UNIVERSITI PUTRA MALAYSIA

SELF-CONCEPT CLARITY, ACADEMIC SELF-EFFICACY, PERCEIVED SOCIAL SUPPORT AND GENERALISED PATHOLOGICAL INTERNET USE AMONG UNIVERSITY STUDENTS IN MALAYSIA

TAM KHENG HUNG

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By

TAM KHENG HUNG

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Master of Science

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January 2020

Chair : **Rumaya Binti Juhari, PhD**
Faculty : **Human Ecology**

Intensive use of the Internet among university students potentially leads to the development of generalised pathological Internet use (GPIU). Consistent with Davis's cognitive-behavioural model of pathological internet use concept, the current study evaluated the relationship between self-concept clarity, academic self-efficacy, perceived social support and GPIU among university students in Malaysia.

A correlational research design was used to determine the correlation between the variables. A total of 480 undergraduate students aged between 20 and 24 were recruited in this study using the convenient sampling technique. Data were collected using self-administered survey questionnaires and established instruments of Self-Concept Clarity Scale, Academic Self-Efficacy Scale, Multidimensional Scale of Perceived Social Support and Generalised Problematic Internet Use Scale 2 to measure the aforementioned variables. Statistical Package for Social Science (SPSS) version 22.0 was employed to conduct reliability analysis, exploratory data analysis, univariate analysis, bivariate analysis and multivariate analysis.

There was a significant association between self-concept clarity and GPIU. Respondents with a higher level of self-concept clarity had a lower tendency to get involved in GPIU. Furthermore, self-concept clarity was the strongest predictor for GPIU, followed by CGPA and number of hours spent on the Internet weekly. Undergraduates in Malaysia exhibited interest to imply rich information and social platform on Internet to improvise self-concept, rather than non-purposive usage of GPIU which need attention from related parties.

**KEJELASAN KONSEP KENDIRI, EFIKASI AKADEMIK KENDIRI,
TANGGAPAN SOKONGAN SOSIAL DAN PATOLOGIKAL PENGGUNAAN
INTERNET SECARA UMUM DALAM KALANGAN SISWAZAH MALAYSIA**

Oleh

TAM KHENG HUNG

Januari 2020

Pengerusi   : Rumaya Binti Juhari, PhD
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Kekerapan penggunaan internet dalam kalangan siswazah berpotensi untuk
menyumbang kepada perkembangan patologikal penggunaan internet secara
umum (GPIU). Selaras dengan konsep *Davis's Cognitive-Behavioural Model of
Pathological Internet Use*, kajian ini menilai hubungkait antara kejelasan
konsep kendiri, efikasi akademik kendiri, tanggapan sokongan sosial dan GPIU
dalam kalangan siswazah Malaysia.

Rekabentuk Korelasional telah digunakan untuk menentukan korelasi antara
semua faktor kajian. Sejumlah 480 orang prasiswazah dalam lingkungan umur
20 to 24 tahun terpilih sebagai responden untuk kajian ini dengan
menggunakan teknik convenient sampling. Data dikumpul dengan
menggunakan borang soal selidik dan instrumen yang telah diterbit seperti
Self-Concept Clarity Scale, *Academic Self-Efficacy Scale*, *Multidimensional
Scale of Perceived Social Support* dan *Generalised Problematic Internet Use
Scale* 2 untuk mengkaji faktor-faktor tersebut. *Statistical Package for Social
Science (SPSS)* versi 22.0 digunakan untuk analisis reliabiliti, penerokaan,
univariat, bivariat dan multivariat.

Terdapat korelasi yang signifikan di antara konsep kendiri dengan GPIU.
Responden yang memegang konsep kendiri yang jelas menjadi kurang
cenderung kepada GPIU. Konsep kendiri paling meramalkan GPIU, diikuti oleh
CGPA dan tempoh penggunaan internet mingguan. Prasiswazah di Malaysia
menunjukkan minat menggunakan informasi dan persada sosial Internet untuk
meningkatkan konsep kendiri, selain daripada penggunaan tanpa tujuan
seperti GPIU yang perlu diperhatikan oleh pihak berkenaan.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

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Date: 9 September 2021

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ASE   Academic Self-efficacy

CGPA   Cumulative Grade Point Average

GPA   Grade Point Average

GPIU   Generalised Pathological Internet Use

IA   Internet Addiction

PIU   Pathological Internet Use

PSS   Perceived Social Support

SCC   Self-concept Clarity

SPIU   Specific Pathological Internet Use

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Existing evidence reveals that Malaysia, a developing country, has achieved 18% of "Facebook users per country population", the fourth highest in Asia. Among these Facebook users, people aged between 18 and 24 years old form the dominant age group (Abdullah, Lim & Roslan, 2012). The total number of Internet users in Malaysia increased continually and reached up to 65% of the total population in the country in 2014 (Malaysia Social Media Statistics, 2014). Data from the Malaysian Communications and Multimedia Commission (MCMC)(2016) even exhibited a big leap within a 2-year duration, to achieve 21.09 million or approximately 68.6% of the total population in 2016. In the same year, Malaysian Digital Association (2016) revealed that an average of 5.1 hours (2.8 hours on social media) was spent by Malaysians daily. It also reported an average of 18 hours of weekly Internet usage. The increasing Internet usage was also reported by Internet Users Survey (MCMC, 2018), which showed an average usage of 6.6 hours daily and reported that 13.8% of the users spent more than 12 hours on the Internet. These figures alarmed local researchers when discussing the issue of intense Internet usage as according to Young (1999), individuals who spent more than 12 hours per day surfing the Internet were considered as victims of Internet addiction. Notably, Internet addiction has been linked with a few negative impacts including misuse of social media, Internet gambling and other Internet-related problems that could subsequently result in depression, suicides and death (The Malaysian Times, 2013).

Existing local studies highlight the issue as "Internet addiction" (Kapahi, Ling, Ramadass & Abdullah, 2013; Ng, Isa, Hashim, Pillai & Harbajan Singh, 2015; Roslan, 2015). However, the Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) (DSM-IV) which is an official manual of mental disorders proposed by the Task Force on Nomenclature and Statistics of the American Psychiatric Association, does not use the term 'addiction' to describe the pathological use or abuse of a substance or other such stimulus, nor does it describe compulsive gambling as an addiction. Instead, it favours terms such as dependence (for substances) and pathological (for gambling disorders) to correct the concept from physiological dependence to pathological use. The term 'pathological Internet use (PIU)' has been applied in some existing literature (Caplan, 2002; Davis, 2001; Morahan-Martin & Schumacher, 2000).

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In this context, Davis (2001) developed a PIU cognitive-behavioural model to introduce maladaptive cognitions (i.e. distorted thoughts and thought processes), as a proximal (more direct) sufficient causal of the set of symptoms of PIU compared to the distal (non-direct) causal such as depression (Beck, 1976) and substance dependence (Kraut et al., 1998b). Davis (2001) also proposed the term 'generalised pathological Internet use' (GPIU) which also discussed the influence of social context of an individual on PIU, rather than solely focusing on the cognitive symptoms, in the model. Davis (2001) explained that the model was drawn from the operant conditioning theory (Skinner, 1948) which explains users' experience of the Internet and associated new technologies and reinforcement that an individual receives impact from situational cues such as the keyboard sound. The development from the operant conditioning theory (Skinner, 1948) is aligned to social learning theory (Bandura, 1977) which highlights the meditational cognitive processes (i.e. observe, thought and imitate) that exist between a stimulus and response due the belief that humans are active information processors and are able to consider the consequences of a behaviour. The social cognitive theory (Bandura, 1986) argues that neither nature (biology) nor nurture (environment) is the sole or chief influence on human behaviour; instead, it is the interaction between both nature and nurture that provides feeling and social experience (i.e. beliefs, self-perceptions and expectations) which can influence human behaviour. Caplan (2010) implied that the argument in the social cognitive theory of self-regulation from Bandura's (1991) study, which is "anticipative affective reactions to ones' own behaviour" plays a central role in the self-reactive process that governs self-regulations (p. 256) is able to explain how social context affects individual's mood and predicts an individual's cognitive ability in self-regulation behaviour of Internet usage, in the instrument of GPIU Scale 2 (GPIUS2). Thus, the term 'GPIU' from the PIU cognitive-behavioural model is applied in this study as the theoretical background, and inclusion of social context in GPIU is appropriate to explain this topic from the developmental psychology perspective, compared to the term 'Internet addiction' which is used more commonly in a clinical psychology study.

GPIU indicates an abnormal amount of time spent on the Internet, either wasting time with no clear objective and directive purpose, or spending vast amount of time in chat rooms as procrastination to delay one's responsibilities. The virtual Internet environment has become the only place where individuals with GPIU feel good about the world and themselves, so they are willing to invest a lot of money on the Internet. Eventually they will invest lesser time to carry out other preferable activities as to them, these activities are no longer enjoyable. Based on Davis's model (2001), Caplan developed (2002) and revised (2010) the instrument to measure GPIU and categorised it into 1) preference for online social interaction (POSI), 2) mood regulation, 3) deficient self-regulation (comprises cognitive preoccupation and compulsive Internet use), and 4) negative outcomes without intense Internet usage. People with GPIU are considered to be highly problematic in their pathology even during times without the Internet (Davis, 2001). Thus, the influence of both maladaptive cognition (i.e. self-doubt, low self-efficacy and negative self-appraisal) and lack of social support on GPIU has to be studied (Davis, 2001).

An individual who experiences conflicting self-concept might have higher and more intense Internet use than others. Low self-concept clarity (SCC) level has been proposed to be correlated with chronic self-analysis, ruminative form of self-focused attention, low agreeableness, low conscientiousness, low internal state awareness and high scores of neuroticism (Campbell, Trapnell, Heine, Katz, Lavallee & Lehman, 1996). The condition is similar to GPIU symptoms (Davis, 2001). Individuals with low SCC do not possess a specific purpose on mind, resulting in a long Internet usage duration. Additionally, Campbell et al. (1996) revealed that individuals with low SCC are more likely to have high levels of self-analysis, and this indicates their excessive Internet usage with similar interpretation of cognitive preoccupation by Caplan (2002). The excessive Internet use is fuelled by lack of clarity, which results in utilisation of the rich information searched on web to achieve higher SCC.

Academic self-efficacy (ASE) is a belief regarding the students' ability to successfully complete an academic task (Tsai & Tsai, 2010; Zimmerman, 1995). Notably, it is necessary for students to possess a strong ASE in order to make it clear of the purpose of Internet usage in achieving good academic performance. The lack of belief in ASE may lead to academic procrastination, a signal of GPIU, as mentioned by Davis (2001). Bölükbas (2003) explained that individuals who experience a decline in their ASE tend to postpone their academic work as they keep on surfing and spending longer time on the Internet.

Significant associations have been found between parenting and family-related factors and the levels of pathological Internet use (PIU). The family and friend factors have been shown to positively influence Internet addiction, particularly among young Internet users (Massoud & Uyanga, 2013). Another study by Kerpelman, Pittman, Cadely, Tuggle, Harrell-Levy and Adler-Baeder (2012) and Kerpelman, Pittman and Lamke (1997) stated that continuity of good family relations is a protective factor against many problematic behaviours, including addiction. A domestic environment with great communication about Internet use is proven to have a lower pathological Internet use (PIU) risk for adolescents (Yu & Shek, 2013; van den Eijnden, Spijkerman, Vermulst, van Rooji, & Engels, 2010). In contrast, low family functioning (Ko, Yen, Yen, Lin & Yang, 2007), low protective parenting (Chen, Chen & Gau, 2015), low parental education and divorced parents are found to be significant factors associated with higher pathological Internet use (PIU) (Willoughby, 2008). Another study by Choo, Sim, Liau, Gentile, and Khoo (2015) explained that adolescents with close parental relationships showed a decrease in PIU symptoms of playing online games over time. Conversely, restriction on Internet usage for online gaming by parents was reported not to have a critical relationship on PIU levels. An adolescent who comes from a single parent family is more likely to over-use the Internet (Ni, Yan, Chen & Liu, 2009). Meanwhile, a higher parental educational level is also a cause for Internet addiction (Deng, Hu, Hu, Wang & Su, 2007).

A few studies revealed a high Internet usage among teenagers and adults in Malaysia which is worrying. Ng et al. (2012) reported that the identified college student respondents, who were having pathological Internet use (PIU), spent an average of 13.31 hours weekly on Internet usage. This is supported by the high rate of Internet penetration among Malaysian urban youth, which achieved 90% (Soh, Yan, Ong & Teh, 2012). A similar finding was also revealed by several studies which used the term 'Internet addiction'. Kapahi et al. (2013) who conducted a study on Internet usage among Malaysian youths attending a university or college concluded that this group of the population was deemed to be more susceptible to Internet addiction. The result demonstrated that Malaysian youths were experiencing a high risk of Internet addiction, particularly among those aged between 18 and 25. This finding is in agreement with the studies by Lee (2010) and Thatcher and Goolam (2005) which indicate that undergraduates in the age range of 19-24 are susceptible to Internet addiction.

The social impact of GPIU is observed in all age groups; however, the impact is greater on university students as they experience developmental changes from adolescence to young adulthood. This stage is considered as a critical period of vulnerability to both substance and non-substance addictions. A young adult faces the developmental task to interact with others which also requires information-seeking and social comparison, and is expected to be involved in "developing closer relations" (Erikson, 1997). Online relationships are shown to create less anxiety compared to "the real world" relations. The anonymity of true identity and exclusion from the judgement of one's personal characteristics and appearance are the motivators that contribute to the attractiveness of online relations for young adults (Hall, 2001). Empirical evidence revealed that university students who experience GPIU tend to develop various adjustment problems such as reduced academic performance (e.g. missing classes, reduction in study habits, and drop in grades), problems in psychological well-being (retreat in relationships) and social involvement (Sato, 2006; Chou, Condron & Belland, 2005), depression (Young, 1996; Young, Pistner, O'Mara & Buchanan, 1999) and a rise in university dropouts (Brady, 1997). Roslan (2015) demonstrated that Internet addiction has a positive and significant effect on university students' adaptability, mental health, and family relationships in which 7% of the students were found to be moderately addicted to the Internet, and 0.5% were found to be severely addicted to the Internet. Thus, more attention should be given to the duration and quality of Internet usage among university students.

Existing studies reported that computers have become an integral part of students' life (Fortson, Scotti, Chen, Malone & Del Ben, 2007). Existing literature has also concluded that most of the Malaysian university students' time was spent on the Internet for both academic and extracurricular purposes (Haque, Rahman, Majumder, Haque, Kamal, Islam, Haque, Rahman & Alattraqchi, 2016). Other than these activities, the university environment which offers faster and easier Internet access is likely to contribute to excessive Internet use. Some istudents will postpone their tasks as a result of excessive time being spent online and being unaware of the passing of time (Lay, 1988).

Individuals with procrastination problem showed inconsistencies between aims and behaviours although originally, they had good intentions and the determination to complete a task. However, they did not succeed to complete the task over the long-term or even to start on them on time (Schouwenburg, Lay, Pychyl & Ferrari, 2004). This results in a decrease of their output efficiency to submit their work or complete school activities (Young, 2004; Young & Rodgers, 1998).

Therefore, this study hopes to contribute to the body of knowledge to help university students understand the challenges in information-seeking and social comparison as they can be potentially wrongly gratified by the virtual social context of GPIU. The findings of this study will also help healthcare and educational institutions to be more alert and to assist undergraduate students overcome their developmental task more effectively. As such, this study aims to determine the link between self-concept clarity, academic self-efficacy and perceived social support and GPIU among university students in Malaysia. The study involved 480 university students aged between 20 and 24 years old studying in universities in Malaysia. The convenient sampling method was used, and a questionnaire survey method was utilised for data collection. The appropriateness of the instruments was evaluated in a pilot test conducted prior to the distribution of the questionnaires. The findings of the study could address the knowledge gaps about intervention steps in order to promote healthier psychosocial aspects of life among university students in Malaysia while using the Internet.

1.2   Problem Statement

Bandura (2001) explained that the behaviour of an individual is influenced by socio-demographic factors which affect the psychological mechanisms of the self-system as proposed by the social cognitive theory. This could be explained when the aspirations, sense of efficacy, personal standards, affective states and other self-regulatory influences of an individual are largely influenced by his or her economic condition, socioeconomic status, education and family structures. These socio-demographic factors have a direct influence the behaviour of an individual (Bandura, 2001). Hur (2006) defined the development of Internet addiction as an interactive process between personal demographic and socioeconomic backgrounds and personal habits of Internet usage. A significant correlation was found between a few antecedent variables such as age, gender and cumulative grade point average (CGPA) (Asiri, Fallahi, Ghanbari & Kazemnejad-leili, 2013), number of hours spent on the Internet weekly and age of first Internet usage (Mohd Isa, Hashim, Kaur & Ng, 2016; Ni, Yan, Chen & Liu, 2009) and the total score of Internet addiction. However, no significant correlation was found between parental factors such as parents' job status and parents' educational level and total score of Internet addiction in past local studies (Sutapat, Manee, Pattaraporn, Pimolpun, Nahathai & Tinakon, 2018). Thus, the descriptions of the mentioned antecedent variables should be explored to fulfil the knowledge gap of GPIU, instead of Internet addiction, in the context of Malaysia.

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The total number of Internet users in Malaysia reached 65% of the total population in the country in the year 2014 (Malaysia Social Media Statistics, 2014). It has shown a big leap within a 2-year duration and achieved 21.09 million or approximately 68.6% of the total population in the year 2016 (Malaysian Communications and Multimedia Commission, 2016). Interestingly, individuals aged between 18 and 24 years old appeared as the dominant age group for Facebook users (Abdullah, Lim & Roslan, 2012). The remarkable progress in the telecommunication technology such as a faster broadband coverage provided by local Internet service providers contributed to the high rate of Internet penetration among Malaysian urban youth, which was 90% (Soh, Yan, Ong & Teh, 2012). The increasing number of Internet users and high social media usage by young Internet users in the virtual social context underpin the idea of researching on the level of generalised pathological Internet use (GPIU) experienced by university students in Malaysia compared to other countries. Roslan (2015) demonstrated that Internet addiction had a positive and significant effect on students' adaptability, mental health and family relationships. He found that 7% of the students were moderately addicted, and 0.5% were severely addicted to the Internet. Thus, the level of self-concept clarity, academic self-efficacy and perceived social support also need to be studied to reflect the magnitude of the correlation between the mentioned predictors and GPIU, instead of addiction, among university students in Malaysia. In brief, the knowledge gap on the level of GPIU and other predictors in Malaysia should be explored further to reflect the GPIU condition in Malaysia and enhance the explanation for the possible correlations that exist between GPIU and its predictors.

An individual whose self-concept is not clearly defined might have more intense Internet use than others. There are two ways to interpret the mentioned situation. First, the individuals who have low self-clarity do not possess a specific purpose in mind; thus, they spend more time online. This is similar with GPIU symptoms which involve abnormal online duration, either wasting time with unclear objective or no direct purpose (Davis, 2001). Davis (2001) explained that these wasted hours then result in significant problems with daily functioning such as putting off responsibilities. This interpretation might provide explanations for undergraduates with low academic self-efficacy and symptoms of academic procrastination, and thus proves the correlation between low self-concept clarity and a high GPIU level. Marcia (1980) claimed that the above aimless and non-beneficial Internet overuse differed from individuals with a diffused identity. Campbell et al. (1996), on the other hand, revealed another interpretation i.e. individuals with low self-clarity are more likely to have a high level of self-analysis, and this indicates their excessive Internet usage too. This supports the correlation of ruminative maladaptive cognition and GPIU proposed by Davis (2001). Excessive Internet usage is motivated by lack of clarity, which results in utilisation of rich information found on the web to achieve a higher self-clarity. Several studies have explained the stronger needs and desires from an emerging adult to form clear, consistent and coherent knowledge systems which significantly contribute in shaping one's behaviour (Vo-Jutabha, Dinh, McHale & Valsiner, 2009; Inhelder & Piaget, 1958). Precisely, two hypotheses have been outlined, self-concept fragmentation and the self-concept unity, to clarify the association of self-concept clarity with

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online communication. The fragmentation hypothesis explains that adolescents' personalities might be fragmented as a convenience in crafting online identities. Studies by Reid (1998) and Gergen (1991) further clarified the possible outcomes as new relationships formed online may need to go against other people and ideas which further disintegrate the already fragile personalities. However, the self-concept unity hypothesis explains that adolescents have better opportunities to interact with people from different backgrounds through the Internet. Consequently, adolescents can consolidate their identity against a widely expanded social sounding platform, which in turn may enhance their self-concept clarity (Calvert, 2002). Nevertheless, two studies have shown that frequent Internet use or online identity experiments (i.e., pretending to be someone else) is associated with a less stable self-concept (Matsuba, 2006; Mazalin & Moore, 2004). Hence, the knowledge gap on the relationship between self-concept clarity and GPIU among university students in Malaysia should be explored as appropriate interpretations remain unclear. The assumption is referred from a study by Campbell et al. (1996) which concluded that the higher is the ability of undergraduates to clarify their self-concept, the lesser GPIU they would have.

Students who possess high academic self-efficacy can enjoy many advantages offered by the Internet to increase their study efficiency. Conversely, students with low academic self-efficacy will have a higher level of GPIU which will eventually lead to low academic performance (Yeap, Ramayah, Halim, Ahmad & Kurnia, 2016). Davis (2001) explained that GPIU involves an abnormal online duration, either wasting time with unclear objective or no directive purpose, and these wasted hours would then result in significant problems with daily functioning such as putting off responsibilities (Davis, 2001). A study by Bölükbas's (2003) explained that individuals who experienced a decline in their academic self-efficacy might continue to postpone their academic work by regularly concentrating on the Internet and spending longer duration online. The time which should have been devoted to their academic work and studies was occupied with Internet usage thus, leading to GPIU. Generally, existing studies conducted in Malaysia focus on students' Internet usage pattern which is possibly more related to specific PIU. The attitudes on Internet usage for academic purposes which are largely influenced by the social context with GPIU are less discussed. Based on the discussion of poor influence of GPIU on academic success (Young, 2004), it is hypothesised that academic self-efficacy is correlated with pathological Internet use which fills up the knowledge gap for university students in Malaysia.

Individuals do receive (and provide) social support through online interactions (King & Moreggi, 1998; Mickelson, 1997). Family and friends are factors that have been shown to have positively influenced Internet addiction, particularly among young Internet users (Massoud & Uyanga, 2013). Conversely, the presence of good communication at home about Internet use has been proven to lower an adolescent's PIU risk (Yu & Shek, 2013). Another study recommended that online interaction may decrease social connections and feelings of social support (Kraut, Patterson, Lundmark, Kiesler, Mukhopadhyay & Scherlis, 1998b). Another study (Choo et al., 2015) claimed that adolescents

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with stronger parental relationships displayed a decrease in video game PIU symptoms over time. In contrast, low family functioning (Ko et al., 2007), low protective parenting (Chen et al., 2015), low parental education and divorced parents were found to be significantly associated with higher PIU (Willoughby, 2008). Evidence has shown that Internet use for social purposes or different aspects of peer relationships can predict PIU behaviours (Chen et al., 2015; Thorsteinsson & Davey, 2014; Gámez-Guadix, Calvete, Orue & Havas, 2015; Willoughby, 2008). In view of these conflicting theoretical views, inconsistent research findings and paucity of strong empirical evidence as given above, further study is required to evaluate the relationship between Internet use and perceived social support.

Multivariate analyses in previous studies revealed the spuriousness of the association between self-concept clarity in which other variables such as loneliness and social anxiety were included in the model (Valkenburg & Peter, 2008). Thus, the significant correlation found between the independent variables and GPIU should be explored further using multivariate analyses in the model and other antecedent variables.

Based on the knowledge gaps above, there is a need to invest efforts in this issue and provide sufficient evidence for the commonly agreed association between self-concept clarity, academic self-efficacy, perceived social support and GPIU. Previous studies on Internet in Malaysia did not imply this theoretical model, whereas in this study social factor was associated in GPIU instrument to determine the developmental factors that raise the risk for university students in the Malaysian context.

Research questions:

1. What are the levels of self-concept clarity, academic self-efficacy, perceived social support and GPIU among university students in Malaysia?
2. Are there any significant relationships between self-concept clarity, academic self-efficacy and perceived social support with GPIU among university students in Malaysia?
3. What are the factors that uniquely predict GPIU among university students in Malaysia?

1.3   Theoretical Framework

Compared to other perspectives in explaining the initial Internet addiction, the Cognitive-Behavioural Model of Pathological Internet Use (Davis, 2001) as shown in Figure 1.1 introduces the concept of people's tendency to be affected by GPIU as being correlated with its proximal contributory causes rather than distal contributory causes i.e. psychopathology (depression, social anxiety,

substance dependence) and situational cues (reinforcement of substance dependence).
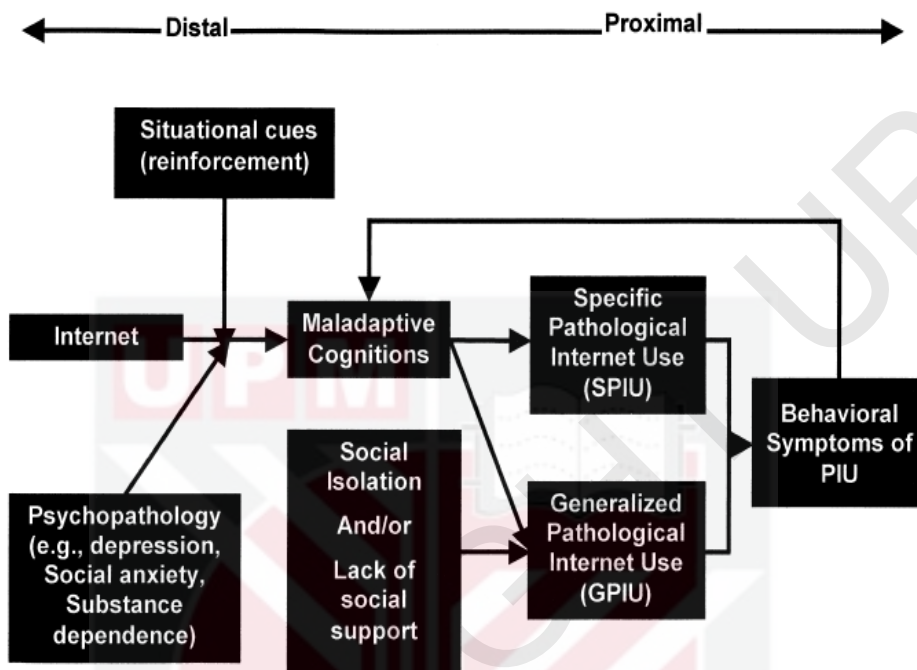
Figure 1.1: Davis's Cognitive-Behavioral Model of Pathological Internet Use
[Adapted from "A Cognitive-Behavioral Model of Pathological Internet Use" by Davis (2001)]

For instance, depression might be a distal contributory cause of anxiety symptoms which results in the growing of PIU symptoms. Nevertheless, depression itself is insufficient to generate the symptoms, nor it is closely associated to symptoms of PIU in terms of etiology. Davis (2001) explained the model by demonstrating the basic operant conditioning principles (Skinner, 1948) to suggest whether any stimulus that is linked to the primary conditioned stimulus has direct influence to secondary reinforcement. Thus, repeated stimuli such as the tactile sensation on the same keyboard, the sound of a particular online service and even the odour of the Internet surfing place could act as secondary re-enforcers or situational cues that have an impact on the growing PIU symptoms and indirectly cause the continuity of associated symptoms. Thus, the distal contributory causes of psychopathology and situational cues would not be the interest for this study.

Conversely, maladaptive cognition is one of the proximal sufficient causes for PIU symptoms, and since it is closely linked to obsessive thinking about the online world, this results in cognitive preoccupation of GPIU (Davis, 2001). Maladaptive cognitions have been interpreted as negative beliefs about self, environment, and self-environment relations (Davis, 2001; Kaliszewska-Czeremska, 2011). This is supported by the social cognitive theory (Bandura, 1986) which argued that neither nature (biology) nor nurture (environment) is the main influence on human behaviour; instead it is the interaction between both nature and nurture to provide feeling and social experience (i.e. beliefs, self-perceptions and expectations) that influences individuals' behaviour. Examples of maladaptive cognitions or cognitive distortions according to Davis (2001) are "self-focused rumination", "self-doubt", "low self-efficacy" and "negative self-appraisal". The maintaining of the PIU's vicious cycle is caused by self-focused rumination which causes an individual to recall more reinforced memories about the Internet (Davis, 2001). Hence, self-focused rumination of maladaptive cognitions which explains the condition of an individual who keeps on thinking of a specific content, could be used to explain specific pathological Internet use (SPIU) in the model, together with the bi-directional correlation between SPIU and PIU behavioural symptoms, was excluded from this study.

Generalised pathological Internet use (GPIU) involves a general, multidimensional overuse of the Internet which is not only a ruminative cognitive process, but also includes social aspects to reinforce an individual's stay in the virtual social context (Davis, 2001). The above definition of GPIU in Davis's (2001) model could be supported by the social cognitive theory (Bandura, 2001) which explains the influence of evolved factors in human adaptation and change such as the impact of selection pressure of social and technological innovations on the mentioned biological evolution should be explored, rather than implying one-sided evolutionism which outlined that behaviour is only shaped from evolved biology. In simpler words, environmental pressures play an important role in fostering changes in biological structures to the appropriate posture for the optimum development in the bidirectional view of evolutionary processes (Bandura, 2001).

Psychosocial impacts give function to these biological resources and result in various adaptive forms of behaviours (Bandura, 2001). Davis (2001) demonstrated that the social environment of an individual is one of the elements that causes GPIU. Specifically, the lack of social support from family or friends (i.e. social isolation) will result in mood regulation and compulsive Internet use of GPIU (Davis, 2001). Caplan (2010) explained that individuals who have high preference for online social interaction (POSI) of GPIU may try to search for social support sources through the Internet such as comfort and companionship from members of their support network to alleviate affective distress. If the mood is still not satisfied (failure of mood regulation), the individual will ruminatively spend massive time in this virtual context (cognitive preoccupation and compulsive Internet use under deficient self-regulation) either to waste time with no directive purpose or to spend vast amount of time in chat rooms as a form of procrastination to put off their responsibilities (Davis, 2001). Consequently, the normal daily functioning of the individuals will

encounter challenges due to the increase of uncompleted tasks which creates more pressure and thus, causing them to keep on avoiding their own responsibilities. Academic procrastination of a student (negative outcomes) is a good example for this explanation. The process of sub scale of the GPIU explained above can be clearly seen in Caplan's (2010) hypothesised model of Generalised Problematic Internet Use Scale (GPIUS) shown in Figure 1.2.
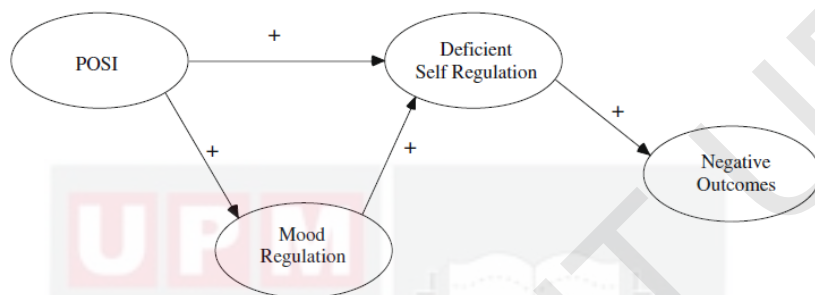
Figure 1.2: Caplan's hypothesized model of GPIUS
[Adapted from "Modelling excessive Internet use: Revision of R. Davis's Cognitive-Behavioural Model of Pathological Internet Use" by Caplan (2010)]

In GPIU perspective, the failure of daily functioning due to excessive Internet usage is enlarged for individuals with cognitive distortion of self-doubt (low self-concept clarity) or low self-efficacy (academic self-efficacy), and these individuals with a negative self-recognition will try to gain more good feedback from others (Davis, 2001). As a result, these individuals will spend a long time online in a non-threatening way such as "I am only good on the Internet" or develop a kind of all-or-nothing thinking, which involves generalising specific matters to the whole world such as "Nobody loves me offline" (Davis, 2001).

The uncontrolled Internet use is regarded as a rewarding behaviour while at the same time seen as a dysfunctional strategy to deal with some unpleasant feelings (mood regulation of GPIU). Thus, individuals who have social anxiety or deficient social skills, or feel lonely (low self-concept clarity and academic self-efficacy) may gain more confidence and feel at ease and peaceful if they interact or build up relationships through the Internet rather than the traditional face-to-face social activities (Caplan, 2010). Caplan (2010) argued that these individuals may develop a heightened POSI as they think and treat interactions in the virtual context as having lower threats, and they perceive themselves to be more sociable when interacting online with others (Caplan, 2003, 2005, & 2007). Any individuals who use the Internet to reduce dysphoric moods will enhance self-reactive outcome expectations that Internet use can minimise one's bad emotions (Caplan, 2010). Similarly, LaRose, Eastin and Gregg (2001) explained that "expectations about the positive outcomes of Internet use…should increase Internet usage" (p. 398). Such idea is similar to

Bandura's (1991) statement that ''anticipative affective reactions to one's own behaviour'' play a central role in the self-reactive process that governs self-regulation (p. 256). The social cognitive theory of Internet use and gratifications also revealed deficient self-regulation as predictors of media behaviour (LaRose & Eastin, 2004). This could be explained as a more complex environmental innovation commonly results in a new selection of pressures for the evolution of cognitive capacities and specialized biological systems for functional consciousness, thought, language and symbolic communication (Bandura, 2001). The existence of Internet environment which provides more social platforms and the changes of individual's cognitive and behaviour along with it, are interesting to be studied.

Human evolution provides bodily structures and biological potentialities, not behavioural dictates. Bandura (2001) explained that an individual's behaviour would be affected by socio-demographic factors which affect psychological mechanisms of the self-system seen through social cognitive theory. This could be explained when the aspirations, sense of efficacy, personal standards, affective states and other self-regulatory influences of an individual are largely influenced by his or her economic conditions, socioeconomic status, educational level and family structures. These are the socio-demographic factors that indirectly produce the behavioural effects on an individual (Bandura, 2001). Thus, by applying the social cognitive theory, personal and family socioeconomic statuses are studied.

In brief, aligned with the social cognitive theory (Bandura, 1986) which argued the interaction between both nature (cognitive) and nurture (environment) in providing feeling and social experience (i.e. beliefs, self-perceptions and expectations) influencing individuals' behaviour (behaviour), the current study has chosen to adapt the cognitive-behavioural model of pathological Internet use (Davis, 2001). However, the current study only focuses on the interaction between maladaptive cognitions (self-doubt and low self-efficacy), lack of social support and behavioural problems of GPIU among users as a result of participating in the unique social context available on the Internet (Caplan, 2002). The aforementioned approach has been utilised to describe the five constructs of GPIU i.e. preference for online social interaction, mood regulation, cognitive preoccupation, compulsive Internet use and negative outcome.

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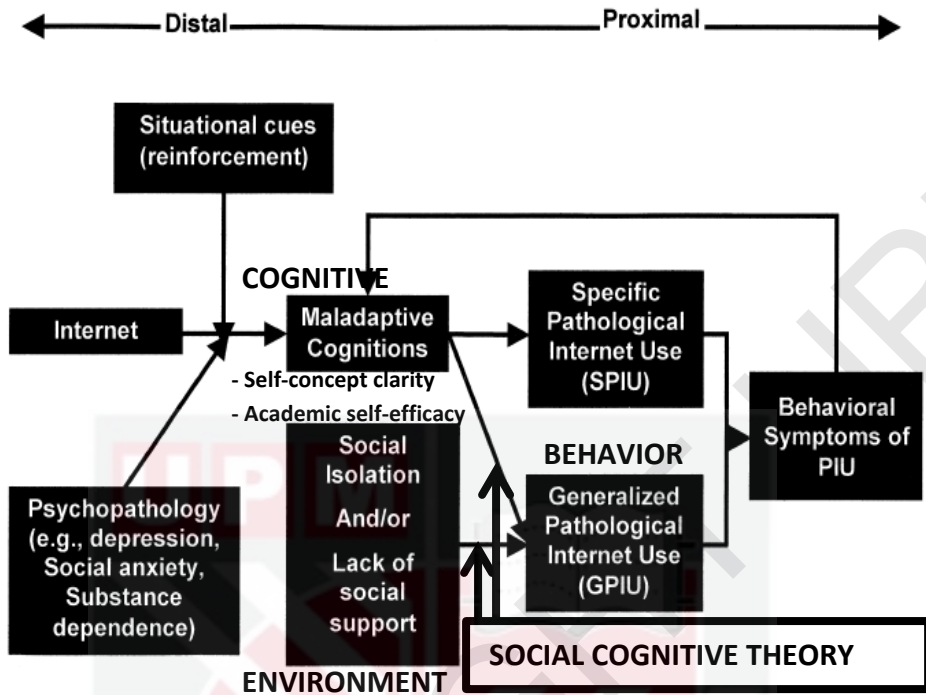
Figure 1.3: Integrated theoretical framework of Davis's Cognitive-Behavioral Model of PIU (2001) and Bandura's Social Cognitive Theory (1986)

1.4   Conceptual Framework

The conceptual framework that exhibits the relationship of the variables in this study is illustrated in Figure 1.2. The conceptual framework shows the relationships of antecedent variables (age, gender, CGPA, number of hours spent on the Internet weekly, age of first access to the Internet, parental educational level, parental occupation and household monthly income), independent variables (self-concept clarity, academic self-efficacy and perceived social support) and dependent variables (generalised pathological Internet use). The study aims to identify the relationships between self-concept clarity, academic self-efficacy, perceived social support and generalised pathological Internet use.
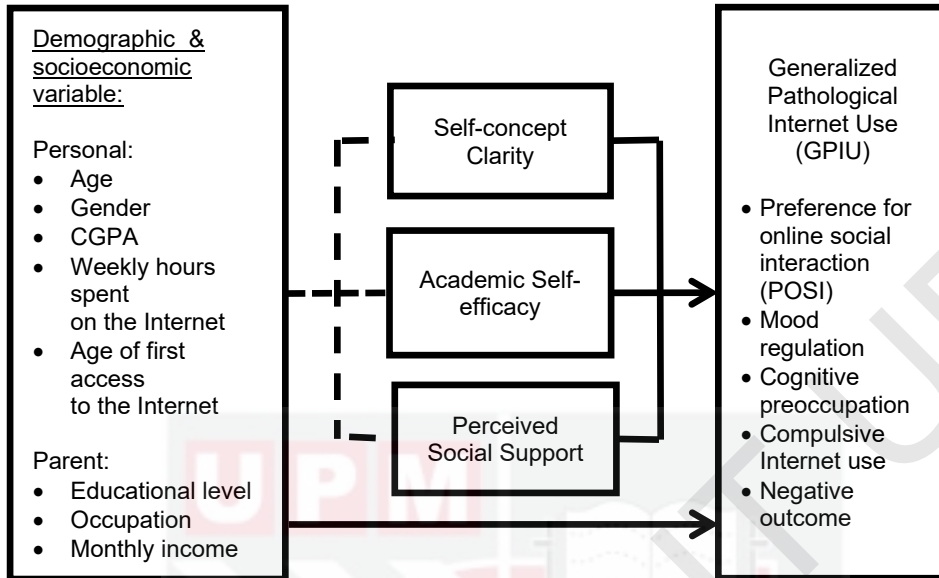
Figure 1.4: Conceptual framework of the relationships between self-concept clarity, academic self-efficacy, perceived social support and generalised pathological Internet use (GPIU)

1.5   Significance of the Study

Problematic use of the Internet is rapidly becoming a significant worldwide issue. Past research have gathered empirical evidence on pathological Internet usage among university students in foreign countries (e.g., Amichai-Hamburger & Ben-Artzi, 2003; Kim, LaRose & Peng, 2009); however, data are scant in Malaysia (e.g., Nurhilyana, Zaid & Aminatul, 2013; Soh, Teh, Hong, Ong & Charlton, 2013). On that account, understanding the relationship between maladaptive cognitions, social support and pathological Internet use among university students in Malaysia is essential as Internet usage continues to gain popularity and has become an integral part of students' life (Fortson et al., 2007). Significantly, this knowledge could benefit the youth and help them to have a better understanding of their developmental characteristics in information-seeking and social comparison in "developing closer relationship" (Erikson, 1997). This knowledge could also be potentially applied as a guide for the authorities, parents and lecturers in preventing the undergraduates from the influence and dangers of being online since the Internet has been excessively utilised for developmental tasks. The findings of this study could also be applied to understand the variations pertaining to adaptability, social relationship and Internet use among university students in Malaysia.

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The current study intends to enrich the understanding of the relationship between self-concept clarity, academic self-efficacy, perceived social support and generalised pathological Internet use (GPIU) among university students in Malaysia. The findings of this research would benefit both students and the universities with regard to the predictors of GPIU among university students in Malaysia and their current GPIU level so that self-examinations on GPIU symptoms could be taken to balance their Internet usage and other life aspects that could affect their psychosocial health. The current research could also potentially be one of the references in the development of intervening ways to increase awareness among undergraduates on GPIU by teaching them the appropriate way of implying perceived social support and ways to enhance their self-concept clarity and academic self-efficacy to promote healthier psychosocial life aspects with good controlling of Internet usage.

1.6   Research Objectives

General objective:

The current study aims to determine the relationships between self-concept clarity, academic self-efficacy, perceived social support and generalised pathological Internet use among university students in Malaysia.

Specific objectives:

1. To describe the distribution of personal characteristics (age, gender, CGPA, number of hours spent on the Internet weekly and age of first access to the Internet) and parental background (educational level, parental occupation and household monthly income) of university students in Malaysia
2. To describe the level of self-concept clarity, academic self-efficacy, perceived social support and GPIU of university students in Malaysia
3. To determine the relationships between self-concept clarity, academic self-efficacy, perceived social support and GPIU of university students in Malaysia
4. To determine the factors that uniquely predicts GPIU of university students in Malaysia

1.7   Research Hypotheses

In line with specific objectives 3 and 4, four hypotheses were formulated.

Objectives 3: To determine the relationships between self-concept clarity, academic self-efficacy, perceived social support and GPIU of university students in Malaysia.

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Ha1: There is a significant negative relationship between self-concept clarity and GPIU among the respondents.

Ha2: There is a significant negative relationship between academic self-efficacy and GPIU among the respondents.

Ha3: There is a significant negative relationship between perceived social support and GPIU among the respondents.

Objective 4: To determine the factors that uniquely predicts GPIU of university students in Malaysia.

Ho1: Self-concept clarity, academic self-efficacy, perceived social support do not predict GPIU among the respondents.

1.8 Definition of Terminology

(a) University students in Malaysia

Conceptual Definition

'University students in Malaysia' refers to students who pursue higher education courses in one of the universities in Malaysia (Ministry of Higher Education of Malaysia, 2011).

Operational Definition

For this study, 'undergraduate students in Malaysia' refers to students who are currently pursuing their degree education in any research university in Malaysia i.e. Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), and Universiti Teknologi Malaysia (UTM). Undergraduate students from Universiti Putra Malaysia (UPM) were only involved in the pilot study.

(b) Self-concept Clarity

Conceptual Definition

Self-concept clarity is defined as the extent to which the contents of the self are clearly and confidently articulated, consistent and temporally stable (Campbell, 1990).

Operational Definition

Self-concept clarity refers to respondents' scores based on the Self-Concept Clarity Scale (SCCS; Campbell, Katz, Lavallee, & Trapnell, 1991). A higher total score indicates a higher level of self-concept clarity.

(c)   Academic Self-efficacy

Conceptual Definition

Academic self-efficacy refers to one's belief that he or she can successfully complete an academic task as an individual (Chu & Choi, 2005; Zimmerman, 1995).

Operational Definition

Academic self-efficacy refers to respondents' scores based on the Academic Self-efficacy Scale (ASES; Yılmaz, Gürçay, & Ekici, 2007). A higher score indicates a higher level of academic self-efficacy.

(d)   Perceived Social Support

Conceptual Definition

Perceived social support refers to individuals' perception that they have others that they can turn to for support (Cohen & Hoberman, 1983).

Operational Definition

Perceived social support refers to respondents' scores of the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988). A higher score indicates a higher level of availability of social support perceived.

(e)   Generalised Pathological Internet Use (GPIU)

Conceptual Definition

GPIU involves a general, multidimensional overuse of the Internet, which might also include a social aspect to reinforce their stay in the virtual social context (Davis, 2001). In the current study, GPIU is compared to SPIU so that the social context of the individual (Davis, 2001) can be included in the study for further analysis.

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Operational Definition

GPIU refers to the respondents' scores in the Generalised Problematic Internet Use Scale 2 (GPIUS2; Caplan, 2010). There are five unique sub-dimensions of pathological Internet use including the preference for online social interaction (POSI), mood regulation, cognitive preoccupation, compulsive Internet use and negative outcomes associated with Internet usage. A higher total score means a higher intensity of the GPIU cognitions, behaviours and outcomes.

1.9   Limitation of the Study

This study emphasised solely on self-concept clarity, academic self-efficacy, perceived social support and generalised pathological Internet use among undergraduate students. Other factors that might also be related to this investigation were not explored.

The participants of this study were undergraduate students in public research universities in Malaysia. Students from Private Higher Educational Institutions (IPTS) and postgraduate students were excluded from this study. Therefore, the findings should be treated cautiously as they do not generalise all university students in Malaysia. Future research should be conducted in a different setting or involve participants from other levels of university studies and backgrounds in order to establish findings that can be generalised.

The instrument used in the current study is not specific enough to measure the generalised pathological Internet use of adolescent or university students, where it serves as a general scale of generalised pathological Internet use for all people. Hence, some of the specific stressors for university students have not been included. There was no systematic assessment or diagnosis employed to diagnose the pathological aspects.

1.10   Chapter Summary

This chapter includes an introduction to the research topic by highlighting the association between self-concept clarity, academic self-efficacy, perceived social support and generalised pathological Internet use (GPIU) among university students in Malaysia.

As for the background of this study, data on the population of Internet users in Malaysia, their usage patterns, differences between Internet addiction and GPIU, correlation between the variables and GPIU, as well as, information that

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undergraduates were potentially GPIUs were elucidated to provide a comprehensive understanding of the topic. This was followed by the problem statement section which outlined several knowledge gaps within the Malaysian context such as the influence of antecedent variables on GPIU which include the, level of GPIU and other predictors, correlation between independent variables (self-concept clarity, academic self-efficacy and perceived social support) and GPIU, as well as predictors of GPIU instead of previous local studies of Internet addiction which did not imply any underlying theories. The problem of GPIU is emphasised on the present-day situation in Malaysia.

An integrated theoretical framework from Davis's Cognitive-Behavioural Model of Pathological Internet Use (PIU) and Bandura's Social Cognitive Theory were introduced and was described in the theoretical framework section. In addition, the conceptual framework was illustrated to introduce the correlation between variables. As for the significance of this study, a better understanding on the developmental characteristics of undergraduates in Malaysia were emphasised to enrich the knowledge and increase awareness on the influence of various factors which may have potentially lead them to become GPIUs.

The total of four research objectives and four hypotheses of the study were outlined based on the conceptual framework, as well as defining the conceptual and operational definitions that were used in this study. As for limitation of this study, the probability of leaving out several factors, weak generalisability of findings due to insufficient study locations as well as lack of systematic assessment or diagnosis on the issue were justified.

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