation system. Most of the techniques proposed in this paper can be applied directly to other language pairs especially for translating from morphologically simple language to morphologically rich language. The precision of the translation system depends on the performance of each and every module and the language processing tools used in the system. The experimental

results clearly demonstrate that the new techniques proposed in this paper are definitely significant. The precision of the developed system is also affected by the accuracy of the Tamil morphological generator system, totally nine different SMT models are experimented with general domain corpora and the BLEU and METOR scores are compared. The existing "Google Translate" system is also evaluated and compared in our experiments. This proposed system produces morphologically fluent Tamil sentences for the given English sentences whereas, the existing Google translate system failed to produce it. Except for the system developed by Loganathan (2012), all the other English-Tamil machine translation systems are not evaluated by the well known metrics. The experiments are also performed with automatic lexical reordering on the source sentence. The developed model (Factored SMT with Reordering and Compounding) has reported a 0.377 METOR and 7.86 BLEU score for English to Tamil translations. Adding pre and post processing in factored SMT provided considerable improvement in BLEU over a phrase based baseline system and the factored baseline system. Improvement in BLEU and METOR evaluation scores shows that this proposed method is appropriate for developing SMT system from morphologically simple language to morphologically rich languages.

In future, adding more training data with different sentence structures definitely will improve the accuracy of the proposed system. Additionally, incorporating modules

for dealing idioms and phrases and splitting of complex sentences will also enhance the performance of the proposed system. Finally the conclusion is that morphologically rich languages need extensive morphological pre-processing before the SMT training to make the source language structurally similar to target language and it also needs an efficient post-processing in order to generate the surface word correctly.

## REFERENCES

- Abeera, V. P., Aparna, S., Rekha, R. U., Anand Kumar, M., V. Dhanalakshmi, V., Soman, K. P., & Rajendran, S. (2012). Morphological Analyzer for Malayalam Using Machine Learning, *Data Engineering and Management*, Springer Heidelberg publishers, 253-254, DOI: 10.1007/978-3-642-27872-3\_38.
- Alon Lavie & Michael Denkowski. (2010). The METEOR Metric for Automatic Evaluation of Machine Translation. *Machine Translation*.
- Anand Kumar, M., Dhanalakshmi, V., Rekha, R. U., Soman, K. P., & Rajendran, S. (2010a). A Novel Data Driven Algorithm for Tamil Morphological Generator, *International Journal of Computer Applications (IJCA)* 6(12):52–56, September 2010. DOI:10.5120/1121-1470
- Anand Kumar, M., Dhanalakshmi, V., Soman, K. P., & Rajendran, S. (2010b). A Sequence Labeling Approach to Morphological Analyzer for Tamil Language, *International Journal on Computer Science and Engineering (IJCSE)* Vol. 02, No. 06, 2010, 2201-2208.
- Ananthkrishnan, R., Pushpak Bhattacharya, Jayprasad Hegde, Ritesh M. Shah, & Sasikumar, M. (2008). Simple Syntactic and Morphological Processing Can Help English-Hindi Statistical Machine Translation. In *IJCNLP 2008: Third International Joint Conference on Natural Language Processing*, Hyderabad, India. Rochester, NY.
- Antony, P. J., Anand Kumar, & K. P. Soman, (2010), Paradigm based Morphological Analyzer for Kannada Language Using Machine Learning Approach, *International journal on Advances in Computational Sciences and Technology*, ISSN 0973-6107 Volume 3 Number 4 (2010) pp. 457–481.
- Clifton, Ann. (2010). Unsupervised Morphological Segmentation For Statistical Machine Translation. *Master of Science thesis*, Simon Fraser University.
- De Marneffe, M. C., MacCartney, B., & Manning, C. D. (2006, May). Generating typed dependency parses from phrase structure parses. In *Proceedings of LREC* (Vol. 6, pp. 449-454).
- Dhanalakshmi, V., Anand Kumar, M., Vijaya, M. S., Loganathan, R., Soman, K. P., & Rajendran, S., (2008). Tamil Part-of-Speech tagger based on SVMTool, In *Proceedings of the COLIPS International Conference on natural language processing (IALP)*, Chiang Mai, Thailand.
- Eleftherios, A., & Philipp, K. (2008). Enriching morphologically poor languages for statistical machine translation, In *Proceedings of ACL-08/HLT*, pages 763–770, Columbus, Ohio.
- Fei Xia, Michael, McCord. (2004). Improving a statistical MT system with automatically learned rewrite patterns. In *Proceedings of the 20th International Conference on Computational Linguistics*, COLING '04, pages 508–514, Geneva, Switzerland. Association for Computational Linguistics.
- Fredric C. Gey, (2002), Prospects for Machine Translation of the Tamil Language, *Proceedings of international Tamil Internet conference 2002*.
- George Doddington (2002). Automatic evaluation of machine translation quality using n-gram co-occurrence statistics. In *Proceeding of the ARPA*

- Workshop on Human Language Technology.*
- Germann, U. (2001). Building a statistical machine translation system from scratch: how much bang for the buck can we expect?, *In Proceedings of the workshop on Data-driven methods in machine translation*, 1–8, ACL, Morristown, NJ, USA.
- Jesús Giménez & Lluís M'arquez. (2004), "SVMTool: A general POS tagger generator based on support vector machines", *Proceedings of the 4th LREC Conference.*
- Kishore Papineni, Salim Roukos, Todd Ward & Wei-Jing Zhu (2002). BLEU: a method for automatic evaluation of machine translation. *In Proceedings of the 40th Meeting of the Association for Computational Linguistics (ACL'02)* (pp. 311–318). Philadelphia, PA.
- Klein, D., & Manning, C. D. (2003, July). Accurate unlexicalized parsing. *In Proceedings of the 41st Annual Meeting on Association for Computational Linguistics-Volume 1* (pp. 423–430). Association for Computational Linguistics.
- Koehn, P., & Hoang, H. (2007). Factored translation models. *In Proceedings of the EMNLP 2007*, Prague, Czech Republic.
- Loganathan, R. (2010). English-Tamil Machine Translation System. *Master of Science by Research Thesis*, Amrita Vishwa Vidyapeetham, Coimbatore.
- LoganathanRamasamy OndrejBojar, Zdenek Žabokrtský, L. O. (2012), Morphological Processing for English-Tamil Statistical Machine Translation. In *24th International Conference on Computational Linguistics* (p. 113).
- Marta Ruiz Costa-jussa & J. A. R. Fonollosa (2009), State-of-the-art word reordering approaches in statistical machine translation, *IEICE Transactions on Information and Systems*, vol. 92, no. 11, pp. 2179–2185, November 2009.
- Michael Collins., Philipp Koehn, & Ivona Kučerová (2005). Clause restructuring for statistical machine translation. *In Proceedings of the 43rd Annual Meeting on Association for Computational Linguistics, ACL '05*, pages 531–540, June 2005.
- P. Karageorgakis, P., Potamianos, A., & Klasinas, I. (2005). "Towards incorporating language morphology into statistical machine translation systems," *in Proc. Automatic Speech Recogn. and Underst. Workshop.*
- Rabih M. Zbib. (2010). Using Linguistic Knowledge in Statistical Machine Translation, *Ph.D. thesis*, Massachusetts Institute Of Technology, 2010.
- Rajendran, S., Viswanathan, S., & Ramesh Kumar. (2003). Computational morphology of verbal complex, *Language in India*, Volume 3:4.
- Reyyan Yeniterzi & Kemal Oflazer. (2010). Syntax-to-Morphology Mapping in Factored Phrase-Based Statistical Machine Translation from English to Turkish , *Proceedings of the 48th Annual Meeting of the ACL*, pages 454–464, Uppsala, Sweden, 11-16 July 2010.
- Sai Kiranmai, G., Mallika, K., Anand Kumar, M., Dhanalakshmi, V., & Soman, K.P. (2010). Morphological Analyzer for Telugu Using Support Vector Machine, *Information and Communication Technologies*, Springer Berlin Heidelberg, ISBN: 978-3-642-15766-0, pp430-433.
- Sara Stymne. (2009) Compound Processing for Phrase-Based Statistical Machine Translation. *Licentiate thesis*, Linköping University, Sweden.
- Saraswathi,S., Kanivadhana, P., Anusiya, M., & Sathiya, S. (2011). Bilingual Translation System (For English and Tamil), *International Journal on Computer Science and Engineering (IJCSE)*, 3(3).
- Saravanan, S., Menon, A. G., & Soman, K. P. (2010). English to Tamil Machine Translation System, *Proceedings of INFITT-2010*, at Coimbatore.

- Soha sulthan. (2011). Applying morphology to English Arabic statistical Machine Translation. *Master of Science thesis*, Eidgenössische Technische Hochschule Zürich
- Vasu Renganathan. (2002). An ineractive approach to development of English to Tamil machine translation system on the web. *Proceedings of INFITT-2002*.
- Vetrivel, S. & Baby, D. (2010). English to Tamil statistical machine translation and alignment using HMM. *Proceedings of the 12th international Conference on Networking, VLSI and Signal Processing*, World Scientific and Engineering Academy and Society (WSEAS), Stevens Point, Wisconsin, 182-186.



## **Support and Positive Values Among Urban Youths: The Mediation Roles of Positive Identity and Commitment to Learning**

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### **ABSTRACT**

Although existing literature demonstrates that youth positive developmental benefits are associated with support for urban youths, little is understood about the multiple roles of positive identity and commitment to learning influence on positive values. This study examines the multiple mediation effects of positive identity and commitment to learning on the relationship between support and positive values embraced by urban youths living in the inner city of Kuala Lumpur. The participants of the study were 243 urban youths, ages ranging between 15 and 24 years. The average age is 17.2 (SD=2.45). These youths are predominantly Malay (91%) while the others are Chinese and Indian. Using the Hayes and Preacher procedure, the bootstrap analysis shows that commitment to learning, jointly and partially mediates the effects of support on positive values, whilst positive identity does not contribute to the relation between support and positive values. The analyses provide support for the mediational assumptions that support influence positive values through school engagement. Suggestions for further research and implications for positive youth development are considered.

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### **INTRODUCTION**

A substantial body of literature shows that support of urban youth is related to positive values. In general, studies show that urban youths who perceive their parents,

teachers and community members as social supportive do far better in school, work or community than those who do not perceive as such (e.g. de Graaf, Vanwesenbeeck, Woertman, Keijsers, Meijer, & Meeus, 2010; Keijsers, Frijns, Branje, & Meeus, 2009). Despite the growing body of evidence concerning the association between the perception of support and positive values, the mechanisms through which support exerts its influence on positive values have seldom been examined. Previous research suggests that support may influence positive values indirectly through self-esteem (e.g. Felson & Zielinski, 1989) and motivational belief mechanisms (e.g. Ahmed, Minnaert, der Werf & Kuyper, 2010). Taken together, the emerging literature suggests that the presence of support (or lack thereof) may precipitate positive or negative experiences as well as adaptive or maladaptive behaviour among youths, which, in turn, influence positive values. Although understanding such mechanisms of influence is important, as it will inform further research and policy initiatives, and may lead to the development of effective intervention programmes to reduce urban youth delinquent behaviour and enhance resilience, empirical evidence on the subject is lacking.

The purpose of our study is to examine the positive identity (self-esteem, sense of purpose, curiosity) and commitment to learning (achievement motivation, school engagement) pathways through which social support may influence positive values. Most of the studies have used procedures for estimating the indirect effects in simple

mediation models. Thus, it is not yet known whether support may influence positive values indirectly through the multiple mediation effects of positive identity and commitment to learning. This is a question to be addressed. Positive identity and commitment to learning as mediators is chosen because there is a strong relation between a predictor and an outcome. In addition, the mechanisms behind the relation are explored. The values of Cronbach's alpha are also used to determine mediators in our study. An initial analysis shows that the relation between the predictor and outcome, and between the predictor and the mediator are comparable (Kenny, Kashy, & Bolger, 1998). Thus we use these comparability criteria to determine the mediators of our study. We choose urban youths because reports showed that they are involved in antisocial behaviour (Salleh, 1997), unprotected sex (Hamzah, 2007), drug abuse (Lim *et. al.*, 2010) and receive less support from parents (Ong, Chandran, Lim, Chen, & Poh, 2010). Thus, urban youths are an ideal population to study the positive values to examine the mediational effects of positive identity and commitment to learning, which happen to be in flux.

#### *Definitions of developmental assets*

Developmental assets focus on a set of skills, experiences, relationships, and behaviours that increase young people's positive development outcomes (Benson, Leffert, Scales, & Blyth, 1998; Scales & Leffert, 1999). The developmental assets can be categorised as either internal assets

(attributes and qualities within the young person) or external assets (various ecologies that interact with the young people). The Malaysian version of developmental assets is presented using 25 dimensions (for details see Abdul Kadir, Rahim, Abdul Mutalib, Wan Mahmud, Chong & Suhbi., 2012a). The internal assets consist of achievement motivation, school engagement, caring, integrity, planning and decision making, interpersonal competence, resistance skills, self-esteem, sense of purpose, curiosity, morality, and positive emotions. The external assets consist of family support, other adults support, family communication, caring neighbourhood, caring school/place, caring neighbourhood climate, family boundaries, hope and expectation, positive

peers influence, religious community, and safety. We focus on only 12 dimensions of developmental assets and operational definitions, which are presented in Table 1.

#### *Support and positive values*

Although research has documented remarkable relations between the perceptions of urban youths concerning the support from parents, peers, neighbours and positive attitudes, research on positive values is scant. Perceived support has been related to academic achievement (Plunkett, Behnke, Sands, & Choi, 2009; Scales, Benson, Roehlkepartain, Sesma Jr, & van Dulmen, 2006), conspicuous consumption attitudes (Gudmunson & Beutler, 2012), self-esteem (Gaylord-Harden, Ragsdale,

TABLE 1  
Definitions of developmental assets

| Developmental assets          | Operational definitions   |
|-------------------------------|---|
| <i>Support</i>                |   |
| Family support                | Family provides high levels of love and support   |
| Positive family communication | Young person and his or her parent(s) communicate positively, and young person is willing to seek advice and counsel from parent(s) |
| Other adult relationships     | Young person receives support from three or more nonparent adults   |
| Caring neighbourhood          | Young person experiences caring neighbour   |
| Caring school climate         | School provides a caring, encouraging environment   |
| <i>Positive values</i>        |   |
| Caring                        | Young person places high value on helping other people  |
| Integrity                     | Young person acts on convictions and stands up for her or his beliefs   |
| <i>Positive identity</i>      |   |
| Self-esteem                   | Young person reports having a high self-esteem  |
| Sense of purpose              | Young person reports that "my life has a purpose"   |
| Curiosity                     | Young person explores new things, gains new knowledge and experiences   |
| <i>Commitment to learning</i> |   |
| Achievement motivation        | Young person is motivated to do well in school  |
| School engagement             | Young person is actively engaged in learning  |

Mandara, Richards, & Petersen, 2007), self-concept (Covington & Dray, 2002) and motivational beliefs (Ahmed, Minnaert, van der Werf, & Kuyper, 2010). In general, most studies report that support from parents, peers, and neighbours influence the positive attitudes of urban youths. Only one recent study reports that positive values are significantly related to life satisfaction, grade, and attendance in school (Heinze, 2010). Using the developmental assets approach, Heinze (2013) found that youths residing in emergency shelters score lower on positive values than the control groups. Experiencing residential instability, family conflict, and problems at school may relate to the absence of family members and teachers when they are needed by youths residing in emergency shelters. Although the study reveals that most of the youths score low on positive values, the association of positive values and life satisfaction indicates that the perception of sources of support has the potential to influence positive values.

#### *Support and positive identity*

Positive identity consists of self-esteem, sense of purpose, and curiosity. Few studies have been found to examine the relationship between support and positive identity. Thus, our study aims to address this research gap. Supportive relationships play a vital role as resources for social adjustment among urban youths. A strong positive interpersonal relationship for instance is beneficial because support would function as a source of comfort throughout the multiple life changes (Kenny, Gallagher,

Alvarez-Salvat, & Silsby, 2002). Some studies show that urban youths are more likely to have difficulty in adjusting when sources of support are not available in times of crisis (DuBois, Holloway, Valentine, & Harris, 2002), which may affect their positive identity.

Support is an important factor in developing self-esteem. Previous studies suggest that the relationship of parents and peers with the youths would lead to the development of self-esteem (Kulaksizoglu, 2001). Attention, acceptance and respect from others have a vital role in self-esteem (Coopersmith, 1967). Those urban youths with high self-esteem were reported to be more successful, confident when interacting with the social environment and effective in communication skills (Arslan, 2009). Taken together, previous studies show that factors, such as support and self-esteem, need to be understood during the important development period of adolescence.

A sense of purpose in life refers to an individual's intention, goals and a sense of direction for their life (Ryff & Keyes, 1995). This indicates that if the individual feels that there is meaning to his/her life both currently and in the past, they hold beliefs that give life purpose, and they have aims and objectives for living. Having a purpose in life contributes to optimal human functioning in many ways (Bronk, Hill, Lapsley, Talib, & Finch, 2009). It is also associated with major indicators of thriving during youth stages and beyond (Bundick, Yeager, King, & Damon, 2010). Therefore, urban youths with a sense of purpose are

expected to be psychologically healthier than those without a sense of purpose (Debats, 1998), are able to overcome life challenges (Frankl, 1959), and also help urban youth to resolve their identity crisis (Erikson, 1968). There is evidence that youths with a sense of purpose are also more highly involved in social activities than those without (McAdam, 2001) thus encouraging pro-social behaviour and civic engagement (Bronk *et. al.*, 2009). In contrast, among youths with high ability, a sense of purpose does not motivate them to engage in pro-social behaviour more than those considered as typical youths (Bronk, Finch, & Talib, 2010). This can be explained in terms of intrapersonal giftedness where inspiration is more appropriate of relating motivation achievement. A sense of purpose has the potential to enhance motivational beliefs and self-confidence that may help youths to develop positive values.

Curiosity enhances the individual's engagement with the world, which includes exploratory behaviour, a sense of purpose of life, and motivational achievement (Kasdan & Steger, 2007). Curiosity possesses a number of adaptive attributes as well as sensitive to adaptability (Kashdan, Sherman, Yarbrow, & Funder, 2013). This may relate to the activation of a behavioural system of curiosity. The roles of bottom-up and top-down curiosity shape the individual's characteristics in exploring the world. In the social world, curiosity involves the management of anxious thoughts and feelings by activating bottom-up curiosity (e.g. take advantage of exploring

interest stimuli) or top-down curiosity (e.g. intentionally creating interesting situations), which may create tension between the individuals and their social world. Curious people will react if there is something new or interesting information to be explored, something that can be challenged, novel, and complex. However, curiosity may relate to the characteristics of youth and the outcomes in terms of positive social interactions. The top-down curiosity may be activated when youths explore various situations, which would bring about positive values.

#### *Support and commitment to learning*

Commitment to learning consists of achievement motivation and school engagement. Social supportive social relationships have been linked to commitment to learning but not limited to early adolescents' academic achievement (Ahmed, Minnaert, van der Werf, & Kuyper, 2010; Scales, Benson, Roehlkepartain, Sesma Jr., & van Dulmen, 2006), and general cognitive ability (Karchach, Gottschling, Spengler, Hegewald, & Spinath, 2013), goal orientations (Gonida, Voulala, & Kiosseoglou, 2009), character strengths (Gilham *et. al.*, 2011), interest (Rowan-Kenyon, Swan, & Creager, 2012), school engagement (Dotterer & Lowe, 2011) and learning motivation (Whitaker, Graham, Severtson, Furr-Holden, & Latimer, 2012). Previous studies have found relatively consistent evidence of the relationships between social support and achievement motivation. For instance, Whitaker, Graham, Severtson, Furr-Holden and Latimer (2012)

found that urban African American middle school youth with good family functions and neighbourhood conditions had higher learning motivation than those without them. Using the Family Assessment Measure III (FAM-III) to measure family function and the Neighbourhood Environment Scale (Crum, Lillie-Blanton, & Anthony, 1996) to measure neighbourhood condition, and Motivated Strategies for Learning Questionnaire (MSLQ) to measure learning motivation, the researchers also suggest that family function has a greater effect on youths learning motivation. Family function mediates the relationship between neighbourhood conditions and learning motivation, which indicates that learning motivation is at-risk of decline through both unhealthy environment and neighbourhood conditions. The researchers conclude that the extent of social support is very important to youth learning motivation and effective learning. Social support from teachers and achievement was also found among youths living in poverty (Kenny, Walsh-Blair, Blustein, Bempechat, & Seltzer, 2010). Using a self-report of the Learning Climate Questionnaire (LCQ) to measure social support from teachers and the Patterns of Adaptive Learning Scales (PALS) to measure achievement-related beliefs, the study found that support from teachers was significantly associated with academic efficacy and mastery goal orientation. Teacher support was also found to be the most powerful predictor on academic achievement. This indicates that motivation relates to academic achievement, therefore

support from teachers as a unique predictor of motivation makes sense.

The social literature shows that the presence of support (or lack thereof) is associated with school engagement among urban youths (Green, Rhodes, Hirsch, Suárez-Orozco, & Camic, 2008; Hughes, Zhang, & Hill, 2006). Youths who have support from parents, teachers and peers engage more in social activities and have better achievement motivation. Teacher-student support predicts social acceptance and high engagement (Hughes *et al.*, 2006) whilst low engagement in school relates to sexual behaviour (Voisin & Neilands, 2010). School engagement is also related to students' achievement goal orientations (Gonida, Voulala, & Kiosseoglau, 2009), which varies according to gender and race (Wang, Willett, & Eccles, 2011). Evidence suggests that predictors of school engagement and academic performance are motivation and study skills (Moreire, Dias, Vaz, & Vaz, 2013). Reports also suggest that other factors relating to school engagement are peer influence, gang involvement, gender. Support from teachers is able to reduce sexual behaviour and gang involvement (Voisin & Neilands, 2010). This indicates that teachers influence is also a notable finding on interrelationships among peer influence, sexual behaviour, and gang involvement.

*Positive identity, commitment to learning and positive values*

The correlational studies between positive values and commitment to learning as well

as positive identity are well-established. A great deal of research has documented substantial relationships between positive identity (e.g. self-esteem, sense of purpose, curiosity), on the one hand, and positive values, on the other (Scales *et. al.*, 2006). In general, the studies suggest that those youths have a choice to make and help them to become caring, responsible, and successful adults by developing developmental assets and increasing resiliency. The link between commitment to learning (e.g. motivational achievement, school engagement) and positive values is evident in a number of studies among youths and appear to be well-established. In general, achievement motivation is positively correlated with positive values (Heinz, Jozefowicz, & Toro, 2010; Muller, Phelps, Bowers, Agans, Urban, & Lerner, 2011; Scales *et. al.*, 2006). Research on positive youth development also shows a similar pattern. For instance, studies in the United States found a significant association between school engagement and healthy development (Muller *et. al.*, 2011) as well as increases in decision making skills, which helps to prevent delinquent behaviour (Crean, 2012). In such studies, support has been related to positive outcome. In general, it has been previously suggested that both achievement motivation and school engagement promote positive development (Heinze, Jozefowcz, & Toro, 2010).

### THE PRESENT STUDY

As mentioned above, the mechanisms through which support of youth influences

positive values have engendered little empirical work. Because of the dearth of empirical mediation research in the developmental literature, the mediation constructs for the model were derived from the existing body of theoretical literature on positive youth development. Fig.1 visually presents the conceptual model of the study. The effect of support on positive values is transferred through positive identity and commitment to learning is proposed. A specific domain in measuring support, positive values, positive identity, and commitment to learning is examined. All the variables in our study with regards to poor neighbourhood conditions and support, which reduces the positive values of youths are defined and assessed. Whether positive identity and commitment to learning jointly mediate the effects of support on positive values is tested. Multiple mediators are justified by the understanding that a single mechanism is not able to explain the complex associations between support and positive values. Based on the existing literature, it is hypothesized that 1) self-esteem, sense of purpose and curiosity jointly mediate the relationship between support and positive values, and 2) motivational achievement and school engagement jointly mediate the relationship between support and positive values.

### METHOD

#### *Participants*

We used UNESCO's universal definition of youths. UNESCO uses the United Nations' universal definition of 'youth'

as those persons between the ages of 15 and 24 years. Therefore, no particular criteria other than being Malaysian, over 15 years of age but not more than 24 years old and volunteering to participate in this after school programme are employed in this study. Only 243 participants met the criteria to be selected in our study (mean age 17.2, SD=2.45). Overall, the sample consisted primarily of Malays (91%) and the remaining participants identified themselves as Indian (7%) and Chinese (1%). More than half were male participants (65, n=157) and the rest were female (35%, n=86).

*Procedure*

The study was conducted from 6 to 22 February 2010 in the public housing programmes of the Federal Territory of Kuala Lumpur and the Klang Valley. A total of 11 public housing areas under the City Hall of Kuala Lumpur were

identified. Invitation letters were sent to 11 heads of the communities, of which three responded. Before the actual research was conducted, the Principal Investigator (PI) and research team organised several meetings with the residents’ committees. The aim of the meetings was to explain about the study. We used the door-to-door technique to approach the participants by employing a systematic random sample. For each family, only one adolescent was chosen to complete the questionnaire. The participants took 45-60 minutes to complete the questions. Oral consent was sought from the parents or guardians. Written consent was inappropriate for participants as their parents were apprehensive about signing any papers (Cardozo *et. al.*, 2004; Scholte *et. al.*, 2004). Further details of the study can be found elsewhere (Abdul Kadir, Rahim, Mustapha, Abdul Mutalib, & Mohamed, 2012b).

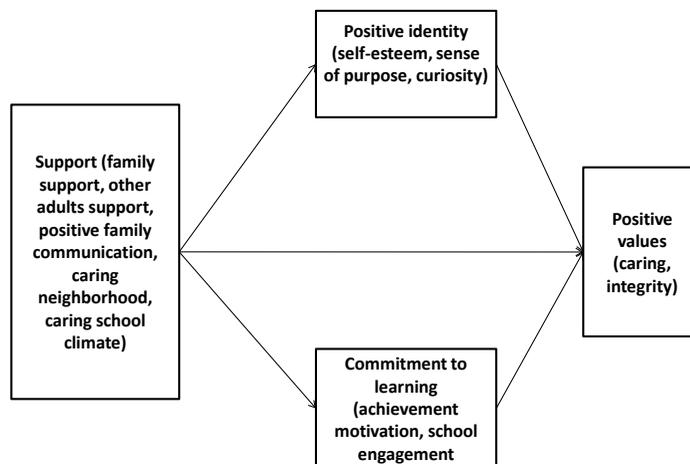


Fig. 1: Conceptual model of the study

*Measure: The 25 Developmental Assets Questionnaire – Malaysian version*

The 25 Developmental Assets Questionnaire (Malaysian version) was utilised to measure a person's positive experiences and relationships with others as the most essential components in building the well-being of youths (for further details see Abdul Kadir, Rahim, Abdul Mutalib, Wan Mahmud, Chong, & Suhbi, 2012a). This instrument was developed by adapting and adding new components to the 40 Developmental Assets of the Search Institute. The Malaysian version of developmental assets comprises 93-items that assess both internal and external assets with some additional 20 items to measure demographic characteristics of the respondents. Each item is answered on a 5-point Likert scale ranging from 1=strongly disagree to 5=strongly agree. The Cronbach's alpha values ranged from .87 to .88 (Abdul Kadir *et. al.*, 2012a). The overall Cronbach's alpha for this measure was .87, indicating that the measure was satisfactory and consistent. For the purpose of the study, positive values, social support, self-esteem, curiosity, motivational achievement, and school engagement were analysed to see if there was a meditational effect of positive identity and commitment to learning on the relationship between social support and positive values among urban youths.

Examples of items on self-esteem items included: "I think I'm no good at all", "I feel I will not succeed when I try to do something important", "If I'm capable of doing things, I want to change many things."

Examples of items on sense of purpose included: "I'm going to help improve the lives of families", "I am uncomfortable mixing or mingling with other races", "I keep the good name of me and my family".

Examples of items on curiosity included: "I was fully involved when participating in social activities", "I like to explore new information."

Examples of items on achievement motivation included: "I've no motivation to go to school", "I'm confident I'm able to be a successful person at school", "I'm confident that I can compete at school."

Examples of items on school engagement included: "I like going to school", "I feel safe at school", "I feel I belong to the school."

Examples of items on social support included: "My parents are not concerned if I'm sick", "My parents always give an opinion for solving problems", "I don't have an opportunity to discuss my personal problems with my parents", "My parents advise me when I make a mistake", "My parents do not make me feel left out in the family", "I feel like running away from home."

Examples of items on positive values included: "I was involved in preparing for the festival day", "I was visiting a sick relative", "I will return the borrowed items", "I will help my family when they are in times of crisis."

## RESULTS

The inter-correlations among the study variables are displayed in Table 2. Support is

significantly correlated to three components of positive identity, two components of commitment to learning, and positive values. Positive identity is significantly correlated to positive values. Commitment to learning is also significantly correlated to positive values.

To test the multiple mediation hypotheses, we used the bootstrapping approach (Preacher & Hayes, 2008; Shrout & Bolger 2002). The bootstrapping strategy is suitable for testing multiple mediators simultaneously. The procedure uses the original sample data as a population and takes random samples of size “n” with replacement techniques and estimates the total and specific indirect effects. Testing the total indirect effect is similar to testing the overall effect of multiple independent predictors in a regression analysis (Preacher & Hayes, 2008). The significant total indirect effect suggests that as a set, the multiple mediators (M’s) transmit the effect of an independent variable (X) on a dependent

variable (Y). A specific indirect effect refers to the extent to which a mediator transmits the effect of X on Y, above and beyond the other mediators. Preacher and Hayes (2008) suggest that bootstrapping is better than Baron and Kenny (1986) in terms of reducing type 1 error and has a greater power in detecting indirect effects.

The analytic diagram (Fig.2) shows the coefficients estimated. The “a” coefficients represent the effects of support on mediators; the “b” coefficients represent the effects of the mediators on positive values partialling out the effect of support. The “c” is the total effect of support on positive values (Panel A). The “c'” (Panel B) is the direct effect of support on positive values. The specific indirect effects are represented by a1b1 (self-esteem), a2b2 (sense of purpose), a3b3 (curiosity), a4b4 (achievement motivation), and a5b5 (school engagement). The total indirect effect is the sum of all specific indirect effect. To test these hypotheses, we use the SPSS macros for multiple

TABLE 2  
Inter-correlations and descriptive statistics for all variables studied

| Developmental assets          | 1     | 2     | 3     | 4     | 5     | 6     | 7     |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|
| 1. Positive values            | -     |       |       |       |       |       |       |
| 2. Support                    | .79** | -     |       |       |       |       |       |
| <i>Positive identity</i>      |       |       |       |       |       |       |       |
| 3. Self-esteem                | .72** | .72** | -     |       |       |       |       |
| 4. Sense of purpose           | .27** | .34** | .21** | -     |       |       |       |
| 5. Curiosity                  | .23** | .33** | .23** | .13*  | -     |       |       |
| <i>Commitment to learning</i> |       |       |       |       |       |       |       |
| 6. Achievement motivation     | .77** | .79** | .76** | .28** | .23** | -     |       |
| 7. School engagement          | .84** | .78** | .78** | .31** | .19** | .85** | -     |
| Mean                          | 34.1  | 41.1  | 7.15  | 7.88  | 13.54 | 14.39 | 18.19 |
| SD                            | 6.08  | 9.49  | 1.75  | 2.15  | 2.43  | 3.64  | 4.54  |

Note: All correlations are significant at the .01 level (2-tailed).

mediations (Preacher & Hayes, 2008). The current analyses utilize 1000 bootstrap samples to create a pseudo population of indirect effects. Ninety-five per cent confidence intervals (95% CIs) are used to evaluate the significant and the magnitude of indirect effects estimated through the bootstrapping technique. An effect is significant if the confidence interval does not include zero (Table 3). We describe the extent of mediation by calculating the proportion mediated (i.e. ratio of indirect effect to total effect (Shrout & Bolger, 2002).

The results show that support had a direct effect on self-esteem, sense of purpose, curiosity, achievement motivation, and school engagement. In the test of direct effects of the mediators on positive values, only school engagement significantly predicted positive values. Nevertheless,

self-esteem, sense of purpose, curiosity and achievement motivation did not have a statistically significant contribution in the presence of the other mediators. The total effect of support on positive values was significant and so was its direct effect. Overall, the support model explained 75% of the variance in positive values (Fig.3).

Examination of the total and specific indirect effects of support on positive values reveals interesting findings. The total indirect effect is significant with the 95% bootstrap confidence interval (table 3). The analysis of the ratio of the total indirect effects of the proposed mediators shows that only school engagement significantly mediates the association between support and positive values. Examination of the proportion of effects mediated shows that 30% of the total effect of support on positive values is mediated by school engagement.

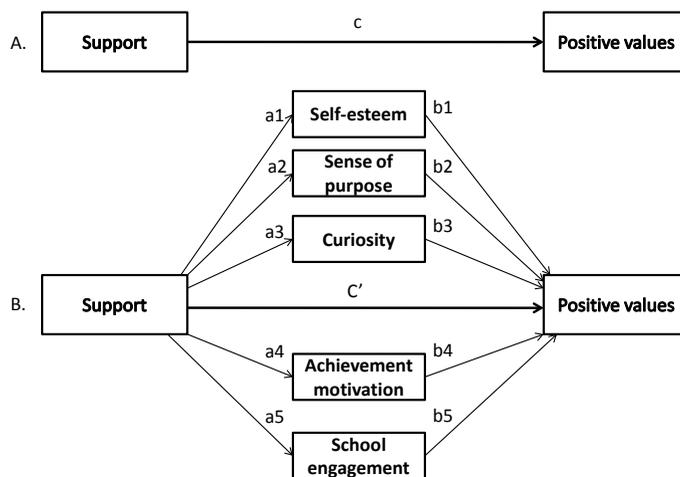


Fig.2: Analytic diagram for multiple mediations model proposed

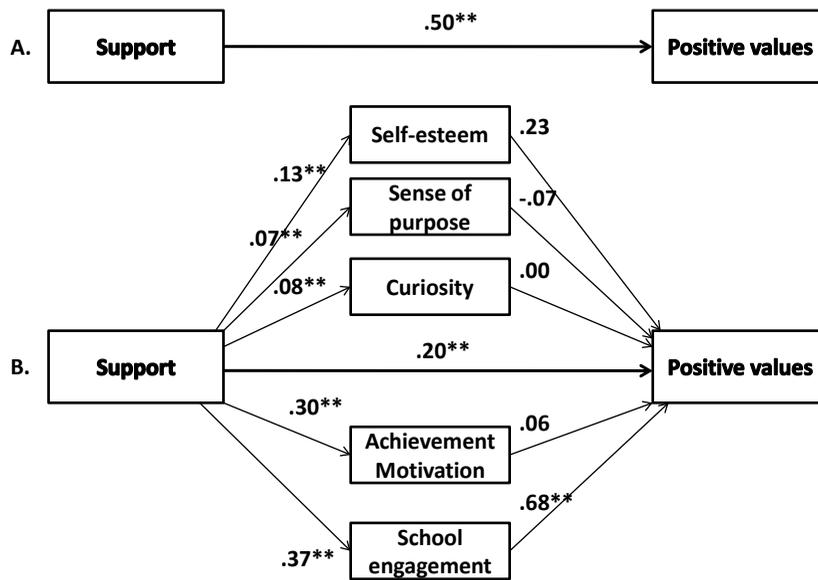


Fig.3: Support, mediators and positive values (\*\* p<.01)

TABLE 3

Total and specific mediated effects and their corresponding bootstrap confidence intervals for positive values

| Indirect effect        | Support  |     |             |
|------------------------|----------|-----|-------------|
|                        | Estimate | SE  | 95% CIs     |
| Self-esteem            | .03      | .02 | (-.01, .08) |
| Achievement motivation | .02      | .03 | (-.04, .09) |
| School engagement      | .25      | .03 | (.18, .32)  |
| Sense of purpose       | -.00     | .01 | (-.02, .01) |
| Curiosity              | .00      | .01 | (-.01, .02) |
| Total effect           | .03      | .02 | (.24, .36)  |

### DISCUSSION AND CONCLUSION

This study was designed to examine the multiple mediation effects of positive identity (self-esteem, sense of purpose, curiosity) and commitment to learning (achievement motivation, school engagement) on the relationship between support (parental support, positive communication, positive

relationships with adult) and positive values (caring, integrity) among urban youths in Malaysia. Generally, the results reveal that only school engagement mediates the effect of support and positive values. In other words, in part, urban youths with high support reported more positive values because they are engaged in more

school engagement. However, not all the proposed intervening variables mediated the association between support and positive values. In general, the analyses provide support for the mediational assumptions in previous studies (Li, Lerner, & Lerner, 2010).

The results reveal that support from parents, positive family communication, and social supportive other relationships facilitate school engagement, in turn, increase youths positive values. The findings show that youths who describe their parents as supportive and as having good communication skills appear to be involved in school engagement and develop positive values. Such youths, in general, feel less anxious about academic performance, participate in classroom activities, are interested in joining school-clubs, feel safe at school and feel that they belong to the school; all these, in turn, influence their positive values. The results affirm the significance of the support of school engagement on youths' positive values (Garcia-Reid, Reid, & Peterson, 2005; Moreira *et. al.*, 2013; Whitaker *et. al.*, 2012). The mediational effects of school engagement support the theoretical discussions on the effect of family support in school activities and values of educational attainment. Support from parents, other adults and neighbours can motivate urban youths to attend school and become engaged in the school activities. Family involvement in urban youths' education, for instance, has shown to be a good predictor of school engagement among urban youths (Murray,

2009) while a caring neighbourhood has shown a strong influence on school engagement (Daly, Shin, Thakral, Selders, & Vera, 2009). A caring school climate (e.g. teachers, peers) may also be a key source of support for helping urban youths prepare for their schoolwork, and, thus, would help them to be more engaged in school. All these factors lead to the formation of positive values. Our findings are consistent with those of Li, Lerner and Lerner (2010) who found that support indirectly influenced a youth's positive development through its effect on school engagement. Overall, our findings attest to the importance of support on urban youths' positive values.

In line with the developmental approach, we suggest that support from parents and other adults are external factors of positive values at the individual level, which relates to personal worthiness. One interpretation of our findings is that Malaysia, as a 'collectivist' society, might desire a large and integrative social network; parents in the social environment might be very conducive to providing such support whilst other adults with a particular kind of positive value are someone high on helping each other.

The strong, positive relationship between support and positive value is consistent with other findings working with such variables (Goodwin, Cost, & Adonu, 2004). Although our findings are based on cross-sectional data, and therefore causality cannot easily be ascertained, our findings support other research work within the positive youth development and developmental assets approach, which view

support as a key part of the wider close relationship.

Also contrary to our predictions, self-esteem, sense of purpose, curiosity, and achievement motivation did not contribute significantly to the prediction of positive values. Even the simple correlations of positive values failed to account for much variance. This may indicate that positive values are affected by school engagement than those factors included in our studies. Additional research is needed to explain this finding. This collection of findings is new in the literature and suggests that parents, other adults and peers need to provide different types of support if they are going to effectively encourage urban youths to participate in school activities.

However, interpretation of these findings should be made with cognisance of several limitations. First, the sample comprises youths living in one city of the Klang Valley, hence generalization to urban youths is not possible. Second, the sample size is small; therefore we cannot generalize such findings to youth populations. The use of a more heterogeneous sample would make it possible to assess gender differences and other socio-demographic factors. A large sample size is required for generalization so findings can inform more contributing factors to positive values. Finally, although this study shows good psychometric properties, it relies on self-reports. Therefore, we suggest incorporating different assessment methods, such as self-report, diaries, interviews, and information processing.

Despite these limitations, the findings of our study have important implications. Our findings provide further support for our understanding that school engagement includes urban youths' affective, behavioural and cognitive responses relates to sense of belonging and involvement in school. A high level of school engagement may be important for building positive values of urban youths. Thus, it would be worthwhile to establish support groups among families where other adults can help urban youths not to engage in unhealthy social activities. Such unhealthy social activities are usually associated with delinquent behaviour. It would also be useful to strengthen close contact with teachers in order to encourage urban youths to actively engage in learning. We suggest that schools, as well as communities, should pay particular attention to the social context of urban youth learning. We suggest that the teachers and the communities create supportive social relationships between parents-urban youths and should encourage parents to provide support at home.

The importance of family involvement in school activities should be led by a national agenda aimed at promoting school-family partnerships, parent education, and parenting programme. The Ministry of Education, Malaysia for instance should encourage family involvement in school activities by implementing more intervention programmes to increase urban youth school engagement. Studies in the United States, for instance, have shown that parents play a significant role in promoting

school engagement through parent-school involvement, such as monitoring the completion of homework (Stormshak, Fosco, & Dishion, 2010).

The present study contributes to our growing understanding of the contribution school engagement mediate the relationship between support and positive values. Our findings are consistent with the idea that support from parents, other adults, positive family communication, caring neighbours, and school caring climate help youths to attain their potential, which, in turn, enhances their positive values. Our study was conducted among urban youths at public housing which is identified as a low-income urban environment. The challenges facing urban youths are real and pervasive. In developing further understanding about supportive relationships, the relationship of adults-urban youths, as a potential source of support, is an important factor for researchers, educators and policy makers. This can be done by treating urban youths as equal partners where roles and responsibilities are clearly delineated. Thus, future research should explore whether different sources of support and positive identity are related to positive values.

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#### REFERENCES

- Abdul Kadir, N. B., Rahim, S. A., Abdul Mutalib, M. H., Wan Mahmud, W. A., Chong, S. T., & Suhbi, N. (2012a). Development of the self-report measures of assessing developmental assets among urban youth in Malaysia. *Child and Adolescent Social Work, 29*, 391-407. doi: 10.1007/s10560-012-0267-z
- Abdul Kadir, N. B., Rahim, S. A., Mustapha, Z., Abdul Mutalib, M. H., Kee, C. P., & Mohamed, R. H. (2012b). External assets as predictors of positive emotions among at-risk youth in Malaysia. *Asian Social Work and Policy Review, 6*, 203-217.
- Ahmed, W., Minnaert, A., van der Werf, G., & Kuyper, H. (2010). Perceived social support and early adolescents' achievement: The meditational roles of motivational beliefs and emotions. *J Urban youth Adolescence, 39*, 36-46. doi: 10.1007/s10964-008-9367-7
- Arslan, C. (2009). Anger, self-esteem, and perceived social support in adolescence. *Social Behavior and Personality, 37*(4), 555-564.
- Benson, P. L., Leffert, N., Scales, P. C., & Blyth, D. A. (1998). Beyond the 'village' rhetoric: Creating healthy communities for children and adolescents. *Applied Developmental Science, 2*(3), 138-159.
- Bronk, K. C., Hill, P. L., Lapsley, D. K., Talib, T. L., & Finch, H. (2009). Purpose, hope, and life satisfaction in three age group. *The Journal of Positive Psychology, 4*(6), 500-510.
- Bronk, K. C., Finch, W. H., & Talib, T. L. (2010). Purpose in life among high ability adolescents. *High Ability Studies, 21*(2), 133-145.
- Bundick, M., Yeager, D., King, P., & Damon, W. (2010). Thriving across the lifespan. In W. Overton, *Handbook of Lifespan Development* (pp. 882-923). New York: John Wiley and Sons.

- Cardozo, B. L., Bilukha, O. O., Crawford, C. A., *et al.* (2004). Mental health, social functioning, and disability in postwar Afghanistan. *JAMA*, 292, 575–584.
- Coopersmith, S. (1967). *The antecedents of self-esteem*. San Francisco: W. H. Freeman & Company.
- Covington, M. V., & Dray, E. (2002). The developmental course of achievement motivation: A need-based approach. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 33-56). San Diego: Academic Press.
- Crean, H.F. (2012). Urban youth activity involvement, neighborhood adult support, individual decision making skills, and early adolescent delinquent behaviors: Testing a conceptual model. *Journal of Applied Developmental Psychology*, 33, 175-188. doi: 10.1016/j.appdev.2012.04.003
- Crum, R. M., Lillie-Blanton, M., & Anthony, J.C. (1996). Neighborhood environment and opportunity to use cocaine and other drugs in late childhood and early adolescence. *Drug and Alcohol Dependence*, 43, 155-161.
- Daly, B. P., Shin, R. Q., Thakral, C., Selders, M., & Vera, M. (2009). School engagement among urban adolescents of color: Does perception of social support and neighbourhood safety really matter? *J Youth Adolescence*, 38, 63-74. doi: 10.1007/s10964-008-9294-7
- Debats, D. L. (1998). Measurement of personal meaning: The psychometric properties of the life regard index. In P.T.P. Wong, & P.S. Fry (Eds.), *The human quest for meaning: A handbook of psychological research and clinical applications* (pp. 237-259). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- De Graaf, H., Vanwesenbeeck, I., Woertman, L., Keijsers, L., Meijer, S., & Meeus, W. (2013). Parental Support and Knowledge and Adolescents' Sexual Health: Testing Two Mediation Models in a National Dutch Sample. *Journal of Youth & Adolescence*, 39(2), 189-198. doi: 10.1007/s10964-008-9387-3
- Dotterer, A. M., & Lowe, K. (2011). Classroom context, school engagement, and academic achievement in early adolescence. *J Urban youth Adolescence*, 40, 1649-1660. doi: 10.1007/s10964-011-9647-5
- Dubois, D. L., Holloway, B. E., Valentine, J. C., & Harris, C. (2002). Effectiveness of mentoring programs for youth: A meta-analytic review. [Special Issue]. *American Journal of Community Psychology*, 30(2), 157-197.
- Erikson, E. H. (1968). *Identity: Youth and Crisis*. New York: Norton.
- Felson, R. B., & Zielinski, M. A. (1989). Children's self-esteem and parental support. *Journal of Marriage and the Family*, 51, 727-735.
- Frankl, V. (1959). *Man's search for meaning: An introduction to logotherapy*. Boston: Beacon.
- Gaylord-Harden, N. K., Ragsdale, B. L., Mandara, J., Richards, M. H., & Petersen, A. C. (2007). Perceived support and internalizing symptoms in African American Adolescents: Self-esteem and ethnic identity as mediators. *J Urban youth Adolescence*, 36, 77-88. doi: 10.1007/s10964-006-9115-9
- Gillham, J., Adams-Deutsch, Z., Werner, J., Reivich, K., Coulter-Heindl, V., Linkins, M., Winder, B., Peterson, C., Park, N., Abenavoli, R., Contero, A., & Seligman, M. E. P. (2011). Character strengths predict subjective well-being during adolescence. *The Journal of Positive Psychology*, 6(1), 31-44.
- Gonida, E. N., Voulala, K., & Kiosseoglou, G. (2009). Students' achievement goal orientations and their behavioral and emotional engagement: Co-examining the role of perceived school goal structures and parent goals during adolescence.

- Learning and Individual Differences*, 19, 53-60. doi: 10.1016/j.lindif.2008.04.002
- Goodwin, R., Cost, P., & Adonu, J. (2004). Social support and its consequences: 'Positive' and 'deficiency' values and their implications for support and self-esteem. *British Journal of Social Psychological*, 43, 1-10.
- Green, G., Rhodes, J., Hirsch, A. H., Suárez-Orozco, C., & Camic, P.M. (2008). Social supportive adult relationships and the academic engagement of Latin American immigrant urban youth. *Journal of School Psychology*, 46, 393-412. doi: 10.1016/j.jsp.2007.07.001
- Gudmunson, C. G., & Beutler, I. F. (2012). Relation of parental caring to conspicuous consumption attitudes in adolescents. *Journal of Family and Economic Issues*, 33(4), 389-399.
- Hamzah, A. (2007). *Situation of girls and young women in Malaysia*. Malaysian Youth Report 2007.
- Heinze, H. J. (2013). Beyond a bed: Social support for positive development for urban youth residing in emergency shelters. *Children and Urban youth Services Review*, 35, 278-286.
- Heinze, H. J., Jozefowicz, D. M. H., & Toro, P. A. (2010). Taking the urban youth perspective: Assessment of program characteristics that promote positive development in homeless and urban youth. *Children and Urban youth Services Review*, 32, 1365-1372. doi: 10.1016/j.childurban youth.2010.06.004
- Hughes, J. N., Zhang, D., & Hill, C. R. (2006). Peer assessments of normative and individual teacher-student support predict social acceptance and engagement among low-achieving children. *Journal of School Psychology*, 43, 447-463. doi: 10.1016/j.jsp.2005.10.002
- Karbach, J., Gottschling, J., Spengler, M., Hegewald, K., & Spinath, F. M. (2013). Parental involvement and general cognitive ability as predictors of domain-specific academic achievement in early adolescence. *Learning and Instruction*, 23, 43-51.
- Kasdan, T. B., Sherman, R. A., Yarbrow, J., & Funder, D. C. (2013). How are curious people viewed and how do they behave in social situations? From the perspectives of self, friends, parents, and unacquainted observers. *Journal of Personality*, 81(2), 142-154. doi: 10.1111/j.1467-6494.2012.00796.x
- Kasdan, T. B., & Steger, M. F. (2007). Curiosity and pathways to well-being and meaning in life: Traits, states and everyday behaviors. *Motivation and Emotion*, 31, 159-173.
- Keijsers, L., Frijns, T., Branje, S. J. T., Meeus, W. (2009). Developmental links of adolescent disclosure, parental solicitation, and control with delinquency: Moderation by parental support. *Developmental psychology*, 45(5), 1314-1327. doi: 10.1037/a0016693
- Kenny, M. E., Walsh-Blair, L., Blustein, L., Bempechat, J., & S, J. (2010). Achievement motivation among urban adolescents: Work hope, autonomy support, and achievement-related beliefs. *Journal of Vocational Behavior*, 77(2), 205-212.
- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4<sup>th</sup> ed., pp. 233-265). New York: Oxford University Press.
- Li, Y., Lerner, J. V., & Lerner, R. M. (2010). Personal and ecological assets and academic competence in early adolescence: The mediating role of school engagement. *J Youth Adolescence*, 39, 801-815. doi: 10.1007/s10964-010-9535-4
- Lim, K. H., Sumarni, M. G., Kee, C. C., Christopher, V. M., Noruiza Hana, M., Lim, K. K., & Amal, N. M. (2010). Prevalence and factors associated with smoking among four students in

- Petaling District, Selangor, Malaysia. *Tropical Biomedicine*, 27, 3, 394-403.
- McAdam, D. P. (2001). Generativity in midlife. In M. Lachman (Ed.), *Handbook of midlife development* (pp. 395-443). New York: Wiley.
- Moreira, P. A., Dias, P., Vaz, F. M., & Vaz, J. M. (2012). Predictors of academic performance and school engagement—Integrating persistence, motivation and study skills perspectives using person-centered and variable-centered approaches. *Learning and Individual Differences*, 24, 117-125. doi: <http://dx.doi.org/10.1016/j.lindif.2012.10.016>
- Muller, M. K., Phelps, E., Bowers, E. P., Agans, J. P., Urban, J. B., & Lerner, R. M. (2011). Urban youth development program participation and intentional self-regulation skills: Contextual and individual bases of pathway to positive urban youth development. *Journal of Adolescence*, 34, 1115-1125. doi: 10.1016/j.adolescence.2011.07.010
- Murray, C. (2009). Parent and teacher relationships as predictors of school engagement and functioning among low-income urban youth. *The Journal of Early Adolescence*, 29(3), 376-404.
- Ong, L. C., Chandran, V., Lim, Y. Y., Chen, A. H., & Poh, B. K. (2010). Factors associated with poor academic achievement among urban primary school children in Malaysia. *Singapore Med Journal*, 51, 3, 247-252.
- Plunkett, S. W., Behnke, A. O., Sands, T., & Choi, B. Y. (2009). Adolescents' reports of parental engagement and academic achievement in immigrant Families. *Journal of Youth & Adolescence*, 38, 257-268.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-891.
- Rowan-Kenyon, H. T., Swan, A. K., Creager, M. F. (2012). Social cognitive factors, social support, and engagement: Early adolescents' math interests as precursors to choice of career. *The Career Development Quarterly*, 60, 1-12.
- Ryff, C., & Keyes, C. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.
- Salleh, H.M. (1997). Isu semasa remaja dan penyelesaiannya. English translation: Issues on adolescents and problem solving. In O. Ali, N. H. Ismail, H. Bohari, & H. M. Salleh (Eds.), *Public Health Issues* (pp. 24-36) Bangi: Penerbit Universiti Kebangsaan Malaysia.
- Scales, P. C., & Leffert, N. (1999). *Developmental assets: A synthesis of the scientific research on adolescent development*. Minneapolis, MN: Search Institute.
- Scales, P. C., Benson, P. L., Roehlkepartain, E. C., Sesma Jr., & van Dulmen, M. (2006). The role of developmental assets in predicting academic achievement: A longitudinal study. *Journal of Adolescence* 29, 691-708
- Scholte, W. F., Olf, M., Ventevogel, P., et al. (2004). Mental health symptoms following war and repression in eastern Afghanistan. *JAMA*, 292, 585-593.
- Shrout, P. E. & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422-445.
- Stormshak, E. A., Fosco, G. M., & Dishion, T. J. (2010). Implementing interventions with families in schools to increase youth school engagement: The family check-up model. *School Mental Health*, 2, 82-92.
- Voisin, D. R., & Neilands, T. B. (2010). Low school engagement and sexual behaviors among African American urban youth: Examining the influences of gender, peer norms, and gang

- involvement. *Children and Urban youth Services Review*, 32, 51-57. doi: 10.1016/j.childurban youth.2009.06.016
- Wang, M., Willett, J. B., Eccles, J. S. (2011). The assessment of school engagement: Examining dimensionality and measurement invariance by gender and race/ethnicity. *Journal of School Psychology*, 49, 465-480. doi: 10.1016/j.jsp.2011.04.001
- Whitaker, D., Graham, C., Severtson, S .G., Furr-Holden, C. D., & Latimer, W. (2012). Neighborhood & family effects on learning motivation among urban African American middle school urban youth. *J Child Fam Stud*, 21, 131-138. Doi: 10.1007/s10826-011-9456-1



## **The Effect of Consciousness-Raising Activities on Learning Grammatical Structures by Iranian Guidance School EFL Learners**

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### **ABSTRACT**

The first purpose of this study was to investigate the effect of consciousness-raising (C-R) activities and tasks on learning grammatical structures by Iranian guidance school EFL learners (the simple present tense in this case). The second one was to investigate the effect of gender on learning the simple present tense through C-R activities and tasks. The design of the study was experimental and the participants were one hundred and five male and female students selected from two guidance schools in Zahedan city, Iran. A proficiency test was administered to ensure the homogeneity of the two groups at the outset of the experiment. Based on the results of the proficiency test, the participants were divided into two groups, functioning as the experimental and control groups. Then, a pre-test of the simple present tense was given to the participants and its results showed that the participants didn't know the simple present tense before applying the treatment (C-R activities and tasks for experimental group). The classes were held two times per week. During the total span of ten sessions the two groups were taught the simple present tense based on different approaches; the experimental group was taught based on C-R activities and tasks while the control group was instructed using pattern drills and practice. At the end, the same pre-test was used as the post-test. Data analysis through an independent *t*-test indicated that using C-R activities in grammar teaching is significantly more effective than the traditional approaches (such as Grammar Translation Method and pattern practice). The results also indicated that the male learners outperformed females in learning grammatical structures through C-R tasks. Therefore, it is recommended that other teachers consider C-R activities as useful options in teaching grammar and other language aspects in their classes.

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## INTRODUCTION

Teaching grammatical structures of a foreign language, especially the English language, has been a hot topic among researchers and it has been inquired from different perspectives. Several methods and approaches for teaching grammar have come and gone and none of them have gained public acceptance among different experts. Whether the teachers should present and explain the grammatical features or should they rely on the zero grammar method, has caused a great debate among researchers and linguists.

The term *grammar* has been interpreted in different ways, most of the times causing confusion in the language-teaching field. These misconceptions lie mostly in the view that grammar is regularly seen just as a set of arbitrary rules about fixed structures in language learning such as verb paradigms and rules about linguistic forms. Grammar is unmistakably much more than this (Crivos & Luchini, 2012). According to Batstone (1994), grammar is an immensely vast and diverse phenomenon which includes three interdependent aspects: form, meaning (content) and use. This viewpoint, in which forms are presented in a direct association with meaning, views grammar as an essential part of the language. Through grammar, the meaning and pragmatic aspects of the language can be constructed and conveyed properly and thus an effective interaction and communication becomes possible.

Based on White (1987), it is obligatory to teach grammar, because mere exposure to grammatical features cannot be considered as a successful strategy for learners to acquire the grammatical items. According to Larsen-Freeman (1995), although some grammatical features can be internalized naturally, it does not refuse the fact the grammar instruction should be ignored on the part of the teachers. Teaching grammatical points can make the process of internalization of language forms more feasible. Prabhu (1987) also argued that through process of practicing meaning-based activities, grammatical features can be acquired naturally. According to Ur (1999), in the case of the learners, structural rules enable them to know and use appropriate patterns related to how sentences can be combined together. The process of grammar teaching should also ultimately centre its focus on the ways grammatical items or sentence patterns are correctly used. In other words, grammar teaching should include language structure or sentence patterns, content and application of those features in different contexts.

## REVIEW OF THE LITERATURE

### *What is C-R?*

Richards and Schmidt (2002) defined C-R as those techniques that encourage learners to pay attention to language forms in the belief that an awareness of these forms will contribute indirectly to language acquisition. Techniques include having students infer grammatical rules from examples, compare differences between

two or more different ways of saying something, and observe differences between learners' use of a grammar item and its use by native speakers. Based on this definition, the C-R approach is contrasted with traditional approaches to teaching grammar (e.g. drilling, sentence practice, sentence combining), in which the goal is to establish a rule or instill a grammatical pattern directly. In fact, in C-R activities heuristic and discovery-based activities are encouraged. According to Rezaei and Hosseinpour (2011), C-R constitutes an approach to grammar presentation which is harmonious with the current trend of thinking about how learners internalize the grammatical features of the second language through attention. This approach also supports those views that are compatible with the process of problem- solving and discovery learning tasks and activities.

*The Consciousness-Raising Theory (C-R-T)*

Sharwood Smith (1981) rejects the view of the 'zero-position', the Direct Method. He proposes that, a C-R activity of form, or explicit instruction plays an important role in increasing the acquisition of

unanalysed knowledge. His Interface Hypothesis (Fig.1) suggests that explicit instruction through formal practice can result in much comprehensible input and this process contributes to the internalization of grammatical features and as a result, implicit knowledge will be gained. As he puts it explicit knowledge may aid acquisition via practice, and in this way often learning precedes acquisition. He recognizes that this approach to implicit knowledge may not be as direct, but may be equally as fast since the input created from practice is more focused.

*Traditional Approach*

According to Richards and Schmidt (2002):

*It is an approach to language teaching in which learners are taught rules and given specific information about a language. They then, apply these rules when they use the language. Language teaching methods which emphasize the study of grammatical rules of a language for example the GTM makes use of the principle of deductive learning (p.146).*

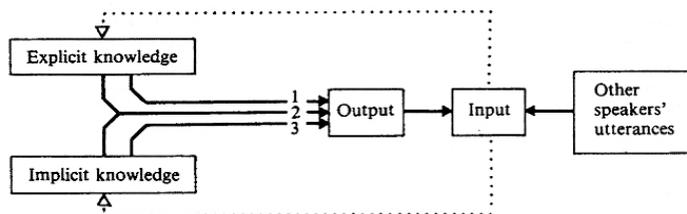


Fig.1: Sharwood Smith's Interface Hypothesis, Sharwood Smith (1981 p. 83).

Noting the influence of grammar in the language, Batstone (1994, p.3) suggests “language without grammar would certainly leave a seriously handicapped”. He continues that, grammar plays the main role in curriculum design, the ax of all the classroom activities and most of the students have experienced its influence more or less. According to Swan (1985), it is not always easy for language teachers to decide about the method of presentation of linguistic features in the classroom, and a large number of different conflicting issues and preferences must be taken into consideration. It is because no approach has gained a full support by the experts constantly, even eclectic approaches sometimes fail to create a complete and well-designed lesson plan to be aspired by those educators, who wish to get sure, and gain short term objectives and that can be useful for different learners with different genders, wants and needs (Nunan, 1995). It should be noted that as far as the previous studies mainly investigated only one gender, the researchers wanted to compare the two genders with each other. Consequently, the participants were selected from two genders.

A number of studies have been undertaken to investigate the efficacy of grammar consciousness-raising activities and tasks. Fotos and Ellis (1991) compared the effects of direct consciousness-raising by means of grammar explanation and of indirect consciousness-raising by means of C-R tasks on Japanese learner’s ability to judge the grammaticality of sentences involving dative alteration. They found

that both methods of consciousness-raising resulted in significant gains in understanding the target structure. Sharwood Smith (1981) rejects the view of the zero-position or the Direct Method, and proposed that a consciousness-raising of form or explicit instruction plays an important role in increasing the acquisition of unanalyzed knowledge. As he puts it, explicit knowledge may aid acquisition via practice, and in this way often learning precedes acquisition. He recognizes that this approach to implicit knowledge may not be as direct, but may be equally as fast since the input created from practice is more focused. Sheen (1992) compared direct and indirect consciousness-raising in a six-week beginner’s French course for Japanese, finding that students in the two groups did equally well in a written post-test of the structure taught. Mohamed (2004) found that indirect consciousness-raising was more effective than direct consciousness-raising when applied to high intermediate ESL learners from mixed L1 background but not to low intermediate learners, suggesting that the proficiency of learners can determine the effectiveness of consciousness-raising.

Fotos (1993) conducted an experimental research to investigate the amount of learner noticing produced by two types of grammar consciousness-raising treatments: teacher-fronted grammar lessons and interactive, grammar problem-solving tasks. Involving 160 Japanese college students of English, Fotos designed her research by dividing the subjects into three different treatment groups, which were taught indirect object

placement, adverb placement, and relative clause usage in communicative input. The findings revealed that the two types of grammar consciousness-raising are effective in promoting significant level of noticing the target language structures in subsequent communicative input.

Another study investigating the effectiveness of consciousness raising was carried out by Yip (1994). In an attempt to probe the benefit of C-R, Yip conducted a study on English ergative verbs, which she observed, posed a logical problem of acquisition that cannot be resolved by positive evidence. Using a judgment task which contains such ergative verbs as *shatter, break, melt, and happen*, Yip found that many of her students, even the advanced students, rejected good ergative as acceptable constructions such as *The mirror shattered during the last earthquake and My car has broken down*, as they judged these constructions to be ungrammatical. Alternatively, the students corrected the constructions using their own version, and thus resulting in the following sentences: *The mirror was shattered during the last earthquake and my car has been / was broken down*. What is interesting in Yip's study is that his students accepted the incorrect ergative construction 'What was happened here?' as an acceptable construction in English, and as such, judged it as grammatical. However, after undergoing the C-R session class, her students showed dramatic improvement in that they were sensitive to the misapprehensions about the ergative construction in English. Based

on this finding, Yip concludes that C-R can be effective, at least in the short term, in directing learner's attention to the ill-formedness of the grammatical features of the target language. As for the C-R tasks, (which can be deductive and inductive), Mohamed (2004) examines learners' perspectives of the effectiveness of such tasks. The findings indicate that learners have no strong preference for a particular type of task over the other. They view the tasks to be useful in assisting them to learn new knowledge about language. The finding suggests that C-R tasks (both deductive and inductive) are effective learning tools and can therefore be used to raise learners' awareness of linguistic forms.

Finally, Sugiharto (2006) investigated Indonesian students' ability in understanding the simple present tense rules, which often pose a problem for the students especially in the case of the third person singular. Using a grammatical judgment test, Sugiharto compared the results from students' pre- and post-tests, and found that students' performance was significantly better on the post-test. This study indicated that C-R activities and tasks are more effective in helping students develop their explicit knowledge of the simple present tense.

#### *Research Questions and Hypotheses*

The purpose of the present research is to answer the following questions:

**Question 1:** *Is there any significant difference between Iranian guidance school EFL Learners, learning*

*grammatical structures through C-R and traditional methods?*

**Question 2:** *Is there any significant difference between Iranian male and female guidance school EFL learners learning grammatical structures through C-R activities?*

The following null hypotheses were proposed in line with the aforementioned questions:

**H0 (Question 1):** *There is no significant difference between Iranian guidance school EFL Learners learning grammatical structures through C-R activities and traditional methods.*

**H0 (Question 2):** *There is no significant difference between Iranian male and female guidance school EFL learners learning grammatical structures through C-R activities and tasks.*

#### *Statement of the Problem, Objectives and Significance of the Study*

Since learning English as an international language is a must for every person, learning grammar is one of the most important aspects of any language and it has been the subject of many studies in the past. Teaching grammar through different methods has a long history, and many investigations have been done in this area. The reason for conducting a study like this is to investigate the effectiveness of the C-R activities and

tasks and provide learners with opportunities for discovery learning on one hand, and teaching grammatical structures through a new design and appealing way on the other hand to test a new technique in teaching grammatical points and generalizing its results to other language aspects. In this method, the teacher raises the awareness of the learners through different interesting activities. In this paper, two prominent, but often conflicting approaches were tested for teaching grammar. The first is the Consciousness-Raising, (C-R) [akin to discovery inductive approach] in comparison to the 'Presentation-Practice-Production, (P-P-P) [akin to rule-driven deductive approaches]. The purpose is not to prioritize one approach over the other, but to experimentalise the two approaches to check their learning impact in terms of efficacy and appropriacy. The teacher (researcher) doesn't explain the grammar as in the case of the traditional methods, but he will try to equip the learners with critical thinking and discovery learning techniques to try the rules out by themselves. The lesson will be presented to learners by utilizing different media such as computer, video projector, and colorful pictures and so on. The students are not forced to produce the rules immediately, but the aim of the researcher is to involve the learners in learning activities to control the process of learning the grammatical points.

## **METHODOLOGY**

### *Participants*

105 male and female students from two different guidance schools in Zahedan, Iran,

participated in the study. The participants were all native speakers of the Persian language whose age ranged between 12 and 13. The sampling process is based on convenience, due to availability reasons. They were divided into two groups, 54 students in the control group and 51 in the experimental one. The experimental group was taught by the researcher using C-R activities and tasks and the control group was taught based on practice and traditional approaches such as the grammar translation method and the p-p-p approach.

#### *Instrumentation*

##### **English Test - Beginner (proficiency test)**

In order to make certain that all the learners were at the same level of language proficiency, the English Beginner Proficiency Test was administered at the very beginning of the experiment. The test contains 100 multiple choice items related to different aspects of English language such as prepositions, regular and irregular verbs, vocabulary, English simple present and past tenses and reading comprehension. The participants were given enough time to answer the questions.

##### **Teacher-made Grammar Test**

A teacher-made grammar test with the index of reliability of 0.71 was used as a pre-test which aimed to determine the subjects' grammar knowledge of the simple present tense. The test consisted of 33 multiple choice items mainly constructed on the basis

of the grammar points of students' English textbooks administered by the Ministry of Education. The grammatical structure of the book included: the simple tense, its negative form and the question form of this tense. The main source used for both the control and experimental groups was lesson six and seven of English book two of guidance school. A post-test with the reliability index of 0.87 was used to measure the students' achievements after the treatment.

#### *Procedure*

The first step in conducting this research was dividing students into two groups: the control group and the experimental group. After the pre-test, students in both groups were exposed to an instructional program. The experimental group was instructed through the use of grammatical C-R activities and tasks and the control group was instructed through the use of pattern drill practice (traditional approaches). After applying the treatment, both groups took a grammar post-test. Then, a *t*-test was run to detect differences between the means of the two groups. To illustrate how the instruction of grammar points was carried out, one of the grammar points, using the different forms of the simple present tense that was taught based on the C-R task is explained here. The students were given some examples in which the main verbs were highlighted while the third person singular verbs were underlined. The students were asked to read the examples and discover the grammar points. It must be noted that the content and the materials were the same for all groups

but the methods of teaching and presentation were different. All the participants were taught by the same instructor.

1. She **goes** to school by bus every morning.
2. We **study** English every Sunday.
3. Alice **gets up** at 5 every morning.
4. Jack **plays** football at school on Mondays.

**FINDINGS**

The following research hypotheses were tested:

*(H<sub>1</sub>): There is no significant difference between Iranian guidanceschool EFL Learners learning grammatical structures through C-R activities and traditional methods.*

*Testing of instruments for pre-test and post-test*

In order to test the first null hypothesis, a series of independent samples *t*- tests were run. Before testing the first null hypothesis, normal distribution and internal reliability of both tests were investigated as shown in Tables 1 and 2.

As can be seen in Tables1 and 2, both pretest and post- test have a normal distribution, as the kurtosis and skewedness statistics are between -1 and +1 which is an indicator of normal distribution. The following figures make this point clear:

*Normality Tests*

To examine the reliability of the pre-test and post-test, the Kuder-Richardson Formula (KR-21) was used as shown in Table 3. It is used to show the internal consistency of the items. In order to have a reliable test,

TABLE 1  
Descriptive Statistics for pre test

|          | N         | Min.      | Max.      | Mean      | Std. Deviation | Skewness  | Kurtosis   |           |            |
|----------|-----------|-----------|-----------|-----------|----------------|-----------|------------|-----------|------------|
|          | Statistic | Statistic | Statistic | Statistic | Statistic      | Statistic | Std. Error | Statistic | Std. Error |
| Pre-test | 105       | 3.00      | 24.00     | 10.1905   | 4.46804        | .808      | .236       | .395      | .467       |
| Valid N  | 105       |           |           |           |                |           |            |           |            |

TABLE 2  
Descriptive Statistics for post test

|                       | N         | Min.      | Max.      | Mean      | Std. Deviation | Skewness  | Kurtosis   |           |            |
|-----------------------|-----------|-----------|-----------|-----------|----------------|-----------|------------|-----------|------------|
|                       | Statistic | Statistic | Statistic | Statistic | Statistic      | Statistic | Std. Error | Statistic | Std. Error |
| posttest              | 105       | 7.00      | 33.00     | 18.6667   | 7.10318        | .170      | .236       | -.9087    | .467       |
| Valid N<br>(listwise) | 105       |           |           |           |                |           |            |           |            |

(KR-21) should be above .70. According to Table 3, both tests had acceptable reliability.

TABLE 3  
The Reliability Index for pretest and posttest

|           | Mean  | Variance | KR-21 |
|-----------|-------|----------|-------|
| Pre-test  | 10.19 | 19.90    | 0.71  |
| Post-test | 18.66 | 50.41    | 0.87  |

*Comparing the Results*

Returning to the first research hypothesis, first an independent sample *t*-test was run in to examine whether the two groups were homogeneous before treatment. The results show that both control and experimental groups are at the same level of grammatical achievement, and if there is any significant improvement in the performance of the

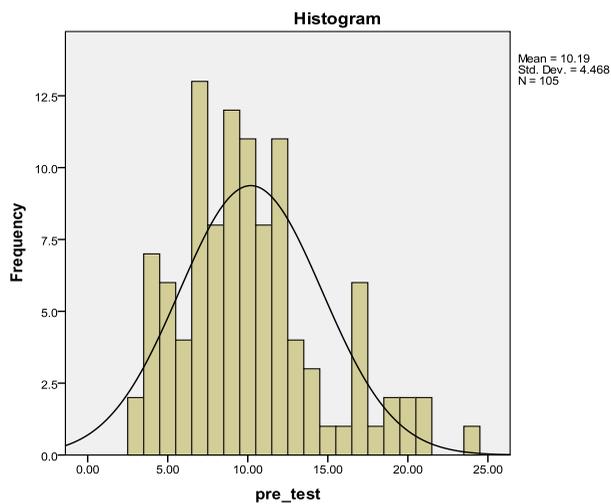


Fig.1: Normal distribution curve of the pretest

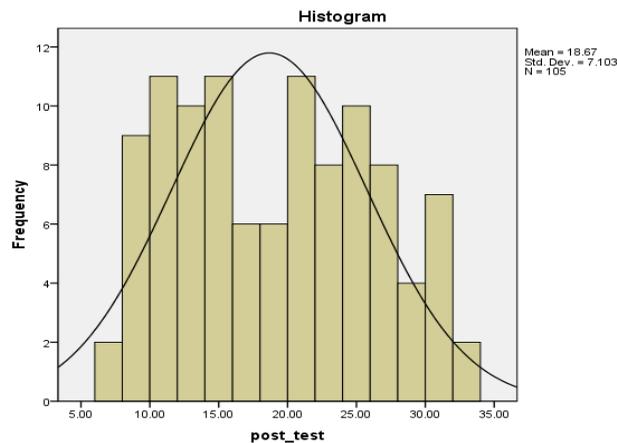


Fig.2: Normal distribution curve of the post-test

experimental group, it is due to treatment not other outside factors. For this purpose, an independent sample *t*-test was run on the pretest to check the homogeneity of the control and experimental groups before treatment.

As can be seen in Table 4, the mean of the control group is 10.25 and SD is 4.47 and that of the experimental group is 10.11 with the SD of 4.28. Based on these results, there is only a slight difference between the two groups.

However, to examine it statistically an independent samples, *t*-test was used as shown in Table 5. First, based on the Levene's test of equality of variances, appropriate *t* was selected. As can be seen

in Table 5, there is no statistically significant difference between the experimental and control groups prior to treatment ( $t=.16$ ,  $p>.05$ ,  $df= 103$ ). This proves the homogeneity of our two groups.

Now, to examine whether treatment affected the grammatical achievement of the Iranian guidance school EFL learners, another independent sample *t*-test was used. The mean scores of the control and experimental groups are shown in Table 6.

As shown in Table 6, the mean of the experimental group  $M=20.82$  is higher than that of the control group  $M=16.62$ . To check whether this difference is statistically significant, independent sample *t*- test was run. After selecting appropriate *t* based on

TABLE 4  
Group Statistics for pre-test

|         | group      | N  | Mean  | Std. Deviation | Std. Error Mean |
|---------|------------|----|-------|----------------|-----------------|
| pretest | control    | 54 | 10.25 | 4.67           | .63             |
|         | experimeal | 51 | 10.11 | 4.28           | .59             |

TABLE 5  
Independent Sample T-test for Equality of Means

|         |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |         |                 |                 |
|---------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|
|         |                             | F                                       | Sig. | t                            | df      | Sig. (2-tailed) | Mean Difference |
| pretest | Equal variances assumed     | .312                                    | .578 | .162                         | 103     | .872            | .14161          |
|         | Equal variances not assumed |   |      | .162                         | 102.909 | .872            | .14161          |

TABLE 6  
Group Statistics for post-test

|           | group        | N  | Mean  | Std. Deviation | Std. Error Mean |
|-----------|--------------|----|-------|----------------|-----------------|
| Post-test | control      | 54 | 16.62 | 6.01           | .81             |
|           | experimental | 51 | 20.82 | 7.57           | 1.06            |

Levene’s test for equality of variances, results showed that there is a statistically significant difference between the control and experimental groups ( $t = -3.13, p < .05, df = 103$ ). As the mean of the experimental group  $M = 20.82$  and its SD is 7.57 is higher than that of the control group  $M = 16.62$  with the SD of 6.01, it can be said that the experimental group outperformed the control group regarding their grammar scores. Therefore, the first null hypothesis is rejected.

**(H<sub>2</sub>):** *There is no significant difference between Iranian male and female guidance school EFL Learners learning grammatical structures through C-R activities.*

In order to test the second research hypothesis, an independent sample  $t$ -test was run. Like the previous section, first

we should be aware of the homogeneity of the male and female students in the experimental group. Homogeneity shows that both males and females are at the same level of grammatical achievement, and if there is any significant improvement in the performance of the experimental groups, it is due to treatment not other outside factors. For this purpose, an independent sample  $t$ -test was run on the pre-test to check the homogeneity of the males and females before treatment.

As shown in Table 9, there is no statistically significant difference between the mean of the male  $M = 9.67$  and female 10.65 Iranian guidance school EFL learners ( $t = -.80, p > .05, df = 49$ ). This shows that males and females are at the same level of grammatical proficiency prior to treatment.

As can be seen in Table 10, the mean of the male students  $M = 24.50$  with the SD of 6.86 is higher than that of the female students  $M = 16.34$  with the SD of 5.86.

TABLE 7  
Independent Samples Test for Post –test of experimental and control groups

| groups       |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |
|--------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|
|              |                             | F                                       | Sig. | <i>t</i>                     | df     | Sig. (2-tailed) | Mean Difference |
| Experimental | Equal variances assumed     | 5.254                                   | .024 | -3.151                       | 103    | .002            | -4.19390        |
|              | Equal variances not assumed |   |      | -3.130                       | 95.400 | .002            | -4.19390        |

TABLE 8  
Descriptive Statistics (Homogeneity of Males and Females in both Experimental Groups)

|          | group  | N  | Mean  | Std. Deviation | Std. Error Mean |
|----------|--------|----|-------|----------------|-----------------|
| Pre-test | male   | 28 | 9.67  | 4.18           | .79             |
|          | female | 23 | 10.65 | 4.43           | .92             |

Now, to consider whether gender affects the learning of grammatical structures through C-R activities, again, another independent sample *t*-test was run as shown in Table 11. It indicated that there is a statistically significant difference between the grammatical achievement of the male and female learners ( $t=4.50, p<.05, df=49$ ). As the male students had a higher mean, it can be said that male students who learn grammatical structures through C-R activities had a better performance on grammar tests than female students who also learn grammatical structures through

the same activities. Therefore, the second research hypothesis was also rejected.

**DISCUSSION OF THE RESULTS**

In the following, each research question will be presented and discussed thoroughly.

*Hypothesis 1: There is no significant difference between Iranian guidance school EFL learners learning grammatical structures through C-R activities and traditional methods?*

TABLE 9  
Equality of means for both experimental groups (Males and Females)

|          |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |
|----------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|
|          |                             | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference |
| Pre-test | Equal variances assumed     | .035                                    | .853 | -.805                        | 49     | .425            | -.97360         |
|          | Equal variances not assumed |   |      | -.800                        | 45.900 | .428            | -.97360         |

TABLE 10  
Group Statistics for post-test of both Experimental Groups (Males and Females)

|          | group  | N  | Mean  | Std. Deviation | Std. Error Mean |
|----------|--------|----|-------|----------------|-----------------|
| Pre-test | male   | 28 | 24.50 | 6.86           | 1.29            |
|          | female | 23 | 16.34 | 5.86           | 1.22            |

TABLE 11  
Equality of means for both experimental groups (Males and Females)

|           |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |
|-----------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|
|           |                             | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference |
| Post-test | Equal variances assumed     | .350                                    | .557 | 4.503                        | 49     | .000            | 8.15217         |
|           | Equal variances not assumed |   |      | 4.573                        | 48.905 | .000            | 8.15217         |

The present study was motivated by theoretical considerations concerning the effectiveness of C-R tasks in developing Iranian EFL learners' syntactic knowledge. Treatment group performance was compared to that of a control group on the pre-test and post-test. The data obtained from the pre-test proved that there was no significant difference between the experimental group and the control group at the outset of the experiment. Moreover, mean scores of both groups determined that both groups were equivalent in their command of the target structures. The results obtained from the post-test indicated that there was a significant difference between the experimental and control groups' mean scores on the post-test.

The related research question is answered on the basis of the students' performance on pre-test and post-test of the grammatical structures. As it was mentioned before, participants' performance in the experimental group did show a significant development in learning grammatical structures namely, the simple present tense. Therefore, this study supports the effectiveness of C-R activities and tasks in teaching grammar to EFL learners in Iranian guidance schools. This study also suggests that implementing C-R activities and tasks can help learners to improve their knowledge of grammar. The results of the study run counter to the zero position advocated by Krashen. Krashen (1992) who prescribed direct intervention and insisted that "the best way of increasing grammatical accuracy is comprehensible input and the

most effective kind of comprehensible input for grammatical development is reading" (p. 411). Accordingly, the null hypothesis of the study that consciousness-raising tasks do not have any significant effect on Iranian EFL learners' syntax acquisition was rejected. Thus, it can be concluded that consciousness-raising tasks are effective learning tools that can be used in the language classroom to make learners aware of form where explicit instruction is necessary.

The findings of this study are in line with the findings of previous studies by Yip (1994), Mohamed (2004), Mishan's (2005), Sugiharto (2006) and Moradkhan and Sohrabian (2009) who have all investigated the merits of promoting learners' consciousness of grammatical form. Their studies show that activities that promote conscious attention to the target structures of a foreign language foster students' acquisition of these structures. Also, it has been noted how learning can be more effective if learners are given the opportunity to reflect and analyze the structures before rushing to produce them. Moreover, Bourke (1996) points out that C-R tasks cater to the natural tendency of learners who want to try to work things out. They encourage learners to deal with uncertainty, and that promotes learner autonomy. Furthermore, learners find them enjoyable. In other words, learners are eager to do C-R tasks because these tasks constitute a kind of puzzle which when solved enable learners to discover how a linguistic feature works. They believe that the combination of explicit

and implicit learning can guide students towards language acquisition. The need for explicit rules can be more justified if it is embedded in a communicative task. This study is not going to reject the role of other techniques in teaching grammar. The present research merely aims to hold up the claim that the use of C-R activities and tasks in the classroom is a suitable technique in teaching grammar to EFL learners. It seems that it is better for the teacher to be aware of different techniques in teaching grammar and use them based on different circumstances. In Iran, learning grammar is so emphasized that it is considered one of the most important parts of learning English in the educational system. So, grammar teaching perspectives must be changed from traditional methods to innovative and communicative-based approaches based on the students' needs, wants and situations.

***Hypothesis 2:** There is no significant difference between Iranian male and female guidance school EFL learners learning grammatical structures through C-R activities and tasks.*

The findings obtained in this research led to the conclusion that there was a significant difference between males and females scores. As seen before, a significant difference was detected between males and females in the experimental groups. It is worth mentioning that since the sample size was not large enough and the participants were not selected randomly, and also since

specialized raters were not available, the findings are not generalizable to all Iranian EFL learners. The results of this study are not compatible with Moradkhan and Sohrabian's (2009) study in which they reported that females performed better when learning grammatical structures through C-R activities and tasks than males. Their study also supported the idea that the use of C-R activities and tasks can be effective for the purpose of developing accuracy rates of certain grammatical structures of intermediate female students. The main reason for the weak performance of female students in this study may be the fact that they were not familiar with the teacher's methodology in teaching and presentation of grammatical structures. It is very important to point out that teachers should not be fanatical about using only one approach while denying the other ones since some grammar rules are not so easily discovered by students. As a result, regardless of the approach to be effectuated, it should be subservient to the teacher's own consideration and orientation to decide what material is to be introduced, to whom it should be given, and how it should be dealt with (Harmer, 1989). This, undoubtedly, is not an easy task, as it necessitates not only planning, but also a complete understanding of course aims and the psychology of learners' needs, wants and situations.

In addition, the results of this study suggest that because of their important role in extracting and even explaining the grammar points in front of the class, students were all motivated in learning the grammar points

which can lead to language acquisition. The result of this research also corroborates with other similar studies. Previous studies suggest that the combination of explicit and implicit learning can guide students toward language acquisition. The need for explicit rules can be more justified if it is embedded in communicative tasks. This study is not going to reject the role of other techniques in teaching grammar. The present research merely aimed to hold up the claim that the use of C-R activities in the classroom is a suitable technique in teaching grammar to EFL guidance school learners. It seems that it is better for Iranian teachers to be aware of different techniques in teaching grammar and use them based on different circumstances because learning grammar is one of the most important parts of learning English in the Iranian educational system.

### **CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH**

The present study was an attempt to investigate the effect of C-R grammar tasks and activities on Iranian EFL beginner learners in learning and internalizing the grammatical structures especially the simple present tense. This result implies that C-R activities and tasks are very interesting especially for beginners. We can attribute this attractiveness to the range of activities that be done through C-R tasks and reducing the amount of pressure on learners because as compared to different kinds of exercise, the C-R activities have delay production process.

However, as it is pointed out by Larsen-Freeman (2002) and Batstone (1994), grammar is best conceived as encompassing three dimensions: form, meaning (content) and use. While productive practice may be useful for working on form, associative learning may account more for meaning, and awareness of an item and sensitivity to context may be required for appropriate use of language communicatively and facilitates the process of language internalizing. Since grammar is complex, and students' learning styles vary from person to person, learning grammar is not likely to be accomplished through a single means of presentation and so, other methods and approaches are recommended besides new approaches such as C-R.

Although practice has a role to play in language learning, Ellis (2002) maintains that it has little value. He argues that the available evidence seems to suggest that practice, be it controlled, contextualized, or communicative, may not be as effective and useful as people claim it is. C-R, on the other hand, offers an attractive alternative to traditional grammar practice. Since C-R tasks for teaching grammar could be of various forms, future studies may investigate the effectiveness of various techniques that are available to language teachers for raising the consciousness of their students to grammar rules and other aspects of the language. Some techniques would be underlining, highlighting, using different colours and employing new technology such as computers and PowerPoint software. As

a result, language teachers are encouraged to consider C-R tasks and activities as an effective strategy in promoting learner's awareness of grammar knowledge or other aspects of the language they are supposed to learn. Finally, the findings of the study suggests the superiority and applicability of C-R grammar tasks and activities to pattern practice and Grammar Translation Method (Traditional Methods/Approaches) in promoting grammar knowledge in Iranian guidance school students.

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### REFERENCES

- Batstone, R. (1994). *Grammar*. Oxford: Oxford University Press.
- Beatriz Crivos, M., & Luis Luchini, P. (2012). A pedagogical proposal for teaching grammar using consciousness-raising tasks. Published in *Modern Journal of Applied Linguistics* 4:3 Autumn 2012.
- Bourke, J. (1996). In praise of linguistic problem-solving. *RELC*, 27(2), 12-29. <http://dx.doi.org/10.1177/003368829602700202>
- Ellis, R. (2002). *Grammar Teaching Practice or Consciousness-Raising?* In J. C. Richard & W. A. Renandya, *Methodology in Language Teaching An Anthology of Current Practice* p. 168. New York: Cambridge University Press.
- Fotos, S., & Ellis, R. (1991). Communicating about grammar: A task-based approach. *TESOL Quarterly*, 25, pp. 605-628.
- Fotos, S. (1993). Consciousness raising and noticing through focus on form: Grammar task performance versus formal instruction. *Applied Linguistics*, 14, pp. 385-407.
- Harmer, J. (1989), *Teaching and Learning Grammar*, Pearson Educational Limited, Longman, Bluestone Press, UK.
- Larsen-Freeman, D. (1995). 'On the teaching and learning of grammar: challenging the myths' in Eckman et al. (eds.).
- Larsen-Freeman, D. (2002). *Grammar*. In R. Carter, & D. Nunan, the Cambridge Guide to Teaching English to Speakers of Other Languages pp. 39-40. Cambridge: Cambridge University Press.
- Mishan, F. (2005). *Designing Authenticity into Language Learning*. Portland: Intellect Books.
- Mohamed, N. (2004). Consciousness-raising tasks: a learner perspective. *English Language Teaching Journal*, pp. 228- 237. <http://dx.doi.org/10.1093/elt/58.3.228>.
- Moradkhan, D., & Sohrabian, R. (2009). Grammatical Consciousness-Raising Tasks and the Improvement of Iranian Students' Knowledge of Grammar. *Journal of Teaching English as a Foreign Language and Literature*, pp. 57-70.
- Nunan, D. (1995), *Language Teaching Methodology*, Hemel Hempstead: Phoenix ELT.
- Prabhu, N. S. (1987). *Second language pedagogy*. Oxford: Oxford University Press.
- Rezaei, A. A., & Hosseinpour, R. M. (2011). On the Role of Consciousness-Raising Tasks in Learning Grammar: A Learner Perspective. *Iranian EFL Journal*, pp. 239-240.
- Richards, J. C., & Schmidt, R. (2002). *Longman Dictionary of Language Teaching & Applied Linguistics*. Harlow: Pearson Education Limited.

- Sharwood-Smith, M. (1981). Consciousness raising and the second language learner. *Applied Linguistics* 2: pp. 159-168.
- Sheen, R. (1992). Problem solving brought to task. *Applied Linguistics* 23, pp.44-59.
- Sugiharto, S. (2006). Consciousness-raising and the acquisition of the simple present tense rule. Paper presented at the sixth Malaysia International Conference on English Language Teaching (MICELT), Equatorial Hotel, Melaka, Malaysia, May 8-10.
- Swan, M. (1985). A Critical Look at the Communicative Approach, *ELT Journal*, Vol. 39, (1), pp. 2-12. Oxford, Oxford University Press, 1985.
- Ur, P. (1999). *Grammar practice activities: A practical guide for teachers* (12th ed.). Cambridge: Cambridge University Press.
- White, L. (1987). Against comprehensible input: the input hypothesis and the development of second language competence. *Applied Linguistics* 8/2: pp.95-110.
- Yip, V. (1994). *Grammatical consciousness-raising and learnability*. In T. Odlin (Ed.), *Perspective on pedagogical grammar* pp.123-139. Cambridge: Cambridge University Press



## **Cultural Identity at the Liminal Spaces: A Study of Wakako Yamauchi's *And The Soul Shall Dance***

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### **ABSTRACT**

In the contemporary world, one of the major forces of identity transformation is cross-border movements or transnational movements. One's identity is no longer perceived as an innate construct based on ethnicity or nationality but rather as something unstable, which changes in accordance with the diverse cultural contexts and societal operations. Accordingly, we have today the concept of culture transcending the barriers of nation, and the concept of identity escaping strictures imposed by any nationality. Such transformation in the notion of culture and identity have transpired due to an ever-present phenomenon of migrating communities or diasporic communities. Wakako Yamauchi in her play, *And the Soul Shall Dance*, discusses this issue of the formation of cultural identity in the immigrant community of Japanese-Americans in the early 20<sup>th</sup> century. Falling between cultural integration, cultural assimilation and a longing for one's own homeland, the identity of Japanese-Americans is constructed at the "in-between" spaces of two cultures. The play essentially brings forth the struggles formulated by the people belonging to two cultural backgrounds, Japanese and American, and trying to resolve their lives at the borderlands of culturality.

*Keywords:* Japanese-American, *And the Soul Shall Dance*, Wakako Yamauchi, Issei and Nisei, 'fourfold theory' of acculturation, cultural in-betweenness, cultural assimilation, cultural integration

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### **INTRODUCTION**

Cultural identity and its positioning at the in-between spaces of multiple cultures have emerged as frequent subjects in cultural studies. In the contemporary world, concepts of identity, culture, history, race and nation have all undergone significant

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transformations within the paradigm of transnational diaspora. The Enlightenment assumptions that essentialised the above concepts have been replaced in the post-structuralist notions in which the individual's identity becomes negotiable. This identity transformation seen as part of a wider process of change displaces the concepts about the central structures and processes of modern societies, undermining the frameworks which gave individuals stability in the social world. Such transformations have been ever-present phenomena of migrating communities or diasporic communities. The question that arises here is how individuals with diverse cultural backgrounds at both the centre and periphery confront and negotiate for a viable solution for the cultural conundrum that a migrant faces. Hence, new cultural productions and cross-cultural engagements are expected to originate in the new negotiating spaces and overlapping territories. In *Culture and Imperialism* (1994) Edward Said suggests that overlapping territories and intertwined histories are characteristic patterns of diaspora and dispersions (p.72). In this work, he challenges the traditional binary colonial conceptualisations of cultures that held the stage for decades, and therefore he offers new paradigms of cross-culturalism and the hybridity of cultures. The binaries of dominant societies and dominated societies are seen not to occupy distinctly separate terrains; rather, their encounter is attained from overlapping territories. Therefore, the focus of attention is not within the national spaces or the distinct cultural locations but

rather "a meeting point," the "in-between spaces" where both cultures and identities are engaged and negotiated. The interface where the two groups meet, the "in-between spaces", is where and when new signs of identity and culture are produced. In his *Location of Culture* (1994), Homi Bhabha states:

*These "in-between" spaces provide the terrain for elaborating strategies of selfhood – singular or communal – that initiate new signs of identity, and innovative sites of collaboration, and contestation, in the act of defining the idea of society itself. It is the emergence of the interstices - the overlap and displacement of domains of difference .*

When different cultures come into contact with each other, for example, through immigration, the immigrant culture might go through any one of several processes of acculturation as it adapts to the new society. Among these processes are integration, assimilation, etc. In his 2003 "Critical History of the Acculturation Psychology of Assimilation, Separation, Integration, and Marginalization", Rudmin discusses the 'fourfold theory' of acculturation and points out the variety of models of minority and dominant cultures. The interaction of a minority culture and a dominant culture can be expected to create different types of acculturation. When the dominant culture is favored it leads to assimilation. But when

both cultures collaborate in some form of biculturalism, it leads to integration (Rudmin, 2003).

For the immigrants, cultural integration or cultural assimilation is not an easy task, and constant interaction between two different cultural practices leads to a dilemma. The nostalgia for their homeland compels them to make certain amount of adjustments in the new locations. And so identity formation for them becomes even more problematic and challenging. They can neither fully participate in a foreign culture as easily as they do with their own community nor can they withstand from accepting its culture to a certain level. That is to say, they cannot genuinely plant their feet simultaneously in both the cultural spaces. Ultimately they find themselves in a cultural limbo – at the liminal space of two cultures and it becomes a strategy for self-preservation. They are likely to feel “caught between two worlds”. Therefore, a less strong bond with the home country and the natural recognition of the culture of ‘new’ cultural space around them result in another condition of cultural existence called cultural hybridity. It is neither cultural integration nor cultural assimilation, but somewhere between the two. This “in-betweenness” is a constant feeling of dislocation and identity confusion.

*Liminal Spaces of the Formation of Cultural Identity in And The Soul Shall Dance*

Constituted between the legacies of Japanese cultural heritage and a life in America, the immigrant Japanese constantly negotiate

and redefine their “neither here, nor there” identities. Bromley (2000) notes, “Migration has been seen as the quintessential experience of the twentieth century, from south to north and from east to west. The outcome of this movement of peoples, this displacement and deterritorialisation, has been the formation of diasporic communities and the development of diasporic identities”. Wakako Yamauchi’s play *And the Soul Shall Dance* (1977) explicates this tension in migrant Japanese communities in America. The play brings forth the struggles formulated by people belonging to two cultural backgrounds trying to reconcile lives lived at the borderlands of cultures – one at the Japanese and the other at the American. Also, the cultural ‘pull’ and ‘push’ factors are delineated through the unfolding of the lives of people belonging to two generations. While Issei and Nisei generational cultures live together under the same roof and within a small locale, the tension escalates around their authentic cultural identity.

There are some underlying reasons why people choose to settle in other countries. These can be labeled as ‘push factors’ and ‘pull factors’. The former occurs when people start migrating to another region due to catastrophes in their homeland. These negative ‘push factors’ usually consist of poverty, religious persecution and political oppression. In the latter category, people are attracted to the better possibilities available in the country targeted for migration. These pull factors can be for education, job opportunities or attraction to a better lifestyle (Ingram, 2005). The economic and social conditions of the post-World War II

period in America were not favorable for Asian immigrants. They suffered economic and social disparities from the dominant Americans. Wakako Yamauchi's play *And the Soul Shall Dance* brings to the audience a time when Californian law forbade Japanese immigrants from owning land. Farmers who had come to America were obliged to sign a two-year rent on the property they cultivated. Many families found themselves moving from farm to farm to obtain some living subsistence. They faced different kinds of discrimination in addition to language and cultural barriers (Holoen, 1990). The play, *And the Soul Shall Dance*, encompasses a world of agony confronted by two Japanese families in a small farm in the Imperial Valley of Southern California during the first half of the 20<sup>th</sup> Century. The desire for a prosperous life in an alien land compels them to push on in spite of the dire adversities. However, their attempts to lead a life in America are stymied by problems of constructing a viable cultural identity.

Wakako Yamauchi is one of the most prominent 20<sup>th</sup> century Asian American women writers. Though she originally was a short-story writer, she is known now as a playwright. She chose play writing as a form of creative expression because "she enjoys watching the audience respond to art" (Houston, 1993) and because plays "offer the opportunity to connect with human beings in the theater" (Houston, 1993). Many writers consider her a "cultural treasure" for her ability to inspire her readers through her distinct portrayals of Japanese American acculturation. Her writings shed

light on Japanese American history, in particular, immigration in the early 20<sup>th</sup> century and World War II imprisonment (Berg, 2009).

Yamauchi, a Nisei (second generation Japanese American), was born on October 24, 1924 in California to two Issei (first generation Japanese immigrants). Like all Japanese farmers, her parents and three siblings (including her) experienced discrimination. They were required to move from one place to another in California's Imperial Valley according to the existing Alien Land Law, which prevented the Japanese from owning land. At the age of 17 and in her senior year of high school, they were forced to leave the place and settle in internment camps established at the outbreak of World War II. She stayed a year and a half in the camps before being permitted to leave for Chicago, where she worked in a candy factory and attended all the play performances she could. When the camps were officially demolished, she took painting classes at the Otis Art Center.

Wakako Yamauchi has an inborn talent for writing. It was not something that she discovered through formal training. It developed from the stories her mother told her about Japanese heritage and their cultural identity as immigrants. She was also inspired by the many stories and poems she read in her youth and also by her own experiences in internment camps. Her play *And the Soul Shall Dance* was originally published as a short story and later adapted into the now-popular play (Berg, 2009). Her primary thematic concerns are about

ordinary people and events and so *And the Soul Shall Dance* portrays the life of Japanese Americans before World War II: their struggle to fix themselves in one of the cultural spaces available to them and their inability to fully achieve this aim.

The Japanese Americans were defined according to immigration patterns: first-generation Issei immigrants who arrived on American shores between 1885 and 1924; second-generation Nisei, the offspring of Issei; and third-generation Sansei, the children of Nisei. Fourth and fifth generations succeeded the third generation Sansei, many of them racially and ethnically mixed as Japanese Americans continued to marry outside their ethnic group (Wendy, 2002; Montero, 1980).

In the play *And the Soul Shall Dance*, the Muratas and Okas are two Japanese immigrant families striving to settle in America during the post-World War I Depression period and finding themselves caught between two cultures. Murata's family consists of Mr Murata, Mrs Hana (both Issei) and their daughter Masako (Nisei) whereas Oka's family consists of Mr Oka, Mrs Emiko (both Issei) and, later, Mr Oka's daughter, Kiyoko, who arrives from Japan (daughter of Oka's first wife, who is dead). Both the families are attracted to America because of the poor living conditions in their homeland. The play takes place in Southern California in 1935, in small farms in the Imperial Valley. Portraying the life of both families during the Depression, it shows a clear view of

Asian and American cultural standards and practices. It is an obvious comparison between Asian and American cultural norms and expectations. The characters in this play represent two distinct generations, the Issei and the Nisei. The chronological division of the family members into Issei and Nisei seems to be quite relevant because of the difference in their attitudes towards their own culture on one side and the alien culture on the other side. The title *And The Soul Shall Dance* is adapted from a song, which helps Emiko to temporarily escape her dull and uncomfortable life in the foreign land. Singing and dancing to this music gives her a feeling of comfort that carries her inner self back to her native land, Japan.

The two families are chosen to represent almost all Japanese-American families as they struggle to exist within the cultural borders of American society while trying to maintain their original Japanese cultural heritage. Through the lives of both families, Yamauchi tries to portray the entire history of the life of Japanese immigrant farmers in America. They migrated to America as their temporary residence with a hope of returning to their homeland after having acquired prosperity. But their dreams remain unfulfilled because of many unfavourable conditions in the alien land. In the first scene of the play, Oka's speech to Murata and Hana explains the main reason behind his coming to America:

**OKA:** . . . *the best thing is to get away. We thought if I came to America and made some money .*

*. . . send her [his first wife] money until we had enough, and I'd go back and we'd leave the family . . . you know, move to another province . . . start a small business, maybe in the city. (p.161)*

Then Oka adds that the Japanese in America lead a very difficult life as they have to move from one place into another without any right to obtain property:

**OKA:** *Next year our lease will be up and we got to move. In America, Japanese cannot own land. We lease and move every two to three years. Next year we going go someplace where there's young fellows. There's none good for you here. You going to make a good wife. (p.200)*

As mentioned previously, the play covers the post-depression period when immigration was a dire necessity for the Asians to achieve material prosperity. But they could not have material prosperity and cultural fusion at the same time. They want to maintain their cultural heritage rather than sacrifice it for material benefits. They face the inevitable dilemma. Almost all the immigrants confront a situation of sacrificing their cultural heritage for something which they really had not intended to do. They want material benefits but at the same time not at the cost of their cultural heritage. What Yamauchi has portrayed in the characters of the Muratas and Emiko is their longing for their homeland. This conflict is embodied

in an even deeper sense through the actions of Emiko who cannot embrace the lifestyle in America as vividly manifested in her speech: "Dreams are unbearable...I'll be going back one day... My home. Japan. My real home. I'm going back one day" (pp.170-171). Considering their economic situations in Japan, they all have to stay in America for a better life. Murata with his wife Hana seem to lead an exemplary life. They are cautious not to bring up their only daughter Masako in the western style. The girl proves to share the same feelings as she refuses to have, for example, a boyfriend in the way her American peers do. This shows her sticking to her beliefs and cultural identity:

**EMIKO:** *... Masachan, do you have a boyfriend?*

**MASAKO:** *I don't like boys. They don't like me.*

**EMIKO:** *Oh, that will change. You will change. I was like that too.*

**MASAKO:** *Besides, there's none around here . . . Japanese boys. There are some at school, but they don't like girls. (p.187)*

Thus, maintaining one's own cultural identity, even while living in a country that has a totally different cultural outlook, is one of the main concerns of the play. Loss of culture can occur when people are no longer rooted in their birthplace – for example, when, as a result of migration, immigration, or forced exile, they find

themselves struggling between national identities, languages or cultures (Kowaleski-Wallace, 2006). The elder members of both families in the play seem to suffer from the memories of nostalgic moments from their homeland.

But, we see that unlike the Muratas and Emiko, Oka has forgotten or erased everything related to his past or homeland. He works hard just to make sure his daughter assimilates into the dominant white American culture. Meanwhile, his mind is occupied by the idea of assimilation in the alien society; the process refers to adapting completely to the dominant culture without maintaining the original one. Wakako presents Oka as a figure who struggles to find a comfortable position within American rather than Japanese culture. Slowly his dream of returning to Japan fades and the most important aim for him is to assimilate and to work hard in order that his daughter becomes assimilated too. Oka describes the discrimination that they, as Japanese-Americans, must face to his daughter bitterly, and tells her of the need to assimilate, to leave 'Japan' behind. Because their 'Japanese-ness' marks them out for racial discrimination, Oka feels, naively, that assimilation into the dominant culture will get rid of that Japanese-ness, thus also removing any possibility of discrimination.

'Assimilation' for the second generation, represented by Kiyoko and Masako seems to be much easier than for the older generation. Japanese cultural heritage and cultural leanings of the younger generation (Nisei) are not deeply rooted when compared

with the older generation (Issei), as the younger generation are born or brought up in an alien land where the dominant culture can overwhelm their native culture, such that it is not a central part of their lives. In this play, Masako and Kiyoko (Nisei) adapt to the alien culture with consummate ease compared to their parents. With her father's encouragement, Kiyoko, the rustic village girl from Japan, adapts to the alien environment. Also with Masako's assistance, Kiyoko seems to overcome the linguistic barriers within only a few months of her initiation in the English school. The second scene in Act Two discloses an aspect of the issue of immigration when linguistic barriers prevent Kiyoko from doing well in studies and she is ridiculed because of her Asian accent. She manages to overcome this barrier by learning the language of the dominant society. Initially, Kiyoko finds herself between two cultural elements. The acquisition of a new language becomes a decisive factor in moving her more towards one particular culture, within the in-between space of two cultures.

Hana encourages Kiyoko to stay in touch with their cultural background although it is so hard for them. Hana realises that integrating into the dominant society is a difficult matter, but they have no other choice if they wish to survive in this society. Hana has realized that Oka's desire to assimilate completely into the dominant culture might also influence his daughter, so she advises Kiyoko to work at maintaining her Japanese cultural identity. But Hana focuses on the future of the

younger generation's cultural identity. She realises that the Nisei should be directed by the older generation (Issei).

Yamauchi presents Hana as the advocate for the younger generation to maintain their cultural heritage, while she herself is trapped between two cultures. She is presented as a woman who is aware of the merits and demerits of being in such an alien society, declaring that "the place is so lonely and alien" (p.192). Moreover, we see her, from time to time, playing the role of an integrationist, helping the others find a balance between their longing for their home and the benefits of being integrated into the dominant society. In fact, she lives on the borderlines between the cultures, dealing constantly with contradictions and ironies. McLeod (2007) argues, "Borders are important thresholds, full of contradictions and ambivalence. They both separate and join different places. They are intermediate locations where one contemplates moving beyond a barrier". Hana tells Kiyoko that being in a society which puts individuals in this 'intermediate' position needs courage and patience:

**HANA:** *That isn't easy either. Believe me. Sometimes . . . sometimes the longing for home . . . the longing fills me with despair. Will I never return again? Will I never see my mother, my father, my sisters again? But what can one do? There are responsibilities here . . . children . . . [pause] And another day passes . . . another month . . . another year.* (p.193)

In contrast Emiko, who belongs to the Issei generation, is neither integrated nor assimilated into American society. Her arrival in America and her marriage with Oka are against her free will and hence she has her own reasons not to like America. She has forsaken everything in Japan – her home and her happiness. Her American life does not please her in any way because she was quite happy in Japan and she will never find peace in America. She has segregated herself from anything related to American culture. She is alive only because she fosters a dream that one day she can return to Japan. As coming back home is the dream of any migrant, most often, the possibility of a return keeps the immigrant attached to their dying roots. Oscillating between her sense of longing for a home and a sense of non-belongingness suffered in America, Emiko is in a perpetual state of exile and disconnectedness. Her difficulty is to weave an identity that is constituted on the notion of a stable 'home'. She finds herself hinged between two locations, one America and the other her own homeland in Japan. In a soliloquy, Emiko cherishes her dream of her past life in Japan and in reminiscent mood she mutters that if she gives in, her dreams will die, and she will die too:

**EMIKO:** *I must keep the dream alive. The dream is all I live for. I am only in exile now. If I give in, all I've lived before will mean nothing . . . will be for nothing. Nothing. If I let you make me believe this is all there is to my life, the dream would die. I would die.* (p.180)

Emiko's dreams of her romantic past are considered to be the source of her sustained energy. In spite of her despair she keeps herself awake by revisiting her cultural past through enacting and embodying certain cultural symbols. She likes to wear silken kimonos and is fond of dancing, things that bring her back to her romantic past. Emiko has no desire to settle to life on American soil. She has dreams and her dreams are outdated yet her dreams give her meaning in life. She still dreams of going back to Japan, but inevitably finds herself in America in an inescapable situation. However, Emiko cannot endure being far away from her home. She longs for her home all the time. She is never happy living in a foreign land. Her failure to forget and forsake her experience in her homeland forbids her from making a compromise with American culture. She is destined to lead a life of agony.

Metaphorically the playwright uses a couple of images that stand for the heritage of Japanese culture. The song, "And the Soul shall Dance", kimonos, dances and the tea parties all become a symbol of their deepest love for their country. Speaking of Emiko, for example, a critic notes that "Without her sophisticated culture of kimonos, tea ceremonies and song and dance, her life is barren – metaphorically represented here by the Californian desert she lives in" (Aranda, 2000). For the Japanese Americans, music was an important means for creating hope, cohesion, resistance and a sense of identity. While struggling for a place in American society, the Japanese-Americans sought

through music some energy to retain ties with Japan, foster ethnic traditions and teach their American-born children those cultural traditions. Hana displays high regard for this music, as an element of their cultural identity which they also need to maintain. Accordingly, such music is embraced also by Masako. Hana knows that giving attention to their music is to enlighten the others about the value of their cultural identity. For an immigrant, listening to the music of the country of birth helps create a feeling of being at home. This is highlighted by Murata who accentuates the importance of being in touch with one's cultural background. Through his love of Japanese music, he refers to the power of such cultural connection. In a conversation about music, Murata tells Oka and Emiko that listening to Japanese music is a way through which he can be close to his cultural background: "They [Japanese records] take me back home. The only way I can get there. In my mind" (p.167). In addition to that his wife Hana seems happy and announces proudly that their daughter loves Japanese music. Hana says "our Masaka loves to play records. I like records too, and Papa [Murata]" (p.167). Masako's love of this music reflects the influence of her parents in encouraging her to maintain her Japanese cultural identity. The song offers fleeting comfort for the unhappy wife, Emiko. Unable to adjust, she dances as if transported from the alien desert back to her beloved Japan. Cultural symbols remind one of one's cultural past, giving pleasure while at the same time causing pain because of what

has been lost in the process of migration. It is this dilemma, the in-betweenness, that creates new cultural identity for those who find themselves trapped between life in America and love for the Japanese cultural past.

This tension is further explicated through Emiko's attempts to sell the much cherished cultural symbol, her kimonos. Emiko, a dancer by profession, had been a performer at tea parties, wearing silken kimonos, and still carries the dream of her unforgotten past. She has been secretly keeping the silken kimonos as a valuable memento with the hope that she may go back to her dancing profession in her homeland. But she wants to sell the cherished mementos in her final attempt to earn the money to travel back to Japan. It is ironic that she has to part with the cultural symbol that has kept her invigorated in order to go back to a point of deep immersion in her cultural environment. Emiko approaches the Muratas with the intention of selling the kimonos. She arrives at Muratas' house and asks:

**EMIKO:** . . . *I have kimonos I wore in Japan for dancing. Maybe she can . . . if you like, I mean. They'll be nice on her. [Emiko shakes out a robe. HANA and MASAKA are impressed . . . They touch the material]. Maybe Masa-chan would like them. I mean for her school programs . . . Japanese school.*

**HANA:** *But these gowns, Emiko-san – they're worth hundreds.*

**EMIKO:** *I know, but I'm not asking for that. Whatever you can give. Only as much as you can give.*  
(p.205)

Thus, through Emiko, Yamauchi shows the inevitability and struggle of being in the in-between space of multiple cultures while in diaspora.

For the Muratas (Issei), assimilating to a new culture at the expense of their oriental cultural heritage is unfeasible and unacceptable. They are not uprooted completely from their native land, at least not in spiritual terms. They are proud of their heritage and try to maintain their cultural identity. Even so, they talk indignantly about the difficulties of being integrated in the dominant society: "the first immigrant generations remain essentially tied to their native cultures, adapting only with difficulty to the new one, a condition which further aggravates cultural differences" (Aranda, 2000). Hana pronounces the idea of alienation when she tells her daughter, Masako that "White people among White people . . . that's different from Japanese among white people" (p.182). The feeling of loneliness and alienation is augmented when they face unfavorable life situations in America.

We see through a variety of different perspectives that to simply cast tradition and family values aside is not an easy thing to accomplish. In some cases, the circumstance of being isolated from one's culture is not a choice taken voluntarily. It is not easy

to abandon one's cultural heritage easily. One of the questions raised in the play is, 'Who has the ability to carry on the past and who has adequately prepared the next generation to protect their cultural identity?' Wakako Yamauchi's play finds that it is not always people's choice to leave behind their culture. While we see some of the young generation trying hard to assimilate, we find that some of the older generation work hard to integrate by maintaining their own cultural identity while also adapting to the dominant culture. On the other hand there are those of the older generation who are determined to assimilate completely, while others refuse to let go of their original culture. Furthermore, some members of the younger generation are able to successfully integrate both cultures. So it is a question of assimilating into a new cultural identity while integrating the new one with the previous one, thereby positioning oneself around the concepts of fluid cultural identity constructions. Such problems in reconciling with one's cultural identity can be traced easily in both Hana and Emiko on one side and the young generation, particularly Kiyoko, on the other. To maintain their cultural heritage, they should make aim for balance between both cultures; in other words they should find themselves plying between two cultures. Though living away from their native place, Hana does not totally neglect her Japanese culture or totally embrace the new culture of America. What she uses is a survival strategy that befits the nature of a transnational migrant who makes compromises and reconciliations for

a life in an alien land. Cultural integration could well be seen as a means to reconcile the two conflicting ideals of cultural past and living abroad in a totally different cultural environment. For example, as a way to achieve integration, Hana brings up her daughter Masako the way that Japanese children are brought up as far as their attitude and appearance are concerned:

**HANA:** *She'll like you. Japanese girls are very polite, you know.*

**MASAKO:** *We have to be or our mamas get mad at us. (p.181)*

*Hana, in her effort to maintain their culture, extends her role to Kiyoko too. She reminds Kiyoko of filial duty which is seen as an Asian value, as children have to serve their parents:*

**KIYOKO:** *I left Japan for a better life.*

**HANA:** *It isn't easy for you. But you must remember your filial duty.*

**KIYOKO:** *It's so hard. (p.193)*

Though Hana faces an unknown future in an alien land, she still relies heavily on traditional morals and cultural bonds. She encourages her daughter to maintain a good attitude, as she reminds her of the idea that man in general should be strong to go on regardless of hardship. Hana describes Emiko's situation:

**HANA:** *She can't adjust to this life. She can't get over the good times*

*she had in Japan. Well, it's not easy. But one has to know when to bend . . . like the bamboo. When the winds blow, bamboo bends. You bend or crack. Remember that, Masako.* (p.175)

On the other hand, Murata and Hana's strong cultural bonds help them to have a clear idea about their aims in American society. This helps them to adapt to American culture and integrate their culture with the dominant one to achieve a comfortable life. To them, integration is a means for basic survival and they are able to achieve it and be emotionally balanced. Murata and Hana still cherish the hope of a way out of their economic hardships and dream of a settled life back home in Japan. However, the Muratas have been occupied by the idea of going back one day to Japan. They feel that their life will be better in Japan if they get enough money in America. This dream reflects their inner conflict and the suffering they experience living in the American society. They feel that they are luckier than Oka, who struggles to get assimilated despite the negative cultural impact of assimilation. Accordingly, the Muratas, unlike Oka, are against the idea of achieving assimilation in the American society. The Muratas are sure that one day they will go back to Japan; indeed, that is their dream:

**HANA***[quietly]: . . . where will it end? Will we always be like this – always at the mercy of the weather . . . prices . . . always at the mercy of the Gods?*

**MURATA:** *Things will change. Wait and see. We'll be back in Japan by . . . in two years. Guarantee. May be sooner. . .*

**HANA** *[sighing]: Kiyoko-san . . . poor Kiyoko-san. And Emiko-san . . .*

**MURATA:** *Ah, Mama. We're lucky. We're lucky, Mama.* (p.198)

For Hana the matter is not the same. She feels sorry as the past seems to be so far away now. She dreams also of going back one day to Japan, but she thinks that being in Japan again will be difficult. Hana expresses her disappointment and sorrow for losing part of her cultural identity. She is reminded of this fact when her daughter tries to hang a glass wind chime on the wall – a gift that given to Masako by Kiyoko as a symbol of Japan. Hana explains that hearing such sounds from the past too often adds pain to her soul for they remind her too strongly of her life in Japan. Here, Hana expresses her disappointment as her dream of going back home and immersing herself in her own culture is no longer achievable. And yet there is something positive in Masako's response, which indicates that Japanese culture has taken root within her, and speaks to her on some instinctive level:

**HANA** *[nodding, sighing and listening]: It brings back so much. That's the reason I never hung one before. I guess it doesn't matter much anymore . . . I didn't want to hear that sound too often . . .*

*get used to it. Sometimes you hear something too often, after a while you don't hear it anymore. I didn't want that to happen. The same thing happens to feelings too, I guess. After a while, you don't feel anymore. You're too young to understand that yet.*

**MASAKO:** *I love it. I don't know anything about Japan, but it makes me feel something too. (p.203)*

The inadvisability of abandoning the cultural heritage of the Japanese and immersing into the American culture is one of the crucial points in the play. These migrants feel distanced and alienated from mainstream American life, and long for the comfort of their own homelands and cultures. There are many occasions in the play in which the characters express a longing to go back to Japan to lead a peaceful and complacent life. Occasionally, Hana and Murata express their ardent wish to return to Japan. However, for many, the dire economic situation in Japan meant that they were unable to return to their homelands. Though Hana's heart is in Japan, she accepts the fact that she, with her family, needs to stay in the foreign land for economic reasons. Thus, integration is the only means to protect her cultural identity. To achieve integration, she is aware that some cultural aspects of the dominant society should be adopted, like learning the language of the dominant society, especially for the young generation represented here by Masako and Kiyoko, and also adjusting to

the way of the dominant life, as in the case of both Hana and Emiko:

**HANA:** *She can't adjust to this life. She can't get over the good times she had in Japan. Well, it's not easy. But one has to know when to bend . . . like the bamboo. When the winds blow, bamboo bends. You bend or crack. Remember that, Masako. (p.175)*

Both Murata and Hana adapt to the American culture and they integrate their culture with the dominant one. Integration for them is a means of basic survival and they are able to achieve it without sacrificing their cultural heritage, without being assimilated.

## CONCLUSION

Wakako's play expounds the idea that cultural identity for the migrant rests on fluid terrain and it is impossible to achieve a full and exclusive cultural participation. For migrations, both forced and voluntary, inevitably leave a rupture in the cultural identity of one's homeland. But a linkage to the cultural past of the homeland is attained through the memories or the articles they carry with them during the stay in the foreign land. It acts as a reminder and remainder of the homeland. The Japanese migrants live on the borderlines, in in-between spaces where neither their Japanese identity is denied nor their Americanness is fully actualised. Bhabha (1994) defines these borders as "beyond." "The 'beyond'

is neither a new horizon, nor a leaving behind of the past [...] we find ourselves in the moment of transit where space and time cross to produce complex figures of difference and identity, past and present, inside and outside, inclusion and exclusion (*Location of Culture*). For Bhabha, the border is a space where notions of past and present, inside and outside, cease to exist as binary oppositions; rather, they combine and participate.

## REFERENCES

- Aranda, L. V. (2000). The duality of ethnic and female identities in U.S. minority literature." *Philologica Canariensia*. Summer/Autumn, 351-370. Web. 21 April 2012 .
- Berg, C. G. (2009). "Wakako Yamauchi." *Voices from the gaps*, Minneapolis: University of Minnesota. 5 April 2012.
- Bhabha, H. K. (1994). *Location of culture*. London: Routledge.
- Bromley, R. (2000). *Narratives for anew belonging: Diasporic cultural fictions*, Edinburgh: Edinburgh UP.
- Holaen, S.(1990). Review/Theater: Trying to adapt to inhospitable terrain. *The New York Times* .
- Houston, V. H. (1993). Wakako Yamauchi. *The politics of life: Four plays by Asian American women*. (Ed.) V. H. Houston. Philadelphia: Temple UP. 33-43.
- Ingram, W. S. (2005). *Immigration to the United States: Japanese immigrants*. New York: Facts On File, Inc.
- Kowaleski-Wallace, E. (2006). *The British slave trade and public memory*. New York: Columbia UP.
- McLeod, J.(2007). *Beginning postcolonialism*. Manchester and New York: Manchester UP.
- Montero, D. (1980). *Japanese Americans: Changing patterns of ethnic affiliation over three generations*. Boulder: Westview Press.
- Rudmin, F. W. (2003). Critical history of the acculturation psychology of assimilation, separation, integration, and marginalization. *Review of General Psychology*. (Ed.). D. K. Candland. Vol.7 No. 1. 3-37. Web. 20 Oct. 2012.
- Said, E. (1994). *Culture and imperialism*. London: Vintage.
- Wendy, N. (2002). *Japanese American internment during World War II: A history and reference guide*. Westport: Greenwood Press.
- Yamauchi, W. (1993). The Music Lessons. In (Ed.) R. Uno, *Unbroken thread: An anthology of plays by Asian American women* (pp.53-58). USA: University of Massachusetts Press.

## **A Cross-Cultural Account of the Metaphor Conceptualisations of THOUGHT AS FOOD in Persian**

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### **ABSTRACT**

The eating experience, being vitally essential for the survival of human beings, can be extended to convey other conceptually abstract experiences. As a cognitive-semantic account of metaphor conceptualisations, this study aims to investigate the relationship between food-related metaphorical concepts and Persian cultural cognition and cultural models, as well as how they influence the targeted speakers' beliefs and ideas. Following the orientation of experientialists' views (Lakoff & Johnson, 1980, 1999) and most discussions of metaphorical concepts since then within the cognitive linguistics movement, this study in particular explores the commonalities and variations in ontological metaphor conceptualisations of thought/ideas as food in a cross-cultural comparative study of English and Persian. The metaphoric extensions of food and cognition in Persian, to a great extent, are mediated and motivated by embodied experiences; as well as socio-cultural orientation, Iranian traditional medicine and the spiritual tradition of Sufism as it is shown through the marginal role the Persian language plays a role in the rational-irrational dichotomy.

*Keywords:* Cross-culture, conceptualisation, mapping, embodiment, em-mindedness, cognition

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### **INTRODUCTION**

Since George Lakoff and Mark Johnson first introduced the Conceptual Metaphor Theory (CMT) in their *Metaphor We Live By* (1980), an extensive debate emerged regarding cognitive linguistics and cognitive psychology. The book has become the icon of a new perspective of metaphor analysis, in which metaphors are not considered as

just dispensable ornaments of language in poetic and rhetorical dimensions, but have cognitive significance and, in most cases, they cannot be substituted by any form of literal language. In reality, indeed, abundant data collected from a variety of research have shown that most of the metaphorical expressions the native speakers of a certain language produce are based on conceptual metaphors. Such research and viewpoints have initiated a very significant issue in cognitive linguistics as to what extent and in what ways conceptual metaphors are relevant to universalities that can be found and utilised in all languages and cultures (e.g. Kövecses, 2002, 2005, 2008, 2010).

This study, therefore, is a step in the process of investigating the cross-cultural universalities and/or variations of food-related metaphor conceptualisations through examining the data taken from Persian. Adopting an experiential notion of interpreting metaphorical expressions cognitively as a cross-domain mapping from a source (more delineated) domain to the target (less delineated) domain (Lakoff & Johnson, 1980, 1999; Lakoff, 1987), the present research explores how metaphorical constituents reflect various cognitive and cultural models by investigating the metaphor conceptualisations of thought/ideas as food in the Persian language. The most general supposition to make at this juncture is that due to the prominent significance of food in everyday life as a specific source of nourishment and exquisite pleasure, food/eating has a pervasive use in a variety of cultures and languages as a concrete source

domain mapping thought/ideas as target domains. Thought/ideas as food is metaphor conceptualisation we live by in various related or unrelated cultures. Moreover, when researchers deal with the issue of food-related metaphor similarities and their motivations across a variety of cultures, they address it mostly in terms of conjectures rather than synchronic and diachronic proofs. One of the concerns of this study will be to distinguish between the universalities of metaphor and the type specific to the Persian society and culture searching for various proposition-schemas at work in Persian speakers' conceptualisations. As the linguistic data suggest, the images of food-related metaphor conceptualisations occur extensively in Persian, indicating their close correspondence with Persian culture, myth, folklore, race, identity, religion, spirituality, community and body as well (Khajeh & Imran-Ho, 2012, p. 84).

### **PERSIAN CULTURAL COGNITION AND EM-MINDED CULTURAL NOTIONS – THOUGHT AS FOOD**

#### *Duality of 'Head-Heart' Centring Conceptualisation in Persian*

In their book, *Culture, Body, and Language: Conceptualizations of Internal Body Organs Across Cultures and Languages*, Sharifian and co-authors (2008) stress on three major body parts as the locus of rationality: 'head', 'heart' and 'abdomen'. According to these scholars, the dominant cultural characteristic of Southern Asian and Polynesian peoples is recognised as 'abdomincentrism'. Moreover, while the

Indonesian and Malay languages use the liver as the seat of intellect and reasoning, the Australian language (Kuuk Theayorne) uses the belly when discussing rationality. On the other hand, Japanese, Korean, and Chinese people's seat of thinking is located in their heart, referred to as cardiocentrism, and for European and Greek-based Western Asians, it is manifested in their head (mind) which is known as cerebrocentrism (Sharifian *et al.*, 2008, pp.14-16).

In fact, there is a clear-cut division between intellect and emotion in Western culture, which is especially derived from Cartesian dualism beliefs. Having its origin in Classical Greek thinking, Western culture deeply relies on the dichotomy between the body (material) and the soul (immaterial). In other words, the locus of irrational emotion and desires is the heart as part of the body, while rational thoughts, ideas and intelligence reside in the mind and are largely disembodied (Lakoff & Johnson, 1999).

Persian is among those languages that conceptualise the intellect and emotion as 'body and soul', upholding a marginal role in cerebrocentrism. The concept of *del* ('heart') in Persian may refer to some aspects of intellect and reasoning. The cognitive-related conceptualisations of *del* is associated with Sufism, Avicenna's doctrine of four humours and experiential reality. It seems the concept of *del* in Persian corresponds to the notion of *gogo* in Basque, representing inner drives. *Gogo* is a cultural word in Basque, or as Ibarretxe-Antuñano (2012) describes it, "Specific conceptualizations of the world which are

particular to a given cultural community and comprise all lexical items grounded in one specific culture. Cultural words are language vehicles to discover deep conceptualizations in culture and thought."

Something interesting about the Persian *del* is that it seems *del* does not dichotomise the rational and irrational in Persian culture, as both the rational and the irrational are blended and unified into one sense, conceptualising affective and cognitive processes as being one process. The concept can be best recognised in the figurative expression *az del beravad har ān-ke az dide beraft* (lit. from heart goes anyone who from sight goes), meaning 'one who is out of sight will be forgotten', which corresponds to the English expression, 'Out of sight, out of mind'. While in English remembering is represented by 'mind', it is conceptualised by the Persian heart, implying that the loss of memory can be associated with a loss of love or affection as well. *del* can be described as a primitive soul at which a rational reasoning process, together with all sorts of intuitional and emotional influences take place. Consequently, *del* is not merely a physical concrete organ but more importantly, an inner drive and self, depicting both body and soul as a whole. In other words, *del* is a cultural word, conceptualising the unique worldviews of Persians. It is evident that the body part *del*, 'heart', is responsible for a wide range of conceptualisations in Persian, used to hold affective senses as emotion, desire, intuition, patience and courage as well as cognitive processes as thought, ideas and memories.

*The Concept of Del and Thinking as Eating as Metaphor*

The various conceptualisations of *del* are very likely motivated by certain cultural models in Persian. Iranian traditional medicine and Sufism as worldviews are among the most influential pathways in Persian culture in constructing metaphorical concepts in general and shaping culinary expressions in particular. Following the Greek tradition, in Iranian traditional medicine, the 'heart' and 'liver' have predominant influences over the other organs of the body. In line with Aristotle's ideas, Avicenna (1930) believed that *ravān* 'soul/psyche' originated from the heart. Moreover, in his theory of four humours, Avicenna stressed that the primary humours of the body originated from the food digestion process and that human personality could be identified with respect to prominent body-temperament properties (Khajeh *et al.*, 2013a, b).

The spiritual tradition of Sufism, on the other hand, influenced the conceptual faculty of the Persian people, which is fully manifested in Iranians' way of thinking, their psyche and their literary works. Sufi literature contains a great number of metaphorical expressions conceptualising *del* with 'thinking' in food/eating domains. In Sufism, for example, the concept of food is adopted and used to refer to a versatile symbol, depicting the visible world. It may also be mapped onto the concept of divine nourishment and sustenance, the unseen world now made visible through a reference to its edibility.

The abundant instances of food-related and kitchen-related metaphors in the works of writers and poets of Sufism and their concern for making a connection between various states of mind and those of the body, all indicate the essential role of the processes, which a cook (human being) embodies. The alchemy of operations in the kitchen and during the cooking process can all be conceptualised and mapped onto what is involved in all creation. In the process of transformation of raw into ripe, visible into invisible, or external into internal state of food, it is the cook who must consider the nature of substances to maximise their potential for human sustenance, changing them into soul. The cook, moreover, is aware of the qualities of the food, and appropriately organises them in a manner to enhance the harmony between the body organs and nourishment, a harmony that leads to the sustenance of the soul. The cook has to pay heed to the food flavour, odour, colour and essence, as well as to the properties of the food i.e. if it is hot or cold, if it expands or contracts, and if it influences thought or emotion, flourishing intensity or calmness. In the body, the result of this apprehension and discrimination transforms the meticulously-selected attributes of food into strength and vitality, intellect and spirit and this makes the food fully pleasing i.e. it will be consumed with heart and soul, as shown in a poem by Moelana Jalal-uddin Rumi (1207-1273), the most popular Sufi writer: '*My heart boils up, aspiring to your heat; closes its eyes to grope what you see clear.*'

The image schema found in the above example conceptualises a ‘man of heart’ who is associated with divine love, and being cooked and boiled indicates spiritual maturation of the human soul. ‘Heart’ and ‘divine love’ are conceptualised in a container-content relationship as it is studied and discussed in the sense of Lakoff (1987), Lakoff and Johnson (1980) and Lakoff and Turner (1989). Similar to the ‘ordeal’ the food ingredients endure in the cooking/boiling process, the heart is pictured as a boiling pan (container) representing the process of preparation and transformation into the human soul that experiences inner feeling and divine love (content). The underlying conceptual pattern ‘heart as container’ and ‘heart as entity’ (which can boil) in Persian encompasses *del* as the locus of intellect, reasoning, understanding as well as affection and spirituality; metaphorising ‘boiling hot heart’ as a conceptual framework to represent the degree of getting closer to God.

The metaphoric concepts of Persian figurative expressions that use *del*, as it is shown, are largely originated from a synthesis of different aspects of traditional faculties of Persian culture, religion, medicine and philosophy, mysticism and spiritual beliefs. In other words, *del* in Persian, traditionally, is viewed as the seat of wisdom and spiritual knowledge that is much deeper than the rational mind. The spiritual attributes related to the concept of *del* are still alive and are extensively used in present day Persian metaphorical expressions.

Based on the conceptual schema of *del* as the seat of thinking, therefore, *del* can be associated with intellectualism and reason. In Persian, one may talk about the inability to understand someone’s words or thoughts while conceptualising it in the source domain of eating activity. The expression *qazā sar-e del-am mund-e* (food head-GEN del-POSS-1SG remain-PCTP-is) roughly means, ‘I have difficulty in digesting food in my stomach’; the negative feeling of pain or restlessness from overeating is felt in *del* or stomach. The same schema can be extended in expressions associating *del* with thoughts and ideas that are difficult to be understood (digested) as in:

- (1) *tamām-e harf-hā-š sar-e*  
 all-GEN word-PL-POSS-3SG head-GEN  
*del-am mund-e del-POSS-1SG stay-PCTP-is*  
 All his words have stood on my heart.  
 ‘I cannot digest/comprehend his words.’

It seems that both Iranian Traditional Medicine and the Sufi belief system have highly dominant effects on Persians’ conceptualisations and worldviews, motivating certain metaphorical constructions of body parts such as *del* in Persian. It is noteworthy to add that the cultural models explored here are not of totally distinct faculties, but both share the fundamental concepts of their belief systems, and are influenced by one another, leading to particular cultural conceptualisations in Persian.

*Lakoffian Theory of Conceptual Metaphor Thought as Food*

The food/eating domain reflects strong correspondences with intellectual realities in many languages. The ontological conceptual metaphor ideas/cognition as food denotes the image schema of an eating process representing structural similarities between the concrete domain of food and those of ideas (Kövecses, 2010). The general conceptual mappings between the concepts in the two domains are shown in the following table:

TABLE 1  
*Mapping of Food and Ideas (adapted from Kövecses, 2010)*

| FOOD Domain                | IDEAS Domain                  |
|----------------------------|-------------------------------|
| Preparing                  | Producing                     |
| Taking in                  | Perceiving                    |
| Processing                 | Understanding                 |
| Nourishment/<br>Sustenance | Physical/Mental well<br>being |

It is to be noted that the perception of structural similarities is motivated by some underlying primary concepts the language users have about mind, thinking process and human communication. As Reddy (1979) puts it, the metaphorical concepts ‘ideas are objects, words are containers’, and ‘communication is sending’ (through a conduit) are pervasive in most languages. Lakoff (1987, p. 450) further developed the container metaphor, and suggested the concepts ‘the mind is a container’ and ‘ideas are entities’. Therefore, for communication to take place, we take *the ideas out of our mind*, and *put them into certain words*, and then words stand for the concepts

they express (Lakoff & Turner, 1989). The mappings between the ontological conceptual metaphors of mind and those of non-metaphorical bodily experience of food and eating are shown in the following:

TABLE 2  
*Mapping of Conceptual Metaphor of ‘Mind’ and ‘Food’*

| Ontological metaphor of MIND                                      | Non-metaphorical experience of FOOD                              |
|---|--|
| MIND IS A CONTAINER   | The body is a container  |
| IDEAS ARE OBJECTS   | Food consists of objects   |
| COMMUNICATION IS SENDING IDEAS FROM ONE MIND-CONTAINER TO ANOTHER | We take food in from the outside and it travels through the body |

As the above table illustrates, we deal with intellectual realities (ideas, thought and mind) in a manner that assimilates the structural knowledge we experience with food, eating and the body, which in turn facilitates understanding of conceptually dissimilar domains. This concept of container-content can be best regarded as the idea of boundedness. Humans are bounded physical beings and are mostly inclined to associate less accessible abstract entities to the closest concrete realities. According to Lakoff and Johnson (1980), “We are physical beings, bounded and set off from the rest of the world as outside of us. Each of us is a container with a bounding surface and an in-out orientation” (p. 29).

The underlying primary metaphors, for example ‘mind is a container’, are molecular, and are naturally constructed

through a conflation of experiences that lead to cross-domain mappings (Lakoff & Johnson, 1999, 47-48). Complex metaphors, however, are constructed through conceptual blending of some primary metaphors. They do not have explicit embodiment grounding, but their construction is grounded on the basis of their constituent parts i.e. the experiential grounding of generic primary metaphors. ‘Thinking is eating’, for instance, is considered a complex metaphor that is shaped from the primary conceptual metaphors ‘mind is a container’, and ‘ideas are food’. In what follows, a schematic representation of conceptual mapping between ‘food and ideas’ is suggested through an example in Persian as in Fig.1

**MATERIALS AND METHODS**

This study is a qualitative introspection-based study of food-related metaphorical conceptualisations of ideas and thought. The data for the study mainly involved naturally occurring and non-literary spoken-written citations of food-related themes, and therefore were far more likely to be typical of everyday language in use rather than those invented or poetic corpora suggested and discussed in the Contemporary Metaphor Theory. The corpus, thus, has been taken from documented material, both print and on-line databases of Persian food-related metaphors from a variety of monolingual and bilingual dictionaries and some other lexicographical works such as dictionaries

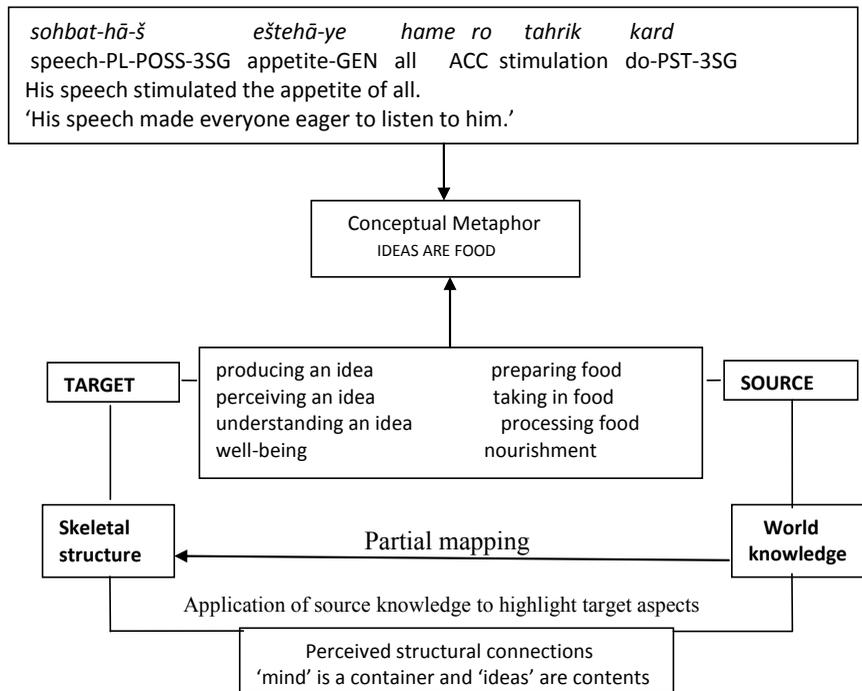


Fig. 1: Schematic representation of conceptual metaphor *sohbat-hā-š eštehā-ye hame ro tahrik kard*

of idiomatic metaphorical expressions and thesauri and native speakers' intuition of Persian linguistic metaphors. The analysis is mainly based on the author's intuition as a native speaker of Persian. It has been further crossed-checked informally by other native speakers of Persian. The consulted Persian dictionaries are *loqatnāme-ye dehxodā* (Dekhoda Dictionary), 1998; *farhang-e jāme vāžegān; amsāl-o- hekam-e dehxodā* (Proverbs and Mottos), 1999; *Farhang-e amid* (Amid Dictionary), 1992; *farhang-e bozorg-e soxan* (The comprehensive Dictionary of Talk), 2002; *farhang-e fāarsi-englisi* (English-Persian Dictionary), 1984.

The corpus involves various patterns related to the food and eating domain, which can broaden the scope of food-related metaphorical concepts. It consists of keywords for food and eating as well as those body organs associated with the eating act, eating-related verbs, the terms referring to food preparation, food ingredients, cooking traditions and styles, the instruments applied in the eating process and food quality such as flavour, smell and shape.

Linguistic metaphorical expressions of 'ideas as food' and 'thinking as eating' are analysed based on real-world knowledge about the bodily experience of eating. It searches for the image schematic correspondences between each source-target domain pairing and for their related entities, qualities and functions. The underlying mapping principle for each metaphor conceptualisation of the food domain, as Su (2002) points out, can be reflected in 'ingredients' of food,

'flavour' of food, 'preparation' of food and 'digestion' of food, which can be subsequently mapped conceptually into the some certain aspects of the thought domain such as 'content', 'quality', 'production' and 'comprehension', through which a certain proposition-schema can be postulated for each pairing. The findings will then illuminate the cultural backgrounds of 'cognition' concepts in Persian, leading us to portray the cultural motivations for their construction or semantic changes. Since the general framework of this study is based on the underlying assumptions made by CMT, it is expected that the findings of such a cognitive-semantic cross-cultural study would rectify this theory in general and food-related conceptualisations of 'thought' in specific.

## RESULTS AND DISCUSSION

To illustrate the heuristic procedures used in the analysis, the proposed proposition-schema for the metaphor conceptualisation of 'thought as food' is introduced in the section below.

### *Proposition-schemas in the Conceptualisation of 'Thought Is Food' Metaphor*

**The content of thought is the ingredient of food.** In Persian, speakers often encounter metaphorical expressions such as:

- (2) *goft- e- hā-š por o peymān ast*  
 speech-GEN-PL-POSS-3SG full and scale is  
 His speech contains much ingredient.  
 'His speech is informative.'/  
 ('His speech contains a lot of information.')

- (3) *harf-hā-š*            *bi*        *māye fatir-e*  
 Word-PL-POSS-3SG without - material azymic is  
 His words do not contain ingredient.  
 ‘His words are not informative/helpful enough.’

The above sentences use the terms *por-o peymān* ‘have much ingredient’, and *bi-māye* ‘without ingredient’ to refer to the content of the speech or knowledge of the speaker associated with the ingredient or content of food made by good or bad material. The ingredients of food are conceptualised as the content of thought/knowledge/language using metaphorical concepts of the word originally taken from the ingredients of food.

**The quality of thought is the flavour of food.** In Persian, there are metaphorical expressions which contain the flavour of food to describe the quality of thought as in:

- (4) *harf- hā-š*    *širin- e /talx-e/ xām-e/ na-poxte ast/*  
 word-PL-POSS-3SG sweet is/ bitter is/ raw is/  
 uncooked is/  
*bā-maze ast/ bi-maze ast*  
 tasteful is/ tasteless is  
 ‘His words are sweet/bitter/raw/uncooked/  
 tasteful/tasteless.’

- (5) *ādam- e*        *xām- iye/*    *poxte- iye*  
 person-GEN raw is/ cooked is  
 He is raw/cooked.  
 ‘He is inexperienced/knowledgeable and  
 experienced.’

In English, the expressions ‘sweet thought’ or ‘bitter thought’ use flavour of food to illustrate the quality of thought and ideas. In these expressions, food flavour is

metaphorically transferred to the quality of thought. The examples manifest that a variety of flavours of food domains are metaphorically extended to qualify the ideas and thought in Persian; while some are metaphorically applied to modify spoken words (sweet, bitter, raw, uncooked), some are specifically used to modify the degree of experience or knowledge of the speakers (raw, cooked). Consequently, what is mapped in the target domain of thought can be either general concepts or specific ideas.

Generally speaking, sweet tasty food is consistently utilised in most cultures to refer to positive and pleasant mental qualities, bearing the general schema ‘sweetness is perceived as positive’; nevertheless, there are specific metaphor instantiations shedding light on the underlying cultural differences. In Persian, the metaphorical expression *širin aql* ‘sweet mind’ conveys the idea of stupidity, endowing the term with negative connotation, manifesting the schema ‘sweetness is perceived as negative’. The metaphorical concept of related expressions can be found in the traditional/historical beliefs of Iranians regarding donkey’s meat, which was considered sweet, but had a negative connotation, as consumers of the meat had had to consume it during famine and war.

It is important to say that conceptual mapping is a complicated cognitive phenomenon, which involves multi-level conceptualisation in a hierarchical nature. Therefore, from a cognitive perspective, understanding metaphorical themes would not be an easy task; it might entail much

complexity. However, our mind seems to be naturally capable of organising basic knowledge in a hierarchical manner to enable us to interpret intricate meaning expressed in metaphorisation (Lakoff & Johnson, 1999). To show how two or more propositions are blended together in a chain to represent more complex conceptual metaphors, consider the following example:

(6) *ye del-e por harf dalam ke  
az bas širin-e*

one heart-GEN full word have-1SG that  
from much sweet-is

*sir ne-mi-iši*

full NEG-PROG- become-2SG

I have a heart full of words, so much sweet that you  
do not become full.

‘I have tonnes of such sweet words to speak that it  
makes you eager/hungry to know them all.’

In this example, the bodily organ ‘belly/stomach’ as a container for food to be stored and digested is metaphorically regarded as the container for holding words. Through the conduit metaphor ‘words are objects’, the words are thus conceptualised as objects that can be contained in a container. In addition, (6) entails ‘the container of food is the container of thought’ image schema through which the ‘content of belly/stomach’ in the food domain is mapped onto the words as the ‘content of the mind’ in the thought domain. On the other hand, the term *por* or ‘full’ metaphorically profiles the large amount of food in a container which is further mapped onto the quantity of thought as it could be measured in a container. Thus, the image schema ‘the quantity of thought

is the quantity of food’ can be understood through conceptual entailments in the proposition schema ‘the quantity of thought is measured by the quantity of food in its container’. In order to decode its meaning, one more proposition schema as ‘the quality of thought is the flavour of food’ is needed. Sweetness as the pleasant taste of food is mapped conceptually into an arousing, pleasant thought. As such, the linguistic metaphorical expression of (5) makes sense to us because it comprises the conceptual themes as in the following:

1. Conceptual metaphor:  
‘thought as food’
2. Conduit metaphor:
  - a. ‘words are objects’
  - b. ‘words are containers of ideas’
3. Image schema  
‘the container of food is the container of thought’
4. Proposition schema:
  - a. ‘the quantity of thought is measured by the quantity of food in its container’
  - b. ‘the quality of thought is the flavour of food’

**The formation of thought is the preparation of food.** The proposition schema here illustrates the formation of thoughts, and the thought here is conceptualised as the preparation of food, as in:

(7) *be harf- hā- š xeili čāšni mi- zan-e*  
to word-PL-POSS-3SG much spice PROG-  
hit-3SG

He adds too much spice to his words.

‘He exaggerates too much.’

Here, the sentence means he embellishes his speech with pompous or inflated words (i.e. ‘spice’) to convince others to agree with him.

(8) *ideh-hā-ye jadidi dar zehn- aš dar hāl- e*  
idea-PL-GEN new in mind-POSS-3SG in now  
GEN

*qavām āmad-an-e*  
inspissations come-INF is

New ideas are being inspissated in his mind.

‘Well-organised new ideas are being shaped in his mind.’

The expression *qavām āmadan* ‘inspissations’, in the sentence above, means forming a new idea or proposal of a new concept. The process involved in the production of new concepts in speech and mind is analogous with the formation and preparation of food. The basic meaning of *qavām āmadan* in the food domain is to cause the food to be thickened as by boiling or evaporation, making it well cooked and thick. This process is metaphorically used in the thought domain, profiling the abstract notion of forming a well-constructed new concept or thought. Thus, the metaphorical conceptualisation of this expression in the Persian culinary lexicon is used to describe this notional transfer from the source domain (food) onto the target domain (thought).

**The comprehension of thought is the digestion of food.** There are verbs in Persian that manifest the process of digestion (comprehension/understanding)

as a metaphorical conceptualisation of ‘comprehension of thought is the digestion of food’. Digestion refers to an act of assimilating food in a form that can be absorbed and utilised by the body.

(9) *moratab harf-hā -š ro dar zehn- aš*  
always word-PL-POSS-3SG ACC in mind-  
POSS-3SG

*nošxār mi- kone*  
rumination PROG-do-3SG

He always ruminates his words in the mind.

‘He always contemplates what he says.’

*nošxār kardan* (rumination), a compound verb in which the nominal element *nošxār* consists of *noš* ‘drinking’ + *xār* ‘eating’ is used to express food digestion by ruminants, but in Persian, it is metaphorically applied in special contexts referring to the contemplation of knowledge, speech or thought in general. It implies the digestion of something that was consumed previously, repeatedly. This is a concept formed upon the metaphor, ‘comprehension of thought is the digestion of food’.

This type of conceptual mapping can be expressed by a variety of verbs in Persian as *xordan* ‘eating’, *bali’dan* ‘swallowing’, *hazm kardan* ‘digesting’, *javidan* ‘chewing’, *jazb kardan* ‘absorbing’, *gāz zadan* ‘biting’, *makidan* ‘nibbling/sucking’, *čēšidan* ‘tasting’ the food, originally used in the food domain and metaphorically applied to refer to processing and understanding knowledge in a general sense. ‘Thought’ as used here can be either abstract, meaning knowledge, the outcomes of a study or simply the words uttered. These

and so many other words represent our daily concepts of ideas/thought referred to as metaphors used in our culture that colour our language. In fact, food processing in the body is likened to internalising ideas or mentally absorbing notions in many related and unrelated languages and cultures. This general metaphor conceptualisation can be subdivided into more precise concepts as follows:

**Learning is eating.**

- (10) *u xore ketāb dār-e*  
 he eater book has -3SG  
 He is a book eater.  
 ‘He loves books a lot.’

**Understanding is tasting.**

- (11) *harf-hā-t ro maze maze*  
*kon, ba’d begu*  
 word-PL-POSS-2SG ACC taste taste do-2SG,  
 then say-2SG  
 Taste your words, then speak.  
 ‘Understand what you want to say before you speak.’

**Understanding is digesting.**

- (12) *harf-hā-i ro ke to mi-gi,*  
*hich kas*  
 word-PL-GEN ACC that you PROG-say-  
 2SG, no body  
*ne-mi-tune hazm kon-e*  
 NEG-PROG-can-3SG digestion do-3SG  
 The words that you say, nobody can digest them.  
 ‘What you say cannot be understood by anyone.’

**Understanding is chewing.**

- (13) *harf-hā -t ro xub bejo,*  
*ba’d begu*  
 word-PL-POSS-2SG ACC good chew-2SG,

then say-2SG

Chew your words well, then speak.

‘Understand what you want to say before you speak.’

**Accepting/ understanding is swallowing.** The manifestation of the conceptual metaphor ‘the mind is the body’ is reflected in the metaphorical expression, ‘swallowing an idea’. The concept is grounded in our common experience of ‘body’ and ‘mind’. Accepting or rejecting pleasant/unpleasant ideas metonymically implies the swallowing of food. The mapping principle for the conceptual metaphor ‘accepting/understanding is swallowing’ lies in the fact that both ideas and food are expected to be consumed and processed by the mind and the body respectively. In other words, the act of swallowing is mapped on to the processing, comprehending or acquiescing of thoughts and ideas. Swallowing stands for the whole process of the activity of eating, carrying a particular metonymic concept. It mostly corresponds to the act of drinking a liquid substance with minimal physical management of the active zones of eating as an activity. In Persian, for example, *drinking from the elixir of knowledge, wisdom and love* manifest the discovery and understanding of these abstractions. Thus, as the following examples represent, swallowing a liquid in Persian denotes experiencing a mental focus on the intended concept.

- (14) *mesl-e āb-e xordan hame ro*  
 like-GEN water-GEN eating all ACC  
*az bar-am*

from memory-be- PRS-1SG

Like drinking water, I know all from my memory.  
'I know all by heart.'

(15) *dar yek češm be ham zadan hame-*  
*ye doruq-hā-š*

in one eye to gether hit-INF all-GEN  
lie-PL-POSS-3SG

*ro bali'd, ye āb ham*  
*ru-š ACC swallow-PST-3SG, one water also*  
on-DEM.PRO

In the twinkling of one eye, he swallowed all his  
lies.

'He instantly swallowed all his lies.'

Moreover, in Persian, abstractions such as knowledge, wisdom and love are metaphorised as physical needs, in the form of water, food and fruit. The conceptual metaphor 'abstract needs are physical needs', therefore, shows the correspondence between the source domain of eating and that of intellection, which is reflected in Persian expressions such as *tešne-ye dāneš* 'thirst for knowledge', or *gorosne-ye tajrobe-hā-ye jadid* 'hungry of new experiences'. We visualise the bodily experience of eating food with those we use in other experiences as 'knowledge' and 'experiences'.

When we cannot have enough food, we feel hunger or thirst, and this is conceptualised in the metaphors 'desire is hunger/thirst', and 'satisfying desire is eating'. In this connection, a very interesting example in Persian is the term *lah-lah zadan* which means 'to pant' (e.g. like a dog from thirst, etc.), and metaphorically, it is applied to reflect a thirst and hunger to get the awareness of intellection or emotion.

Therefore, the focus of the expression *lah-lah zadan* for X would not be on physical thirst or hunger, but a strong mental longing and desire for something (e.g. knowledge, information, ideas, love or sexual interaction) as shown in the following expression:

(16) *del-am barāye dunestan-e*  
*xabar-hā*

heart-POSS-1SG for understanding-GEN  
news-PL

*lah lah mizane.*

panting panting PROG-hit-3SG

My heart is panting for knowing the news.

'I am very eager to know the news.'

The metaphor is understood as a strong desire to discover the news, and here we have a metaphor interacting with a metonymic mapping. The 'container' image-schema of *del* 'heart' (part) stands for the person (whole). The compound Verb construction *lah-lah zadan* is mapped onto strong want and longing to discover or understand X. The understanding of this expression needs an activation of an image-schematic structure in which the part-whole schema highlights the relationship between the source and target domains.

On the other hand, the image schema of unfavourable, disgusting or indigestible food which results in difficulty in the swallowing or digesting may be mapped as the 'thought' domain, reflecting a struggle for understanding or accepting the ideas and thoughts in mind.

(17) *sa'i kardam hame-ye harf-hā-ye*  
*kezb-eš ro*  
 try do-PST-1SG all-GEN word-PL-GEN  
 lie-POSS-3SG ACC *foru bexor-am vali*  
*ta modat-hā sar-e*  
 down eat-1SG but till time-PL  
 head-GEN  
*del-am mānde bud*  
 stomach-POSS-1SG stay-PST  
 I tried to swallow all his false words, but they had  
 stood on my heart for a  
 long time.  
 'I tried to swallow all his lies, but I couldn't forget  
 them for a long time.'

The above mixed metaphorical expression reflects an overloading pressure on stomach *sar-e del māndan* 'to be troubled with ingestion' when there is difficulty swallowing (*foru- xordan*) and digesting more food. In the same way, incomprehensible information or news may create an overload of pressure for the mind, and this gives rise to the metaphor 'an overload of pressure on the mind is an overload of pressure on the stomach'.

On the other hand, the concept of destruction and elimination can also be served as a target domain by the act of swallowing as a source image, though there is no reference of mastication (biting and chewing) in this eating process. Swallowing makes food inaccessible as the visible substances (from outside the body) become invisible (inside the body), conceptualising the sudden removal and enclosure of an entity. The concept of X is swallowed by Y is illustrated in the following Persian expression.

(18) *kāš zamin dahan bāz kone,*  
 Wishing ground mouth open do-3SG,  
*man ro foru bede*  
 I ACC down give-3SG  
 I wish the ground opens its mouth and swallows me.  
 'I wish the ground would swallow me up/ I wish I  
 could hide from memories.'

The above example is a metaphorical personification of the 'ground' used as a metonymic concept suggesting a part (mouth) to stand for a whole (person). It imputes the human physical ability of ingestion, where the human functions as eater (a strong agentive subject) swallowing (*foru dādan*) the memories of the past that need to be hidden away, thus conceptualising the metaphor 'swallowing is hiding'.

#### **Persuading is eating.**

(19) *bā dāstān-hā-ye bi-mani-š maqzam*  
 with story-PL-GEN without-meaning-POSS-  
 3SG brain-POSS-1SG  
*ro xor-d*  
 ACC eat-PST-3SG  
 He ate my brain with his meaningless stories.  
 'Telling meaningless stories, he made me upset.'

In Persian, the meaning of light as a verb *xordan* may be extended to indicate the concepts of both 'overcoming' (by a strong agent) and 'undergoing torment' (by an affected object) in both the intellectual and emotional domains as it is with 'eating someone's head or brain'. The related metaphoric expressions, therefore, indicate that someone (an agent) can eat another person's 'head' or 'brain' to irritate or upset the latter. It seems in Persian, when

offended, one ‘uses’ another person’s head/brain to force him to experience a sort of psychological torment in destroying his intellectual or emotional ‘container’ or ‘contents’.

The examples cited above and so many other metaphorical themes present our daily concepts of ideas/thought referred to as metaphors we use in our own culture. It is also a way other cultures conceptualise thought using food as the source domain. In fact, food processing in the body is assimilated as internalising the ideas or mentally absorbing notions across many related and unrelated languages and cultures. Nevertheless, some metaphor conceptualisations in Persian like *maqz-am ro xord*, ‘he ate my brain’, do not seem to be meaningful in other languages when translated literally.

## CONCLUSION

The most salient factor that is still disregarded in conceptual metaphor studies is cultural cognition or em-minded cultural accounts that are rooted in a nation’s worldviews, belief systems, traditions, habits and even linguistic systems, which have constructed and reconstructed thought and speech over time. In fact, while metaphors mostly are motivated and mediated based on physiological embodiment, no one metaphor can be viewed as culture-free; metaphors are a manifestation of cultural models comprising embodiment, cultural em-mindedness and the interplay of both. With this distinction in mind, it can be concluded that metaphor universalities mostly are the result of the

same experiential embodied accounts, which are constructed under motivation of a similar cultural em-mindedness. The variations in the em-minded cultural elements, on the other hand, may cause a completely different conceptualisation or a different understanding and reasoning of the same physiological experience, which leads to variations in the meanings of the same conceptual metaphor in the same mapping. Thus, this study shows a clearer image of the interaction between the human body, mind and particular cultural norms in the conceptualisations of metaphoric themes of ‘thinking’ in the source domain of the acts of ‘food’ and ‘eating’ in Persian.

Under the principles of mapping from the source domain of ‘food’ and ‘eating’ to the abstract domain of ‘ideas’ and ‘thought’, the prominent features of the source domain used are food ‘ingredients’, ‘flavour’, ‘preparation’ and ‘digestion’, which are mapped respectively to the target domain of ‘thought’ as its ‘content’, ‘quality’, ‘production’ and ‘comprehension’. As the linguistic instances in this study show, among the identified proposition-schemas for ‘thought as food’, those related to ‘food preparation’ and ‘food digestion’ seem to be the most abundant and productive. Moreover, it has been revealed that some particular features of ‘food’ as the source domain have been more salient and likely to be used as mapping concepts in Persian. It is noteworthy to say that not all metaphorical expressions introduced in the corpus data fit exactly into the suggested framework. Conceptual mapping is in fact a very

complex cognitive process that requires multi-facet conceptualisations in order to construe the metaphors of the ‘thought as food’ concept.

This study, therefore, shows that variations in the linguistic metaphorical themes may have resulted from the specific proposition-schemas for the mapping conceptualisations. The identified models enable us to demarcate the em-minded cultural models as well as cross-cultural commonalities and diversities in the way we think and speak. The ontological metaphoric extensions of food and cognition in Persian are, thus, to a great extent mediated and motivated by embodied experiences as well as socio-cultural orientation, Iranian traditional medicine and the spiritual tradition of Sufism, as shown in the marginal role the Persian language plays in the rational-irrational dichotomy. For instance, the ad hoc evidence inferred from the metaphorical conceptual mappings of *del* ‘heart/stomach’ as a container in Persian is very likely originated from em-minded cultural models i.e. motivated from Iranians’ ethno-medical traditions and the spiritual worldviews of Sufism.

## REFERENCES

- Avicenna (Abu Ali Sina), M. (1930). *A treatise on the canon of medicine of Avicenna*. Incorporating a translation of the first book. by O. C a m e r o n Gruner . London.
- Ibarretxe-Antuñano, I. (2012). The importance of unveiling conceptual metaphors in a minority language: The case of Basque. In A. Idström, & E. Piirainen (Eds.). *Endangered Metaphors*, pp. 253–274. Amsterdam/ Philadelphia: John Benjamins.
- Khajeh, Z., & Imran-Ho, A. (2012). *Persian culinary metaphors: A cross-cultural conceptualization*. GEMA: *Online Journal of Language Studies*, 12 (1), 69-87. ISSN 1675-8021
- Khajeh, Z., Imran-Ho, A., & Tan, K. H. (2013a). Emotional temperament in food-related metaphors: A cross-cultural account of the conceptualizations of ‘sadness’. *International Journal of Applied Linguistics and English Literature*, 2 (6), 54-62. ISSN 2200-3592, ISSN 2200-3452.
- Khajeh, Z., Imran-Ho, A., & Tan, K.H. (2013b). The metaphoric concept of *xordan* ‘to eat’ in Persian. *Asian Social Science*, 9 (15), 115-129. ISSN 1911-2017, E-ISSN 1911-2025.
- Kovecses, Z. (2002). *Metaphor. A practical introduction*. New York/Oxford: Oxford University Press.
- Kövecses, Z. (2005). *Metaphor in culture: Universality and variation*. New York: Oxford University Press.
- Kövecses, Z. (2008). The conceptual structure of happiness and pain. In C. A. Lascaratou, A. Despotopoulou, & E. Ifantidou (Eds.). *Reconstructing pain and joy: Linguistic, literary, and cultural perspectives* (pp. 17-34). Newcastle, UK: Cambridge Scholars Publishing.
- Kovecses, Z. (2010). *Metaphor: A practical introduction*. Oxford University Press.
- Lakoff, G. (1987). *Women, fire, and dangerous things: What categories reveal about the mind*. Chicago: University of Chicago Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: The University of Chicago Press.
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh*. New York: Basic Books.

- Lakoff, G., & Turner, M. (1989). *More than cool reason: A field guide to poetic metaphor*. Chicago: University of Chicago Press.
- Reddy, M. J. (1979). The conduit metaphor. In A. Ortony (Ed.). *Metaphor and thought* (pp. 284-324). Cambridge: Cambridge University Press.
- Sharifan, F., Dirven, R., Yu, N., & Niemeier, S. (2008). *Culture, body, and language: Conceptualizations of internal body organs across cultures and languages*. Berlin/New York: Mouton de Gruyter.
- Su, L. I-W . (2002). What can metaphors tell us about culture? *Language and Linguistics*, 3(3): 589-613.



## **No=Yes or Yes=No? Strategies in Responding to an Offer/Invitation Among Indonesians**

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### **ABSTRACT**

The present article discusses strategies in refusing/accepting an offer/invitation. It draws on two studies involving Indonesians within the physical settings of Australia and Indonesia. Whilst the subjects in the first study were 11 Indonesians consisting of three East Javanese, four West Javanese, an Acehnese, a Papuan, and two Makassarese, those in the second study were 19 East Javanese. The analysis shows that an Indonesian hearer (H) tends to delay a refusal or acceptance until the second, third, or another offer/invitation is made and when a refusal or acceptance is made, which denotes a 'face-threatening' act, an Indonesian H tends to use mitigating strategies. White lies, with the characteristic of indirectness, are the main strategy used by Indonesians in responding to an offer/invitation. Directions for future research conclude the article.

*Keywords:* Face, refusal/acceptance, offer/invitation, politeness, white lie

### **INTRODUCTION**

Research into socio-cultural and pragmatic norms undergirding both oral and written communication abounds (Al-Adaileh, 2011; Aziz, 2000; Azza, 2011; Basthomi, 2008, 2010; Bataller, 2010; Brown, 2010; Geyer,

2010; Pinto, 2011; Syahri, 2007). Within the Indonesian context, studies in the realm of inter-language pragmatics have tended to be around the speech acts of request, complaint, compliment response and apology (Aziz, 2000; Azza, 2011; Pratiwi, 2008; Santi, 2010; Suryadi, 2007; Syahri, 2007) and the strategies for accepting/refusing an offer/invitation among Indonesians have received little attention. To address this issue, the present study seeks to analyse how

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Indonesians respond to an offer/invitation. Since this issue has to do with face (Brown & Levinson, 1987; Cheng, 2001; Geyer, 2010; Ji, 2000), the study connects to the notion of politeness (Kiesling & Johnson, 2010; Pfister, 2010) that is inextricable in daily communications.

In daily communications, or what Pfister (2010) refers to as rational conversations, people tend to avoid obvious face-threatening acts and instead manipulate both their verbal and non-verbal behaviour to avoid conflict (Aziz, 2000; Rohmah, 2006); speakers express respect for the person to whom they are talking and try to avoid offending them (Holmes, 1995), necessarily including that when they refuse/accept an offer/invitation. Refusing/accepting an offer/invitation potentially has a polite/impolite implication, for an offer/invitation has to do with face (Cheng, 2001; Ji, 2000).

Refusal, as one of the two responses to an offer/invitation, has received some attention from linguists and second-language researchers and practitioners (Deephungton, 1992; Félix-Brasdefer, 2003; Hong, 2011; Lyuh, 1992). These researchers have conducted their studies in view of intercultural or cross-cultural communication. The criticality of refusal in intercultural communications lies in the potential negative transfer of the socio-cultural norms expressed by non-native speakers in the target language mediating the intercultural communications (Beebe *et al.*, 1990). The negative transfer of socio-cultural, particularly pragmatic, norms has been identified as a dominant factor

attributable to serious communication breakdowns (Aliakbari & Changizi, 2012; Riley, 1989; Rintell & Mitchell, 1989; Wannaruk, 2008). In this regard, it is worth noting that high proficiency in grammar is not necessarily comparable to sound knowledge of the socio-cultural norms embedded in the given language (Félix-Brasdefer, 2003). Among the cross-cultural studies on refusals (Deephungton, 1992; Félix-Brasdefer, 2003; Hong, 2011; Lyuh, 1992), the common issue shared pertains to the differences in the degree of (in)directness, which, in turn, is perceived as (im)politeness.

As explained above, refusal/acceptance of an offer/invitation has to do with face, and thus politeness, which “refers to behaviour which actively expresses positive concern for others, as well as non-imposing distancing behaviour” (Holmes, 1995, p. 5). Holmes’ definition seems to echo Held’s (1992, p. 132) conception that “politeness can be defined and identified as an inventory of everyday modes of behaviour in avoiding or smoothing out conflict.” As an antecedent to Ji’s (2000) notion of face noted earlier, Brown and Levinson (1987) relate politeness to people’s face; politeness means preserving people’s face, which has two aspects: positive (self-image or personality and self-respect) and negative (claim to territories, freedom of action, freedom from imposition etc.).

Individual and social needs frequently lead to actions that may threaten the positive or negative face of other people; therefore, people employ strategies to minimise

the sense of the threats implicated by a certain action so as to maintain social relationships. In so doing, people often use instances of either positive or negative politeness strategies to minimise threats to positive or negative face (Al-Adaileh, 2011; Odlin, 1989). This categorical framework might suggest a generalisation about the differences in politeness scales. For example, Odlin (1989) says that English speakers are more likely to prefer negative politeness in their requests, which seems to be the opposite of German and Hebrew speakers, who are likely to employ positive request strategies more often.

There are some specific aspects to which we might pay attention in discussing politeness, particularly relating to cultural differences (Ji, 2000). English has several linguistic ways of conveying politeness; they range from lexical choice (slang, formal) and intonation to grammatical construction (Holmes, 1995). The use of *cuk* (dirty-swear word) to address people in Surabaya, East Java, Indonesia, might be desirable, for it suggests a jocular mockery or teasing that may function as a face-supportive act (Geyer, 2010; Haugh, 2010). However, the same word does not normally work in the same manner in other areas of East Java; different contexts may evoke different interpretations (Callahan, 2011; Rahayu, 2010). Another example is the use of *nDoro*, a Javanese royal term of address. One might use such a term to address a peer considered notoriously bossy. Therefore, the use of dirty words and slang might show inclusiveness or solidarity and

thus may be polite in a sense. Similarly, Aliakbari and Changizi (2012), reporting on their study on refusal among Persian and Kurdish speakers, reveal the use of swearing as a type of face work technique to soften the face threat which exists in the speech act of refusal. This affirms Holmes' (1995) observation that there is an infinite variety of manners of expressing linguistic politeness (Holmes, 1995).

All this suggests that politeness is central to communication consisting of utterances and actions. Politeness constitutes a purposeful, goal-orientated, and situation-bound selection of linguistic strategies (Held, 1992). In Brown and Levinson's (1987) framework, verbal signals of politeness originate from acts affecting face. Therefore, they employ face-threatening acts (FTAs) to refer to utterances having illocutionary force that, in regard to social norms, must be appropriated to the situation.

Thus, what is central in the discussion of politeness is not whether certain words, phrases or expressions belong to a list of polite words or not, but rather the appropriation of the use of the available linguistic choices in accordance with the situation or context: exclusive/inclusive, distancing/embracing etc. (Blum-Kulka, 1992; Conlan, 1996; Pfister, 2010) for "face and facework are discursively constructed phenomena" (Geyer, 2010, p. 2120). Since face and facework, which are central to the conception of politeness, are discursive. As conventional properties are at play here. As conventions are inherent properties of cultural groups, the study of strategies

for the refusal/acceptance of an offer/invitation inevitably deals with particular cultural groups, as different cultural groups may have different conventions regarding facework and politeness (Cheng, 2001).

Despite the ubiquity of refusal/acceptance pertinent to an offer/invitation in daily conversations (Aziz, 2000; Deephuengton, 1992; Félix-Brasdefer, 2003; Hong, 2011; Lyuh, 1992) and the fact that pragmatic studies on politeness abound (Al-Adaileh, 2011; Azza, 2011; Brown, 2010; Erfan, 2007; Geyer, 2010; Pinto, 2011; Syahri, 2007), the strategies for accepting/refusing an offer/invitation among Indonesians are under-researched. I am aware of Aziz's (2000) research on the issue of refusal and acceptance regarding a request/invitation; however, the study did not reveal much about the refusing/accepting strategies since it did not focus on this issue. In fact, the study did not attend to evolving turn-takings whereby the refusal or acceptance of a request or invitation can be fully assessed; the study, which employed discourse completion tests (DCTs), did not allow for multiple turn-taking.

As a response to this situation, the present study deals with a group of Indonesian speakers; it deals with language- and culture-specific empirics of the employment of the strategies among Indonesians in responding to an offer/invitation as constructed phenomena as noted by Geyer (2010) in the use of language for communication and as instances of the contents of the politeness maxim pointed out by Pfister (2010). Unlike Aziz's (2000)

study and its somewhat broad exploratory nature regarding Indonesian speech act realisations, the present study is focused on Indonesian strategies for refusing/accepting an offer/invitation, and, in light of the notion of face as a constructed phenomenon (Geyer, 2010). And in view of the need to remedy the methodological limitation in Aziz's (2000) research, the present study analyses naturally occurring data wherein strategies for refusing/accepting an offer/invitation are made manifest by multiple turn-taking.

## MATERIALS AND METHODS

This paper is both part of and based on data involving two studies using Conversation Analysis focused on the adjacency pairs of giving offers/invitations and responding to the offers/invitations (Hutchby & Wooffitt, 2008; Wooffitt, 2005). The first study was carried out at a *musalla* (small mosque) of a university in Western Australia, whereas the second was at a faculty administration office in a university in Malang, East Java, Indonesia. I acted as a participant-observer at both sites.

As regards the first site, following some preliminary observations, I decided that the subjects were 11 Indonesians who had the tendency to remain behind and become engaged in after-prayer conversations. These conversations were typically the longest conversational events of the subjects, averaging some 30 minutes each. The subjects were three East Javanese, four West Javanese, two Makassarese, an Acehese, and a Papuan. These 11 subjects frequently

had the opportunity to talk in a group; sometimes they were distributed in two or three groups. In such cases I decided to engage myself in and record the group with the biggest number of subjects. It should be noted that the subjects shared relatively the same social power and social identity. All were students in the Australian context and are university faculty members in their home country, Indonesia.

As a participant-observer, I equipped myself with a tape recorder. The recorded data were then transcribed orthographically. Non-spoken data such as atmosphere, the mood of the conversations, and subjects' facial expressions and body movements were recorded in field notes. Memos were also written to make a summary of the data and to draw tentative conclusions of the patterns existing in the data. These tentative conclusions were used to focus the following observations in order to determine if there was any recurrence important to the fixation of the tentative conclusions. Subsequent to a month or so of preliminary observations, intensive observations and recordings were made in two weeks' time (five week days). The conversations mainly took place subsequent to two prayer times: noon and afternoon. This amounted to some 500 minutes (8.3 hours) of recordings. Out of these recordings, there were 13 linguistic events comprising pairs of offers/invitations and responses; these events constituted the focus of the analysis.

The situation at the second site was different in that of the 19 subjects I observed, only one was non-East Javanese. The main

locus of my observations at this site was the office space with tables around which many conversations were carried on by staff enjoying refreshments such as crackers, fruits and other edible items during a break. The focus of the conversations, which I observed from November 2012 to July 2013, was offers/invitations and their responses. The data on these mainly casual conversations were in both Javanese and Indonesian. My engagement in the conversations among the 19 participants took place only on weekdays. Equipped with a cell-phone and field notes to record linguistic events, I collected and orthographically transcribed 323 entries of short linguistic events of offers/invitations to partake of the refreshments, as well as their responses.

It should be noted that the transcription in both studies was made in the light and with some adjustment of Gail Jefferson's transcription system (Atkinson & Heritage, 1984; Wooffitt, 2005). Since the data are in some mixed codes of Indonesian and Javanese (italicised), the English translation is also provided in square brackets.

## RESULTS AND DISCUSSION

One interesting phenomenon in the conversations has to do with the strategies used by the speakers to cope with offers/invitations. Out of the 13 and 323 linguistic events comprising adjacency pairs of offers/invitations and responses in the first and second studies, respectively, indirect or indeterminate strategies in the responses were predominant. An Indonesian addressee, or hearer (H), tends to place the

interpretation of a response towards an offer/invitation, whether it means refusal or acceptance, on the part of the speaker (S). They tend to not express a clear acceptance or refusal right from the outset when first providing a response to an offer/invitation. Excerpt 1 epitomises this phenomenon (note in the excerpts that C refers to the speaker).

*Excerpt 1*

- C1 *Gimana Mas Bas Mas Sab Baik-baik saja Kuliah lancar ka::n?*  
[Is everything all right? Courses are running well, aren't they?]
- C2 *Alhamdulillah::h.=*  
[Praise is to God.]
- C3 = *Alhamdulillah::h.*  
[Praise is to God.]
- C2 *Hanya kecutnya:: saya sudah kehabisan bekal rokok kretek Indo*  
[But, unfortunately, I've run out of Indonesian cigarettes.]
- C1 *Obatnya ini lo:: ha::ini aku ada permenmonggo::monggo::ha:monngo::*  
[You needn't worry. Here are some sweets to substitute.]
- C2 *Trimakasih Pa:ksudah saya*  
[Thank you, I've got mine.]
- C1 *Suda:::h nggak usah sungkansungka::n kita kan sama sama perantaua:n kita pakek cara Australi sajala:h kalau iya: iya betu:l kalau ngga:k nggak betu:l jadi: ambil sajalah ayo::*  
[Come on...just feel free...we're all foreigners here...let's just use

the Australian way. If you accept, just say yes, if you refuse, just say no...so just take it.]

- C2 *Ya ya Pak terima kasi::h (.) wa::h kalau ini sih memang bisa jadi gantinya rokok sementara (.) ya nggak Sab*  
[Yes, yes, thank you...wow...this is a real substitute, isn't it?]

In Excerpt 1, C1 offers some sweets to C2 and C3. This invites C2's response of "*Trimakasih Pa:k sudah saya*" [Thank you. I've got mine]. In this case, it is not clear whether C2 accepts or refuses the offer. This response could be called *pemanis bibir* (similar to paying lip service). In this instance, C1 concludes directly that it is only *pemanis bibir* and proceeds to say "*Suda:::h nggak usah sungkan sungka::n kita kan sama sama perantaua:n kita pakek cara Australi sajala:h kalau iya: iya betu:l kalau ngga:k nggak betu:l jadi: ambil sajalah ayo::*" [Come on...just feel free...we're all foreigners here...let's just use the Australian way. If you accept, just say yes, if you refuse, just say no...so just take it]. In the above example, it is after the second offer that the S really knows the meaning of the response; H actually accepts the offer. It is actually doubtful whether C2 really has had some sweets, as reflected in "*Trimakasih Pa:k sudah saya*" [Thank you. I've got mine]. In a sense, it seems that Indonesians tend to cover up the real meaning of a response to a first offer/invitation. A similar situation is reflected in Excerpt 2, which, in fact, involved me (C2).

*Excerpt 2*

- C1 *Mas pistachiosnya*  
[Bro, would you like the pistachios?]
- C2 *Iya mBak*  
[Yes, Sis.]
- C3 *Ayo Mas=*  
[Come on, Bro.]
- C2 *=Iya Ma::s=*  
[Yes, Bro.]
- C4 *=Ini Mas tak ambilka::n*  
[Here you go, Bro.]

In Excerpt 2, C2 was offered pistachios, which were already arranged on a table. I would note that, despite my “*Iya mBak*” [Yes, Sis.] and “*Iya Ma::s*” [Yes, Bro.] to both the first and second offers made by C1 and C3, respectively, both of my verbal assents were not congruent with my action, for I did not take the pistachios until the third offer was made, which, in fact, was not made verbally; the third offer was made by C4 by directly placing a small saucer of pistachios on the table right in front of me. I would add here that I happened not to take the pistachios subsequent to the first and second offers simply because I did not want to explicitly show that I wanted the pistachios even though I really wanted to take them. I took them after the third offer was made. A similar situation is also made manifest in Excerpt 3.

*Excerpt 3*

- C1 *Eh Dik (.) ngomong ngomo:ng kok laper to aku maem yo:: dompetku lagi rodok kandel ko:k*

[By the way, I am feeling hungry. Why don't we have lunch? It's on me.]

- C2 *Aku wis mari maem iku Pak yo opo*  
[I have had a meal. What do you think?]
- C1 *Ha la::h wi::s ta:::*  
[Come on...]
- C2 *Te:men lo Pak*  
[I mean it.]
- C1 *Hala::h ra usah sungkansungka::n*  
[Just feel free, come on.]
- C2 *Te::men temen kok Pak*  
[I mean it, really.]
- C1 *Kalau gitu:: (.) sampeyan mimik saja wis*  
[Then, just have a drink.]
- C2 *Aku selak arep presentasi iku Pak yok opo*  
[I'm going to make a presentation, what do you think?]
- C1 *Iyo ta: (.) yo:: (.) ojo nek ngono (.) yo wis kapan kapan wae nek ngono yo wis sampeyan siapsiap*  
[Are you? You cannot go, then. So, make your preparation, then.]
- C2 *Sori Pak yo suwu::n lo Pak yok o:po iki*  
[I'm sorry. What do you think? What a shame.]
- C1 *Yo ra popo: wo:ng sampeyan pancen penting kok (.) arep yok opo maneh (.) yo wis nek*

*ngono aku tak maem dewe  
assala: :mualaikum*

[It's all right. It is just because you really have an important thing to do. All right then, I'll have lunch alone. God bless you. See you.]

Excerpt 3 clearly demonstrates that C2 has something important to do i.e. giving a presentation. However, instead of telling the truth immediately after the offer/invitation is made, he uses “*Aku wis mari maem iku Pak yo opo*” [I have had a meal. What do you think?]. At this juncture, it is not clear yet whether C2 really has had his lunch. He just mentions *maem* (a meal), which does not necessarily denote *maem awan* [lunch] as intended by C1 (based on the context). Again, it is the same as that in Excerpt 1 in which H does not immediately show refusal or acceptance after the first offer/invitation is made. The real refusal or acceptance is made obvious after C1 probes further and learns the underlying reason why C2 refuses the offer/invitation.

Reminiscent of the issue above, let me refer to my anecdotal observations as an Indonesian myself. As I was invited to dinner by an Australian friend in the first month of my one-year stay in his country, I was confronted with the inevitability of responding to an offer to take items from the dinner table. My first response to the offer, suggesting the meaning of “no,” did me no good. My expectation that the Australian fellow would make another offer simply led me to frustration and resulted in his asking if Indonesians typically eat as little for dinner

as I did. The question made me aware that he did not realise that I was expecting him to make more than a single offer so as to make me feel justified in taking and eating what I wanted from the dinner table. This situation suggests that what I did was transferring my Indonesian pragmatic norms to English (Basthomi, 2004, 2008, 2010; Bataller, 2010; Koike & Palmiere, 2011; Pratiwi, 2008; Syahri, 2007).

It may be construed that Indonesians tend to consider a refusal as a positive face-threatening act towards S and an acceptance of a positive face-threatening act to H. Therefore, at this point, they decide to delay their real refusal/acceptance and hand over the responsibility for making a decision to S, as the party held responsible for initiating the face-threatening situation. Here we may safely say that Indonesians tend to try to avoid making face-threatening acts, preferring instead, harmony (Rohmah, 2006). In this case, then, it is S's responsibility to probe further, if they intend for the conversation to proceed, so that H can no longer resist; H has to choose either kind of face-threatening act. As the face-threatening acts can no longer be avoided, Indonesians try to find other strategies to save face. In Excerpt 3, we note that the refusal is softened by means of saying something equal to *sorry*, a kind of excuse (Aziz, 2000; Lyuh, 1992), thanking S (acknowledging that the offer/invitation is worthwhile) and eliciting comments from S by means of a question, “*Yok o:po iki*” (What do you think?) in which H expects S to show his understanding. This question also means granting S the authority to make a decision,

which serves as compensation for S's loss of face due to H's refusal, thus achieving harmony (Rohmah, 2006).

However, there is also the possibility that Indonesians use a direct refusal or acceptance. The strategies accompanying this are interesting. Excerpt 4 provides an epitome of these strategies.

*Excerpt 4*

C2 *Nanti tak susu::l gimana Dik sampeyan nggak butuh ngopi fail fail ke CD ta:h (.) ke kantor saya saja*

[I'll come....Don't you think you need to copy some files? Just come to my office and do the copying in there.]

C4 *Wa::h kebetulan ni::h tapi rasanya: saya berhutang ba::nyak sama njenengan (.) gimana ya*

[Wow...it's great, but I think I owe you quite a lot. How is it, what do you think?]

C2 *Jangan disau::r biar jadi amal saya saja biar nggak kelong pahalane yo ra*

[You needn't reimburse me. Let it be my good deed deserving a reward later, on the day of judgement, will you?]

Unlike those in the previous excerpts, in this excerpt, C4 immediately accepts the offer/ invitation. However, the direct acceptance is mitigated by the use of expressions acknowledging that he owes C2 something and eliciting C2's question

“*gimana ya*” [what do you think?]. However, unlike that in Excerpts 1 and 3, *gimana ya* does not mean that C4 is granting C2 with any authority; rather, it means that it is C2 whom C4 considers to possess the authority of understanding that C4 needs to compensate for loss of face due to the direct acceptance.

Based on these illustrations, we may conclude that Indonesians tend to provide a response which seems to decline an offer/invitation right after the first offer/ invitation is made and reveal their refusal/ acceptance after the second or further offers/invitations are made. In this regard, Indonesians' way of responding to an offer/ invitation can be construed to be indirect (Kiesling & Johnson, 2010) and similar to that of Koreans (Lyuh, 1992). When a refusal is eventually revealed, Indonesians tend to mitigate the refusal by means of expressions that carry the meaning of remorse, gratitude and eliciting comments from the speaker using a question equal to “What do you think?” These strategies are also employed when they make a direct acceptance. This suggests that a refusal is equal to an acceptance of an offer/invitation. Both constitute FTAs, the former on the part of S, the latter on the part of H; therefore, mitigating strategies are needed. These empirics lend support to Cheng's (2001) proposal for the conception of self-face and, thus, self-politeness vis-à-vis the well-developed conception of politeness based on other's face. In other words, facework in the communicative event of giving an offer/ invitation and refusing/accepting it among

Indonesians requires negotiations regarding the potential loss of H (self) and S's (other) face, providing a face-saving strategy for both H and S (Aziz, 2000).

Indonesian responses to an offer/invitation as presented above seem to suit well to Held's (1992) perspectives of politeness comprising four categories: 1) politeness seen from a causal-deterministic viewpoint, 2) politeness seen from an indirectness approach, 3) politeness seen as a relationship support, and 4) politeness seen as pre-patterned speech. The first perspective bears the idea that a linguistic system is bound by social norms, and that the traces of social influences are present in its lexicon and grammar. The transfer of the Indonesian norms into conversation using English as the communicative medium affirms this issue.

The second perspective sees indirectness in Indonesian verbal behaviour of accepting/refusing an offer/invitation as ideal. It ensures the mutual protection of face, harmonious communication and conflict-free exchanges. Indirectness as a politeness strategy works under the assumption of commonly shared unspoken language, contextual binding and an increased dependence on the partner's cooperation. Indirectness means that the speaker gains the freedom to proceed further with conversational turns and that the hearer is free to decide, to make counter moves and to continue the conversation in accordance with their preferences. Indirectness encourages the hearer to willingly accept and generate conflict-free agreement. Indirectness also enables both

the speaker and the hearer to gradually adjust their communication development (Kiesling & Johnson, 2010; Morgan, 2010).

The third point seems to be an extension of the second one in that indirectness is not (does not necessarily emerge as) the only answer to the conflict potential of communication. Other forms of behaviour, probing for clarity and/or clarification, justification etc. are believed to have the answering potential to tackle the conflict potential of communication. In this sense, politeness is not limited to the sentence unit. Rather, it embraces the complex action or sequence of actions. Also included under this point is politeness as an affective realisation, which is generated consciously and employed strategically.

The fourth perspective refers to the language-specific forms and formulae related to politeness. It deals with idiomatic aspects related to the close tie between politeness and linguistic 'routinisation' and 'automatisation' such as the use of a question similar to *What do you think?* epitomised above, which seems to be typical among Indonesians.

By way of recapitulating, this study has demonstrated that an indirect refusal/acceptance of an offer/invitation tends to be preferred by Indonesians. A first 'no' as a response to an offer/invitation does not necessarily mean a real 'no' or refusal; it may suggest a delayed 'yes' or acceptance of the realisation that unfolds in the evolving conversations as an S probes further by repeating the offer/invitation. Similarly, a direct 'yes' ((i)ya (Indonesian), *nggih*

(Javanese)) is not necessarily congruent with the observable physical action of, for instance, taking the item offered. A white lie (Pfister, 2010, p. 1280) seems to be the main strategy used by Indonesians to give a response to the first offer/invitation. The white lie is used to stave off FTAs; it is the gate before which a speaker must decide whether he will proceed or not. Getting through means putting one person, either the speaker or the hearer, at risk of losing face. As conversations are inevitable in daily communications and FTAs are indispensable in conversations, the potential danger of losing face, within the communicative act of giving a response to an offer/invitation, either on the part of the S (other) or the H (self) (Cheng, 2001), is seen by Indonesians to require rehabilitation, which takes the form of mitigating strategies. The mitigating strategies in responding to an offer/invitation include H's saying, either separately or in combination, *sorry* (making an excuse), acknowledging the value of the offer/invitation and directing to the S a question equal to *What do you think?*

From a cross-cultural comparative point of view, this indirectness may potentially be "misinterpreted as a sign of insincerity or hypocrisy by speakers from cultures that favour directness" (Pinto, 2011, p. 216). It is also possible that such indirectness is construed as burdensome by members of other linguistic communities, such as Israelis. Blum-Kulka (1992) has claimed that Israelis are sensitive to indirectness in that they tend to be baffled by such an indirect strategy.

However, from an Indonesian hearer's point of view, indirectness can be construed as care towards both self-face and other-face (Aziz, 2000; Cheng, 2001). Since this cultural property may be carried over or transferred by Indonesians into another language, such as English, this may pose problems in cross-cultural communications, especially when the time for conversation does not allow for evolving turns by which the real-delayed acceptance or refusal is made (cf. Aziz, 2000).

This study was limited in terms of the number of subjects and the length of the observations; hence, more extensive observations and a greater number of subjects, as well as more varied settings, need to be carried out for a fuller explication of the issue. Cross-cultural comparative studies on appropriate/polite refusal/acceptance strategies of an offer/invitation also need to be conducted, including those in second-language and foreign-language enterprises. Referring to, for example, English-language teaching classes, which take place all over the world (Brown, 2010; Hashimoto & Kudo, 2010; Seargeant, 2012), this specific point of acceptance or refusal of an offer or invitation needs special attention, in terms of whether the issue leads to linguistic and cultural transfers, particularly in the learners' English conversations. If an unintended transfer takes place, comparative discussion of such a point potentially sensitises the students of the very point and, in turn, their cross-cultural understanding can potentially be better established.

This study has presented Indonesians' strategies for responding to an offer/invitation, which may be transferred to a foreign language, such as English. This has not touched on the possibility of transferring the ensuing Indonesian way of making potentially repetitive offers/invitations to, for instance, an English speaker. As such, this area is open to future research investigations aiming to determine how such a possible repetitive offer/invitation is perceived by the speakers of the target language.

## CONCLUSION

In conclusion, the study has shown instances that give rise to the merits of Cheng's (2001) proposal that the concept of face and ensuing politeness should be theorised, not only on the basis of other-face, but also self-face. Similarly, through this study, I have demonstrated some instances of the contents of the politeness maxim within the inevitability of politeness in communications as suggested by Pfister (2010), the contents being discursively constructed (Geyer, 2010). The instances derived from the cultural norms of the particular speech community of Indonesians have been placed against the backdrop of two countries in which English functions as the main medium of communication. Out of this configuration, a pertinent practical issue of transfer that is likely to abound in the area of cross-cultural communications has been touched on. Discussion of the issue has also indicated potential areas for future research that need conducting in view of a

fuller understanding of the main and related issues raised in this study.

In short, this study contributes to helping to raise awareness of language as a means of communication. It has provided some empirics of the theorisation of the politeness maxim as proposed by Pfister (2010), specifically that dealing with indirectness (Kiesling & Johnson, 2010).

## REFERENCES

- Al-Adaileh, B. A. (2011). When the strategic displacement of the main topic of discussion is used as a face-saving technique: evidence from Jordanian Arabic. *Journal of Politeness Research*, 7, 239-257.
- Aliakbari, M., & Changizi, M (2012). On the realization of refusal strategies by Persian and Kurdish speakers. *International Journal of Intercultural Relations*, 36, 659-668.
- Atkinson, J. M., & Heritage, J. (Eds). (1984). *Structures of social action: Studies in conversation analysis*. Cambridge: Cambridge University Press.
- Aziz, E. A. (2000). Indonesian speech act realisation in face-threatening situations. *Monash University Linguistics Papers*, 2(2), 15-41.
- Azza, I. (2011). *Pragmatic competence of upper secondary school students as EFL learners*. Unpublished Master Thesis. Malang: State University of Malang.
- Basthomi, Y. (2004). Pragmatic use of English forms of address by Javanese students of EFL. In B. Y. Cahyono and U. Widiati (Eds.). *The Tapestry of English Language Teaching and Learning in Indonesia* (pp. 125-141). Malang: State University of Malang Press.
- Basthomi, Y. (2008). Interlanguage discourse of thesis acknowledgements section: Examining the terms of address. *Philippine Journal of Linguistics*, 39, 55-66.

- Basthomi, Y. (2010). Competing discourses in thesis advisement: Reflecting on the writing of terms of address in acknowledgements section. *Selected Articles in English Language Teaching*. Jakarta: IIEF & RELO-U.S. Embassy.
- Bataller, R. (2010). Making a request for a service in Spanish: Pragmatic development in the study abroad setting. *Foreign Language Annals*, 43(1), 160-175.
- Beebe, L. M., Takahashi, T., Uliss-Weltz, R. (1990). Pragmatic transfer in ESL refusals. In R. C. Scarcella, E. S. Anderson & S. D. Krashen (Eds.), *Developing Communicative Competence in a Second Language* (pp. 55-73). New York: Newbury House.
- Blum-Kulka, S. (1992). The metapragmatics of politeness in Israeli society. In R.J. Watts, S. Ide, & K. Ehlich (Eds.), *Politeness in Language: Studies in Its History, Theory, and Practice* (pp. 255-280). Berlin: Mouton de Gruyter.
- Brown, L. (2010). Politeness and second language learning: The case of Korean speech styles. *Journal of Politeness Research*, 6, 243-269.
- Brown, P., & Levinson, S. (1987). *Politeness*. Cambridge: Cambridge University Press.
- Callahan, L. (2011). Speaking with (dis)respect: A study of reactions to Mock Spanish. *Language and Intercultural Communication*, 10(4), 299-317.
- Cheng, R. (2001). Self-politeness: A proposal. *Journal of Pragmatics*, 33, 87-106.
- Conlan, C. J. (1996). Politeness, paradigms of family, and the Japanese ESL speaker. In K. Jaszczolt, & K. Turner (Eds.), *Contrastive Semantics and Pragmatics*, vol. 2, (pp. 729-742). Oxford: Pergamon.
- Deephuentgon, P. (1992). *Politeness in Thai: Strategies of refusing and disagreeing*. Ann Arbor: UMI.
- Erfan (2007). *Cultural transfer and linguistic problems in writing thesis acknowledgements*. Unpublished Master Thesis. Malang: State University of Malang.
- Félix-Brasdefer, J. C. (2003). Declining an invitation: A cross-cultural study of pragmatic strategies in American English and Latin American Spanish. *Multilingua*, 22, 225-255.
- Geyer, N. (2010). Teasing and ambivalent face in Japanese multi-party discourse. *Journal of Pragmatics*, 42, 2120-2130.
- Hashimoto, H., & Kudo, K. (2010). Investment matters: supremacy of English and (re)construction of identity in international exchange. *Language and Intercultural Communication*, 10(4), 373-387.
- Haugh, M. (2010). Jocular mockery, (dis)affiliation, and face. *Journal of Pragmatics*, 42, 2106-2119.
- Held, G. (1992). Politeness in linguistic research. In R. J. Watts, S. Ide, & K. Ehlich (Eds.), *Politeness in Language: Studies in Its History, Theory, and Practice* (pp. 131-153). Berlin: Mouton de Gruyter.
- Holmes, J. (1995). *Women, men, and politeness*. London: Longman.
- Hong, W. (2011). Refusals in Chinese: How do L1 and L2 Differ? *Foreign Language Annals*, 44(1), 122-136.
- Hutchby, I., & Wooffitt, R. (2008). *Conversation analysis* (2<sup>nd</sup> edn.). Cambridge and Malden: Polity Press.
- Ji, S. (2000). 'Face' and polite verbal behaviour in Chinese culture. *Journal of Pragmatics*, 32, 1059-1062.
- Kiesling, S. F., & Johnson, E. G. (2010). Four forms of interactional indirection. *Journal of Pragmatics*, 42, 292-306.
- Koike, D. A., & Palmiere, D. T. L. (2011). First and second language pragmatics in third language

- oral and written modalities. *Foreign Language Annals*, 44(1), 80-104.
- Lyuh, I. (1992). *The art of refusal: Comparison of Korean and American cultures*. Ann Arbor: UMI.
- Morgan, M. (2010). The presentation of indirectness and power in everyday life. *Journal of Pragmatics*, 42, 283–291.
- Odlin, T. (1989). *Language transfer*. Cambridge: Cambridge University Press.
- Pfister, J. (2010). Is there a need for a maxim of politeness? *Journal of Pragmatics*, 42, 1266–1282.
- Pinto, D. (2011). Are Americans insincere? Interactional style and politeness in everyday America. *Journal of Politeness Research*, 7, 215-238.
- Pratiwi, E. P. (2008). *The study of compliment responses by English department students of State University of Malang based on social distance differences*. Unpublished Sarjana Thesis. Malang: English Department, Faculty of Letters, State University of Malang.
- Rahayu, E. (2010). *Flaming on facebook: Impoliteness strategies in online groups*. Unpublished Sarjana Thesis. Malang: English Department, Faculty of Letters, State University of Malang.
- Riley, P. (1989). Well, don't blame me!: On the interpretation of pragmatic error. In W. Oleksy (Ed.). *Contrastive Pragmatics* (pp. 231- 249). Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Rintell, E. M., & Mitchell, C. J. (1989). Studying requests and apologies: An inquiry into method. In S. Blum-Kulka, J. House, & G. Kasper (Eds.). *Cross-cultural Pragmatics: Requests and Apologies* (pp. 248-272). Norwood: Ablex Publishing Company.
- Rohmah, Z. (2006). *Verbal disagreeing strategies in doctoral classroom discussions at the State University of Malang*. Unpublished Doctoral Dissertation. Malang: State University of Malang.
- Santi, V.N. (2010). *EFL teachers' perception and production of request*. Unpublished Magister's Thesis. Malang: Graduate Program, State University of Malang.
- Seargeant, P. (2012). Disciplinarity and the study of world Englishes. *World Englishes*, 31 (1), 113–129.
- Suryadi, F. (2007). *Apology strategies used by students of Petra Christian University based on relationship and degree of offense*. Bachelor thesis, Petra Christian University.
- Syahri, I. (2007). *Actsof requesting as realized by EFL learners*. Unpublished Doctoral Dissertation. Malang: State University of Malang.
- Syahri, I. (2007). *Acts of requesting as realized by EFL learners*. (Unpublished Doctoral Dissertation). Malang: State University of Malang.
- Wannaruk, A. (2008). Pragmatic transfer in Thai EFL refusals. *Regional Language Centre Journal*, 39(3), 318-337.
- Wooffitt, R. (2005). *Conversation analysis & discourse analysis: A comparative and critical introduction*. London: Sage.

## **The Effects of PowerPoint Presentations on EFL Learners' Performance and Attitude**

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### **ABSTRACT**

This study examined the effects of PowerPoint presentation on sophomore university students' performance and attitudes. The participants from intact classes were randomly assigned into experimental and control groups; the experimental group was instructed via PowerPoint presentations along with the textbook in simple prose texts whereas the control group was taught only through the textbook. The results of an independent sample *t*-test demonstrated that the experimental group outperformed the control group in terms of their post-test scores. Besides, these students had strong positive attitudes towards the use of PowerPoint in the course.

*Keywords:* PowerPoint, performance, attitude, simple prose texts

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### **INTRODUCTION**

The impressive advances in science and technology along with an increasingly pressing need for the application of new technological apparatus in various kinds of disciplines are assumed to be among many key factors leading to the quick emergence and employment of these technological apparatus for different purposes. Nowadays, the application of varying modes of technology in almost every presentational setting has become necessary. Moreover, the application of innovative learning technologies urges the pedagogical institutions to come up with serious challenges in relation to the possible consequences of introducing these unique tools to students. As one important environment among others which really needs

to be in line with the developing nature of new instructional practices, universities have not been an exception. Consequently, the status of education in the university context has changed greatly regarding the acknowledgement and acceptance of new

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instructional techniques supplemented by a mode of innovative devices using computer-based systems. Every qualitative difference in the teaching methods because of the employment of any technological modes can possibly create a difference in students' learning experiences.

Considering prior research on the effects of PowerPoint utilisation for presentation or teaching, there searchers have come up with different outcomes. Some studies have confirmed the positive impact of PowerPoint on increasing the learning outcomes and positive attitudes about the course (e.g. Tang & Austin, 2009; Kahraman, Kodan, & Cevik, 2011); other studies have appreciated the significant role of PowerPoint in eliciting positive attitudes but not in enhancing performance (e.g. Apperson, Laws, & Scepanisky, 2006; Babb & Ross, 2009; Johnson & Christensen, 2011).

### **THEORETICAL PERSPECTIVES**

Teachers' preferences concerning the application of various teaching methods is assumed to be one of the important factors that can significantly overshadow learners' educational experiences (Marton & Booth, 1997). The incorporation of new technologies as supplementary devices can be carried out specifically with an aim to cater for different individuals' needs and preferences, which in turn may bring about better transmitting of information on the part of the presenters (Milliken & Barnes, 2002). Innovative technologies like PowerPoint as one facet of multimedia

presentation are commonly believed to be much more efficient in enhancing students' performance in recalling materials later as it is possible for the presenters to take advantage of different modes of materials (visually-based or auditory-based) used to deliver the gist of information being communicated. Apperson, Laws, and Scepanisky (2006) suggested the existence of close interrelations between the presented graphics and students' satisfaction with the way they receive the new information. However, here the appropriate organisation of information for creating the needed schemas in the mind is considered among the priorities which any multimedia-supported presentation should observe. It is generally believed that the learner is enabled to process information received through two channels more fruitfully if the upcoming information has a right connection with previously stored materials in the mind (Mayer, 2001). Similarly, Baddeley (1992) stated that using multiple channels can increase the amount of information processing in the brain. Mayer, (2005) as one leading figure in multimedia learning, notes that the incorporation of words with pictures triggers more content to be internalised in long-term memory. In addition, he states that the efficacy of multimedia utilisation (pictures plus words) relies on the simultaneous use of them in delivering the materials because simultaneously, learners can focus more intently on the information.

However, as Ayres and Sweller (2005) proposed, the use of multiple channels (e.g. auditory and visual), although it can

compensate for working memory limitations in organising huge amounts of information, does not preclude the problem of memory overload. In a definition of learning technologies, Ellis, Hughes, Weyers and Riding (2009) referred to these technologies as the tools which could help learners to achieve the desired outcomes better through providing more learning opportunities. As the definition demonstrates, it is the learner and the learning outcome which should be closely taken into consideration in every pedagogical setting. In general, all learners with varying individual characteristics, styles and strategies need to be closely considered to make sure of any possible outcomes resultant from bringing innovative experience of deliverance into the classes.

The wholly advantageous idea of employing PowerPoint in enhancing learning was confronted by Tufte (2003) regarding the tool hindrance role in the right transmission of concepts discussed due to its complex nature. It was believed that PowerPoint would avoid the learners to have any control over the presented materials because of its pre-planned and already created nature; it could also lessen the amount of class discussion and interaction.

Hulls (2005) asserted that although electronic projection has become the ubiquitous tool mostly due to its ability in the employment of different modes of materials manifesting information being presented in every presentation context, it is also assumed among the key factors leading to ineffective information handling. Nevertheless, it is proposed that

the presenter can eliminate the lack of interactivity and engagement on the part of learners who used to be exposed to complete and one-way presentations via displaying just the basic and key points on each slide and encouraging the students to have an efficient participation in completing the remaining parts of the information.

### **EMPIRICAL STUDIES**

The study by Susskind (2005) investigating the effect of PowerPoint on general psychology students' performance, self-efficacy, motivation and attitudes revealed that lecture style (with PowerPoint and without it) was not of any significant importance in enhancing the amount of audiences' academic achievement; however, the use of PowerPoint could be efficient in increasing positive attitudes towards the presented materials. In a measure obtained from the participants from five faculties regarding the impact of PowerPoint in influencing students' experiences in the classrooms, Apperson, Laws and Scepansky (2006) argued that PowerPoint can affect the presentation organ is at ion, clarity, entertainment and presenter's behavioural though this is not the case in increasing the performance.

Elsewhere, Babb and Ross (2009) carried out a study aimed at examining the role of slide availability on the learners' attendance, participation and end performance. The results confirmed that those students who used to download the materials before attending the session were more enthusiastic to participate

in the classes. It was suggested that the availability of information to be discussed in the classroom on the Internet allowed the learners to decide whether they needed to attend the classes forgetting more information regarding the complex parts. However, there was no significant difference among the scores of those who downloaded the materials before the class, those who got the materials on the day of presentation and those who downloaded the lectures after the session. The finding related to the lack of any significant difference in the learners' achievements due to the use of PowerPoint was also confirmed in the results of the study by Grabe (2005).

Tangen, Constable, Durran, Teeter, Beston and Kim (2011) analysed the responses of 90 participants' who were exposed to three different presentation conditions, namely, slides with consistent images and information combination, those with only the images which were relevant to the texts but not the exact transmitter and just text-based ones. The participants showed strong desire and accuracy for the slides accompanying pictures related exactly to the written information. It was discussed that this mode of presentation could be of more efficacy and meaningfulness, because the images could directly elaborate on the information content and could provide a great number of connections among the different parts of information in the memory.

In an attempt to investigate whether there were individual differences affecting students' attitudes towards pedagogical technologies, Tang and Austin (2009)

found that the application of one teaching technology could not suffice different needs and learning styles. It was also suggested that PowerPoint had a considerable role in directing into the better learning outcomes compared to the other technology modes (such as video, projector etc.) studied.

In an effort to examine the lectures' delivery styles, Lanir, Booth and Hawkey (2010) revealed the advantages of solving the problems of space limitedness in slides forcing the presenters to put only a small amount of information through employing the two-stream screen. It should be mentioned that in this study, a regular one-stream lecture was used which was supported by slides in the role of visual aid, and a two-stream presentation mode was utilised with the use of two screens: one for showing the basic content and the other as a subsidiary tool in the role of clarifier. Overall, it was discussed that this mode of presentation could improve the power of retention by providing the needed input. Besides this finding, it was also found that there was no significant relationship between using more visually based information and the recall of verbally communicated parts.

Wecker (2012) contended that concise slides increased the memory capacity to internalise the necessary parts that could actually serve to improve the learners' retention ability because slides which did not have excessive written information on them would not distract the learners' attention. It was also suggested that verbally and visually presented information could be better remembered compared to just

one-channel based ones. As noted in the theory of comprehension (Mayer, 1984; Wittrock, 1990), the courses in which the deliverance of both kinds of information (visual and verbal) is intended, the instructor should be careful about the pace and order of presentations in order to help learners make the needed connections between the materials coming from two channels.

Mayer (1997, 2001) attributed the occurrence of meaningful learning to the construction of relevant and urgent interconnections between the visually-based parts displayed via illustrations and verbally-based parts presented via explanations in text-based materials. However, it was contended that multimedia opportunity could not always cater for all learners to achieve the better outcomes, as was the case in low-ability learners who did not have the ability to produce the aforementioned connections between the two separated parts to gain the consistent whole that could lead to the comprehension. Therefore, care should be taken when dealing with low-ability learners as they are not able to connect these two channels.

In a study reviewing critical perspectives towards PowerPoint integration into different contexts, Harris (2011) challenged the complete and prefabricated nature of some electronic-based presentation materials that did not leave any room for user's creativity and critical view to question the essence of some provided materials. It was also noted that the close consideration of every context for which the application of

any mode of the technology was aimed could guarantee beneficial effects of utilisation.

As one necessary learning material in the EFL context in universities, reading-based courses are considered among those courses which call for more interest and concentration on the part of the learners to be understood. This is mostly because reading practices are perceived by many learners as uninteresting and somehow monotonous activities. The nature of reading-based materials is such that students need to go through the lines to be able to answer the comprehension questions later. In addition, the subject of many reading texts is not of any interest to the students to make them read the text eagerly. In this situation, the utilisation of some visually-supported materials that can be of any help in encouraging learners towards the reading of the material and assisting them towards better comprehension and retention of the materials can be efficient. The application of PowerPoint presentations seems to actualise the possibility of adding the image-affluent parts to the text-affluent materials.

Although the employment of PowerPoint for many pedagogical and non-pedagogical purposes has been the subject of many previous projects, the application of PowerPoint in reading-based materials instruction has not been to date the concern of these studies. In order to fill this gap the present study aimed at finding answers to the following questions:

**Q1:** *Is there any significant difference between the experimental*

*group, which is instructed with PowerPoint along with the textbook and the control group, which is instructed with the textbook only?*

**Q2:** *What is the attitude of the participants in the experimental group towards the use of PowerPoint?*

The null hypothesis for the first research question is presented below. Since the second research question is of a qualitative nature, no null hypothesis was produced for that.

*H<sub>0</sub>: There is no significant difference between the experimental group, which is instructed with PowerPoint along with the textbook, and the control group, which is instructed with the textbook only.*

## **METHOD**

### *Participants*

Measures were obtained from 40 sophomore EFL students (21 males and 19 females, 18-24 years of age) from Mahabad Azad University, who were randomly assigned to two comparison groups, which aimed at investigating the learners' post-test performance and attitudes. All of the participants were non-native students majoring in English translation. These 40 EFL university students were included in this quasi-experimental design in order to answer the research questions of the study.

## **MATERIALS**

### *Oxford placement test (OPT).*

In order to arrive at the final number of the participants to be considered in the study, a test of language proficiency, the Oxford Placement Test (OPT), was administered to the total of 48 students of the university in two intact classes with an aim to see whether there was any difference between the students regarding their general proficiency level. On the basis of the scores on the OPT, eight participants were omitted as the outliers and the remaining 40 were included in the study.

This test consisted of two parts: grammar and reading; the number of items comprising each subpart was 100 prompts followed by multiple-choice response format. The marking kit with users' guide and diagnostic key comprised a separate marking mode for each subpart of the test. The reliability of the test was checked; the Cronbach's Alpha for the grammar and reading sections were 0.85 and 0.79, respectively. The content validity of the test was checked by three experts from Mahabad Azad University and it was confirmed to be valid.

Since the Simple Prose Texts course is a kind of reading comprehension course, the OPT was considered a suitable test for checking the reading comprehension skill of the participants. Therefore, this test was used to make sure of the homogeneity of the sample before the treatment.

### *Attitudinal questionnaire tapping PowerPoint*

An adapted version of the attitudinal questionnaire first developed by Uz, Orhan and Bilgiç (2010) was distributed to measure the experimental group's attitudes towards PowerPoint application in their course. It consisted of three main parts. The first part focused on the demographic information on the learners' age and sex. The second part included 23 items in a 4-point Likert scale ranging from "strongly disagree" (1 point) to "strongly agree" (4 points), all of which were about the learners' ideas on the integration of PowerPoint in their course and some specific items about the different parts used in each slide. The third part of the questionnaire contained 4 open-ended questions asking about the learners' perspectives on PowerPoint. This last section was used to provide the collection of the responses, which could not be anticipated.

A pilot test was conducted to check the reliability and validity of the questionnaire; Cronbach's Alpha test of internal consistency was used, which confirmed the reliability of the attitudinal questionnaire at 0.80. This shows that there was consistency among the answers given to the questions in the survey. The content validity was inspected by three professors of Mahabad Azad University.

### *Simple prose texts*

The material covered in both groups was a textbook written by Rezai and Oliyaie-Niya. The book consisted of 28 short stories of various lengths. Each story was followed

by a vocabulary section, some questions to gauge reading comprehension and asking about the writers' ideas and, finally, some on literary techniques used in the story.

### *Test after the treatment (Post-test)*

After the completion of treatment, the students participating in both groups took part in the test after the treatment. The test was prepared by the teacher who was the instructor in both groups. The test was based on the materials of the book and all the other pieces of information that were covered in the class. This test consisted of 35 multiple-choice items, 30 on the stories covered during the treatment in both groups, and 5 reading comprehension questions based on an unseen text. The test was piloted on a similar sample and the Cronbach's Alpha reliability was 0.72. The content validity as the degree of the correspondence between the test content and the content of the materials to be tested was also addressed. To achieve the desired content validity, two experts familiar with the book reviewed the test.

## **PROCEDURE**

This study aimed at investigating the effects of PowerPoint on improving the Iranian EFL university students' performance and attitudes. To do so, the following procedures were followed.

The first step in carrying out the project was the administration of the Oxford Placement Test (OPT) to discover the learners' general proficiency, especially in reading comprehension. The test was

distributed among the 48 students, who constituted the two intact classes of Simple Prose Texts. The proficiency test was conducted in one session. Eight participants who were the outliers were omitted from the study. After ensuring the homogeneity of the participants in terms of their general proficiency, the two intact classes were assigned randomly to the experimental and control groups. There were 20 students participating under experimental condition and 20 students participating under control condition.

During the treatment, the control group was taught using the traditional textbook-based approach, without the utilisation of PowerPoint and the experimental group was taught using the PowerPoint software alongside the textbook during 12 sessions of treatment. To make sure of fair comparison, it was attempted to make all the other instructional parts the same except for the use of PowerPoint. Therefore, it was attempted to make the utilisation of PowerPoint software the only difference between the two comparison groups. Participants in both conditions were told to read the text before attending the class; that allowed the classes to begin by giving the summary of the story by the students and discussing the objectives of the text. Then, the students in the experimental group were exposed to slides related to each part of the story. Almost all the first slides of each story were allocated to the pictures of the writer and his family (if there was one) taken from the Internet; then, it was followed by the picture of some the

characters who appeared in the story. The attempt was made to include pictures similar to those of the characters described in the texts. There were also some slides which showed different scenes from films made of the stories. The remaining slides included information related to the specific short story. Both groups completed 12 sessions of instruction and one additional session devoted to the test after the treatment.

## RESULTS

### *Performance*

As for the test of normality (TABLE 1), the results of the Kolmogorov-Smirnov test showed an on-significant result (a significance value of more than 0.05) that was indicative of normality. As shown in Table 1, the significance value for the experimental group was 0.20, and the significance value for the control group was 0.07. This suggests that the assumption of normality had been met. Therefore, the *t*-test could be carried out.

The results of independent-samples *t*-test for proficiency (TABLE 2) demonstrated that the two groups were the same in terms of proficiency level as assessed by the OPT. The results of the analysis could be summarised as:  $t(38) = 1.10$ ,  $p = 0.28$ ;  $p > 0.05$ . As shown, the mean score of PowerPoint group ( $M=73.50$ ) was very close to that of the control group ( $M=71.45$ ).

Independent-samples *t*-test of the test after the treatment (post-test) was conducted to compare the final simple prose cores of the experimental (PowerPoint) and control (traditional) groups (see TABLE 3 and 4).

The results of the analysis revealed that there was a significant difference in scores for the experimental group ( $M=16.08$ ,  $SD=3.51$ ) and the control group ( $M=9.65$ ,  $SD=0.85$ );  $t(21.19)=7.96$ ,  $p=0.00$ ;  $p < 0.05$ . The magnitude of the differences in the mean (mean difference =6.43) was very large (eta squared =0.62). Thus, the first null hypothesis is rejected. In other words, the students who were instructed by PowerPoint as a supplementary apparatus performed better than those taught only by the text book. As a consequence, it was concluded that the use of PowerPoint had a significant effect on the achievement of the experimental group.

### Attitudes

TABLE 6 shows the distribution of responses for the questionnaire. In the case of item one, 100% of the learners believed that the layout and design of the slides assisted them in understanding the subject of the passage. For item two, 90% agreed that the design of the slides did not distract their attention. Sixty-five percent of the students confirmed that the important points of the texts were highlighted in the slides. For item four, 75% chose that the font size of the texts was not problematic for them to read. Regarding item five, in total 85% were satisfied by the length of the texts displayed

TABLE 1  
Test of normality

|                         | Participants' Group | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |      |
|-------------------------|---------------------|---------------------------------|----|------|--------------|----|------|
|                         |                     | Statistics                      | df | Sig. | Statistics   | df | Sig. |
| Proficiency test scores | Powerpoint          | .13                             | 20 | .20  | .95          | 20 | .40  |
|                         | Traditional         | .19                             | 20 | .07  | .93          | 20 | .18  |

TABLE 2  
Independent sample T-Test for the proficiency test

| Test score | Equal variances assumed     | Levene's Test for Equality of Variances |      |      |       |                 | Mean Difference |
|------------|-----------------------------|---|------|------|-------|-----------------|-----------------|
|            |                             | F                                       | Sig. | t    | df    | Sig. (2-tailed) |                 |
|            | Equal variances assumed     | 1.37                                    | .25  | 1.10 | 38    | .28             | 2.05            |
|            | Equal variances not assumed |   |      | 1.10 | 34.99 | .28             | 2.05            |

TABLE 3  
Descriptive statistics for the proficiency test

|             | N  | Mean  | Std. Derivation | Std. Error |
|-------------|----|-------|-----------------|------------|
| Power Point | 20 | 73.50 | 6.71            | 1.50       |
| Traditional | 20 | 71.45 | 4.96            | 1.11       |

on the slides. The students' reactions to the visuals used on the slides to help them understand abstract concept, increase interest in the course, direct attention to the passage and remember the story during the test were 95%, 100%, 95% and 100%, respectively. In addition, 75% wanted more visuals to be used on the slides. Questing for the amount of visuals' irrelevancy to the subjects being taught, 85% was disagreeing. Ninety-five percent agreed that they preferred using PowerPoint in all their courses while 100% of the students had positive attitudes toward clips used in slides, 75% believed that PowerPoint could help teachers to be well-prepared for the lessons, 65% stated that PowerPoint did not kill the time of the class or teacher and 95% confirmed the provision of PowerPoint for giving additional information. As expected, a great number of the students was positive in their attitude towards the application of PowerPoint in class.

Similar analysis carried out in the case of the closed-ended attitudinal questions were used to examine the results of the open-ended question. In response to the question 'Do you think that integrating PowerPoint with the text book is beneficial to learning?' 100% of the students viewed the PowerPoint as an efficient tool in guiding towards more efficient learning because with PowerPoint, the instructor could highlight main points. In addition, the participants believed that PowerPoint could focus learners' attention more effectively, and avoid note taking, which the learners thought did not allow them to attend to oral explanations. In every respect, PowerPoint helped them employ visual and auditory memory simultaneously, could be helpful in creating the big picture of the materials in the learners' mind and could introduce variety, which is helpful in learning.

With regards to the question 'Which one seems interesting to you, teacher's oral

TABLE 4  
Independent sample *t*-test for the post-test

|                     |                                | Levene's Test<br>for Equality of<br>Variances |      | <i>t</i> -test for Equality of Means |       |                    |                    |
|---------------------|--------------------------------|---|------|--------------------------------------|-------|--------------------|--------------------|
|                     |                                | F   | Sig. | <i>t</i>                             | df    | Sig.<br>(2-tailed) | Mean<br>Difference |
| Post-test<br>scores | Equal variances<br>assumed     | 38.34   | .00  | 7.96                                 | 38    | .00                | 6.43               |
|                     | Equal variances not<br>assumed |   |      | 7.96                                 | 21.19 | .00                | 6.43               |

TABLE 5  
Descriptive statistics for the post-test

|                 | Participantgroups | N  | M     | Std.Derivation | Std.ErrorMean |
|-----------------|-------------------|----|-------|----------------|---------------|
| Post-testscores | Powerpoint        | 20 | 16.08 | 3.51           | .79           |
|                 | Traditional       | 20 | 9.65  | .85            | .19           |

presentation or slide-based presentation?' almost 16 (80%) learners chose the slide-based presentation. They believed that PowerPoint was more motivating, was better in retaining their attention, was beneficial in helping them recall the material because of visually-assisted parts, was organised and time efficient and could incorporate additional information. However, 4(20%) learners preferred both of styles of teaching.

With respect to the question 'Do you think that the number of images used in each slide is enough?' 85% was satisfied with the amount of visuals used. In response to the question 'Do you think that the use of PowerPoint presentation will help you in recalling the information?' almost all the students answered in the affirmative. The majority of the participants believed that the success of the slides in helping the learners to remember the material taught in the class depended on their visually-supported materials, which motivated the learners to attend to the lessons carefully and enthusiastically.

## DISCUSSION

This study aimed at investigating the impact of PowerPoint integration with a course book on EFL university students' performance. The results of the independent samples *t*-tests indicated that there were statistically significant differences in the post-test scores of students who were taught through the PowerPoint-supported method and those who were taught using only the text book.

The results, which confirmed the positive effects of PowerPoint on the experimental group, are in line with the findings of the study by Tang and Austin (2009), in which the impact of PowerPoint in increasing learning and motivation was confirmed. In addition, the same results were found in the study by Kahraman, Kodan and Cevik (2011).

The results of the present study are not inline with the results of studies by Apperson, Laws, and Scepanisky (2006), Babb and Ross (2009), Johnson and Christensen (2011) and Susskind (2005), who all found no improvement in final scores with the employment of PowerPoint.

The beneficial effect of PowerPoint in bringing about the significant difference between the conditions can be due to the novelty of its application in the context of Iran. The learners' appreciation and satisfaction, confirmed by their answers in the questionnaire, seem to have resulted in their better performances. It can be thought that the application of PowerPoint, through catering for different learning styles, can affect the learners' learning ability. The application of PowerPoint can help students have access to various kinds of information in different shapes and manner so this variation can possibly make the learners attend to the materials more carefully and eagerly at the same time.

The second aim of the study was to discover the experimental group's opinions regarding the application of PowerPoint. The qualitative analyses of the attitudes and beliefs questionnaire supported the fact that

TABLE 6  
Distribution of Responses

| Item  | Strongly disagree (%) | Disagree (%) | Agree (%) | Strongly agree (%) |
|---|-----------------------|--------------|-----------|--------------------|
| 1. The layout and the design of the slides help me to understand the subject as a whole.                              | 0                     | 0            | 40        | 60                 |
| 2. The layout and design of slides do not distract my attention during the course.                                    | 5                     | 55           | 55        | 35                 |
| 3. I can understand the important points about the texts from the layout and design of the slides.                    | 0                     | 5            | 30        | 65                 |
| 4. The font size of the texts used in presentations does not make it difficult to read for me.                        | 10                    | 15           | 30        | 45                 |
| 5. I think the length of the texts presented in one slide is appropriate.   | 0                     | 15           | 50        | 35                 |
| 6. The visuals used in slides enable me to realize abstract concepts.   | 0                     | 5            | 50        | 45                 |
| 7. The visuals used in slides increase my interest in the course.   | 0                     | 0            | 65        | 35                 |
| 8. I want more visuals to be used in slides.  | 0                     | 25           | 40        | 35                 |
| 9. The visuals used are related to the subjects being taught.   | 0                     | 0            | 55        | 45                 |
| 10. I understand the course better when Power Point presentation is used along with the teacher's explanations.       | 0                     | 0            | 50        | 50                 |
| 11. The pictures used in slides help me more in recalling the story.  | 0                     | 5            | 50        | 45                 |
| 12. The pictures used in slides help me direct my attention to the texts.   | 0                     | 5            | 65        | 30                 |
| 13. The use of pictures is excessive and irrelevant.  | 60                    | 25           | 5         | 10                 |
| 14. The films used can help me in reminding the subjects and characters of the stories.                               | 0                     | 0            | 25        | 75                 |
| 15. Use of Power Point in all courses can be helpful.   | 0                     | 5            | 50        | 45                 |
| 16. The visuals used in each slide motivate me to listen carefully to the course.                                     | 0                     | 15           | 50        | 35                 |
| 17. I prefer all courses to be presented using Power Point presentation.  | 0                     | 5            | 55        | 40                 |
| 18. Power Point presentations do not cause the course to be routine.  | 5                     | 5            | 20        | 70                 |
| 19. I understand the course better when a Power Point presentation is used.   | 0                     | 0            | 55        | 45                 |
| 20. Power Point presentations help me to direct my attention to the course.   | 0                     | 10           | 60        | 30                 |
| 21. I think that the lecturers using Power Point are better prepared to their courses.                                | 5                     | 20           | 40        | 35                 |
| 22. Power Point presentations decrease the time available for teacher to explain the important parts of the textbook. | 15                    | 50           | 30        | 5                  |
| 23. Use of slides enables the teacher to give additional but relevant information.                                    | 5                     | 0            | 40        | 55                 |

the experimental group had positive attitudes toward the application of PowerPoint in the course. The majority of the learners were satisfied with PowerPoint and the accompanying visual elements used in each slide. This part of the findings are in line with the findings related to the participants' attitudes found in the study by Kahraman, Kodanand Cevik (2011). It can be noted that in the majority of studies in which the role of PowerPoint have been investigated according to various variables, it has been proved that PowerPoint has significant positive impact on arousing learners' satisfaction towards the presented materials.

## CONCLUSION

It was supposed that the employment of PowerPoint would help learners in achieving higher levels of learning in their educational experiences. As the results show, the experimental group did illustrate significant gain in terms of achievement. In other words, the application of PowerPoint along with the teacher's typical instructional procedure was successful in improving learners' reading skill and enhancing their comprehension from texts. However, these findings should not by any means encourage the use of PowerPoint as a replacement tool for the teacher/himself; the presence of the teacher is the initial and necessary factor that creates the impression of being in the classroom and being instructed. The device is just for displaying some materials that much more fruit fully carry the whole purpose of the information; it cannot put the significant role of the teacher as a vital

member guiding the actual procedure of eliciting more ideas, encouraging group discussion and activating critical view points from the learners in secondary importance.

Regardless of whether the technology achieves the goals that the instructor desires, it affects the students significantly enough that its absence in today's classes may result in less motivation and interest than students experience with the presence of it. This feeling of interest may be among the important factors that lead to the quick acceptance and maintenance of PowerPoint software in the experience of teaching at the university. Consequently, the employment of PowerPoint has generated an enormous benefit towards education whereby students are more satisfied with the courses, and as a result of this satisfaction, they have more pleasant attitudes toward their learning environment. Thus, one possible conclusion that might be drawn from the findings is that although the use of PowerPoint would not be successful in bringing about the students' achievement as it was concluded in previous similar studies, there seems to be one common view on the use of PowerPoint that is shared by the researchers of the majority of the studies i.e. that learners show a great preference for it. Therefore, the use of PowerPoint in the classroom is probably worth all the resources needed to equip classrooms with the tool.

Examining the effectiveness of technological tools used in the pedagogical settings is an important focus for research into learning in higher education because of the increasingly ubiquitous use of technology

in student experiences of learning. Without studies into this area, integrated perspectives to design and teaching by means of technology could result in complex experiences. Consequently, it is important that we develop a deeper understanding of qualitatively better ways of thinking about and using technology to support student learning (Ellis, Hughes, Weyers, & Riding, 2009).

As other studies designed to examine the role of educational technology (e.g. PowerPoint) in order to find the possible merits or pitfalls of using the new technological apparatus, this study has some limitations too. Taking these shortcomings into account would be beneficial in improving on some related aspects of the current study. The first limitation is related to the samples in which the number of participants was small. More studies are needed into how learners experience teaching when technology is used to enable better learning if the instructors desire to eliminate glitches connected with the use of technology and technological devices.

## REFERENCES

- Apperson, J. M., Laws, E. L., & Scepanky, J. A. (2006). The impact of presentation graphic on students' experience in the classroom. *Computer & Education, 47*, 116-126.
- Ayres, P., & Sweller, J. (2005). The split-attention principle in multimedia learning. In R. E. Mayer (Ed.). *Cambridge handbook of multimedia learning* (pp.135–146). New York: Cambridge University Press.
- Babb, K. A., & Ross, C. (2009). The timing of online lecture slide availability and its effect on attendance, participation, and exam performance. *Computers & Education, 52*, 868-881.
- Baddeley, A. D. (2002). Is working memory still working? *Science, 7*, 85-97.
- Ellis, R. E., Hughes, J., Weyers, M., & Riding, P. (2009). University teacher approaches to design and teaching and concepts of learning technologies. *Teaching and Teacher Education, 25*, 109–117.
- Grabe, M. (2005). Voluntary use of online lecture notes: Correlates of note use and note use as an alternative to class attendance. *Computers & Education, 44*, 409–421.
- Johnson, D. A., & Christensen, J. (2011). A comparison of simplified-visually rich and traditional presentation styles. *Teaching of Psychology, 38*(4), 293-297.
- Harris, D. (2011). Presentation software: Pedagogical constraints and potentials. *Journal of Hospitality, Leisure, Sports, & Tourism Education, 10*(1), 178-192.
- Hulls, C. (2005). *Using a tablet PC for classroom instruction*. Paper presented at the 35<sup>th</sup> ASEE/LEEE Frontiers in Education Conference at the Department of Electrical and Computer Engineering, University of Waterloo, Canada.
- Kahraman, S., Kodan, H., & Cevik, C. (2011). Investigation of university students' attitude toward the use of PowerPoint according to some variables. *Procedia Computer Science, 3*, 1341-1347.
- Lanir, J., Booth, K. S., & Hawkey, K. (2010). The benefits of more electronic screen space on students' retention of material in class room lectures. *Computers & Education, 55*, 892–903.
- Marton, F., & Booth, S. (1997). *Learning and awareness*. New Jersey: Lawrence Erlbaum Assoc. Publishers.
- Mayer, R. E. (1984). Aid stop rose comprehension. *Educational Psychologist, 19*, 30–42.

- Mayer, R. E. (1997). Multimedia learning: Are we asking the right questions? *Educational Psychologist*, 32, 1–19.
- Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press.
- Mayer, R. E. (2005). *The Cambridge handbook of multimedia learning*. New York: Cambridge University Press.
- Milliken, J., & Barnes, L. P. (2002). Teaching and technology in higher education: Student perceptions and personal reflections. *Computers & Education*, 39, 223–235.
- Rezai, A. A., & Oliyaie-Niya, H. (1998). *Simple Prose Texts* (6<sup>th</sup> ed.). Tehran: The center for studying and compiling university books in Humanities (SAMT).
- Susskind, J. E. (2005). PowerPoint's power in the classroom: Enhancing students' self-efficacy and attitudes. *Computers & Education*, 45, 203-215.
- Tang, T. L., & Austin, J. (2009). Students' perceptions of teaching technologies, application of technologies, and academic performance. *Computers & Education*, 53, 1241–1255.
- Tangen, J. M., Constable, M. D., Durrant, E., Teeter, C., Beston, B. R., & Kim, J. A. (2011). The role of interest and images in slide ware presentation. *Computers & Education*, 56, 865-872.
- Tufte, E. R. (2003). *The cognitive style of PowerPoint*. Cheshire, CT: Graphics Press.
- Uz, Ç., Orhan, F., & Bilgiç, G. (2010). Prospective teachers' opinions on the value of PowerPoint presentations in lecturing. *Procedia Social & Behavioral Sciences*, 2, 2051-2059.
- Wecker, C. (2012). Slide presentation as speech suppressors: When and why learners miss oral information. *Computers & Education*, 59, 260-273.
- Wittrock, M. C. (1990). Generative processes of comprehension. *Educational Psychologist*, 24, 345–376.



## **Teachers' Uptake on ICT Integration in Teaching and Learning – A Case of Malaysian Teachers**

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### **ABSTRACT**

This research is an attempt to explore teachers' attitudes toward Information and Communication Technology in secondary schools in the island state of Penang, Malaysia. The focus of this study is on teachers' attitudes towards accessing and using information and communication technology (ICT) in the teaching and learning processes. The Technology Acceptance Model is used in this study as the underlying theoretical framework, with the main thrust of the research being to explore the influence of teachers' attitude, Perceived Ease of Use, Perceived Usefulness and Behavioural Intentions in using ICT. The findings of the study revealed behavioural intention as the most significant factor that influences teachers' attitude in using ICT in the course of their teaching and learning processes. The two behavioural constructs of Perceived Ease of Use and Perceived Usefulness have less influence on an individual intention to use technologies. The authors conclude by making some recommendations for practitioners to help them work towards giving increased importance to ICT use in their work responsibilities.

*Keywords:* ICT, Teaching and Learning, TAM, technology integration

### **INTRODUCTION**

With the onset of the digital age and ICT pervading all aspects of the human life, the education domain is striving to incorporate

ICT literacy into the curriculum to bridge the country's digital divide and empower learners. The Malaysian Government has introduced various initiatives to facilitate greater adoption and dissemination of ICT and improve capacities in every field of business, industry, education, and life in general. These measures include enhancement of education and training programmes, provision of an environment

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conducive to the development of ICT, provision of incentives for computerisation and automation, and creation of venture capital funds. In view of this, currently, Malaysia is in full gear steering towards a knowledge-based economy (Chan, 2002).

## **BACKGROUND OF THE STUDY**

In 2012, the Malaysian Government devoted an education budget of 16% (RM37 billion), with commitment to education as a national priority (Malaysia Education Blueprint 2013–2025: Executive Summary; E-19). To digitally advance and globally lead Malaysia into the 21<sup>st</sup> century, government initiatives such as (MSC-Multimedia Super Corridor) and Vision 2020 were enacted as impetus to fuel the use of ICT in Malaysia (Ngh & Masood, 2006). Teachers are expected to be skilled and proficient in employing these tools, as much has been invested on ICT infrastructures with the advent of an increased emphasis on the use of ICT in teaching. Ideally, teachers should be open to adopting and implementing ICT in education, bearing in mind that the effective use of ICT with multimedia and graphics can supplement the teaching process and improve interactivity in learning (Lau & Sim, 2008).

The Ministry of Education Malaysia has focused on three main areas in its ICT in education policy; teaching and learning tools in education, ICT as an independent subject and ICT integrated in the subjects taught. RM5 billion was allocated for the term of 2002-2008 under the national budget to provide training, launching grants

and educational aid to schools nationwide for the smooth implementation of the ICT policy. Teachers were given laptop computers and teaching courseware to assist in teaching and for professional tasks, while classrooms were equipped with LCD projector, screen and trolley with speakers, as well as software like power point, flash and interactive courseware to support teaching and learning throughout schools in Malaysia' (Lau & Sim, 2008, p. 19). In fact, some schools received extra facilities like computer laboratories, wireless internet connection and local area network to assist teachers, in addition to a launching grant of RM5000 to RM15000 to acquire additional reference resources.

According to the Executive Summary of the 'Malaysia Education Blueprint 2013 – 2025', more than RM6 billion was spent on ICT by MOE over the past ten years for educational initiatives. Nevertheless, ICT usage in schools 'continues to lag behind expectations—both in terms of quantity and quality'. MOE's study in 2010 revealed that nearly '80% of teachers spent less than one hour a week using ICT', while only a third of students perceived that their teachers use ICT on a regular basis (E-19). Despite the extensive provision of facilities and training, studies on teachers' readiness for ICT generally suggest that there is still a long way to go before schools in the region are able to take full advantage of the opportunities provided by 21<sup>st</sup> century technology (Ya'acob *et al.*, 2005, cited in Lau & Sim, 2008). It is noteworthy that Ngh and Masood (2006) found that

‘although accessibility is no longer an issue for most primary school teachers in our studies; computers are only being used as a glorified typewriters’(p. 234). This is corroborated by the 2012 UNESCO review which highlighted that ICT usage has not gone much beyond using word-processing applications when they should be used as instructional tools (Malaysia Education Blueprint 2013–2025: Executive Summary; E- 19).

In view of the teachers’ dismal adoption of ICT usage and integration in the teaching and learning process, this study made an attempt to investigate the factors that influence their attitudes, focusing on their PeU, PU and BI in using ICT, based on the Technology Acceptance Model (TAM) framework. This study examined the external variables and factors that teachers perceive as useful and easy to use, which influences their attitude and behavioural intention towards actual ICT usage and integration.

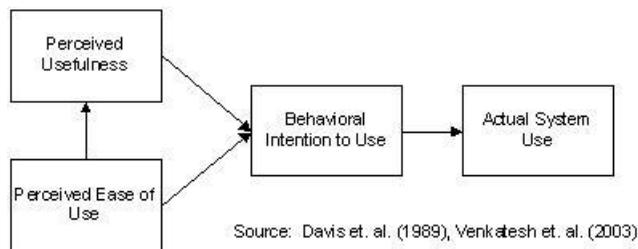
**TECHNOLOGY ACCEPTANCE MODEL**

*A Framework Used*

Researchers have used the extensively researched Technology Acceptance Model

(TAM) to explain adoption of new systems or technologies. This model claims that the overall technology acceptance or utilization is largely based on users’ beliefs such as the perceived usefulness and the perceived ease of use. Both perceived ease of use and perceived usefulness are important factors that determine the attitude towards use of the technology and the behavioural Intentions of use of the technology (Nair & Das, 2012).

The Technology Acceptance Model (TAM) is an alteration of the Theory of Reasoned Action (TRA) to the field of information systems. TAM conjectures that perceived usefulness and perceived ease of use show an individual’s intention to use a system with intention to use serving as a mediator of actual system use. According to this framework, perceived usefulness is also looked at as directly having an impact on perceived ease of use. Researchers have simplified TAM by removing the attitude construct found in TRA from the existing specification (Venkatesh *et al.*, 2003). Attempts to extend TAM have in general, various approaches such as introducing factors from other related models, additional belief factors, examining moderators of perceived ease of use and perceived usefulness (Wixom & Todd, 2005).



## METHOD

Data were collected by administering a questionnaire to the teachers in three secondary schools.

## INSTRUMENT

Empirical data were collected by means of a questionnaire containing 31 questions. The questions were organized into the following two groups: (1) demographic questions about the respondents' gender, years of working experience and areas of specialisation (see Table 1 for the list of characteristics); and (2) measures of Teachers Attitudes toward Information and Communication Technology. The attitude measuring items were on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree". The instrument was composed of 15 items on Perceived Usefulness, 11 items on Perceived Ease of Use and 4 items on Behavioural Intentions. As this was a small-

scale research, preliminary in nature, no pilot study or pre-tests were conducted.

The characteristics of the respondents are presented in Table 1. The typical respondent is a female teacher, having 1 to 5 years of working experience, with specialisation in the field of Language. It is worth highlighting that only 5 respondents have working experience of 21 years and above, constituting to less than 10% of the overall number of respondents.

## ANALYSIS OF THE RESULTS

The statistical analysis comprised examining the descriptive statistics of the measurement items and assessed the reliability and validity of the measure used in this study. The questionnaires that were returned had a usable response rate of 77%. The data collected were processed using SPSS 19.0 (Statistical Package for Social Science) to analyse data for descriptive statistics. The

TABLE 1  
Profile of the Respondents

| Demographic Characteristics | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Gender                      |           |            |
| Male                        | 27        | 38.57      |
| Female                      | 43        | 61.43      |
| Years of Working Experience |           |            |
| 1 – 5 years                 | 23        | 32.86      |
| 6 – 10 years                | 11        | 15.71      |
| 11 – 15 years               | 13        | 18.57      |
| 16 – 20 years               | 18        | 25.71      |
| 21 years and above          | 5         | 7.14       |
| Areas of Specialisation     |           |            |
| Sciences                    | 14        | 20.00      |
| Arts                        | 22        | 31.43      |
| Language                    | 24        | 34.29      |
| Humanities                  | 9         | 12.86      |
| Religion                    | 1         | 1.43       |

internal consistency of the survey items was derived by running a reliability test, as shown in Table 2 below.

The overall reliability of Cronbach's alpha was 0.739, with 70 respondents and 31 survey items. This value exceeds the minimum threshold for the internal reliability test at 0.7. Cronbach's alpha is the most common measure of internal consistency or the reliability instrument employed, when a Likert scale is used. The reliability of the scales used in this study is thus confirmed. Skewness is the measure of the asymmetry of a distribution. The normal distribution is symmetric and has a skewness value of zero.

The skewness value for all the three constructs in this study is positive, with BI's value of 0.01 closest to zero. This

indicates an almost symmetrical and normal distribution. Kurtosis is the measure of the extent to which observations cluster around a central point. For a normal distribution, the value of the kurtosis statistic is zero. Higher kurtosis means more of the variance is due to infrequent extreme deviations, as opposed to frequent modestly-sized deviations. The Kurtosis value in this study is 0.25 for the PeU construct and 0.6 for the PU construct, while the BI construct has a negative value of -0.6, which indicates a flat distribution.

Table 4 is a summary of the mean scores of each of the items surveyed in the questionnaire. All the measures used a 5-point scale ranging from 1=Strongly Disagree to 5=Strongly Agree. The mean provides the representative value of the group of scores, while the standard deviation

TABLE 2  
Reliability analysis of the survey items

| Reliability Statistics |  |            |
|------------------------|--|------------|
| Cronbach's Alpha       | Cronbach's Alpha Based on Standardized Items | N of Items |
| .724                   | .739   | 31         |

TABLE 3  
Descriptive analysis of the constructs

|                        |         | Statistics     |                             |                        |           |          |          |
|------------------------|---------|----------------|-----------------------------|------------------------|-----------|----------|----------|
|                        |         | Teacher gender | Years of Working Experience | Area of Specialisation | Cons_ PeU | Cons_ PU | Cons_ BI |
| N                      | Valid   | 70             | 70                          | 70                     | 70        | 70       | 70       |
|                        | Missing | 0              | 0                           | 0                      | 0         | 0        | 0        |
| Mean                   |         | 0.61           | 1.59                        | 2.46                   | 46.90     | 69.40    | 17.67    |
| Median                 |         | 1              | 2                           | 2.5                    | 47        | 68.5     | 18       |
| Mode                   |         | 1              | 0                           | 3                      | 48        | 68       | 18       |
| Std. Deviation         |         | 0.49           | 1.37                        | 1.00                   | 3.02      | 3.75     | 1.38     |
| Skewness               |         | -0.48          | 0.17                        | 0.12                   | 0.20      | 0.76     | 0.01     |
| Std. Error of Skewness |         | 0.29           | 0.29                        | 0.29                   | 0.29      | 0.29     | 0.29     |
| Kurtosis               |         | -1.82          | -1.38                       | -0.65                  | 0.25      | 0.60     | -0.60    |
| Std. Error of Kurtosis |         | 0.57           | 0.57                        | 0.57                   | 0.57      | 0.57     | 0.57     |

TABLE 4  
Descriptive analysis of the Constructs and Individual Items

| <b>Items and Scale</b>  | <b>Mean</b> | <b>S.D.</b> |
|---|-------------|-------------|
| <b>Perceived Ease of Use (PeU)</b>  | <b>4.26</b> | <b>0.65</b> |
| PeU1 The usage of ICT in the courses brings too much overload.  | 2.51        | 1.05        |
| PeU2 I think that it is difficult to use ICT in the courses.  | 3.94        | 1.30        |
| PeU3 I think that students participate actively in the course with the usage of ICT                       | 3.44        | 1.46        |
| PeU4 I think that the usage of ICT makes students passive.  | 2.69        | 1.63        |
| PeU5 I think that one of the major problems in our educational system is not having efficient use of ICT. | 4.60        | 0.58        |
| PeU6 I believe that course will be more efficient when ICT possibilities are implemented.                 | 4.00        | 1.22        |
| PeU7 It is a great enjoyment for me to teach with the help of ICT.  | 3.41        | 1.44        |
| PeU8 I think that ICT restricts the creativity of the teachers.   | 2.41        | 1.49        |
| PeU9 I believe that it is necessary to have knowledge and skills in order to use ICT tools.               | 2.86        | 1.68        |
| PeU10 I believe that it is necessary to use ICT applications in order to be more effective in teaching.   | 2.37        | 1.47        |
| PeU11 I think that the usage of ICT restricts the creativity of the students.                             | 1.76        | 0.98        |
| <b>Perceived Usefulness (PU)</b>  | <b>4.34</b> | <b>0.6</b>  |
| PU1 I believe that the usage of ICT is important in achieving the aims of curriculum.                     | 4.46        | 0.70        |
| PU2 I think that the usage of ICT improves the teacher's performance.                                     | 4.43        | 0.71        |
| PU3 I believe that the students will be more interested in the courses that are implemented with ICT.     | 4.44        | 0.69        |
| PU4 It is luxurious to use ICT in schools in our country.   | 2.67        | 1.51        |
| PU5 I think that it is a waste of time to use ICT tools in the courses.                                   | 2.13        | 1.28        |
| PU6 I believe that ICT support facilitates the learning.  | 3.71        | 1.47        |
| PU7 I think that the usage of ICT in the courses will improve the students' success.                      | 3.86        | 1.25        |
| PU8 I think that ICT has important contributions to the taught subject.                                   | 3.03        | 1.69        |
| PU9 The usage of ICT in education is not suitable for my country.   | 1.84        | 1.20        |
| PU10 I believe that ICT improves the quality of education.  | 4.01        | 1.42        |
| PU11 I think ICT is a threat to teachers.   | 1.59        | 0.79        |
| PU12 I believe that audio-visual tools enhance the learning process.                                      | 4.03        | 1.38        |
| PU13 I think that all teachers should be continuously informed about ICT.                                 | 4.49        | 0.68        |
| PU14 I don't feel the need to get acquainted with the application areas of ICT in education.              | 2.40        | 1.56        |
| PU15 I think that it is not necessary to use ICT to achieve the special targets of our education.         | 2.67        | 1.45        |
| PU16 I believe that ICT enhances the motivation of the students.  | 4.49        | 0.65        |
| <b>Behavioural Intentions (BI)</b>  | <b>4.42</b> | <b>0.63</b> |
| BI1 I would like to use audio-visual tools in my courses.   | 4.00        | 1.26        |
| BI2 It is my ideal to teach students with ICT supported courses.  | 4.17        | 1.17        |
| BI3 I like to use ICT educational tools in my courses.  | 3.93        | 1.17        |
| BI4 I think that the efficient usage of ICT is one of the requirements for being a "good teacher".        | 2.36        | 1.44        |

provides the approximate average amount that scores differ from the mean. The descriptive statistics for each construct items are shown in Table 4. All the constructs' means are greater than 4.0, indicating an overall positive response to the constructs that were measured in this study. The standard deviations for all the variables are approximately one and this indicates that the item scores are around the mean scores. The PeU dimension attained a mean of 4.26 (SD = 0.645), while PU achieved a mean of 4.34 (SD = 0.6), and this was followed by BI with a mean of 4.42 (SD = 0.63).

The research question in this study is 'What is the most significant factor that influences teachers' attitude in using ICT in the course of their teaching and learning processes?' With the mean of 4.42 (SD = 0.63), the BI dimension is the highest, followed PU and the PeU dimension. This answers the research question that Behavioural Intention is the most significant factor that influences teachers' attitude in using ICT in the course of their teaching and learning process. Research by Ngah and Masood (2006) shows that teachers are not using ICT to make more learning happen but in many cases, they only use some tools such as the computers as glorified typewriters. Meanwhile, the examination of the means and standard deviations reveals that the teachers' BI is most influential in their attitudes to use and integrate ICT in the course of their teaching and learning processes. The PU factor trails this while the PeU dimension is the least influential factor of the three dimensions examined.

This confirms that the teachers in this study find that the eventual intention of using ICT is the most important factor that leads them to use and integrate ICT in the course of their teaching and learning process. The PeU dimension which scored the lowest mean score probably reflects that the teachers still perceive ICT as something that is unfamiliar and difficult to use. Additionally, it is observed that PeU5 scored the highest mean of 4.6 (SD=0.58), which indicates that most of the teachers acquiesce one of the major problems in our educational system is not having efficient use of ICT.

Research by Fariza Khalid, Mokhtar Hj Nawawi and Samsilah Roslan (2009) found that a major problem for teachers not using ICT in schools is the lack of ongoing training for teachers and the lack of continuous support on the use of ICT in schools. Most teachers are also in general agreement that all teachers should be continuously informed about ICT (SD = 0.68) and that ICT enhances the motivation of the students (SD = 0.65), with both items achieving a mean of 4.49. Teachers also found that the usage of ICT is important in achieving the aims of the curriculum (M = 4.46, SD = 0.7), students will be more interested in the courses that are implemented with ICT (M = 4.44, SD = 0.69) and that the usage of ICT improves the teacher's performance (M = 4.43, SD = 0.71). PU11 scored the lowest mean of 1.59 (SD=0.79), and this signifies that the teachers do not find ICT as a threat to teachers. Similarly, a few of them agree that the usage of ICT in education is not suitable for the country (M = 1.84, SD =

1.2) and that the usage of ICT restricts the creativity of the students ( $M = 1.76$ ,  $SD = 0.98$ ). This shows most teachers agree with the fact that ICT is suitable and benefits teaching and learning. At large, teachers are of the opinion that ICT should be used and they are also of the belief that it will help to increase creativity of the students.

## **DISCUSSION AND RECOMMENDATIONS**

The findings of the study revealed that Behavioural Intentions is the most significant factor influencing teachers' attitude in using ICT in the course of their teaching and learning processes. TAM implies that the two behavioural beliefs, PU and PEU, have influence on an individual's intention to use technologies. PU and PEU refer to process expectancy and outcome expectancy respectively, while BI leads to actual use of technologies (Teo, Wong, & Chai, 2008). BI was used in this study as it is a practical way to measure actual use. Thus, it is deemed essential to measure respondents' intention as well as their actual use. In view of the findings that the teachers' behavioural intentions are the most significant factor which influences teachers' attitude in using ICT, they should be provided with opportunities and scope to employ various ICT tools in the course of their teaching and learning processes.

As in similar studies (Cheung, Lee, & Chen, 2005; Saade *et al.*, 2007), TAM is a useful theoretical base that can be employed to understand users' intentions to use ICT. It also confirms that in order to motivate

user's to use ICT in their environment, it is essential to demonstrate a positive perception of technology usefulness. This is particularly important as teachers may not have a positive perception of ICT usefulness in teaching and learning.

Given the fact that the intention to use is the major deciding factor in actually using ICT, teachers will be more ready to use and integrate ICT if given tasks and projects to motivate them to use the various facilities and resources widely available to support their teaching process, as well as to enhance their creativity and innovative skills. This in effect will have an impact on their perceived ease of use and perceived usefulness of ICT integration in the course of their teaching and learning processes.

In relation to this, to warrant the implementation of an innovation, in this case, ICT, Hajar Mohd Nor (2005) concedes that the availability of resources is a major condition that must be present in the schools and accessible to adopters. Without adequate resources, both in the form of materials and human support, the integration of ICT in class instruction cannot be carried out properly even though all the other conditions are present.

Abdul Malek Kasim (2002), Hajar Mohd Nor (2005), Mohammed Tajuddin Sidek (2000), Norin Mustaffa (2004) and Zuraidah Saidon (1998) found that teachers who faced the problem of adequate resources cannot make the best use of the ICT facilities although they acquire the skills and knowledge to do so. Apart from the lack of resources, in the Malaysian context,

teachers are also given one off trainings and expected to use ICT widely in their teaching and learning. At most times, they are lost for the lack of technical assistance. This makes them look at ICT as problematic and an issue to use in teaching and learning. Thus, continuous support will bring about comfort and ease of use among the teachers. This will lead to teachers eventually becoming comfortable in using ICT and hence, there will be a change in their attitude towards the use of ICT in teaching and learning.

Teachers require the motivation and continued support to facilitate implementation of an innovation, especially in classroom endeavours (Ely, 1993). On a similar note, Stein (1997) stresses such participation is vital because without it, the integration of ICT in teaching and learning, most likely would not be endeavoured by the teachers.

It is therefore recommended that teachers be given support to use ICT in schools. It is suggested that ongoing professional development be carried out. Peer coaching is a concept that has been researched on and proven to be effective in guiding and supporting teachers on ICT use in teaching and learning.

## CONCLUSION

This study has revealed that behavioural intention is influential in teachers' usage and integration of ICT in the course of their teaching and learning processes. Schools should also make state-of-the-art computer facilities available to all teachers as a creative teaching resource in classrooms.

There should also be emphasis on organising and providing continuous staff training to better equip the teachers. The most practical method to achieve these would be to implement initiatives to fully integrate ICT in the teaching and learning of specific subjects such as languages, Mathematics, Physical Education, Science, History and Creative Arts. In more specific, languages and Physical Education can benefit from digital videos and photography, while simulations and animations can enable students to grasp more complex concepts in Mathematics and Science. Thus, it is recommended that teachers be trained on a continuous, instead of on a one-off basis so as to ensure that their IT knowledge progresses and is also upgraded over time (Lau & Sim, 2008).

This study highlights the need for further research, especially qualitative studies to be conducted to investigate the factors that will encourage and motivate teachers to fully use and integrate ICT. Further studies could also be carried out to examine TAM using different sets of samples and a specific range of information technology applications. TAM model could then be expanded to include additional beliefs that could impact the use of ICT such as social influence.

## REFERENCES

- Chan, F. M. (2002). *ICT in Malaysian Schools: Policy and Strategies*. Educational Technology Division, Ministry of Education, Malaysia. Retrieved from <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan011288.pdf>

- Cheung, K., Lee, O., & Chen, Z. (2005). Acceptance of Internet-based learning medium: the role of extrinsic and intrinsic motivation. *Information & Management*, 42, 1095-1104.
- Davies, D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
- Fariza Khalid, Mokhtar Hj Nawawi & Samsilah Roslan (2009). Integration of ICT in Malaysian Secondary Schools; What conditions will facilitate its use? *International Journal of Learning*, 15(12).
- Lau, B. T. & Sim, C. H. (2008). Exploring the extent of ICT adoption among Secondary school teachers in Malaysia. *International Journal of Computing and ICT Research*, 2(2), 19-36. Retrieved May 5, 2013, from <http://www.ijcir.org/volume2-number2/article3.pdf>.
- Ministry of Education. (2012). *Preliminary Report: The Malaysia Education Blueprint (2013 – 2025)*. Retrieved from <http://www.moe.gov.my/userfiles/file/PPP/Preliminary-Blueprint-Eng.pdf>
- Ministry of Science, Technology and Innovation (n.d.). National IT Agenda – NITA. Retrieved from [http://nitc.mosti.gov.my/nitc\\_beta/index.php/national-ict-policies/national-it-agenda-nita](http://nitc.mosti.gov.my/nitc_beta/index.php/national-ict-policies/national-it-agenda-nita)
- Nair, I. & Das V.M. (2012). Using Technology Acceptance Model to assess teachers' attitude towards use of technology as teaching tool : A SEM Approach. *International Journal of Computer Applications (0975 – 8887)*, 42(2).
- Ngah, N. A. & Masood, M. (2006). Development of ICT Instructional Materials Based on Needs Identified by Malaysia Secondary School Teachers. *Proceedings of the 2006 Informing Science and IT Education Joint Conference*. Retrieved from [http://eprints.usm.my/5552/1/Development\\_Of\\_ICT\\_Instructional\\_Materials\\_Based\\_On\\_Needs\\_Identified\\_By\\_malaysia\\_Secondary\\_School\\_Teachers.pdf](http://eprints.usm.my/5552/1/Development_Of_ICT_Instructional_Materials_Based_On_Needs_Identified_By_malaysia_Secondary_School_Teachers.pdf)
- Ministry of Education Malaysia & MSC Malaysia (2010). *Policy on ICT in Education Malaysia*. Retrieved from [http://www.msomalaysia.my/sites/default/files/pdf/publications\\_references/Policy%20on%20ICT%20in%20Education%20Malaysia%202010.pdf](http://www.msomalaysia.my/sites/default/files/pdf/publications_references/Policy%20on%20ICT%20in%20Education%20Malaysia%202010.pdf)
- Teo, T., Wong, S. L., & Chai, C. S. (2008). A cross-cultural examination of the intention to use technology between Singaporean and Malaysian pre-service teachers: an application of the Technology Acceptance Model (TAM). *Educational Technology & Society*, 11(4), 265–280.
- Shapka, J. D. & Ferrari, M. (2003) Computer-related attitudes and actions of teacher candidates. *Computers in Human Behaviour*, 19, 319–344.
- Sime, D. & Priestley, M. (2005) Student teachers' first reflections on information and communications technology and classroom learning: implications for initial teacher education. *Journal of Computer Assisted Learning*, 21, 130–142.
- Sugar, W., Crawley, F., & Fine, B. (2004). Examining teachers' decisions to adopt new technology. *Educational Technology and Society*, 7, 201–213.
- Taylor, S. & Todd, P. A. (1995). Understanding information technology usage: a test of competing models. *Information Systems Research*, 6, 144–176.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Venkatesh, V., Speier, C., & Morris, M. G. (2002). User acceptance enablers in individual decision making about technology: Toward an integrated model. *Decision Sciences*, 33(2), 297-316.
- Wixom, B. H. & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16(1), 85-102.

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Linguistically hopeless manuscripts will be rejected straightaway (e.g., when the language is so poor that one cannot be sure of what the authors really mean). This process, taken by authors before submission, will greatly facilitate reviewing, and thus publication if the content is acceptable.

The instructions for authors must be followed. Manuscripts not adhering to the instructions will be returned for revision without review. Authors should prepare manuscripts according to the guidelines of *Pertanika*.

#### 1. Regular article

*Definition:* Full-length original empirical investigations, consisting of introduction, materials and methods, results and discussion, conclusions. Original work must provide references and an explanation on research findings that contain new and significant findings.

*Size:* Should not exceed 5000 words or 8-10 printed pages (excluding the abstract, references, tables and/or figures). One printed page is roughly equivalent to 3 type-written pages.

#### 2. Short communications

*Definition:* Significant new information to readers of the Journal in a short but complete form. It is suitable for the publication of technical advance, bioinformatics or insightful findings of plant and animal development and function.

*Size:* Should not exceed 2000 words or 4 printed pages, is intended for rapid publication. They are not intended for publishing preliminary results or to be a reduced version of Regular Papers or Rapid Papers.

#### 3. Review article

*Definition:* Critical evaluation of materials about current research that had already been published by organizing, integrating, and evaluating previously published materials. Re-analyses as meta-analysis and systemic reviews are encouraged. Review articles should aim to provide systemic overviews, evaluations and interpretations of research in a given field.

*Size:* Should not exceed 4000 words or 7-8 printed pages.

#### 4. Special issues

*Definition:* Usually papers from research presented at a conference, seminar, congress or a symposium.

*Size:* Should not exceed 5000 words or 8-10 printed pages.

#### 5. Others

*Definition:* Brief reports, case studies, comments, Letters to the Editor, and replies on previously published articles may be considered.

*Size:* Should not exceed 2000 words or up to 4 printed pages.

With few exceptions, original manuscripts should not exceed the recommended length of 6 printed pages (about 18 typed pages, double-spaced and in 12-point font, tables and figures included). Printing is expensive, and, for the Journal, postage doubles when an issue exceeds 80 pages. You can understand then that there is little room for flexibility.

Long articles reduce the Journal's possibility to accept other high-quality contributions because of its 80-page restriction. We would like to publish as many good studies as possible, not only a few lengthy ones. (And, who reads overly long articles anyway?) Therefore, in our competition, short and concise manuscripts have a definite advantage.

#### Format

The paper should be formatted in one column format with at least 4cm margins and 1.5 line spacing throughout. Authors are advised to use Times New Roman 12-point font. Be especially careful when you are inserting special characters, as those inserted in different fonts may be replaced by different characters when converted to PDF files. It is well known that 'µ' will be replaced by other characters when fonts such as 'Symbol' or 'Mincho' are used.

A maximum of eight keywords should be indicated below the abstract to describe the contents of the manuscript. Leave a blank line between each paragraph and between each entry in the list of bibliographic references. Tables should preferably be placed in the same electronic file as the text. Authors should consult a recent issue of the Journal for table layout.

Every page of the manuscript, including the title page, references, tables, etc. should be numbered. However, no reference should be made to page numbers in the text; if necessary, one may refer to sections. Underline words that should be in italics, and do not underline any other words.

We recommend that authors prepare the text as a **Microsoft Word** file.

1. Manuscripts in general should be organised in the following order:

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In addition, the **Subject areas** most relevant to the study must be indicated on this page. Select the appropriate subject areas from the Scope of the Journals provided in the Manuscript Submission Guide.

- A **list of number of black and white / colour figures and tables** should also be indicated on this page. Figures submitted in color will be printed in colour. See "5. Figures & Photographs" for details.
- **Page 2: Author(s) and Corresponding author information.** This page should contain the **full title** of your paper with name(s) of all the authors, institutions and corresponding author's name, institution and full address (Street address, telephone number (including extension), hand phone number, fax number and e-mail address) for editorial correspondence. The names of the authors **must** be abbreviated following the international naming convention. e.g. Salleh, A.B., Tan, S.G., or Sapuan, S.M.

**Authors' addresses.** Multiple authors with different addresses must indicate their respective addresses separately by superscript numbers:

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<sup>2</sup>Office of the Deputy Vice Chancellor (R&I), Universiti Putra Malaysia, Serdang, Malaysia.

- **Page 3:** This page should **repeat** the **full title** of your paper with only the **Abstract** (the abstract should be less than 250 words for a Regular Paper and up to 100 words for a Short Communication). **Keywords** must also be provided on this page (Not more than eight keywords in alphabetical order).
- **Page 4 and subsequent pages:** This page should begin with the **Introduction** of your article and the rest of your paper should follow from page 5 onwards.

**Abbreviations.** Define alphabetically, other than abbreviations that can be used without definition. Words or phrases that are abbreviated in the introduction and following text should be written out in full the first time that they appear in the text, with each abbreviated form in parenthesis. Include the common name or scientific name, or both, of animal and plant materials.

**Footnotes.** Current addresses of authors if different from heading.

2. **Text.** Regular Papers should be prepared with the headings **Introduction, Materials and Methods, Results and Discussion, Conclusions** in this order. Short Communications should be prepared according to "8. *Short Communications.*" below.
3. **Tables.** All tables should be prepared in a form consistent with recent issues of *Pertanika* and should be numbered consecutively with Arabic numerals. Explanatory material should be given in the table legends and footnotes. Each table should be prepared on a separate page. (Note that when a manuscript is accepted for publication, tables must be submitted as data - .doc, .rtf, Excel or PowerPoint file- because tables submitted as image data cannot be edited for publication.)
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5. **Figures & Photographs.** Submit an original figure or photograph. Line drawings must be clear, with high black and white contrast. Each figure or photograph should be prepared on a separate sheet and numbered consecutively with Arabic numerals. Appropriate sized numbers, letters and symbols should be used, no smaller than 2 mm in size after reduction to single column width (85 mm), 1.5-column width (120 mm) or full 2-column width (175 mm). Failure to comply with these specifications will require new figures and delay in publication. For electronic figures, create your figures using applications that are capable of preparing high resolution TIFF files acceptable for publication. In general, we require **300 dpi or higher resolution for coloured and half-tone artwork** and **1200 dpi or higher for line drawings**.

For review, you may attach low-resolution figures, which are still clear enough for reviewing, to keep the file of the manuscript under 5 MB. Illustrations may be produced at extra cost in colour at the discretion of the Publisher; the author could be charged Malaysian Ringgit 50 for each colour page.

6. **References.** Literature citations in the text should be made by name(s) of author(s) and year. For references with more than two authors, the name of the first author followed by 'et al.' should be used.

Swan and Kanwal (2007) reported that ...

The results have been interpreted (Kanwal *et al.*, 2009).

- References should be listed in alphabetical order, by the authors' last names. For the same author, or for the same set of authors, references should be arranged chronologically. If there is more than one publication in the same year for the same author(s), the letters 'a', 'b', etc., should be added to the year.
- When the authors are more than 11, list 5 authors and then et al.
- Do not use indentations in typing References. Use one line of space to separate each reference. The name of the journal should be written in full. For example:
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  - Mellers, B. A. (2006b). Treatment for sexually abused children and adolescents. *American Psychologist*, 55, 1040-1049.
  - Hawe, P. (2005). Capturing the meaning of "community" in community intervention evaluation: Some contributions from community psychology. *Health Promotion International*, 9, 199-210.
  - Braconier, H., & Ekholm, K. (2006). Swedish multinationals and competition from high and low wage location. *Review of International Economics*, 8, 448-461.
- In case of citing an author(s) who has published more than one paper in the same year, the papers should be distinguished by addition of a small letter as shown above, e.g. Jalaludin (1997a); Jalaludin (1997b).
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7. **Examples of other reference citations:**

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**Chapter in Book:** Bjork, R. A. (2007). Retrieval inhibition as an adaptive mechanism in human memory. In H. L. Roediger III & F. I. M. Craik (Eds.), *Varieties of memory & consciousness* (pp. 309-330). Hull: Hull University Press.

- **Proceedings:** Amir Awang. (2006). Counseling, human resources development and counseling services. In Sulaiman M. Yassin, Yahya Mat Hassan, Kamariah Abu Bakar, Esah Munji and Sabariah Mohd. Rashid (Eds.), *Proceedings of Asia Pacific Conference on Human Development* (p. 243-246). Serdang: Universiti Putra Malaysia.

8. **Short Communications** should include **Introduction, Materials and Methods, Results and Discussion, Conclusions** in this order. Headings should only be inserted for Materials and Methods. The abstract should be up to 100 words, as stated above. Short Communications must be 5 printed pages or less, including all references, figures and tables. References should be less than 30. A 5 page paper is usually approximately 3000 words plus four figures or tables (if each figure or table is less than 1/4 page).

\*Authors should state the total number of words (including the Abstract) in the cover letter. Manuscripts that do not fulfill these criteria will be rejected as Short Communications without review.

#### STYLE OF THE MANUSCRIPT

Manuscripts should follow the style of the latest version of the Publication Manual of the American Psychological Association (APA). The journal uses American or British spelling and authors may follow the latest edition of the Oxford Advanced Learner's Dictionary for British spellings.

#### SUBMISSION OF MANUSCRIPTS

All articles should be submitted electronically using the ScholarOne web-based system. ScholarOne, a Thomson Reuters product provides comprehensive workflow management systems for scholarly journals. For more information, go to our web page and click "**Online Submission**".

Alternatively, you may submit the electronic files (cover letter, manuscript, and the **Manuscript Submission Kit** comprising *Declaration and Referral* form) via email directly to the Executive Editor. If the files are too large to email, mail a CD containing the files. The **Manuscript Submission Guide** and **Submission Kit** are available from the *Pertanika's* home page at <http://www.pertanika.upm.edu.my/home.php> or from the Chief Executive Editor's office upon request.

All articles submitted to the journal **must comply** with these instructions. Failure to do so will result in return of the manuscript and possible delay in publication.

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All submissions must be accompanied by a cover letter detailing what you are submitting. Papers are accepted for publication in the journal on the understanding that the article is original and the content has not been published or submitted for publication elsewhere. This must be stated in the cover letter.

The cover letter must also contain an acknowledgement that all authors have contributed significantly, and that all authors are in agreement with the content of the manuscript.

The cover letter of the paper should contain (i) the title; (ii) the full names of the authors; (iii) the addresses of the institutions at which the work was carried out together with (iv) the full postal and email address, plus facsimile and telephone numbers of the author to whom correspondence about the manuscript should be sent. The present address of any author, if different from that where the work was carried out, should be supplied in a footnote.

As articles are double-blind reviewed, material that might identify authorship of the paper should be placed on a cover sheet.

#### **Peer review**

Pertanika follows a **double-blind peer-review** process. Peer reviewers are experts chosen by journal editors to provide written assessment of the **strengths** and **weaknesses** of written research, with the aim of improving the reporting of research and identifying the most appropriate and highest quality material for the journal.

In the peer-review process, three referees independently evaluate the scientific quality of the submitted manuscripts. Authors are encouraged to indicate in the **Referral form** using the **Manuscript Submission Kit** the names of three potential reviewers, but the editors will make the final choice. The editors are not, however, bound by these suggestions..

Manuscripts should be written so that they are intelligible to the professional reader who is not a specialist in the particular field. They should be written in a clear, concise, direct style. Where contributions are judged as acceptable for publication on the basis of content, the Editor reserves the right to modify the typescripts to eliminate ambiguity and repetition, and improve communication between author and reader. If extensive alterations are required, the manuscript will be returned to the author for revision.

#### **The Journal's review process**

What happens to a manuscript once it is submitted to *Pertanika*? Typically, there are seven steps to the editorial review process:

1. The executive editor and the editorial board examine the paper to determine whether it is appropriate for the journal and should be reviewed. If not appropriate, the manuscript is rejected outright and the author is informed.
2. The executive editor sends the article-identifying information having been removed, to three reviewers. Typically, one of these is from the Journal's editorial board. Others are specialists in the subject matter represented by the article. The executive editor asks them to complete the review in three weeks and encloses two forms: (a) referral form B and (b) reviewer's comment form along with reviewer's guidelines. Comments to authors are about the appropriateness and adequacy of the theoretical or conceptual framework, literature review, method, results and discussion, and conclusions. Reviewers often include suggestions for strengthening of the manuscript. Comments to the editor are in the nature of the significance of the work and its potential contribution to the literature.
3. The executive editor, in consultation with the editor-in-chief, examines the reviews and decides whether to reject the manuscript, invite the author(s) to revise and resubmit the manuscript, or seek additional reviews. Final acceptance or rejection rests with the Editorial Board, who reserves the right to refuse any material for publication. In rare instances, the manuscript is accepted with almost no revision. Almost without exception, reviewers' comments (to the author) are forwarded to the author. If a revision is indicated, the editor provides guidelines for attending to the reviewers' suggestions and perhaps additional advice about revising the manuscript.
4. The authors decide whether and how to address the reviewers' comments and criticisms and the editor's concerns. The authors submit a revised version of the paper to the executive editor along with specific information describing how they have answered the concerns of the reviewers and the editor.
5. The executive editor sends the revised paper out for review. Typically, at least one of the original reviewers will be asked to examine the article.
6. When the reviewers have completed their work, the executive editor in consultation with the editorial board and the editor-in-chief examine their comments and decide whether the paper is ready to be published, needs another round of revisions, or should be rejected.
7. If the decision is to accept, the paper is sent to that Press and the article should appear in print in approximately three months. The Publisher ensures that the paper adheres to the correct style (in-text citations, the reference list, and tables are typical areas of concern, clarity, and grammar). The authors are asked to respond to any queries by the Publisher. Following these corrections, page proofs are mailed to the corresponding authors for their final approval. At this point, only essential changes are accepted. Finally, the article appears in the pages of the Journal and is posted on-line.

**English language editing**

Pertanika **emphasizes** on the linguistic accuracy of every manuscript published. Thus all authors are required to get their manuscripts edited by **professional English language editors**. Author(s) **must provide a certificate** confirming that their manuscripts have been adequately edited. A proof from a recognised editing service should be submitted together with the cover letter at the time of submitting a manuscript to Pertanika. **All costs will be borne by the author(s)**.

This step, taken by authors before submission, will greatly facilitate reviewing, and thus publication if the content is acceptable.

**Author material archive policy**

Authors who require the return of any submitted material that is rejected for publication in the journal should indicate on the cover letter. If no indication is given, that author's material should be returned, the Editorial Office will dispose of all hardcopy and electronic material.

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A decision on acceptance or rejection of a manuscript is reached in 3 to 4 months (average 14 weeks). The elapsed time from submission to publication for the articles averages 5-6 months.

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Under the Journal's open access initiative, authors can choose to download free material (via PDF link) from any of the journal issues from Pertanika's website. Under "Browse Journals" you will see a link entitled "Current Issues" or "Archives". Here you will get access to all back-issues from 1978 onwards.

The **corresponding author** for all articles will receive one complimentary hardcopy of the journal in which his/her articles is published. In addition, 20 off prints of the full text of their article will also be provided. Additional copies of the journals may be purchased by writing to the executive editor.



## Why should you publish in *Pertanika*?

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**PROFILE:** Our journals are circulated in large numbers all over Malaysia, and beyond in Southeast Asia. Our circulation covers other overseas countries as well. We ensure that your work reaches the widest possible audience in print and online, through our wide publicity campaigns held frequently, and through our constantly developing electronic initiatives such as Web of Science Author Connect backed by Thomson Reuters.

**QUALITY:** Our journals' reputation for quality is unsurpassed ensuring that the originality, authority and accuracy of your work is fully recognised. Each manuscript submitted to *Pertanika* undergoes a rigid originality check. Our double-blind peer refereeing procedures are fair and open, and we aim to help authors develop and improve their scientific work. *Pertanika* is now over 35 years old; this accumulated knowledge has resulted in our journals being indexed in SCOPUS (Elsevier), Thomson (ISI) Web of Knowledge [BIOSIS & CAB Abstracts], EBSCO, DOAJ, Google Scholar, AGRICOLA, ERA, ISC, Citefactor, Rubriq and MyAIS.

**AUTHOR SERVICES:** We provide a rapid response service to all our authors, with dedicated support staff for each journal, and a point of contact throughout the refereeing and production processes. Our aim is to ensure that the production process is as smooth as possible, is borne out by the high number of authors who prefer to publish with us.

**CODE OF ETHICS:** Our Journal has adopted a Code of Ethics to ensure that its commitment to integrity is recognized and adhered to by contributors, editors and reviewers. It warns against plagiarism and self-plagiarism, and provides guidelines on authorship, copyright and submission, among others.

**PRESS RELEASES:** Landmark academic papers that are published in *Pertanika* journals are converted into press releases as a unique strategy for increasing visibility of the journal as well as to make major findings accessible to non-specialist readers. These press releases are then featured in the university's UK-based research portal, ResearchSEA, for the perusal of journalists all over the world.

**LAG TIME:** The elapsed time from submission to publication for the articles averages 4 to 5 months. A decision on acceptance of a manuscript is reached in 3 to 4 months (average 14 weeks).



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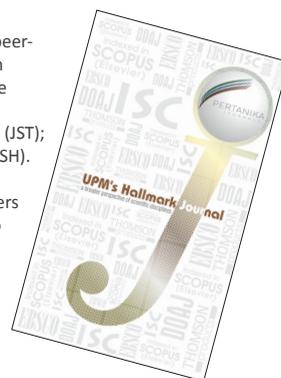
## About the Journal

*Pertanika* is an international multidisciplinary peer-reviewed leading journal in Malaysia which began publication in 1978. The journal publishes in three different areas — Journal of Tropical Agricultural Science (JTAS); Journal of Science and Technology (JST); and Journal of Social Sciences and Humanities (JSSH).

**JTAS** is devoted to the publication of original papers that serves as a forum for practical approaches to improving quality in issues pertaining to **tropical agricultural research**- or related fields of study. It is published four times a year in **February, May, August and November**.

**JST** caters for **science and engineering research**- or related fields of study. It is published twice a year in **January and July**.

**JSSH** deals in **research or theories in social sciences and humanities research**. It aims to develop as a flagship journal with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities, particularly in the Asia Pacific region. It is published four times a year in **March, June, September and December**.



## Call for Papers 2014-15 now accepting submissions...

*Pertanika* invites you to explore frontiers from all key areas of **agriculture, science and technology to social sciences and humanities**.

Original research and review articles are invited from scholars, scientists, professors, post-docs, and university students who are seeking publishing opportunities for their research papers through the Journal's three titles; JTAS, JST & JSSH. Preference is given to the work on leading and innovative research approaches.

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