



UNIVERSITI PUTRA MALAYSIA

***ANTECEDENTS OF CYBER LOVE ADDICTION AND MODERATING
EFFECT OF GENDER AMONG MALAYSIAN STUDENTS IN A
UNIVERSITY IN MALAYSIA***

NAYERH GHASEMI KAMALIYEH

FEM 2018 37



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By

NAYERH GHASEMI KAMALIYEH

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirements for the Degree of Doctor of Philosophy**

March 2018

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

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Chairman : Zumilah Binti Zainalaludin, PhD
Faculty : Human Ecology

Cyber Love Addiction (CLA) associated with online addiction through social network sites is a cause of many problems both socially and individually. Today, people prefer to communicate through social network sites rather than engaging in actual conversations and face-to-face contacts with their family and friends. According to previous studies, students who are addicted to social media face many problems such as educational failure, poor academic achievement, unstable marriage, familial dissatisfaction, and irregular relationships. Furthermore, many types of cyber-crimes such as drug dealing, pornography, abuse and cheating in both genders among students and the general public had been reported. Cyber love addiction can be considered as an addiction to forming romantic relationships with strangers via social networks. The aim of this study is to determine the effect of gender as a moderator in the relationship between social capital, perceived economic well-being, and loneliness with Cyber Love Addiction (CLA) among Malaysian students by gender. The independent variables in this research include social capital, the perceived economic well-being of the family and loneliness, whilst the dependent variable is cyber love addiction with gender as the moderator. A sample of 280 Malaysian students in Universiti Putra Malaysia (UPM) were identified using a multi-stage random sampling approach. Data was collected through a survey technique. In this study, the levels of cyber love addiction, social capital, loneliness, and perceived economic well-being of the family were measured by using a self-administered questionnaire. The data was analyzed using SPSS Ver 22 for descriptive statistics whilst the research hypothesis was studied using statistical methods such as Pearson's correlation, independent sample t-test, Chi-square test, and multiple linear regression (MLR). Moderating analysis was done using PROCESS macro.

The results of the descriptive analysis of demographic characteristics among the respondents showed that the majority of the respondents were female (63.2%), Muslim (71.8%) and single (91.4%). Considering the program, the results showed that the majority of the students (89.6%) were pursuing bachelor degrees. The result revealed that the overall CLA and four sub-components (tolerance, withdrawal, conflict, and relationship experience) were significantly different between the two genders where the male students had a higher mean score of CLA as compared to the female students. Perceived economic well-being had a significant and negative effect on the total CLA; social capital had a positive and significant effect on the total CLA whilst the effect of loneliness was not statistically significant. Some of the background variables such as “daily hours spent on Facebook”, “spend time alone on Internet web surfing”, and “spend time alone on Internet chatting” were significantly influenced on total CLA. The results of the moderating effect of gender indicated that the relationship between PEW and social capital with CLA was significantly moderated by gender while the relationship between loneliness with CLA was not significantly moderated by gender. As a conclusion, CLA may be understood as a behavioral addiction which may be affected by many factors such as social and psychological issues. The implication of this study may be used by policy and decision makers which could be of help for them on related issues for future programs. In summary, implications of the theory, Gender and Development, may be beneficiary to Malaysian academics and contribute towards policy making.

Keywords : Cyber Love Addiction, Gender, Social capital, Perceived Economic Well-being, Salience, Tolerance, Self-Awareness, Withdrawal, Mood Modification, Conflict, Relationship Experience.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**KEWUJUDAN KETAGIHAN CINTA SIBER, DAN KESAN
KETIDAKSAMAAN GENDER DI KALANGAN PELAJAR MALAYSIA DI
SEBUAH UNIVERSITI DI MALAYSIA**

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Ketagihan Cinta Siber (KCS) yang berhubungkait dengan ketagihan atas talian menerusi jaringan sosial merupakan punca gejala negatif dalam kalangan masyarakat dan individu. Kini, orang ramai lebih cenderung berkomunikasi menggunakan jaringan sosial berbanding bertemu secara bersemuka dengan ahli keluarga dan rakan-rakan. Menurut kaji selidik terdahulu, pelajar yang ketagih menggunakan media sosial turut mengalami gejala seperti kegagalan dalam pelajaran, pencapaian akademik yang kurang memuaskan, masalah perkahwinan, ketidakpuasan hati di kalangan ahli keluarga, serta hubungan silaturahim yang terjejas. Tambahan pula, terdapat banyak kes jenayah siber yang dilaporkan seperti penjualan dadah, bahan-bahan lucah, penderaan dan penipuan yang melibatkan kedua-dua jantina di kalangan pelajar. Yakni, KCS boleh juga ditakrifkan sebagai sejenis ketagihan hubungan romantik dengan orang yang tidak dikenali melalui saluran jaringan sosial atas talian.

Tujuan utama kajian penyelidikan ini adalah untuk menentukan hubungkait di antara modal sosial, tanggapan kekuatan ekonomi, kesepian dan Ketagihan Cinta Siber (KCS) di kalangan pelajar Malaysia mengikut jantina. Pembolehubah bebas bagi kajian ini merangkumi modal sosial, tanggapan kekuatan ekonomi keluarga dan kesepian; manakala ketagihan cinta siber selaku pembolehubah tanggungan dan jantina sebagai pengantara. Seramai 280 orang pelajar Malaysia yang masih belajar di Universiti Putra Malaysia (UPM) dikenalpasti menerusi pengutipan sampel secara rawak berbilang tahap. Data dikumpul dengan kaedah teknik peninjauan selidik (survey). Kajian ini meninjau tahap ketagihan cinta siber, modal sosial, kesepian dan tanggapan kekuatan ekonomi keluarga dengan menggunakan borang soal selidik yang diisi oleh para peserta. Data bagi statistik huraian dianalisa dengan SPSS versi

21 manakala hipotesis atau andaian kajian dikajiselidik dengan menggunakan kaedah perhitungan statistik seperti *Pearson's correlation*, *independent sample t-test*, *Chi square test*, dan *Multiple liner regression* (MLR). Analisa pengantaraan dijalankan menggunakan PROCESS macro.

Keputusan penganalisaan huraian bagi ciri-ciri demografik di kalangan peserta menunjukkan bahawa majoriti daripada responden adalah wanita (63.2%), beragama Islam (71.58%) dan bujang (91.4%). Dari segi penjurusan akademik, dapatan menunjukkan bahawa majoriti pelajar (89.6%) adalah pelajar ijazah sarjana muda. Keputusan juga menunjukkan bahawa KCS dan empat subdimensi (daya toleransi, pengunduran, perselisihan dan pengalaman hubungan silaturahim) adalah berbeza di antara kedua-dua jantina; dan didapati juga bahawa pelajar lelaki mencapai markah purata KCS yang lebih tinggi berbanding pelajar wanita secara keseluruhan. Tanggapan kekuatan ekonomi didapati mempunyai kesan negatif yang ketara ke atas jumlah skor KCS, tetapi sebaliknya modal sosial mempunyai kesan positif yang ketara manakala pembolehubah lain seperti “jumlah jam digunakan untuk melayari Facebook”, “masa digunakan untuk melayari internet secara sendiri” dan “masa digunakan bersembang atas talian secara sendiri” mempengaruhi skor KCS secara ketara. Kaedah pengantaraan faktor jantina jelas menunjukkan kesan hubungan yang ketara di antara tanggapan kekuatan ekonomi dan modal sosial dengan KCS, sebaliknya kesepian tiada hubungan ketara dengan KCS.

Sebagai kesimpulan, KCS boleh difahami sebagai ketagihan tingkahlaku yang dipengaruhi oleh pelbagai faktor seperti isu psikologi dan sosial. Keputusan kajiselidik ini boleh dijadikan petunjuk untuk pihak berkuasa semasa penggubalan dasar yang boleh membantu mereka dalam isu berkaitan untuk program masa hadapan. Ringkasnya, implikasi teori, Gender dan Pembangunan, boleh memberi manfaat kepada ahli akademik Malaysia dan menyumbang kepada pembuatan dasar.

Kata Kunci : Ketagihan Cinta Siber, Jantina, Modal Sosial, Tanggapan Kekuatan Ekonomi Kesungguhan, Kesepian, Toleransi, Kesedaran Sendiri, Pengeluaran, Pengubahsuaian Mood, Konflik, Pengalaman Hubungan.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee are as follows:

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TABLE OF CONTENTS

	Page
ABSTRACT	i
ABSTRAK	iii
ACKNOWLEDGEMENT	v
APPROVAL	vi
DECLARATION	viii
LIST OF TABLES	xiv
LIST OF FIGURES	xvi
LIST OF ABBREVIATIONS	xvii
 CHAPTER	
1 INTRODUCTION	1
1.1 The Internet and Social Networks	1
1.2 Statement of Problem	2
1.3 Research Questions	6
1.4 Objectives of the Study	6
1.5 Hypothesis	7
1.6 Significance of the Study	8
1.7 Scope and Limitations	9
1.8 Conceptual and Operational Definitions	10
1.8.1 Cyber Love Addiction	10
1.8.2 Cyber Love Addiction Sub-scales	11
1.8.3 Social Capital	11
1.8.4 Loneliness	12
1.8.5 Perceived Economic Well-being of Family (PEW)	12
1.8.6 Gender	13
1.8.7 Sex	13
1.9 Limitations of Study	14
 2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK	 15
2.1 Cyber Love Addiction	15
2.1.1 Love Addiction	17
2.1.2 Love and Gender	18
2.2 Issues with Facebook	20
2.2.1 Facebook and Gender	20
2.2.2 Facebook and Love	22
2.3 Social Network Sites (SNSs)	23
2.3.1 History of Social Networks	24
2.3.2 Social Network in Malaysia	26
2.3.3 Background of the Study in Malaysia	27
2.4 Social Capital	27
2.4.1 Social Capital and Gender	28
2.4.2 Social Capital and Love	29

2.5	Loneliness	29
2.5.1	Loneliness and Gender	31
2.5.2	Loneliness and Love	32
2.6	Perceived Economic Well-being of the Family (PEW)	32
2.6.1	Perceived Economic Well-being of the Family and Gender	34
2.6.2	Perceived Economic Well-being and Love	35
2.7	Research theories	36
2.7.1	Gender Differences Theory	37
2.7.1.1	Evolutionary Psychology Theory	37
2.7.1.2	Sexual Selection Theory	38
2.7.1.3	Sex Differences in Evolutionary Psychology	39
2.7.2	Attachment Theory	40
2.7.3	Social capital theory	41
2.7.4	General strain theory	42
2.8	Theoretical Framework	43
2.9	Conceptual Framework	45
3	RESEARCH METHODOLOGY	47
3.1	Research Design	47
3.2	Location of the Study	47
3.3	Population and Sampling	48
3.3.1	Population	48
3.3.2	Sampling	49
3.4	Variables	52
3.4.1	Independent Variables (IV)	52
3.4.2	Dependent Variable (DV)	52
3.4.3	Gender	52
3.5	Questionnaire Development	52
3.5.1	Part A (Background of Respondents)	53
3.5.2	Part B (Cyber Love Addiction)	53
3.5.3	Part C (Loneliness)	56
3.5.4	Part D (Social Capital)	57
3.5.5	Part E (Perceived Economic Wellbeing of the Family)	59
3.6	Validity and Reliability	60
3.6.1	Face & Content Validity	60
3.6.2	Reliability	60
3.7	Pilot Study	61
3.8	Data Collection	61
3.9	Data Analyses	62
3.10	Descriptive Analysis	62
3.11	Measurements and Statistic Test Use	63
3.12	Multiple Linear Regression Model (MLR)	63
3.13	Data Analysis Assumption	64
3.13.1	3.13.1 Test of Normality	64
3.13.2	Multicollinearity	64
3.13.3	Normality of Residuals	66
3.13.4	Homoscedasticity	66

3.14	Model Definition	67
3.15	Model Testing	68
3.16	Research Hypothesis	69
4	FINDINGS	71
4.1	Background of Respondents	71
4.2	Test of Research Objectives	73
4.2.1	RO 1: To Determine the Level of CLA among Males and Females Respondents	73
4.2.2	RO 2: To Determine the Level of Social Capital, Loneliness, and PEW among Males and Females Respondents	74
4.2.3	RO 3: To Examine the Relationship between Social Capital, Loneliness, PEW with CLA among Males and Females Respondents	75
4.2.4	RO 4: To Determine the Factors that Contributing to CLA and its Subscales among Males and Females Respondents	78
4.2.5	Fitness of Model in MLR	89
4.2.6	RO 5: To Determine the Effect of Gender as a Moderator on Relationship between Social Capital, Loneliness and PEW with CLA among Male and Female Respondents.	90
4.3	Test of Hypothesis	96
5	DISCUSSION	98
5.1	RQ 1: What are the Level of CLA among the Male and Female Respondents	98
5.2	RQ 2: What are the Levels of Social Capital, Loneliness, and PEW among the Male and Female Respondents	99
5.3	RQ 3: Are there any Relationship between CLA, Social Capital, Loneliness and PEW among the Male and Female Respondents	100
5.4	RQ 4: What are the Significant Factors of CLA and Its Sub-scale among the Male and Female Respondents	103
5.5	RQ 5: Does Gender Moderate the Relationship between Social Capital, Loneliness and PEW with CLA among the Male and Female Respondents	105
5.5.1	Moderating Effect of Gender	105
5.5.2	Moderating Effect of Gender on Relationship between Social Capital with CLA	106
5.5.3	Moderating Effect of Gender on Relationship between Loneliness with CLA	106
5.5.4	Moderating Effect of Gender on Relationship between PEW with CLA	107

6	SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS	109
6.1	Summary and Conclusion	109
6.2	Implications	113
6.2.1	Implication for Theory	114
6.2.2	Implication for Gender and Development	115
6.2.3	Implication for Academics	116
6.2.4	Implication for Policy Makers	117
6.3	Recommendation for Future Research	118
	REFERENCES	121
	APPENDICES	145
	BIODATA OF STUDENT	160
	LIST OF PUBLICATIONS	162



LIST OF TABLES

Table	Page
3.1 List of UPM Faculties	48
3.2 Population of the Study 2013/2014	49
3.3 Sample Size for Respondents of Study based on Gender	50
3.4 Faculty Sampling Frequency	51
3.5 Variables and Scale Table	53
3.6 Reliability of the Instruments	61
3.7 Sampled and Collected Data Based on Gender	61
3.8 Guilfor's Rule of Thumb	62
3.9 Statistical Methods	63
3.10 Normality Test of Variables based on Skewness and Kurtosis	64
3.11 Test of Multicollinearity	65
3.12 Variance Inflation Factor of Predictors for all Models	65
4.1 Distribution of Demographic Characteristics of Respondents $n(\%)$ ($n=280$)	72
4.2 The Level of Interval Variables among Males and Females (Mean, SD)	73
4.3 Correlation between Social Capital and CLA	76
4.4 Correlation between Loneliness and CLA	77
4.5 Correlation between PEW and CLA	78
4.6 Relationship between Total CLA Score and Its Subscales with Variables	81
4.7 Summary of MLR Analysis Predicting Cyber Love Addiction among Respondents	82
4.8 Fitting Index for all Regression Models	90

4.9	Results of the Moderating Effect of Gender on the Relationship between Social Capital with CLA	91
4.10	Results of Slope Analyses for Male and Female between Social Capital and CLA	91
4.11	Results of the Moderating Effect of Gender on the Relationship between Loneliness with CLA	93
4.12	Results of Slope Analyses for Male and Female between Loneliness and CLA	93
4.13	Results of the Moderating Effect of Gender on the Relationship between PEW with CLA	95
4.14	Results of Slope Analyses for Male and Female between PEW and CLA	95
4.15	Summary of Hypothesis Test	97

LIST OF FIGURES

Figure	Page
2.1 Social Network Sites and Active Users Monthly	24
2.2 Timeline of the Launch Dates of Many Major SNSs	25
2.3 Time Spends on Social Media	26
2.4 Theoretical Framework	44
2.5 Conceptual Framework	46
3.1 Stratified Random Sampling	51
4.1 Interaction between Gender and Social Capital on CLA	92
4.2 Interaction between Gender and Loneliness on CLA	94
4.3 Interaction between Gender and PEW on CLA	96

LIST OF ABBREVIATIONS

APS	Applied/Pure Science
AV	Antecedent Variable
BFAS	The Bergen Facebook Addiction Scale
CCID	Commercial Investigation Department
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CGPA	Cumulative Grade Point Average
CLA	Cyber Love Addiction
CLAS	Cyber Love Addiction Scale
DFAS	Development of a Facebook Addiction Scale
GBP	Gender Budgeting Plane
ICT	Information and Communication Technology
FAFS	Faculty of Agriculture and Food Sciences (UPMKB)
FBBS	Faculty of Biotechnology and Biomolecular Sciences
FCSIT	Faculty of Computer Science and Information Technology
FDA	Faculty of Design and Architecture
FESSC	Faculty of Environmental Studies in Serdang Campus
FFST	Faculty of Food Science and Technology
FMH	Faculty of Medicine and Health Science
FOA	Faculty of Agriculture
FOE	Faculty of Engineering
FOF	Faculty of Forestry
FOS	Faculty of Science
FVM	Faculty of Veterinary Medicine
FEM	Faculty of Economics and Management
FES	Faculty of Educational Studies

FES	Faculty of Educational Studies
FHE	Faculty of Human Ecology
FMLC	Faculty of Modern Language and Communication
FESS	The Family Economic Strain Scale
LAST	Love Addiction Screen Test
PEWS	Perceived Economic Wellbeing Scale
PEW	Perceived Economic Wellbeing
PMCT	Pia Mellody's Co-Dependent Theory
PBS	Putra Business School
KPWKM	Ministry of Women, Family and Community Development
KKMM	Ministry of Communications and Multimedia Malaysia
MOE	Ministry of Education
MOH	Ministry of Health
MLR	Multiple Linear Regression
MSCFC	Measuring Social Capital in Five Communities
JAKIM	Department of Islamic Development Malaysia
IWS	Internet World Statistic
IAC	Internet Addiction Component
RUGS	UPM Research University Grant Scheme
SELQ	Social and Emotional Loneliness Questionnaire
SNS	Social Networking Site
SS	Social Science
UAD	University Academic Division
UPM	Universiti Putra Malaysia

CHAPTER 1

INTRODUCTION

1.1 The Internet and Social Networks

The Internet has an impact on social relationships and has drawn major global interest among researchers, policy makers, business people, and even individuals in the past decades. Researchers have recently focused on how the Internet affects information dissemination, development, and maintenance of new online social relationships with strangers (Wolniewicz et al., 2018; Ellison, Steinfield & Lampe, 2011; Weiser, 2001). The Internet helps sustain existing relationships with families, friends and colleagues (Xie, 2008; Bargh & McKenna, 2004; Young, 1998). The Internet has also been considered as a medium for transferring the formation and maintenance of personal relationships (Samaha & Hawi, 2016; Young, 2004 & 1999). The Internet and new smart mobile phones (Montagh et al., 2018; Wolniewicz et al., 2018; Samaha & Hawi, 2016; Humphreys, 2010) are nowadays intertwined with the social relationships among people and all groups of individuals by the proficiency of talking, texting and sending videos online everywhere especially through Social Network Sites (SNS). The SNS in this study is referred to as web-based services that allow individuals to create a public or semi-public profile (Xie, 2008).

Internet addiction is a new and attractive behavior-based subject among recent researches. Addiction is linked with Internet users just like addiction is experienced among alcohol and drug consumers. Young (1999) and Widyanto and Griffiths (2006) categorised Internet addiction by five specific sub-types: (1) cyber sexual addiction, (2) cyber-relationship addiction, (3) online gambling or online shopping or day trading, (4) compulsive web surfing or database searches, and (5) computer addiction. This study focuses on cyber love addiction (CLA) which is defined as an intimate adult affiliation that normally occurs through the Internet and social media. Social media and Internet addiction has negative and positive impacts on people's lives.

The negative impacts and problematic use of SNSs and the Internet (Kimberley & Osmond, 2017; Pontes, Caplan & Griffiths, 2016; Odacı & Kalkan, 2010; Cao et al, 2011; Yellowlees & Marks, 2007; Caplan & Hight, 2002) can be classified into two levels. First is the personal level which is the time spent on the Internet that will damage the health and well-being of an individual (Pugh, 2017; Anderson, Steen & Stavropoulos, 2017; Griffiths, Kuss and Demetrovics, 2014; Ceyhan & Ceyhan, 2008). Therefore, online time is referred to as the first item for Internet addiction measurement which considers Internet usage of 40 to 80 hours per week to be a signifier of Internet addiction (Young, 1998). For the individual, Facebook addiction consequences may be associated with the positive (Din & Haron, 2012) or negative

contributions to psychological well-being (Pugh, 2017; Valkenburg & Peter, 2007; Shaw & Gant, 2002; Kraut, Kiesler, Boneva, Cummings, Helgeson & Crawford, 2002 & 1998), changing sleep patterns (Pontes et al., 2016), poor academic achievement and poor grades in school (Tsitsika, Tzavela, Janikian, Ólafsson, Iordache, Schoen-makers & Richardson, 2014; Kuss, Griffiths & Binder, 2013; Stavropoulos, Alexandraki & Motti-Stefanidi, 2013; Yong, 2011; Yang & Tung, 2007). Secondly is the social level which refers to issues related to family relationship, education, jobs and financial problems, and marriage instability which are deemed to be the consequences of excessive time spent on social media (Masarik, 2013; Conger, Conger & Martin, 2010; Condliffe & Link, 2008; Wickrama, Conger, Lorenz & Jung 2008; Herd, Goesling & House, 2007).

Gender in this study is considered as the key factor in finding the differences between two genders. However, a review of cyber love addiction showed that love addiction can be seen more among females than in males; in some researches, females were found to have symptoms of depression, withdrawal and attempted suicide (Corley and Hook, 2012) and may have experienced childhood sexual abuse, exposure to pornography and separation attachment (McKeague, 2014; Ferree, 2001). In reference to women, their issues predominantly take place in the centre of gender and development researches. In developing countries, gender equality and women empowerment are among the requirement indexes of development. According to researches, women have more tendencies to be involved in cyber interaction which is related to gender issues in terms of women empowerment in Information and Communication Technology (ICT) activities. Due to negative physical and psychological impacts of ICT on women's lives the United Nation Protocol (2015) aimed to educate and empower women in ICT by promoting their economic and financial levels, improving their well-being as well as protecting and avoiding them from being harmed in cyberspace. The negative consequences of ICT influence the well-being of women due to their sensitive condition and limited access to power, politics, finance and resources based on gender roles and glass ceiling issues in society. Thus, the first research question in this study concerns the level of CLA among the male and female respondents.

1.2 Statement of Problem

In this study, the objectives investigated are cyber love addiction levels among UPM students according to gender examined through the relationship between social capital, perceived economic well-being and loneliness that may affect CLA levels. There is a research gap in gender differences in the area of behavioral addiction especially in cyber love addiction which has not been discussed before in literature and most of the results had not considered these gender differences in the analyses. Although there are some references in the field of gender differences in love and sex behavior (Duncombe & Marsden, 1993; Hendrick & Hendrick, 1995; Dykstra & Gierveld, 2004) and even in social media (Facebook) usage (Hunold, 2013; Kimbrough et al., 2013; Alpizar, 2012; Loughheed, 2012; Hoy & Milne, 2010), very few studies exist in the area of gender studies concerning cyber love (Whitty &

Buchanan, 2016; McKeague, 2014; Williams, 2012; Zhao, 2012; Young et al., 2006; Whitty, 2003; McCormick & Leonard, 1996). Griffiths (2000) argued that there are a lot of academic papers about the excessive use of the Internet. He roughly divided these papers into five categories but did not consider gender studies as an important factor in the area of behavioral addiction. Although there are several researches on Internet addiction that encompass both genders such as those by Weinstein & Lejoyeux (2010), Caplan (2003), Morahan-Martin and Schumacher (2000), Young, Pistner, O'Mara and Buchanan (1999), Brenner (1997), Anderson (1998), Petrie and Gunn (1998), Young (1996), Egger and Rauterberg (1996), Brenner (1997), Greenfield (1999) and Scherer (1997), they cannot be categorized under the umbrella of gender studies. There are also several studies encompassing both genders focusing on addiction treatment, but not on gender differences (Demirli & Demir, 2014; Demirer et al., 2013; Griffiths, 2000; Young, 1996; Orzack & Orzack, 1999; Young, 1999, Hall & Parsons, 2001; Yu & Zhao, 2004; Leon and Rotunda, 2000).

With regards to the practical gap in the area of behavioral addictions, and due to the lack of adequate study and research in the field of cyber love addiction, there is no special policy or plan for monitoring this social phenomenon. In developed countries, researchers try to investigate the problematic internet usage by academic research. This study thus attempts to fill the gap of gender studies in the field of behavioral addiction.

In addition, in terms of practical gaps, Malaysia has been challenged over the past decade with issues related to female empowerment and gender issues. For example, despite Malaysia's commitment to the International Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) or Planning Budget Placement Gender (GBP) for gender equality (www.kpwkm.gov.my), there is still a need for national programs to educate the younger generations in both gender strategies so as to empower and guide them in using the Internet. There is still lack of adequate information from the dark side of the Internet and social networks among young people. Therefore, this study attempts to examine the level of cyber love addiction among Malaysian male and female students as cyber love and cyber-crime may happen at any age with any race, nationality and education level (Pettinari, 2002). However, the following factors such as the students' age, religion, as well as economic and financial status are still taken into consideration.

With regards to the population of study and negative impact of ICT on the students' life, free and easy access to the Internet in university and campus could lead to cyber addiction which in turn may cause many adverse physical and psychological effects on the students' life such as changing sleep patterns, poor academic achievement, excessive time spent chatting on social media, gaming, gambling and uncustomary love relationships and cyber love (Pugh, 2017; Anderson, Steen & Stavropoulos, 2017; Griffiths, Kuss and Demetrovics, 2014; Ceyhan & Ceyhan, 2008).

In this study, gender studies are highlighted as they contribute to the discussion of gender issues in the society. To justify the gender issues in this study, gender differences in terms of time spent on the Internet and the purpose for using the Internet as well as determining the level of cyber love addiction and economic status among the students in both genders are targeted. Aside from that, cybercrime and cyber romance scams through cyber infidelity (Henline, Lamke & Howard, 2007; Henline 2002/2006; Aviram & Amichai-Hamburger, 2005; Young, 2006; Hertlein & Piercy, 2006; Young et al., 2000) as the gender gap in terms of cyber love may have a negative impact on the female's duty and responsibility in the family more than the male's. Based on observations and visual evidence, women are more likely to use social media which in turn may affect their emotions, performances, life satisfaction, social behavior and economic development in society (Odol & Odo, 2015).

According to the gender gap in financial well-being, most women have poor financial status and are not able to manage their own daily finances without family support and assistance; hence, they are more likely to fall into money-making and dating scams online. The CLA victims are the targets of online crimes such as human trafficking and money laundering (Kepli & Nasir, 2016; Whitty & Buchanan, 2012). Easy access to the Internet and the provision for creating profiles on SNS may expose them to cyber scams and put their privacy on social media at risk (Gross & Acquisti, 2005). For example, in Malaysia according to Adit (2013) and Michael (2013), Nigerians make up the main drug trafficking group that entices local Malaysian women with romantic relationships and eventually use them as drug traffickers. They use their bank accounts to launder money in South East Asia and China and to transfer money around the world. According to the Sarawak Commercial Crime Investigation Department (CCID), online love scams usually involve an African male who extends romantic proposals to local Malaysian women via cyberspace like Facebook (Adit, 2013). According to evidence, Malaysians are criticized by analysts for being too quick to accept "friend" requests from strangers on Facebook. In 2010, about 400 Facebook-related crimes such as drug trafficking reports were received by a cyber-security group (news.Malaysia.msn.com).

This issue has not only negatively affected society development and created economic troubles for the government through money laundering, but also has led to other crimes such as drug dealing, pornography, abuse, cheating, abortion, suicide, murder, rape, child sex offenses, assault, baby dumping, kidnap, death threats, and fraud (Ghannam, 2011; Mishna, McLuckie & Saini, 2009; Salifu, 2008; Méndez, 2005).

The other negative effect of CLA is divorce. Cyber addiction traps its victim in a love relationship that leads to divorce and hence destroys the family foundation. The Department of Islamic Development Malaysia (JAKIM) recorded that the divorce rate among Malaysian families had increased to about 21% between 2005-2011 as compared to only 9.9% (13,536) and 12.8% (17,212) between 2000-2005 (Chan &

Mustaffa, 2008); this number multiplied to 33,239 in 2010 (Nor et al., 2013). According to JAKIM, Muslim couples get divorced every 15 minutes in Malaysia (Yessir, 2011). Thus, there was significant report on the increase of divorce rates among Muslims (New Straits Times, 2011; Chan & Mustaffa, 2008).

Social capital is another important element in human well-being. The relationship between social capital and CLA has not been discussed in previous researches. Despite insufficient literature, this study attempts to find the relationship between social capital and CLA which is important in terms of its negative or positive impact on social life. There is potentially a strong correlation between human capital and social capital for human well-being (OECD, 2001). Economic sufficiency, optimal health, and happy relationships are known to be some of the fundamental needs that contribute to the quality of life. The patterns and qualities of relationships in community norms and networks as well as the trust and cooperation within or among groups are known as social capital (OECD, 2001; World Health Organization 1998; Putnam, 1995; Coleman 1988). It has been proven that face-to-face communication is more beneficial to our social well-being (Pugh, 2017; Moody, 2001; Nie & Erbring, 2000; Kraut et al., 1998). Spending excessive time on the Internet can reduce one's social capital on the personal level as opposed to forming networks of friendship and participating in social activities (Field, 2016; Ellison, Steinfield & Lampe, 2007/2011). The low level of social capital in a society may lead to the danger of separation from integration and lack of convergence. Although this coherence on political or social issues occurred through social media, the Internet as a medium is capable of integrating the social body (DiMaggio, Hargittai, Neuman & Robinson, 2001). Moreover, the transformation of communication in space, quality, language, and identity has been associated with the Internet and social media in recent years (Castells, 2016). Consequently, the increase in social capital in Malaysia occurred at a rate of 4% at annual average between 1984-2005 (García & Pérez, 2008).

Loneliness has been identified as another factor associated with the increase of Internet use (Nowland, Necka & Cacioppo, 2017; Ceyhan & Ceyhan, 2008; Kraut et al., 1998), especially among students who are staying far away from their family, feeling isolated from their group of friends, and experiencing shame and low self-confidence. However, some studies have concurrently illustrated that loneliness cannot be considered as a negative effect (Amichai-Hamburger et al., 2010 & 2003) as it may increase the potential for companionship, changing the social online interaction patterns, and reducing negative moods associated with loneliness (Morahan-Martin & Schumacher, 2003; Shaw et al., 2002). Nevertheless, it must be kept in mind that social media may provide people with a false sense of connection that could eventually increase the feelings of loneliness in people (Cornblatt, 2009). Loneliness has also been associated with symptoms of depression, marital issues, lack of social support, hostility, and perceived stress (Ceyhan & Ceyhan, 2008; Cacioppo, Hughes, Waite, Hawkley & Thisted, 2006).

1.3 Research Questions

This study proposes to answer the following research questions:

- 1) What are the levels of CLA among the male and female respondents?
- 2) What are the levels of social capital, loneliness, and perceived economic well-being of the family among the male and female respondents?
- 3) Are there any relationships between CLA, social capital, loneliness and perceived economic well-being of the family among the male and female respondents?
- 4) What are the significant factors of CLA and its 7 sub-scales among the male and female respondents?
- 5) Does gender moderate the relationship between social capital, loneliness and perceived economic well-being of the family with CLA among the male and female respondents?

1.4 Objectives of the Study

i) General Objectives

To explain the relationship between CLA, social capital, loneliness, and perceived economic well-being of the family among the male and female respondents.

ii) Specific Objectives

- 1) To determine the level of CLA among the male and female respondents.
- 2) To determine the level of social capital, loneliness, and perceived economic well-being of the family among the male and female respondents.
- 3) To examine the relationship between social capitals, loneliness, perceived economic well-being of the family with CLA among the male and female respondents.
- 4) To determine the factors that contribute to CLA and its 7 sub-scales among the male and female respondents.
- 5) To determine the effect of gender as a moderator on the relationship between social capital, loneliness and perceived economic well-being of the family with CLA among the male and female respondents.

1.5 Hypothesis

Based on these research objectives, the following research hypotheses were defined:

- 1) Obj 3. To examine the relationship between social capital, loneliness, perceived economic well-being of the family and CLA among the male and female respondents.

To determine the relationship between the independent variables and DV (CLA) based on gender, the hypotheses are defined as follows:

H₁: There is a significant relationship between social capital and CLA among the male and female respondents.

H₂: There is a significant relationship between CLA and loneliness among the male and female respondents.

H₃: There is a significant relationship between CLA and perceived economic well-being of the family among the male and female respondents.

- 2) Obj 4. To determine the factors that contribute to CLA and its 7 sub-scales among the male and female respondents.

To evaluate factors that have significant effect on CLA following hypotheses are defined as follows:

H₄: There are significant factors influencing the total CLA among the male and female respondents.

H₅: There are significant factors influencing salience among the male and female respondents.

H₆: There are significant factors influencing self-awareness among the male and female respondents.

H₇: There are significant factors influencing tolerance among the male and female respondents.

H₈: There are significant factors influencing withdrawal among the male and female respondents.

H₉: There are significant factors influencing mood modification among the male and female respondents.

H₁₀: There are significant factors influencing conflict among the male and female respondents.

H₁₁: There are significant factors influencing relationship experience among the male and female respondents.

- 3) Obj 5. To determine the effect of gender as a moderator in the relationship between social capital, loneliness and perceived economic well-being of the family with CLA among the male and female respondents.

To determine the effect of gender as a moderator on the independent variables of study on DV (CLA), the hypotheses are defined as follows:

H₁₂: Gender significantly moderates the relationship between social capital and CLA among the male and female respondents.

H₁₃: Gender significantly moderates the relationship between loneliness and CLA among the males and females respondents.

H₁₄: Gender significantly moderates the relationship between perceived economic well-being of the family and CLA among the male and female respondents.

1.6 Significance of the Study

The findings of this study in a broad sense can be applied by policy makers such as those at the Ministry of Health (MOH), Ministry of Education (MOE), Ministry of Communications and Multimedia Malaysia (KKMM), and Ministry of Women, Family and Community Development (KPWKM). This study will equally provide a new way for gender issue to be considered as a factor influencing cyber love addiction. Furthermore, the results of this study may help university administrators in improving awareness among students. The outcomes of this study could assist gender development studies concerning students' campus life. Obviously, CLA as an addiction disorder affects students' daily life, academic performance as well as physical and psychological health. Therefore, the government can organise programs that are channeled towards reducing the negative effects of using social networks and devices on students' life and academic performance.

This study is a premier study on gender and cyber love addiction in Malaysia which can provide more information about the level of cyber love addiction among students of different race and culture. In terms of study population, this study may be used as

an evidence of cultural difference and its effect on CLA. The results of this study may assist future researchers in determining other factors that might affect CLA. In the current study, the most highlighted variables are gender, social capital, PEW and loneliness that were examined based on the students' CLA levels. For future studies, the researchers may apply other variables selected from related issues in social science or psychology and extend them to include other types of addictions such as drug or gambling addictions.

1.7 Scope and Limitations

With regards to the study population, this study was conducted in UPM as the students there were the main target of this study. This study focused on the use of Facebook as it is the most popular social network in the last two decades. The students make up one of the biggest groups of Facebook users. CLA might occur via Facebook among the students as they have easy and free access to the Internet in the university area and campus. The UPM students may be addicted to Facebook. The scope of the study is relevant for a PhD candidate in Gender and Development. Furthermore, this study suggests that the gender of the respondents correlates with their CLA level as well as other variables. There were also some sensitive questions about the students' private relationship with their partners, so this issue is one of the limitations of this study during the data collection process.

Theoretically, CLA among other types of addictions had only surfaced during the last decade; therefore, the first limitation is the deficiency of references in this area. There are very few articles and books regarding love addiction and this study should be challenged based on inadequate references and literature. In choosing the theory, our limitation involves the merging of gender differences and love, which overlaps with psychology and sociology theories. In this study, the Evolutionary Psychology Theory proposed by Dawkins in 1871 was used to explain the gender differences in love and sense of belonging, which is the factor predominately discussed in the present study. This study had to control the width of scope and purpose of love in the narrow area of gender differences. Gender psychology explains the theory of love selection and mating aimed in both genders. Facebook is a very recent social phenomenon and it is obvious that there is a lack of psychological theory related to love relationship via social networks and gender differences.

The other limitation of this study is in finding the appropriate questionnaire for CLA based on the evidence of the relationship measurement, which lacked experiential surveys (Aron & Aron, 1991). However, there were some questionnaires on love addiction, Facebook addiction and Internet addiction. The most relevant and appropriate questionnaires were sought, which included Facebook, addiction, and love. This study used a questionnaire structured in following parts namely: 1) Cyber Love Addiction (CLA) questionnaire by Andreassen (2012) and PiaMelody (2003); 2) dependent variables, 3) background of respondents (which included the socio-demographic data of the respondents, relationship status, gender, and country of

origin). For measuring the background of the respondents, a self-developed close and open questionnaire was prepared. The main dependent variables in this study had proper questionnaires for each part from the following scholars: “Measuring Social Capital” (MSC) by Onyx and Bullen (2000), “Social and Emotional Loneliness Questionnaire” (SELQ) by De Jong Gierveld and Van Tilburg (1999), and “Perceived Economy Wellbeing Scale” (PEWS) by Esther Devall (1997).

One of the limitations of the current study is its inability to acquire equal numbers of Malaysian male and female students due to the limited number of male students in comparison to female students in UPM.

1.8 Conceptual and Operational Definitions

There are eight components of variables and definitions presented in both conceptual and operational ways.

1.8.1 Cyber Love Addiction

Conceptual

The conceptual definition for CLA in this study is an intimate adult affiliation initiated through a virtual sphere specifically via social media, in which the people involved may constantly repeat the same relationship pattern. This could eventually lead them to withdrawal and consequently leaving the previous relationship for other reasons. This nature of affiliation does not rise from the heart and real love while considering the variety of addiction (Min, 2013; Young, 2006; Peele & Brodsky, 1975).

Operational

Operationally, CLA is defined based on the “Bergen Facebook Addiction Scale” (BFAS) (Andreassen, Torsheim, Brunborg & Pallesen, 2012) of which the scale is made up of 7 components.

Cyber love addiction level is measured based on the following categorized items: salience, self-awareness, relationship experience, tolerance, withdrawal, mood modification, and conflict.

1.8.2 Cyber Love Addiction Sub-scales

According to Griffiths (2005), all additions consist of some distinct common components such as salience, mood modification, tolerance, withdrawal, conflict, and relapse. Furthermore, the two components related to relationship experience and self-awareness in addiction came from the Co-dependence Theory by Pia Mellody (2003).

Conceptual

- a) Salience: When a particular activity becomes the most important activity in a person's life and dominates the thinking, it is referred to as salience.
- b) Tolerance: The process by which an increase on the amount of a particular activity is required to achieve the former effects.
- c) Withdrawal: The unpleasant feeling, state and/or physical effects, which occur when the particular activity is discontinued or suddenly reduced.
- d) Mood modification: This refers to the subjective experience that people reported as a result of engaging in the particular activity.
- e) Conflict: This refers to conflicts between the addict and those around them (interpersonal conflict) or from within the individual themselves (intrapsychic conflict), which is concerned with a particular activity.
- f) Self-Awareness: This is the conscious knowledge of one's own character, feelings, motives, and desires.
- g) Relationship Experience: The collective friends' face-to-face communication which lead to falling in love and is termed as love experience.

Operational

The operational CLA refers to the "Bergen Facebook Addiction Scale" (BFAS) by Andreassen (2012) and Pia Mellody's Co-dependent Theory (2003), which measure the level of CLA.

1.8.3 Social Capital

Conceptual

Conceptually, social capital is defined by its function. It is not a single entity, but rather a variety of entities with two mutual factors: "They all consist of some aspect of social structures, and they equally facilitate certain actions of actors within the structure" (Coleman, 1988).

Operational

The operational definition of social capital is a factor that measures the social capital including the relationship cycle with friends and neighbors, the trust of people and society, security, feeling valued by society, participants in UPM clubs and UPM community, and being a volunteer by using the “Measuring Social Capital in Five Communities” by Onyx & Bullen (2000).

1.8.4 Loneliness

Conceptual

The conceptual definition for loneliness is a situation that occurs from a lack of quality relationships and is caused by “situations in which the number of existing relationships is smaller, as well as a situation where the aspect of intimacy has not been realised” (Gierveld, 1987). This may be uncompleted in some ways, either quantitatively or qualitatively” (Perlman et al., 1981).

Operational

The operational definition of loneliness is adapted from Gierveld and Van Tilburg (2006 & 1999). The name of the questionnaire is: “A 6-item scale for overall, emotional, and social loneliness confirmatory tests on survey data”. This instrument measures the level of loneliness by asking about the time spent with family, friends, and love partner or alone. The other criteria are about having trust and relaying on people and the feeling of emptiness or rejection.

1.8.5 Perceived Economic Well-being of Family (PEW)

Conceptual

The perceived economic well-being (PEW) is generally defined as the level of stress experienced by an individual from the assessment of upcoming circumstances, such as a perception of shortage in one’s financial position or perceived financial, financial concerns and worries, and adjustments to financial change (Mills, Grasmick, Morgan & Wenk, 1992; Pearlin, Menaghan, Lieberman & Mullan, 1981; Voydanoff, 1984 & 1990).

Operational

The operational definition for perceived economic well-being (PEW) is the respondents’ understanding of the level of economic status in the family and is presented as specific items such as paying bills, entertainment needs, medical cost, branded clothes, borrowing money from others, and receiving financial aids from the

government. These criteria were measured by the instruments introduced by Hilton & Devall (1997) namely “The Family Economic Strain Scale (FESS): Development and evaluation of the instrument with single and two parent families”.

1.8.6 Gender

Conceptual

The definition of gender is associated with the terms of sex and gender. Gender refers to social, cultural, and psychological traits while sex refers to biological characteristics (Anselmi & Law, 1998). Gender is defined as the learned status regardless of learning by the society, which is not initially acquired (Davidson, Gordon, Huck & Heim, 1979).

Operational

There are two operational definitions for gender: firstly, gender refers to the respondent’s sex, in a nutshell, all variable of research. Secondly, gender is the moderator for the relationship between the study variables and CLA.

1.8.7 Sex

Conceptual

The biological characteristics distinguish the male from the female, which is known as the sex associated with the status of a person who is born with it (Davidson et al., 1979).

Operational

The operational definition of sex in this thesis refers to this study’s respondents, whether male or female, which focuses on the biological differences.

1.9 Limitations of Study

The main limitations of this study are five-fold.

1. The most important limitation for this study was limitation in literature and theory as cyber love addiction is a new issue in psychological and social areas in recent researches; previous studies mostly used addiction theory. The available literature were so far and also had overlap with many other subjects such as love addiction, cybersex addictions, cyber infidelity, and cyber flirting and cyber relationship addiction. Therefore, regarding gender this study used the Evolutionary psychology theory which was recommend for gender differences in gender studies and addiction. Thus, other theories of love that studied about healthy love are not suitable for behavioral addiction studies.
2. Limitation in questionnaire is also another important issue that needs to be highlighted. Since this is a new issue in the area of behavioral addiction studies, there are limited literature related to the theory and concept being studied, and this influenced the questionnaire used in the study. Relationship measurement is often lacking in experiential investigations (Aron & Aron, 1991). The questionnaire for cyber love addiction was not found so the Bergen Facebook Addiction Scale (BFAS) by Andreassen (2012) and the Pia Mellodey Model (2003) for love addiction were adapted and adopted to fit in and cover the Facebook addiction and love addiction for the study population. Therefore, due to the development of behavioral addiction studies, a proper questionnaire is needed in this area that can cover the broadest concept of social media as well as addiction.
3. As the study is conducted in Malaysia, the findings may not be applicable in other environments and cultural areas in the world. The variances is due to the homogeneity of the sample population which is designated for only one public university and its respondents who are students. Therefore, the results cannot be generalized to the whole Malaysian population. However, the strong point of this study is related to the age groups of the study population which covers undergraduate to postgraduate level. The second strength point of this study was comparison between two gender while for future studies it is suggested to focus on cultural issues and its effect on CLA in a multicultural society such as Malaysia which include a populations with a variety of culture and religion.
4. This study is limited because it only gathers data from students. Collecting data in the public areas of the university by mixing groups of different majors in the same faculty. Future studies can be conducted in other levels of study such as among adolescence and college students.

REFERENCES

- Adit, G. (2013, June 26). Costly Cyber Love Affair. Retrieved from Borneo , Malaysia, Sarawak Daily NewsBorneoPost Online: <http://www.theborneopost.com/2013/06/26/costly-cyber-love-affair/>
- Alan, A. Love Addiction, Retrieved from <http://aaronalan.com/loveaddiction.html>
- Alavi, S. S., Ferdosi, M., Jannatifard, F., Eslami, M., Alaghemandan, H., & Setare, M. (2012). Behavioral addiction versus substance addiction: Correspondence of psychiatric and psychological views. *International journal of preventive medicine*, 3(4), 290.
- Alpizar, K., Islas-Alvarado, R., Warren, C. R., & Fiebert, M. S. (2012). Gender, sexuality and impression management on Facebook. *International Review of Social Sciences and Humanities*, 4(1), 121-125.
- Amichai-Hamburger, Y., & Ben-Artzi, E. (2003). Loneliness and Internet use. *Computers in Human Behavior*, 19(1), 71-80.
- Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior*, 26(6), 1289-1295.
- Andreassen, C. S. (2015). Online social network site addiction: A comprehensive review. *Current Addiction Reports*, 2, 175–184.
- Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors*, 64, 287-293.
- Andreassen, C. S., Torsheim, T., Brunborg, G. S., & Pallesen, S. (2012). Development of a Facebook addiction scale 1, 2. *Psychological reports*, 110(2), 501-517.
- Anderson, E. L., Steen, E., & Stavropoulos, V. (2017). Internet use and Problematic Internet Use: A systematic review of longitudinal research trends in adolescence and emergent adulthood. *International Journal of Adolescence and Youth*, 22(4), 430-454.
- Ang, C. S., Mansor, A. T., & Tan, K. A. (2014). Pangs of loneliness breed material lifestyle but don't power up life satisfaction of young people: The moderating effect of gender. *Social indicators research*, 117(2), 353-365.
- Anselmi, D., & Law, A. (1998). Defining sex and gender. *Questions of gender: Perspectives and paradoxes*, 1-17.

- Aron, A., & Aron, E. N. (1991). Love and sexuality. *Sexuality in close relationships*, 25-48.
- Aron, A., Aron, E. N., & Allen, J. (1998). Motivations for unreciprocated love. *Personality and Social Psychology Bulletin*, 24(8), 787-796.
- Atwood, J. D. (2005). Cyber-Affairs: "What's the Big Deal?" Therapeutic Considerations. *Journal of Couple & Relationship Therapy*, 4(2-3), 117-134.
- Aviram, I., & Amichai- Hamburger, Y. (2005). Online Infidelity: Aspects of Dyadic Satisfaction, Self- Disclosure, and Narcissism. *Journal of Computer- Mediated Communication*, 10(3), 00-00.
- Ayu, A., & Abrizah, A. (2011). Do you Facebook? Usage and applications of Facebook page among academic libraries in Malaysia. *The International Information & Library Review*, 43(4), 239-249.
- Bahaman, A. S., & Turiman, S. (1999). Statistics for social research with computer application.
- Barber, B. K., & Olsen, J. A. (1997). Socialization in context connection, regulation, and autonomy in the family, school, and neighborhood, and with peers. *Journal of adolescent research*, 12(2), 287-315.
- Bargh, J. A., & McKenna, K. Y. (2004). The Internet and social life. *Annu. Rev. Psychol.*, 55, 573-590.
- Blier, M. J., & Blier-Wilson, L. A. (1989). Gender differences in self-rated emotional expressiveness. *Sex Roles*, 21(3-4), 287-295.
- Boeree, C. G. (2006). Abraham Maslow. Retrieved October, 25, 2007.
- Borys, S., & Perlman, D. (1985). Gender differences in loneliness. *Personality and Social Psychology Bulletin*, 11(1), 63-74.
- Bouvette-Turcot, A. A., Unternaehrer, E., Gaudreau, H., Lydon, J. E., Steiner, M., & Meaney, M. J. (2017). The joint contribution of maternal history of early adversity and adulthood depression to socioeconomic status and potential relevance for offspring development. *Journal of affective disorders*, 207, 26-31.
- Boyd, D. M., & Ellison, N. B. (2012). Social network sites. *Online Communication and Collaboration: A Reader*.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual review of psychology*, 53(1), 371-399.

- Bristor, J. M., & Fischer, E. (1993). Feminist thought: Implications for consumer research. *Journal of Consumer Research*, 518-536.
- Bullen, P., & Onyx, J. (1999). Social capital: Family support services and neighbourhood and community centres in NSW: Local Community Services Association.
- Bullen, P., & Onyx, J. (2007). Social capital: The measurement tool. Retrieved from www.mapl.com.au
- Buote, V. M., Wood, E., & Pratt, M. (2009). Exploring similarities and differences between online and offline friendships: The role of attachment style. *Computers in Human Behavior*, 25(2), 560-567.
- Burke, M., Kraut, R., & Marlow, C. (2011). Social capital on Facebook: Differentiating uses and users. Paper presented at the Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.
- Burkett, J. P., & Young, L. J. (2012). The behavioral, anatomical and pharmacological parallels between social attachment, love and addiction. *Psychopharmacology*, 224(1), 1-26.
- Burt, R. S. (1998). The gender of social capital. *Rationality and society*, 10(1), 5-46.
- Buss, D. (2015). *Evolutionary psychology: The new science of the mind*. Psychology Press.
- Buss, D. M., Abbott, M., Angleitner, A., Asherian, A., Biaggio, A., Blanco-Villasenor, A., . . . Ekehammar, B. (1990). International Preferences in Selecting Mates A Study of 37 Cultures. *Journal of cross-cultural psychology*, 21(1), 5-47.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: an evolutionary perspective on human mating. *Psychological review*, 100(2), 204.
- Cacioppo, J. T., Hughes, M. E., Waite, L. J., Hawkley, L. C., & Thisted, R. A. (2006). Loneliness as a specific risk factor for depressive symptoms: cross-sectional and longitudinal analyses. *Psychology and aging*, 21(1), 140.
- Cao, H., Sun, Y., Wan, Y., Hao, J., & Tao, F. (2011). Problematic Internet use in Chinese adolescents and its relation to psychosomatic symptoms and life satisfaction. *BMC public health*, 11(1), 802.
- Caplan, S. E. (2002). Problematic Internet use and psychosocial well-being: development of a theory-based cognitive-behavioral measurement instrument. *Computers in human behavior*, 18(5), 553-575.

- Caplan, S. E., & High, A. C. (2011). Online social interaction, psychosocial wellbeing, and problematic Internet use. *Internet addiction: A handbook and guide to evaluation and treatment*, 35-53.
- Castells, M. (2016). A Sociology of Power: My Intellectual Journey. *Annual Review of Sociology*, 42, 1-19.
- Cassidy, J. (2006). Me media: How hanging out on the Internet became big business. *The New Yorker*, 82(13), 50.
- Cassidy, J., & Berlin, L. J. (1999). Understanding the origins of childhood loneliness: Contributions of attachment theory. *Loneliness in childhood and adolescence*, 34-55.
- Cecen, A. R. (2008). The effects of gender and loneliness levels on ways of coping among university students. *College Student Journal*, 42(2).
- Ceyhan, A. A., & Ceyhan, E. (2008). Loneliness, depression, and computer self-efficacy as predictors of problematic Internet use. *CyberPsychology & Behavior*, 11(6), 699-701.
- Chan, S. H. C., & Mustaffa, M. S. (2008). Divorce in Malaysia. Retrieved from http://eprints.utm.my/6058/1/SamuelChanHsinChlen2008_DivorceInMalaysia.pdf
- Charness, G., & Gneezy, U. (2007). Strong evidence for gender differences in investment.
- Chen, H., & Volpe, R. P. (2002). Gender differences in personal financial literacy among college students. *Financial services review*, 11(3), 289.
- Cheng, D., Leong, F. T., & Geist, R. (1993). Cultural differences in psychological distress between Asian and Caucasian American college students. *Journal of Multicultural Counseling and Development*, 21(3), 182-190.
- Chin, Y.-L. (2011). "Platonic relationships" in China's online social milieu: a lubricant for banal everyday life? *Chinese Journal of Communication*, 4(4), 400-416.
- Chuang, S. (2017). The Impact of Childhood Deprivation on Employees' Capacity to Perform at Work and Organizational Well-Being. *Performance Improvement*, 56(6), 6-17.
- Clayton, R. B., Nagurney, A., & Smith, J. R. (2013). Cheating, breakup, and divorce: is Facebook use to blame? *Cyberpsychology, Behavior, and Social Networking*, 16(10), 717-720.

- Clinton, M. A., Lynn R. (1999). Social and Emotional Loneliness: Gender Differences and Relationships With Self-Monitoring and Perceived Control. *Journal of Black Psychology*, Vol. 25 (No. 1), 61-77. doi: 10.1177/0095798499025001005
- Coget, J.-F., Yamauchi, Y., & Suman, M. (2002). The Internet, social networks and loneliness. *It & Society*, 1(1), 180.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American journal of sociology*, S95-S120.
- Condcliffe, S., & Link, C. R. (2008). The relationship between economic status and child health: Evidence from the United States. *The American Economic Review*, 98(4), 1605-1618.
- Conger, R. D., & Conger, K. J. (2002). Resilience in Midwestern families: Selected findings from the first decade of a prospective, longitudinal study. *Journal of Marriage and Family*, 64(2), 361-373.
- Conger, R. D., & Elder Jr, G. H. (1994). *Families in Troubled Times: Adapting to Change in Rural America*. Social Institutions and Social Change: ERIC.
- Conger, R. D., Conger, K. J., & Elder, G. H. (1997). Family economic hardship and adolescent adjustment: Mediating and moderating processes. *Consequences of growing up poor*, 34.
- Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family*, 72(3), 685-704.
- Conger, R. D., Wallace, L. E., Sun, Y., Simons, R. L., McLoyd, V. C., & Brody, G. H. (2002). Economic pressure in African American families: a replication and extension of the family stress model. *Developmental psychology*, 38(2), 179.
- Corley, M. D., & Hook, J. N. (2012). Women, Female Sex and Love Addicts, and Use of the Internet. *Sexual Addiction & Compulsivity*, 19(1-2), 53-76. doi: 10.1080/10720162.2012.660430
- Cornblatt, J. (2009). The sin of yielding to impure desire: A brief history of sex ed in America. *Newsweek*. Retrieved from <http://www.newsweek.com/2009/10/27/the-sin-of-yielding-to-impure-desire.html>.
- Davidson, L., Gordon, L. K., Huck, G., & Heim, H. (1979). *The sociology of gender*: Rand McNally College Publishing Company Chicago.

- De Boer, A., Van Buel, E., & Ter Horst, G. (2012). Love is more than just a kiss: a neurobiological perspective on love and affection. *Neuroscience*, 201, 114-124.
- Del Boca, F. K., & Ashmore, R. D. (1980). Sex stereotypes through the life cycle. *Review of personality and social psychology*, 1, 163-192.
- Del Boca, F. K., Ashmore, R. D., & McManus, M. A. (1986). Gender-related attitudes. *The social psychology of female-male relations: A critical analysis of central concepts*, 121-163.
- Demirer, V., Bozoglan, B., & Sahin, I. (2013). Preservice Teachers' Internet Addiction in Terms of Gender, Internet Access, Loneliness and Life Satisfaction. *International Journal of Education in Mathematics, Science and Technology*, 1(1), 56-63.
- Demirli, A., & Demir, A. (2014). The role of gender, attachment dimensions, and family environment on loneliness among Turkish university students. *Australian Journal of Guidance and Counselling*, 24(01), 62-75.
- Denisiuk, J. S. (2004). Evolutionary versus social structural explanations for sex differences in mate preferences, jealousy, and aggression. Retrieved December, 1, 2005.
- DeVon, H. A., Block, M. E., Moyle- Wright, P., Ernst, D. M., Hayden, S. J., Lazzara, D. J., . . . Kostas- Polston, E. (2007). A psychometric toolbox for testing validity and reliability. *Journal of Nursing scholarship*, 39(2), 155-164.
- DiMaggio, P., Hargittai, E., Neuman, W. R., & Robinson, J. P. (2001). Social implications of the Internet. *Annual review of sociology*, 27(1), 307-336.
- Din, N., & Haron, S. (2012). Knowledge sharing as a culture among Malaysian online social networking users. *Procedia-Social and Behavioral Sciences*, 50, 1043-1050.
- Duncombe, J., & Marsden, D. (1993). Love and Intimacy: The Gender Division of Emotion and Emotion Work'A Neglected Aspect of Sociological Discussion of Heterosexual Relationships. *Sociology*, 27(2), 221-241.
- Dykstra, P. A., & de Jong Gierveld, J. (2004). Gender and marital-history differences in emotional and social loneliness among Dutch older adults. *Canadian Journal on Aging/La revue canadienne du vieillissement*, 23(02), 141-155.
- Eichenberg, C., Huss, J., & Küsel, C. (2017). From Online Dating to Online Divorce: An Overview of Couple and Family Relationships Shaped Through Digital Media. *Contemporary Family Therapy*, 39(4), 249-260.

- Einolf, C. J. (2011). Gender differences in the correlates of volunteering and charitable giving. *Nonprofit and Voluntary Sector Quarterly*, 40(6), 1092-1112.
- Elder, G. H. (2018). *Children of the great depression*. Routledge.
- Elder, G. H., Conger, R. D., Foster, E. M., & Ardel, M. (1992). Families under economic pressure. *Journal of Family Issues*, 13(1), 5-37.
- Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer- Mediated Communication*, 13(1), 210-230.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer- Mediated Communication*, 12(4), 1143-1168.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2011). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society*, 1461444810385389.
- Eriksson, M., Dahlgren, L., Janlert, U., Weinehall, L., & Emmelin, M. (2010). Social capital, gender and educational level: impact on self-rated health. *The Open Public Health Journal*, 3, 1-12.
- Facebook fuelling divorce, research claims. (21 Dec 2009). the telegraph, Retrieved from <http://www.telegraph.co.uk/technology/Facebook/6857918/Facebook-fuelling-divorce-research-claims.html>
- Fahrbach, S., Morrell, J., & Pfaff, D. (1984). Oxytocin induction of short-latency maternal behavior in nulliparous, estrogen-primed female rats. *Hormones and behavior*, 18(3), 267-286.
- Falahati, L., & Paim, L. H. (2011). Gender Differences in Financial Well-being, Financial Socialization and Financial Knowledge among College Students. *Life Science Journal-Acta Zhengzhou University Overseas Edition*, 8(3), 173-178.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior research methods*, 39(2), 175-191.
- Ferree, M. C. (2001). Females and sex addiction: Myths and diagnostic implications. *Sexual Addiction & Compulsivity: The Journal of Treatment and Prevention*, 8(3-4), 287-300.
- Ferree, M. M. (1991). The gender division of labor in two-earner marriages dimensions of variability and change. *Journal of Family Issues*, 12(2), 158-180.

- Field, J. (2016). Social capital. Routledge.
- Fisher, H. E., Aron, A., & Brown, L. L. (2006). Romantic love: a mammalian brain system for mate choice. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 361(1476), 2173-2186.
- Fisher, H. E., Brown, L. L., Aron, A., Strong, G., & Mashek, D. (2010). Reward, addiction, and emotion regulation systems associated with rejection in love. *Journal of neurophysiology*, 104(1), 51-60.
- Fox, J., Warber, K. M., & Makstaller, D. C. (2013). The role of Facebook in romantic relationship development An exploration of Knapp's relational stage model. *Journal of Social and Personal Relationships*, 30(6), 771-794.
- Gershon, I. (2011). Un-friend my heart: Facebook, promiscuity, and heartbreak in a neoliberal age. *Anthropological Quarterly*, 84(4), 865-894.
- Ghannam, J. (2011). Social Media in the Arab World: Leading up to the Uprisings of 2011. Center for International Media Assistance, 3.
- Gierveld, J. D. J., (1987). Developing and testing a model of loneliness. *Journal of personality and social psychology*, 53(1), 119.
- Gierveld, J. D. J., & Raadschelders, J. (1982). Types of loneliness. *Loneliness: A sourcebook of current theory, research and therapy*, 105-119.
- Gierveld, J. D. J., & Van Tilburg, T. (1999). Manual of the Loneliness Scale 1999. Department of Social Research Methodology, Vrije Universiteit Amsterdam, Amsterdam (updated version 18.01. 02).
- Gierveld, J. D. J., Van Tilburg, T., & Dykstra, P. A. (2006). Loneliness and social isolation. *Cambridge handbook of personal relationships*, 485-500.
- Gierveld, J. D. J., & Van Tilburg, T. (2006). A 6-item scale for overall, emotional, and social loneliness confirmatory tests on survey data. *Research on aging*, 28(5), 582-598.
- Gierveld, J. D. J., & Van Tilburg, T. (2010). The De Jong Gierveld short scales for emotional and social loneliness: tested on data from 7 countries in the UN generations and gender surveys. *European journal of ageing*, 7(2), 121-130.
- Grant, J. E., Potenza, M. N., Weinstein, A., & Gorelick, D. A. (2010). Introduction to behavioral addictions. *The American journal of drug and alcohol abuse*, 36(5), 233-241.
- Griffiths, M. (1996). Gambling on the Internet: A brief note. *Journal of Gambling Studies*, 12(4), 471-473.

- Griffiths, M. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10(4), 191-197.
- Griffiths, M. D., Kuss, D. J., & Demetrovics, Z. (2014). Social networking addiction: An overview of preliminary findings. In K. P. Rosenberg and L. C. Feder (Eds.), *Behavioral addictions: Criteria, evidence, and treatment*, (pp. 119–41). London: Academic Press.
- Gross, R., & Acquisti, A. (2005). Information revelation and privacy in online social networks. Paper presented at the Proceedings of the 2005 ACM workshop on Privacy in the electronic society.
- Harrison, M. A., & Shortall, J. C. (2011). Women and men in love: who really feels it and says it first? *The Journal of social psychology*, 151(6), 727-736.
- Hassanzadeh, H., Pooladi- Darvish, M., & Keith, D. W. (2007). Scaling behavior of convective mixing, with application to geological storage of CO₂. *AIChE journal*, 53(5), 1121-1131.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hayhoe, C. R., & Wilhelm, M. S. (1998). Modeling perceived economic well-being in a family setting: A gender perspective. *Financial Counseling and Planning*, 9(1), 21-34.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of personality and social psychology*, 52(3), 511.
- Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. *Psychological bulletin*, 116(3), 412.
- Hendrick, C., & Hendrick, S. (1986). A theory and method of love. *Journal of personality and social psychology*, 50(2), 392.
- Hendrick, S. S., & Hendrick, C. (1995). Gender differences and similarities in sex and love. *Personal Relationships*, 2(1), 55-65.
- Henline, B. H. (2002). *The experience of sexual and emotional online infidelity*. Auburn University.
- Henline, B. H. (2006). *Technology use and intimacy development in committed relationships: Exploring the influence of differentiation of self*. Texas Tech University.
- Henline, B. H., Lamke, L. K., & Howard, M. D. (2007). Exploring perceptions of online infidelity. *Personal relationships*, 14(1), 113-128.

- Herd, P., Goesling, B., & House, J. S. (2007). Socioeconomic position and health: the differential effects of education versus income on the onset versus progression of health problems. *Journal of Health and Social Behavior*, 48(3), 223-238.
- Hertlein, K. M., & Piercy, F. P. (2006). Internet infidelity: A critical review of the literature. *The Family Journal*, 14(4), 366-371.
- Hibbert, J. R., Beutler, I. F., & Martin, T. (2004). Financial prudence and next generation financial strain. *Journal of Financial Counseling and Planning*, 15(2), 51-59.
- Hiew, W. (2012). ENGLISH LANGUAGE TEACHING AND LEARNING ISSUES IN MALAYSIA: LEARNERS' PERCEPTIONS VIA FACEBOOK DIALOGUE JOURNAL. *Researchers World: Journal of Arts, Science & Commerce*, 3(1).
- Hill, C. T., Rubin, Z., & Peplau, L. A. (1976). Breakups before marriage: The end of 103 affairs. *Journal of social issues*, 32(1), 147-168.
- Hilton, J. M., & Devall, E. L. (1997). The Family Economic Strain Scale: Development and evaluation of the instrument with single-and two-parent families. *Journal of Family and Economic Issues*, 18(3), 247-271.
- Hojat, M., & Crandall, R. (1987). *Loneliness: Theory, research, and applications*: Sage Publications, Inc.
- Hong, F. Y., Chiu, S. I., & Huang, D. H. (2012). A model of the relationship between psychological characteristics, mobile phone addiction and use of mobile phones by Taiwanese university female students. *Computers in Human Behavior*, 28(6), 2152-2159.
- Hoy, M. G., & Milne, G. (2010). Gender differences in privacy-related measures for young adult Facebook users. *Journal of Interactive Advertising*, 10(2), 28-45.
- Humphreys, L. (2010). Mobile social networks and urban public space. *New Media & Society*, 12(5), 763-778.
- Hungler, B., & Polit, D. (1999). *Nursing research principles and methods*.
- Hunold, C. (2013). *Women's Facebook uses and gratifications*. University of Central Missouri.
- Huston, A. C., Duncan, G. J., Granger, R., Bos, J., McLoyd, V., Mistry, R., . . . Romich, J. (2001). Work-based antipoverty programs for parents can enhance the school performance and social behavior of children. *Child development*, 318-336.

- Hyde, J. S. (2014). Gender similarities and differences. *Annual review of psychology*, 65, 373-398.
- Insel, T. R., & Shapiro, L. E. (1992). Oxytocin receptor distribution reflects social organization in monogamous and polygamous voles. *Proceedings of the National Academy of Sciences*, 89(13), 5981-5985.
- Insel, T. R., Winslow, J. T., Wang, Z., & Young, L. J. (1998). Oxytocin, vasopressin, and the neuroendocrine basis of pair bond formation *Vasopressin and Oxytocin* (pp. 215-224): Springer.
- Internet Users Survey 2012. (2012) statistical brief number fifthin (pp. 40). Malaysia, Cyberjaya: Malaysian communication and multimedia commission
- Jackson, A. P., Brooks-Gunn, J., Huang, C., & Glassman, M. (2000). Single Mothers in Low- Wage Jobs: Financial Strain, Parenting, and Preschoolers' Outcomes. *Child development*, 71(5), 1409-1423.
- Jafarkarimi, H., Sim, A. T. H., Saadatdoost, R., & Hee, J. M. (2016). Facebook addiction among Malaysian students. *International Journal of Information and Education Technology*, 6(6), 465.
- Joinson, A. N. (2008). Looking at, looking up or keeping up with people?: motives and use of Facebook. Paper presented at the Proceedings of the SIGCHI conference on Human Factors in Computing Systems.
- Jonason, P. K. (2007). An evolutionary psychology perspective on sex differences in exercise behaviors and motivations. *The Journal of social psychology*, 147(1), 5-14.
- Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers & Education*, 58(1), 162-171.
- Kapahi, A., Ling, C. S., Ramadass, S., & Abdullah, N. (2013). Internet addiction in Malaysia causes and effects.
- Karim, R., & Chaudhri, P. (2012). Behavioral addictions: An overview. *Journal of Psychoactive Drugs*, 44(1), 5-17.
- Karimi, L., Khodabandelou, R., Ehsani, M., & Ahmad, M. (2014). Applying the Uses and Gratifications Theory to Compare Higher Education Students' an, Malaysia, United Kingdom, and South Africa. *Contemporary Educational Technology*, 5(1).
- Kepli, M.Y., Nasir, M.A (2016). MONEY LAUNDERING: ANALYSIS ON THE PLACEMENT METHODS *International Journal of Business, Economics and Law*, Vol. 11, Issue 5, ISSN 2289-1552 2016 (Dec).

- Kimberley, D., & Osmond, L. (2017). Compulsive Internet and Cyber Use. Responding to the Oppression of Addiction: Canadian Social Work Perspectives, 463.
- Kimbrough, A. M., Guadagno, R. E., Muscanell, N. L., & Dill, J. (2013). Gender differences in mediated communication: Women connect more than do men. *Computers in Human Behavior*, 29(3), 896-900.
- Kokko, H., & Jennions, M. (2003). It takes two to tango. *Trends in Ecology & Evolution*, 18(3), 103-104.
- Koropecj-Cox, T. (1998). Loneliness and depression in middle and old age: Are the childless more vulnerable? *The Journals of Gerontology Series B: Psychological sciences and social sciences*, 53(6), S303-S312.
- Korporaal, M., Broese van Groenou, M. I., & van Tilburg, T. G. (2008). Effects of own and spousal disability on loneliness among older adults. *Journal of Aging and Health*, 20(3), 306-325.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of social issues*, 58(1), 49-74.
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American psychologist*, 53(9), 1017.
- Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction—a review of the psychological literature. *International journal of environmental research and public health*, 8(9), 3528-3552.
- Kuss, D. J., Griffiths, M. D., & Binder, J. F. (2013). Internet addiction in students: Prevalence and risk factors. *Computers in Human Behavior*, 29(3), 959-966.
- Kuss, D. J., Griffiths, M. D., Karila, L., & Billieux, J. (2014). Internet addiction: A systematic review of epidemiological research for the last decade. *Current Pharmaceutical Design*, 20, 4026–52.
- Kwon, M., Lee, J. Y., Won, W. Y., Park, J. W., Min, J. A., Hahn, C., ... & Kim, D. J. (2013). Development and validation of a smartphone addiction scale (SAS). *PloS one*, 8(2), e56936.
- Labaree, R. (2014). Organizing your social sciences research paper. Retrieved April, 26, from <http://libguides.usc.edu/content.php?pid=83009&sid=618409>
- Lane, D. (2008). HyperStat Online Statistics Textbook from <http://www.davidmlane.com/hyperstat/index.html>

- Leach, L. J., Hayhoe, C. R., & Turner, P. R. (1999). Factors affecting perceived economic well-being of college students: A gender perspective. *Financial Counseling and Planning*, 10(2), 11-22.
- Lee, C. C. (2002). A Study on Development of Recovery Strategy for Internet Addiction of Korean Children. Korean Ministry of Information & Communication.
- Lee, S. Y., Park, E. C., Han, K. T., Kim, S. J., Chun, S. Y., & Park, S. (2016). The association of level of Internet use with suicidal ideation and suicide attempts in South Korean adolescents: a focus on family structure and household economic status. *The Canadian Journal of Psychiatry*, 61(4), 243-251.
- LeFebvre, L., Blackburn, K., & Brody, N. (2014). Navigating romantic relationships on Facebook Extending the relationship dissolution model to social networking environments. *Journal of Social and Personal Relationships*, 0265407514524848.
- Leung, L. (2011). Loneliness, social support, and preference for online social interaction: the mediating effects of identity experimentation online among children and adolescents. *Chinese Journal of Communication*, 4(4), 381-399.
- Levine, C. S., Miller, G. E., Lachman, M. E., Seeman, T. E., & Chen, E. (2017). Early life adversity and adult health. In *Oxford Handbook of Integrated Health Science*. Oxford University Press.
- Liebowitz, M. R. (1983). *The chemistry of love*: Little, Brown Boston, MA.
- Löfgren-Mårtenson, L. (2008). Love in Cyberspace: Swedish Young People with Intellectual Disabilities and the Internet 1. *Scandinavian Journal of Disability Research*, 10(2), 125-138.
- Lopata, H. Z. (1973). *Widowhood in an American city*: Transaction Publishers.
- Lorenz, F. O., Conger, R. D., & Montague, R. (1994). Doing worse and feeling worse: Psychological consequences of economic hardship.
- Lortie, C. L., & Guitton, M. J. (2013). Internet addiction assessment tools: Dimensional structure and methodological status. *Addiction*, 108(7), 1207-1216.
- Lougheed, E. (2012). Frazzled by Facebook? An exploratory study of gender differences in social network communication among undergraduate men and women. *College Student Journal*, 88-99.
- Marazziti, D., & Canale, D. (2004). Hormonal changes when falling in love. *Psychoneuroendocrinology*, 29(7), 931-936.

- Martin, P. R., & Petry, N. M. (2005). Are Non- substance- related Addictions Really Addictions? *The American Journal on Addictions*, 14(1), 1-7.
- Masarik, M., Monica J. Martin, Emilio Ferrer, Rand D. Conger. (2013). Economic Pressure and Romantic Relationship Functioning within and Across Generations: Effective Problem Solving Skills As a Source of Resilience. Retrieved from Society for Prevention Research website: <https://spr.confex.com/spr /SPR2013/ webprogram/Paper20524.html>
- Maslow, A. H. (1954). The instinctoid nature of basic needs. *Journal of Personality*, 22(3), 326-347.
- Mayer, S. E. (1997). Trends in the economic well-being and life chances of America's children. *Consequences of growing up poor*, 49-69.
- Mayer, A., & Puller, S. L. (2008). The old boy (and girl) network: Social network formation on university campuses. *Journal of public economics*, 92(1), 329-347.
- Mazman, S. G., & Usluel, Y. K. (2011). Gender Differences in Using Social Networks. *Turkish Online Journal of Educational Technology-TOJET*, 10(2), 133-139.
- Michael, S. D. (2013). Human Trafficking In Malaysia: Trends and Challenges. *Proceedings of the Global Conference on Business, Economics and Social Sciences* (pp. 161-170). Kuala Lumpur: WorldResearchConference.com.
- McCormick, N., & Leonard, J. (1996). Gender and sexuality in the cyberspace frontier. *Women & Therapy*, 19(4), 109-119.
- McKeague, E. L. (2014). Differentiating the female sex addict: A literature review focused on themes of gender difference used to inform recommendations for treating women with sex addiction. *Sexual Addiction & Compulsivity*, 21(3), 203-224.
- McLeod, J. D., & Lively, K. J. (2006). *Social structure and personality Handbook of social psychology* (pp. 77-102): Springer.
- McLoyd, V. C., Jayaratne, T. E., Ceballo, R., & Borquez, J. (1994). Unemployment and work interruption among African American single mothers: Effects on parenting and adolescent socioemotional functioning. *Child development*, 65(2), 562-589.
- Mealey, L. (1997). Bulking up: The roles of sex and sexual orientation on attempts to manipulate physical attractiveness. *Journal of Sex Research*, 34(2), 223-228.

- Meisinger, C., Thorand, B., Schneider, A., Stieber, J., Döring, A., & Löwel, H. (2002). Sex differences in risk factors for incident type 2 diabetes mellitus: the MONICA Augsburg cohort study. *Archives of internal medicine*, 162(1), 82-89.
- Mellody, P., & Carnes, P. (2005). Retrieved from 40 Questions for Self-Diagnosis: <http://markfalango.com/wp-content/uploads/2012/05/lasa.pdf>
- Mellody, P., Miller, A. W., & Miller, K. (2003). *Facing Codependence: What It Is, Where It Comes from, How It Sabotages Our Lives*. New York: Harper & Row.
- Mellody, P., Miller, A. W., & Miller, K. (2003). *Facing Love Addiction: Giving Yourself the Power to Change the Way You Love*. New York: HarperOne. doi: 9780062506047)
- Méndez, F. (2005). The European Union and cybercrime: insights from comparative federalism. *Journal of European Public Policy*, 12(3), 509-527.
- Mills, R. J., Grasmick, H. G., Morgan, C. S., & Wenk, D. (1992). The effects of gender, family satisfaction, and economic strain on psychological well-being. *Family Relations*, 440-445.
- Min, B. S. D. (2013). *Is It Love or Is It Addiction: The Book That Changed the Way We Think About Romance and Intimacy* (3rd ed. Vol. 1). United state of America ,Minnesota Hazelden Publishing.
- Mishna, F., McLuckie, A., & Saini, M. (2009). Real-world dangers in an online reality: A qualitative study examining online relationships and cyber abuse. *Social Work Research*, 33(2), 107-118.
- Misra, R., Crist, M., & Burant, C. J. (2003). Relationships among life stress, social support, academic stressors, and reactions to stressors of international students in the United States. *International Journal of Stress Management*, 10(2), 137.
- Mistry, R. S., Vandewater, E. A., Huston, A. C., & McLoyd, V. C. (2002). Economic Well- Being and Children's Social Adjustment: The Role of Family Process in an Ethnically Diverse Low- Income Sample. *Child development*, 73(3), 935-951.
- Molyneux, M. (2002). Gender and the silences of social capital: Lessons from Latin America. *Development and change*, 33(2), 167-188.
- Montag, C., Zhao, Z., Sindermann, C., Xu, L., Fu, M., Li, J., ... & Becker, B. (2018). Internet Communication Disorder and the structure of the human brain: initial insights on WeChat addiction. *Scientific reports*, 8(1), 2155.

- Moody, E. J. (2001). Internet use and its relationship to loneliness. *CyberPsychology & Behavior*, 4(3), 393-401.
- Moore, G. (1990). Structural determinants of men's and women's personal networks. *American sociological review*, 726-735.
- Moore, M. G., & Cozine, G. T. (2000). Web-Based Communications, the Internet, and Distance Education. *Readings in Distance Education*, Number 7: ERIC.
- Morahan-Martin, J., & Schumacher, P. (2003). Loneliness and social uses of the Internet. [Psychology]. *Computers in Human Behavior*, 19(Elsevier), 659-671
- Morris, E. (2013). She “Likes” it, He Doesn’t: Gender Differences in Facebook Communication Behaviors. University of Colorado at Boulder.
- Muscanell, N. L., & Guadagno, R. E. (2012). Make new friends or keep the old: Gender and personality differences in social networking use. *Computers in Human Behavior*, 28(1), 107-112.
- Nazir, B. (2012). Gender Patterns on Facebook: A Sociolinguistic Perspective. *International Journal of Linguistics*, 4(3), pp. 252-265.
- Ng, B. D., & Wiemer-Hastings, P. (2005). Addiction to the Internet and online gaming. *Cyberpsychology & behavior*, 8(2), 110-113.
- Nie, N. H., & Erbring, L. (2000). Internet and society. *Stanford Institute for the Quantitative Study of Society*, 3, 14-19.
- Norris, P., & Inglehart, R. (2013). Gendering social capital. *Gender and social capital*, 73.
- Nowland, R., Necka, E. A., & Cacioppo, J. T. (2017). Loneliness and Social Internet Use: Pathways to Reconnection in a Digital World?. *Perspectives on Psychological Science*, 1745691617713052.
- Odacı, H., & Kalkan, M. (2010). Problematic Internet use, loneliness and dating anxiety among young adult university students. *Computers & Education*, 55(3), 1091-1097.
- Odol, C. R., & Odo, A. (2015). The Extent of Involvement in Cybercrime Activities among Students’ in Tertiary Institutions. Double Blind Peer Reviewed *International Research Journal*, 15(3).
- OECD-Organisation for Economic Co-operation. (2001). Ageing and Transport: Mobility Needs and Safety Issues. Organization for Economic.

- Oldmeadow, J. A., Quinn, S., & Kowert, R. (2013). Attachment style, social skills, and Facebook use amongst adults. *Computers in Human Behavior*, 29(3), 1142-1149.
- O'Leary, K. D., & Williams, M. C. (2006). Agreement about acts of aggression in marriage. *Journal of Family Psychology*, 20(4), 656.
- O'Neill, B., & Gidengil, E. (2006). *Gender and social capital* (Vol. 1). New York: Routledge.
- Onyx, J., & Bullen, P. (2000). Measuring social capital in five communities. *The journal of applied behavioral science*, 36(1), 23-42.
- Osmond, M. W., & Thorne, B. (1993). *Feminist theories Sourcebook of family theories and methods* (pp. 591-625): Springer.
- Papp, L. M., Danielewicz, J., & Cayemberg, C. (2012). "Are we Facebook official?" Implications of dating partners' Facebook use and profiles for intimate relationship satisfaction. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 85-90.
- Park, S., & Kim, Y. (2016). Prevalence, correlates, and associated psychological problems of substance use in Korean adolescents. *BMC public health*, 16(1), 79.
- Parke, R. D., Coltrane, S., Duffy, S., Buriel, R., Dennis, J., Powers, J., . . . Widaman, K. F. (2004). Economic stress, parenting, and child adjustment in Mexican American and European American families. *Child development*, 75(6), 1632-1656.
- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior*, 337-356.
- Peele, S., & Brodsky, A. (1975a). *Love and addiction*. New York: Taplinger Publishing Co., Inc.
- Peplau, L. A., & Perlman, D. (1979). Blueprint for a social psychological theory of loneliness. *Love and attraction*, 101-110.
- Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. *Personal relationships*, 3, 31-56.
- Petanidou, D., Daskagianni, E., Dimitrakaki, C., Kolaitis, G., & Tountas, Y. (2013). The role of perceived well-being in the family, school and peer context in adolescents' subjective health complaints: evidence from a Greek cross-sectional study. *BioPsychoSocial medicine*, 7(1), 17.

- Pettinari, D. (2002) Cyber stalking investigation and prevention. Available at: <http://www.crime.research.org> [Accessed: 1/10/12]
- Pinquart, M., & Sorensen, S. (2001). Influences on loneliness in older adults: A meta-analysis. *Basic and applied social psychology*, 23(4), 245-266.
- Pontes, H. M., Caplan, S. E., & Griffiths, M. D. (2016, March). Problematic Internet Use, Sleep Problems, and Psychiatric Symptoms among Portuguese Internet users: An empirical study. In *Journal of behavioral addictions* (Vol. 5, pp. 35-35). Prielle ku 19, po box 245,, h-1117 budapest, hungary: akademiiai kiado rt.
- Pugh, S. (2017). Investigating the relationship between smartphone addiction, social anxiety, self-esteem, age & gender.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of democracy*, 6(1), 65-78. Chicago
- Putnam, R. D. (2000). Bowling alone: America's declining social capital. In *Culture and politics* (pp. 223-234). Palgrave Macmillan US. Chicago
- Roberts, J., Yaya, L., & Manolis, C. (2014). The invisible addiction: Cell-phone activities and addiction among male and female college students. *Journal of behavioral addictions*, 3(4), 254-265.
- Robila, M., & Krishnakumar, A. (2005). Effects of economic pressure on marital conflict in Romania. *Journal of Family Psychology*, 19(2), 246.
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for scale selection and evaluation. *Measures of personality and social psychological attitudes*, 1(3), 1-16.
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (Eds.). (2013). *Measures of personality and social psychological attitudes: Measures of social psychological attitudes* (Vol. 1). Academic Press.
- Rokach, A. (2000). Loneliness and the life cycle. *Psychological reports*, 86(2), 629-642.
- Rubin, Z., Peplau, L. A., & Hill, C. T. (1981). Loving and leaving: Sex differences in romantic attachments. *Sex Roles*, 7(8), 821-835.
- Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of personality assessment*, 66(1), 20-40.
- Ryan, T., & Xebos, S. (2011). Who uses Facebook? An investigation into the relationship between Big Five, skyness, narcissism, lonliness, and Facebook usage. *Computers in Human Behavior*, 27, 1658-64.

- Salleh, H. M. (2010). 1Malaysia-Concept and Values. URL (last checked: 25 Dec 2013) <http://www.kettha.gov.my/sites/default/files/uploads/1Malaysia>.
- Salifu, A. (2008). The impact of Internet crime on development. *Journal of Financial Crime*, 15(4), 432-443.
- Samaha, M. & Hawi, N. S. (2016). Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Comput Human Behav* 57, 321–325
- Saraiva, L. M., Brandão, T., & Matos, P. M. (2017). Economic Insecurity and Separation–individuation in Portuguese Emerging Adults: The Role of Self-esteem and Depression. *Young*, 1103308817713622.
- Scharlott, B. W., & Christ, W. G. (1995). Overcoming relationship-initiation barriers: The impact of a computer-dating system on sex role, shyness, and appearance inhibitions. *Computers in Human Behavior*, 11(2), 191-204.
- Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Mate preferences of married persons in the newlywed year and three years later. *Cognition and Emotion*, 19(8), 1262.
- Sharabany, R. (1994). Intimate friendship scale: Conceptual underpinnings, psychometric properties and construct validity. *Journal of Social and Personal Relationships*, 11(3), 449-469.
- Shaw, L. H., & Gant, L. M. (2002). In defense of the Internet: The relationship between Internet communication and depression, loneliness, self-esteem, and perceived social support. *CyberPsychology & Behavior*, 5(2), 157-171.
- Shek, D. T., & Yu, L. (2016). Adolescent Internet addiction in hong kong: prevalence, change, and correlates. *Journal of pediatric and adolescent gynecology*, 29(1), S22-S30.
- Sheldon, K. M., Abad, N., & Hinsch, C. (2011). A two-process view of Facebook use and relatedness need-satisfaction: disconnection drives use, and connection rewards it.
- Shobe, M. A., & Boyd, A. S. (2005). Relationships between assets and perceived economic strain: Findings from an anti-poverty policy demonstration. *Journal of Community Practice*, 13(2), 21-44.
- Smeltzer, S., & Keddy, D. (2010). Won't you be my (political) friend? The changing face (book) of socio-political contestation in Malaysia. *Canadian Journal of Development Studies/Revue canadienne d'études du développement*, 30(3-4), 421-440.

- Stavropoulos, V., Alexandraki, K., & Motti-Stefanidi, F. (2013). Recognizing Internet addiction: Prevalence and relationship to academic achievement in adolescents enrolled in urban and rural Greek high schools. *Journal of adolescence*, 36(3), 565-576.
- Stevens, N., & Westerhof, G. J. (2006). Marriage, Social Integration, and Loneliness in the Second Half of Life A Comparison of Dutch and German Men and Women. *Research on Aging*, 28(6), 713-729.
- Storey, J., & McDonald, K. (2013). Love's best habit: The uses of media in romantic relationships. *International Journal of Cultural Studies*, 1367877912467274.
- Syed Zainudin, S. S., Omar, S. Z., Bolong, J., & Osman, M. N. (2011). Facebook addiction among female university students. *Revista De Administratie Publica Si Politici Sociale*, 2(7), 95-109.
- Teachman, J., Paasch, K., Day, R., & Carver, K. (1997). Poverty during adolescence and subsequent educational attainment. In G. Duncan & J. Brooks-Gunn (Eds.), *Consequences of growing up poor* (pp. 382-418). New York: Russell Sage
- Tennov, D. (1998). *Love and limerence: The experience of being in love*: Scarborough House.
- The Top 20 Valuable Facebook Statistics. Retrieved April 3, 2017 from (<https://zephoria.com/top-20-valuable-Facebook-statistics>).
- Thompson, D. (2010, 7/14/2010). Gender Differences in Emotional Health, Retrieved from <http://www.everydayhealth.com/emotional-health/gender-differences-in-emotional-health.aspx>
- Thomson, E., Hanson, T. L., & McLanahan, S. S. (1994). Family structure and child well-being: Economic resources vs. parental behaviors. *Social Forces*, 73(1), 221-242.
- Timberlake, S. (2005). Social capital and gender in the workplace. *Journal of Management Development*, 24(1), 34-44.
- Trochim, W. M. (2001). *The research methods knowledge base*: Cincinnati: Atomic Dog Pub.
- Tsitsika, A. K., Tzavela, E. C., Janikian, M., Ólafsson, K., Iordache, A., Schoenmakers, T. M., . . . Richardson, C. (2014). Online Social Networking in Adolescence: Patterns of Use in Six European Countries and Links With Psychosocial Functioning. *Journal of Adolescent Health*.

- Uçanok, Z., & Güre, A. (2012). Perceived Economic Strain and Psychological Well-Being: The Mediational Role of Parental Relations in Turkish Early Adolescents. *The Journal of Early Adolescence*, 0272431612450948.
- Upmanyu, V., Upmanyu, S., & Dhingra, M. (1992). Gender differences in loneliness. *Journal of Personality and Clinical studies*.
- Valenzuela, S., Park, N., & Kee, K. F. (2009). Is There Social Capital in a Social Network Site?: Facebook Use and College Students' Life Satisfaction, Trust, and Participation¹. *Journal of Computer- Mediated Communication*, 14(4), 875-901.
- Valkenburg, P. M., & Peter, J. (2007). Online communication and adolescent well- being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer- Mediated Communication*, 12(4), 1169-1182.
- Van Deursen, A. J. A. M., Bolle, C. L., Hegner, S., & Kommers, P. A. M. (2015). Modeling habitual and addictive smartphone behavior: The role of smartphone usage types, emotional intelligence, social stress, self-regulation, age, and gender. *Computers in Human Behavior*, 45, 411–20.
- Van Tilburg, T., Havens, B., & de Jong Gierveld, J. (2004). Loneliness among older adults in the Netherlands, Italy, and Canada: A multifaceted comparison. *Canadian Journal on Aging/La Revue canadienne du vieillissement*, 23(02), 169-180.
- Voydanoff, P. (1984). Economic Distress and Families Policy Issues. *Journal of Family Issues*, 5(2), 273-288.
- Voydanoff, P. (1990). Economic distress and family relations: A review of the eighties. *Journal of Marriage and the Family*, 1099-1115.
- Walby, S., Apitzsch, B., Armstrong, J. E., Balderston, S., Szmagalska-Follis, K., Francis, B. J., ... & Towers, J. (2016). Study on the gender dimension of trafficking in human beings.
- Walper, S. (2009). Links of perceived economic deprivation to adolescents' well-being six years later. *Zeitschrift für Familienforschung-Journal of Family Research*, 21(2).
- Wang, C.-C., & Chang, Y.-T. (2010). Cyber relationship motives: Scale development and validation. *Social Behavior and Personality: an international journal*, 38(3), 289-300.
- Wang, Z., & Aragona, B. J. (2004). Neurochemical regulation of pair bonding in male prairie voles. *Physiology & behavior*, 83(2), 319-328.

- Ward, C. C., & Tracey, T. J. (2004). Relation of shyness with aspects of online relationship involvement. *Journal of Social and Personal Relationships*, 21(5), 611-623.
- Weinstein, A., & Lejoyeux, M. (2010). Internet addiction or excessive internet use. *The American journal of drug and alcohol abuse*, 36(5), 277-283.
- Weiser, E. B. (2001). The functions of Internet use and their social and psychological consequences. *CyberPsychology & Behavior*, 4(6), 723-743.
- Weiss, R. S. (1973). Loneliness: The experience of emotional and social isolation.
- Weiss, R. S. (1976). The emotional impact of marital separation. *Journal of social issues*, 32(1), 135-145.
- Whitty, M., & Buchanan, T. (2012). The Online Romance Scam: A Serious Cybercrime. *Cyber Psychology, Behavior and Social Networking*, 15(3), 181-183. doi:10.1089/cyber.2011.0352
- Whitty, M. T., & Buchanan, T. (2016). The online dating romance scam: The psychological impact on victims—both financial and non-financial. *Criminology & Criminal Justice*, 16(2), 176-194.
- Whitty, M. T. (2003). Pushing the wrong buttons: Men's and women's attitudes toward online and offline infidelity. *CyberPsychology & Behavior*, 6(6), 569-579.
- Whitty, M. T., & Carr, A. N. (2003). Cyberspace as potential space: Considering the web as a playground to cyber-flirt. *Human Relations*, 56(7), 869-891.
- Wickrama, K., Conger, R. D., Lorenz, F. O., & Jung, T. (2008). Family antecedents and consequences of trajectories of depressive symptoms from adolescence to young adulthood: a life course investigation. *Journal of Health and Social Behavior*, 49(4), 468-483.
- Widyanto, L., & Griffiths, M. (2006). 'Internet addiction': a critical review. *International Journal of Mental Health and Addiction*, 4(1), 31-51.
- Williams, L. M. (2012). Facebook Ruined My Marriage: Digital Intimacy Interference on Social Networking Sites.
- Wolniewicz, C. A., Tiamiyu, M. F., Weeks, J. W., & Elhai, J. D. (2018). Problematic smartphone use and relations with negative affect, fear of missing out, and fear of negative and positive evaluation. *Psychiatry research*, 262, 618-623.
- Xie, B. (2008). The mutual shaping of online and offline social relationships. *Information Research: An International Electronic Journal*, 13(3).

- Yang, C.-c., Brown, B. B., & Braun, M. T. (2013). From Facebook to cell calls: Layers of electronic intimacy in college students' interpersonal relationships. *New Media & Society*, 1461444812472486.
- Yang, S. C., & Tung, C.-J. (2007). Comparison of Internet addicts and non-addicts in Taiwanese high school. *Computers in Human Behavior*, 23(1), 79-96.
- Yellowlees PM, Marks S. (2007). Problematic Internet use or Internet addiction? *Computers in Human Behavior*; 23(3):1447–1453.
- Yen, J. Y., Yen, C. F., Chen, C. C., Chen, S. H., & Ko, C. H. (2007). Family factors of Internet addiction and substance use experience in Taiwanese adolescents. *CyberPsychology & Behavior*, 10(3), 323-329.
- Yessir. (2011). Malaysia – 1 muslim couple divorced every 15 minutes, Retrieved from <http://www.abigmessage.com/tag/Muslim-couples>.
- Yong, S. Q. (2011). A study of Internet addiction among students of Sekolah Menengah Jenis Kebangsaan Pei Yuan, Kampar. UTAR.
- Young, K. S. (1996). Psychology of computer use: XL. Addictive use of the Internet: a case that breaks the stereotype. *Psychological reports*, 79(3), 899-902.
- Young, K. S. (1997). What makes the Internet addictive: Potential explanations for pathological Internet use. Paper presented at the 105th annual conference of the American Psychological Association.
- Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *CyberPsychology & Behavior*, 1(3), 237-244.
- Young, K. S. (1999). Internet addiction: symptoms, evaluation and treatment. *Innovations in clinical practice: A source book*, 17, 19-31.
- Young, K. S. (2004). Internet addiction a new clinical phenomenon and its consequences. *American behavioral scientist*, 48(4), 402-415.
- Young, K. S. (2006). Online infidelity: Evaluation and treatment implications. *Journal of Couple & Relationship Therapy*, 5(2), 43-56.
- Young, K. S., & Rodges, R. C. (1998). Internet addiction: Personality traits associated with its development. Paper presented at the 69th annual meeting of the Eastern Psychological Association.
- Young, K. S., & Rogers, R. C. (1998). The relationship between depression and Internet addiction. *CyberPsychology & Behavior*, 1(1), 25-28.

- Young, K. S., Griffin-Shelley, E., Cooper, A., O'mara, J., & Buchanan, J. (2000). Online infidelity: A new dimension in couple relationships with implications for evaluation and treatment. *Sexual Addiction & Compulsivity: The Journal of Treatment and Prevention*, 7(1-2), 59-74.
- Young, L. J., Lim, M. M., Gingrich, B., & Insel, T. R. (2001). Cellular mechanisms of social attachment. *Hormones and behavior*, 40(2), 133-138.
- Zaidieh, A. J. Y. (2012). The use of social networking in Education: Challenges and Opportunities. *World of Computer Science and Information Technology Journal (WCSIT)*, 2(1), 18-21.
- Zaremohzzabieh, Z., Samah, B. A., Omar, S. Z., Bolong, J., & Kamarudin, N. A. (2014). Addictive Facebook Use among University Students. *Asian Social Science*, 10(6).
- Zeki, S. (2007). The neurobiology of love. *FEBS letters*, 581(14), 2575-2579.
- Zhao, X., Schwanda Sosik, V., & Cosley, D. (2012). It's complicated: how romantic partners use Facebook. Paper presented at the Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.