

IDENTIFICATION OF ADOLESCENT INTERNET ADDICTION THROUGH BAUM TEST AND ITS IMPACT ON STUDENT BEHAVIOUR AND ACADEMIC PERFORMANCE

INDRADEVI A/P P. MARIMUTHU

SULTAN IDRIS EDUCATION UNIVERSITY
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ACADEMIC PERFORMANCE

INDRADEVI A/P P. MARIMUTHU

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ABSTRACT

The objective of this study is to identify the relationship between internet addiction, student behaviour and academic performance of urban secondary school students. This study also aims to examine the prevalence of internet addiction in urban secondary schools. A qualitative research design was used to answer three research questions. Three sets of instruments were used to identify internet addiction and to measure its impact on student behaviour and academic performance. Purposive sampling was used to select ten F4 students as respondents. The non-verbal projective test was interpreted using hermeneutic science. The findings of the data analysis of the Internet Addiction Test (IAT) showed only 50% had mild to moderate addiction. However, the findings of the Loganathan and Sivakumar's Baum Test (LSBT) test showed 90% had mild to severe addiction. The LSBT projective test provided more information as it accesses the unconscious mind whereas the IAT questionnaire is answered using the conscious mind. In conclusion, this study proposes that the impact of internet addiction is not always negative as the respondents who have internet addiction in this study do not have discipline problems in school. On the contrary this group of students showed high levels of self-discipline and good academic results. The implication of this study is internet addiction can be identified early and intervention can be done to help those who are addicted to the internet. The study has provided a new insight into students who habitually use excessive internet. Teachers can use this information to encourage the use of the internet in a positive manner. School counsellors can use the LSBT to get a better understanding of the students' discipline problems so that they can be counselled and advised correctly.



PENGESAHAN KETAGIHAN INTERNET MELALUI UJIAN BAUM DAN IMPAK TERHADAP PEMBELAJARAN DAN DISIPLIN SEKOLAH

ABSTRAK

Kajian ini bertujuan untuk mengkaji hubungan antara ketagihan internet, disiplin pelajar dan pencapaian akademik pelajar. Kajian ini juga mengesan kelaziman ketagihan internet di sekolah menengah di bandar. Reka bentuk penyelidikan kualitatif digunakan untuk menjawab tiga soalan kajian. Tiga jenis instrumen telah digunakan untuk mengesan ketagihan internet dan kesan terhadap disiplin dan pembelajaran pelajar. Dapatan kajian Internet Addiction Test (IAT) menunjukkan hanya 50% menunjukkan ketagihan internet tahap ringan dan sederhana. Manakala dapatan kajian ujian Loganathan and Sivakumar's Baum Test (LSBT) menunjukkan 90% mengalami ketagihan internet tahap ringan dan parah. Perbezaan pada dapatan kajian disebabkan ujian projekatif LSBT boleh mengakses minda tidak sedarkan diri tetapi soal selidik IAT pula dijawab hanya dengan menggunakan minda sedar. Kesimpulannya, kajian ini menjelaskan bahawa ketagihan internet bukan hanya memberi impak negatif kepada para pelajar. Ini kerana responden yang mempunyai ketagihan internet dalam kajian ini tidak mempunyai masalah disiplin di sekolah dan menunjukkan tahap disiplin diri dan keputusan akademik yang tinggi. Implikasi kajian ini ialah ketagihan internet boleh dikenal pasti pada peringkat awal dan kaunseling boleh diberikan kepada pelajar untuk mengubah tabiat mereka. Implikasi pada para guru ialah mereka boleh menggunakan dapatan kajian ini untuk menggalakkan penggunaan internet dengan cara yang positif. Kaunselor sekolah juga boleh menggunakan LSBT untuk mendapatkan pemahaman yang lebih baik mengenai masalah disiplin pelajar supaya mereka dapat dinasihatkan dengan betul.

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LIST ABBREVIATIONS

AADK	National Anti-Drug Agency
ADHD	Attention Deficit Hyperactive Disorder
CBT	Cognitive Behavioural Therapy
CBT-IA	Cognitive Behaviour Therapy for Internet Addiction
CCA	Co-curricular Activities
CIU	Compulsive Internet Use
CIUS	Compulsive Internet Use Scale
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
EPF	Employee Provident Fund
GPA	Grade Point Average
HRT	Harm Reduction Therapy
IA	Internet Addiction
IADQ	Internet Addiction Diagnostic Questionnaire
IAT	Internet Addiction Test
ICT	Information Communications Technology
IoT	Internet of Things
IRABI	Internet-Related Addictive Behaviour Inventory
ISIA	International Society of Internet Addiction
JARING	Advanced Integrated Networking Company

LSBT	Loganathan and Sivakumar's Baum Test
MaGIC	Malaysian Global Creativity and Innovation Centre
MCMC	Malaysian Communications and Multimedia Council
MIMOS	Malaysian Institute of Microelectronic Systems
MOE	Ministry of Education
MOHA	Ministry of Home Affairs
MSC	Multimedia Super Corridor
MySIA	Malaysian Society of Internet Addiction Prevention
NGO	Non-Government Organisation
NITA	National IT Agenda
NITC	National Information Technology Council
PIU	Pathological Internet Use
Rangkom	<i>Rangkaian Komputer Malaysia</i>
SMS	Social Media Sites



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- A The Compulsive Internet Use Scale (CIUS)
- B Internet Addiction Test (IAT)
- C Local Structure Analysis of The Crown, Trunk and Root
- D A Sample LSBT



CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter will provide background information on the social problems among adolescents in Malaysia. It will also touch on the problem statement and research objectives as well as research questions and the conceptual framework. In addition, the significance of the study conducted, the limitations and scope of the study will also be discussed in this chapter. A list of the conceptual and operational definition of terms will also be provided in this chapter.

1.2 Background of Study

Delinquency among adolescents in Malaysia is on the rise. According to Mallow (2015), juvenile delinquency is an act by a young person that violates the law in the country. The Ministry of Home Affairs (MOHA) has released statistics in 2014, which



says that there is an increase in the number of juvenile crimes involving children between the ages of 8 and 15 years old. The statistics from MOHA shows that the number of delinquency cases has increased from 3,399 cases in 2012 to 8,704 cases in 2014. This is just the reported cases and there are many cases that go unreported. Some examples of delinquency among adolescents in Malaysia are murder, rape, armed gang robbery, theft of vehicles, snatch thefts and substance abuse. These juvenile delinquency cases are considered as criminal misconduct and the offenders can be put in prison or even charged in court for rape and murder. Juvenile offenders are those offenders who are under the age of 21. According to Department of Statistics Malaysia (2016), there were 4,569 juvenile offenders in 2015. The Malaysian Prison Act 1995 says that juveniles between the ages of 14 and 21 can be detained by the Malaysian prison.



Juvenile delinquency also includes adolescent misconduct in school such as breaking the school rules and regulations. This is more commonly referred to as school discipline problems. A few examples of discipline problems are assaulting other students and teachers, use of abusive and offensive language, intimidation of students and teachers as well as the use of threats. However, the focus of this study is on the disciplinary problems in schools such as truancy, absenteeism, stealing, smoking, vandalism and bullying. According to Mahmud et al., (2019), discipline problems especially truancy is a major problem in secondary schools in Malaysia. The process of teaching and learning is often disrupted in a classroom due to these discipline problems. In addition, it also causes stress to the teachers, parents, education authorities and other students as it can affect the education of many innocent students.



The education authorities are very concerned and want a high discipline level to be maintained in schools. This is to allow the teachers to teach well and to enable the students to acquire knowledge in a safe environment. However, it is becoming increasingly more difficult to maintain the discipline in schools. Teachers are spending more time in disciplining the students and maintaining class order than in teaching the subject matter. There are many factors that cause discipline problems in schools.

According to Mydin, Kuthoos, Endut and Selamat (2016), the relationship between parents and their adolescent child is an important contributing factor to delinquency in schools. Adolescents who come from broken families where parents are divorced, and one parent has remarried face many problems in their homes. They are often beaten and abused by their biological parents as well as their stepparents. Thus, these adolescents turn to their friends for help and comfort. They eventually run away from their homes and end up either in rehabilitation centers or prisons.

Adolescents are very much dependent on their group of friends for company and social life. They tend to follow their friends' bad habits and negative behaviour to be part of the group and to be accepted as one of them. According to Abdullah, Salim and Arip (2018), peer pressure is the main factor that contributes to the problem of truancy among secondary school students. Students from low socio-economic status and those with problems in the family seek out their peers for support and companionship. Thus, those who mix with the wrong peer group get entangled in the school discipline problems as well as social problems.

Another factor is the student's inability to cope with the tasks given in school. A student who can't understand the subject taught in class or has difficulty in



completing the written work will express himself by being difficult in class. He might be extremely noisy, refuse to attend class or even skip school and stay at home.

According to Ishak and Fin (2015), the level of competency and the personality of a teacher is another factor that can contribute to discipline problems especially truancy. The student's perception of the teacher's ability to control the class, the support given by the teacher and the teacher's level of motivation can influence the student's negative behaviour. A student who knows that the schoolteachers have a genuine interest in his welfare and are doing their best for him will not create discipline problems in school.

According to Cheng and Kadir (2018), highly committed teachers will contribute to the school's success in producing excellent students. They will also be more concerned in creating a conducive learning environment as well as curbing discipline problems. In addition, a conducive school environment and proper facilities can motivate a teacher to be more productive and dedicated to the school.

A new problem emerging in schools is the excessive use of the internet. Students use the internet for communication with friends and family, for entertainment, for academic research and to access their social media. Students find it easy to communicate through social media such as WhatsApp with their friends and family as they can directly speak to each other online, share photos, have face to face communication and teleconference.

Students also entertain themselves by playing online games either individually or with their friends. These activities can become addictive. In addition, social media



applications such as WhatsApp, Instagram, Facebook and Twitter are used by students very freely to communicate with their friends, to upload photos and to share their locations. These online activities can lead to excessive use of the internet and eventually to internet addiction.

According to Paynter and Lim (2001), the internet was introduced in 1995 and internet hosts were set up all over Malaysia in 1996. In the early stages, the internet was mainly used to send emails and to connect with people from around the world. Over the years, with new technology developments, the internet has developed into a powerful communication tool.

According to Judi, Ashaari, Zin and Yusof (2013), Malaysia has one of the highest numbers of Information Communications Technology (ICT) users. The Internet World Statistics (2012) reported that out of 29.2 million Malaysians, 17.7 (60.7%) million were internet users. This percentage is very high as compared to the Philippines (32.4%), Thailand (30%), Vietnam (33.9%) and Indonesia (22.1%). This high percentage can be attributed to the efforts taken by the Malaysian government to make Information Communications Technology (ICT) available to the public to raise the computer literacy and to promote k-economy which is an economy based on knowledge.

The target group was school children, where computer infrastructure was improved, and computers were provided to schools even in rural areas. According to Judi et al. (2013), school children in selected rural areas were even given free notebooks by the government. This provided adolescents the opportunity to use the internet at a very early age and this caused concern and worry among teachers and parents as they



noticed a change in the behaviour of the children. Furthermore, 1Malaysia Internet Centre and 1Malaysia Wireless Village were set up to provide internet services to rural areas. Thus, it led to an excessive use of ICT and the internet, even in rural areas.

According to Abd Rahman Shah et al. (2018), juvenile delinquency is also caused by the negative impacts of the internet. Juveniles who are addicted to the internet and are active in the social media might do acts such as cyber bullying, identity fraud, cyber stalking and other cybercrimes without being aware that they are actually committing a crime. Abd Rahman Shah et al., (2018) also say that with the development in information technology juvenile delinquency is no longer restricted to those from the lower social status group only, but also include those from professional families.

The Star (Friday, 7th October 2016) has reported that there is a rise in internet addiction among adolescents in Malaysia. According to the report, a 14-year-old boy in Cyberjaya loved gaming so much, that he did not leave his home for half a year until his parents hauled him to therapy sessions for internet addiction. The Star also mentioned a research, led by child psychologist and International Society of Internet Addiction (ISIA) spokesperson, Dr. Norharlina Bahar, which revealed that 37% of Malaysian parents felt their children's online life was interfering with their home and school obligations while 18% said their children were sacrificing basic social activities for the internet.

According to Awaluddin et al., (2019), internet addiction is a new problem among adolescents in Malaysia and it needs to be addressed as a public health issue because internet addiction can affect their growth into adulthood. Awaluddin et al., (2019) say that the prevalence of internet addiction among university students and





adolescents is between 23% to 43%. They said that in Malaysia all urban homes have internet access, thus making it easy and convenient for adolescents to use the internet. Awaluddin et al., (2019) found that lack of parental supervision on their children's whereabouts and activities was a factor contributing to internet addiction among urban adolescents.

According to Abd Rahman Shah et al., (2018), almost 20.1 million internet users in Malaysia are the younger generation. Many of these adolescents who are as young as fifteen years old own a smart phone. Abd Rahman Shah et al., (2018) also said adolescents lack real social contact due to their addiction to online games and social media on the internet. Thus, they will be unable to develop soft skills such as communication skills as well as lack in real life experiences.



In conclusion, we can say that there are many discipline problems such as bullying, drug abuse, gangsterism, sexual exploitation and vandalism. Internet addiction, a new social problem is also on the rise among school adolescents in Malaysia and it is fast becoming the source of many discipline problems in schools. The many incentives provided by the government to encourage the use of computers and the computer infrastructure provided, has led to this new social problem.





1.3 Problem Statement

School discipline problems are on the rise in Malaysia. A significant number of parents, teachers, and educationists in the country are very concerned of the possible negative effects on our school students. Some of the discipline problems in schools have become very severe and have become criminal offences. The records from the Malaysian Ministry of Education (MOE) say that in 2017, truancy was the number one discipline problem in secondary schools (Mahmud et al., 2019). Mahmud et al., (2019) say that students express their failures and disappointments in school through truancy.

The rising discipline problems in schools has prompted many researches to be done on this issue. However, most of the research focused on the types of discipline problems and the factors that caused the discipline problems. There is a research gap on the impact of internet addiction on school discipline problems. This research will look at the impact of excessive internet use on the occurrence of discipline problems in schools.

According to Abdul Aziz, Wan Ismail, Bahar, Mahadevan, and Azhar Shah (2018), internet addiction is prevalent in many Asian countries. They did a study on 199 adolescents in the Klang Valley and found that 49.2% were addicted to the internet. However, they used convenient sampling, thus the finding may not truly represent the correct scenario. Abdul Aziz et al., (2018) say that the prevalence on internet addiction is increasing in Malaysia. This is due to easy access to the internet, lack of parental control, unsupervised adolescents left alone at home, long hours spent online and easy access to computers, laptops and mobile handphones.





According to Omar, Saharuddin, and Bolong (2019), youths who are addicted to the internet are anti-social, have poor academic performance level, face discipline problems in school, experience loneliness and lack motivation in life. In addition, the youths who spend too much time online do not spend time with their families and friends. Thus, youths are recommended to be active in extra-curricular activities, be part of volunteer programs and to participate in other community activities. This will enable them to interact with others. As internet addiction also produces poor academic grades among youths, Omar et al., (2019) recommend good time management such as setting up a timetable to ensure daily responsibilities such as studies and work are not neglected.

According to Talwar et al. (2019), it is ironical that even though the internet is needed as a tool to enhance learning, students who overuse the internet also suffer the negative effects of excessive internet usage. School discipline problems and poor academic performance are among the negative effects. Talwar et al., (2019) recommended that immediate action must be taken to help students who display signs of internet addiction. This will improve their academic performance and reduce discipline problems in schools.

According to Ming, Shi, and Taha (2020), social networking provides a quick and convenient way to communicate with friends and family. It has become an important part of an adolescent's life and it can expose them to danger if they are not aware of the risks involved in using social networks. The dangers include cyberbullying, blackmailing by using the online photos of the adolescents, sexting, disclosure of personal details and social scams. Their study found that Malaysian secondary school adolescents are aware of the general risks and dangers in using social





networks such as viruses and identity theft. However, they are not aware of privacy issues and are happy to share their passwords with others, post selfies, photos and personal information in Facebook and are not aware that it is impossible to be anonymous in the internet. Ming et al., (2020) however have found that adolescents know that cyberbullying, sexting, and online harassment are bad and are able to take action to protect themselves. They also say that teachers and parents should be educated on how to protect their students and children from dangers of social networking. In addition, adolescents should be taught how to protect themselves against cyberbullying and harassment through awareness programmes and seminars.

According to Ming et al. (2020), two recent studies have been done on cyberbullying. The first study was done in 2018 by Sarina et al., on 378 students aged between nine and 16 years old. The study findings revealed that most of the students in the study had been mildly cyberbullied at least once in the last one year. It also mentioned that severe cases of cyberbullying were rare. The second study was done in 2015 by Balakrishnan on 393 young adults between the ages of 17 and 30 years old. The study revealed that cyberbullying continues even into adulthood and the younger respondents experienced more cyberbullying than the older respondents especially if they spent longer hours on the internet i.e., between two to five hours daily. These studies were focused only on cyberbullying and did not study the negative effects of internet addiction.

According to Teong and Ang (2016), research was done on university students in East Malaysia where it was found that facebooking and social networking were the favourite activities and shopping was the least favourite. Their data was obtained from 287 students from various disciplines through a survey questionnaire. According to





Teong and Ang (2016), most of the studies done in Malaysia are like the one done in East Malaysia, where they mainly analyse the usage of the internet by students and their capability of using the internet for their academic enhancement. Teong and Ang (2016) say that long hours of internet usage and extreme indulgence in interactive activities can cause internet addiction. Thus, a comprehensive study on students' internet usage is necessary to identify internet addiction in Malaysia.

Tee et al., (2019) conducted a study on medical undergraduate students in a private university in Malaysia and concluded that social media addiction can cause unhealthy narcissistic behavior. They recommended that students should participate in healthy activities such as sports, music and reading instead of only being active in social media. Social media sites such as Facebook, Snapchat and Instagram enable students to enhance their egos by allowing them to post ego inflating stories and photos of themselves. The positive responses and comments by their followers and friends give the students a false sense of intelligence, power and physical attractiveness. Tee et al., (2019) also said that those who self-idolize in the social media do not establish close relationships with others and show less empathy as they have low self-esteem.

This research is different from the previous studies done on internet addiction, school discipline problems and academic performance. Previous studies have mostly used the quantitative research design and used questionnaires to investigate the types of internet usage and focused on the negative effects of the internet. This research will use a qualitative research design and use a projective test to identify internet addiction among adolescents. In addition, this research will investigate the impact of internet addiction on the respondents' school discipline and academic performance.





In conclusion, discipline problems in schools are increasing and internet addiction is also prevalent among students in Malaysia. According to research done on Malaysian university undergraduates and adolescents, those who spend long hours on the internet do not have good academic results. This research is different from all previous studies as it uses a projective test to identify internet addiction. It also investigates the impact of internet addiction on discipline problems and academic performance.

1.4 Research Objectives

The objectives of the research are to analyse the prevalence of internet addiction and the impact of internet addiction on the discipline problems as well as academic performance of the respondents. The objectives of this research are:

- i. To identify the characteristics of internet addiction through Loganathan and Sivakumar's Baum Test in adolescents in urban secondary schools.
- ii. To identify internet addiction through hermeneutic analysis of the Loganathan and Sivakumar's Baum Test done by the adolescents.
- iii. To investigate the impact of internet addiction on the discipline and academic performance of respondents.

1.5 Research Questions

The research questions of the current study, which aims to investigate the prevalence of internet addiction and the impact of internet addiction on the respondents' discipline as well as academic performance are as follows:



- iv. What are the characteristics of internet addiction identified through Loganathan and Sivakumar's Baum Test in adolescents in urban secondary schools?
- v. How is internet addiction identified through the analysis of the Loganathan and Sivakumar's Baum Test?
- vi. What is the impact of the internet addiction on the discipline and academic performance of respondents?

1.6 Conceptual Framework

The conceptual framework of the research explains the relationship between the main concepts in the research. The two main concepts are the text and the meta-text. There are three texts in this research: Internet Addiction Test (IAT) questionnaire, Loganathan and Sivakumar's Baum Test (LSBT) and the school records. The IAT questionnaire identifies internet addiction. The higher the score the more severe the internet addiction. The first section of the questionnaire will also provide personal details of the respondents and their usage of the internet.

The LSBT, a projective test will be used to disclose the information in the unconscious. This is done by asking respondents to draw four fruit bearing trees. Hermeneutic science of interpretation will be used to interpret the features of the trees drawn. The surface structure i.e., the different parts of the tree such as the leaves, fruits and trunk will be interpreted to understand the deeper meaning projected from the unconscious. This hermeneutic interpretation will identify internet addiction among the respondents.

The analysis of the school records will show the impact of internet addiction on the respondent's discipline and academic performance. The school discipline record will

provide information on the discipline issues of each respondent. The respondents' school academic report will provide information on the marks and the grades obtained by the respondents. This analysis can help to identify if the respondents have achieved good, mediocre or poor academic performance. The respondents' involvement in co-curricular activities and leadership roles will also be analysed. The analysis of the questionnaire, the LSBT and the school records will provide a new understanding which is known as the meta-text. Figure 1.1 shows the conceptual framework.

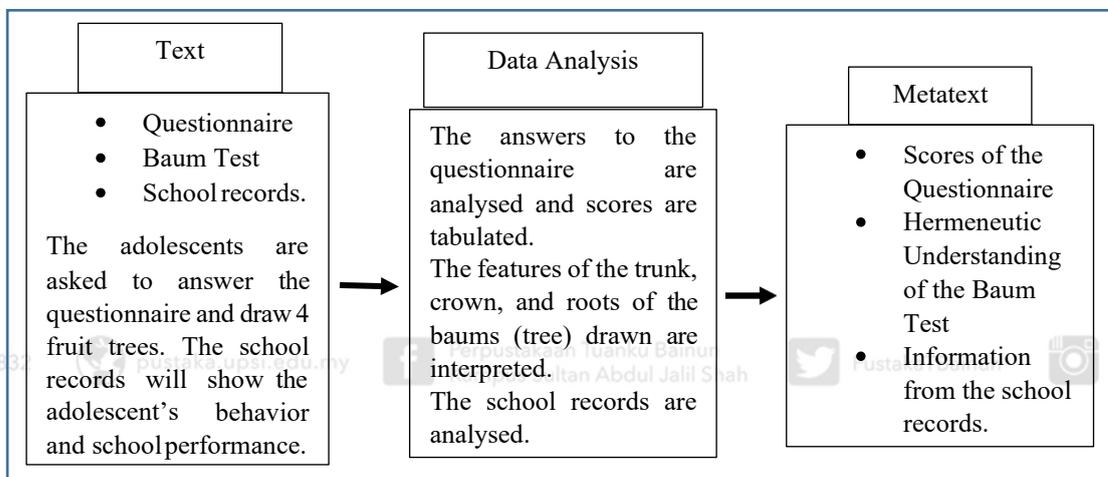


Figure 1.1. Conceptual Framework of This Study

1.7 Significance of The Study

According to Carlisle, Carlisle, Polychronopoulos, Goodman-Scott, and Kirk-Jenkins (2016), internet addiction is fast – becoming a global problem with no proper diagnostic criteria and assessment tools. The term Internet Addiction Disorder was first introduced by a psychiatrist, Ivan Goldberg in 1996. Since then, many researchers, journalists and reporters have written and done studies on internet addiction.



In Malaysia, very few studies have been done on internet addiction especially on adolescents. Adolescents being the nation's future leaders, need to be nurtured into exemplary young healthy adults. However, there is a rising concern in their behaviour in relation to school disciplinary problems and academic performance. According to Abd Hamid et al. (2015), there is an alarming rate of social misconduct among Malaysian adolescents and they have done a study to identify at-risk behaviours among secondary school students. They found that the main at-risk behaviours were alcohol consumption, substance abuse, premarital sex, teen pregnancy and abortions. They have however, suggested that future research be done on social media addiction. In addition, it has been reported that, many adolescents have free access to the internet and are very active social media participants. Thus, this study on internet addiction and its impact on school discipline problems is significant.



Adolescents who have a strong need to find their own identity and to be close to their peers tend to succumb to peer influence and engage in internet activities. According to Judi et al. (2013), a survey on 1530 Malay students was conducted and it showed that friends and media have a negative effect on an adolescent's behaviour. It is worse for adolescents who have temperament and personality profiles, such as low self-esteem and anger issues as they are more vulnerable to internet addiction. This study on internet addiction, can further help to identify existing psychosocial problems which lead to internet addiction. With early detection, help and advice can be given to these adolescents to prevent internet addiction.

Another significance of this study is it can provide some empirical data on the prevalence of internet addiction among adolescents. Now there is not much data on the prevalence of internet addiction among secondary school students. As this study is





focused on urban secondary school students it will provide some data on the level of internet addiction and its impact on discipline problems as well as academic performance.

Another significance of this research is the use of LSBT to collect data. The data analysis of LSBT through hermeneutic science will not only disclose the number and level of internet addiction but also give details on why they are addicted to the internet as it reveals the contents of the unconscious mind. The adolescent can then be advised and made to realize the nature of their addiction. Thus, he will realize his problem and try to change his habits. This internal change in himself will enable him to make a lasting change to his behaviour and control his internet usage. Thus, he will use the internet only for his academic and research purposes. This will help the adolescent to perform better academically and provide him with an opportunity to pursue a career of his choice.



This study will also be useful to counselors and teachers in secondary schools. According to Orhan Iyitoğlu and Çeliköz, (2020), students who are addicted to the internet have poor academic grades and cause discipline problems in the school. The school counselors who handle such problematic students need to be observant and be aware of the underlying problems such as internet addiction. In addition, it has been found that students who are addicted to the internet are also addicted to substance such as alcohol, drugs and cigarettes. As such, this study can help school counselors to identify the root cause of these problems and be better equipped to help these students in school. Expelling them from school is not the best solution to this problem.

Teachers too will be more vigilant once they are aware of the impact of internet addiction on school discipline problems in secondary schools. They will be able to



identity compulsive internet use by observing student behaviour as well as noticing their physical state during lunch and break times. They can then try to put a stop to the

problem at the infant stage itself. School counselors and teachers can also share their knowledge with parents through workshops and seminars. Parents can be taught simple techniques to monitor internet usage at home. In addition, the school counselors can organise meetings with students to inform them about internet addiction and to educate them on strategies to prevent internet addiction so that they can always maintain good discipline in school.

This study is also significant as it is useful to Non-Government Organisations (NGO). NGOs can help these adolescents who are addicted to the internet. They can provide better support to these adolescents once they are aware of the severity and widespread existence of internet addiction. They can teach adolescents ways to be responsible users of the internet and to take care of themselves. An example is the Malaysian Society of Internet Addiction Prevention (MySIA), an NGO established in 2017, which is committed to spreading awareness and encouraging healthy use of the internet. MySIA has set up a Facebook page where information is disseminated, and good articles are shared to stop internet addiction.

In addition, this study can also be useful to the National Anti-Drug Agency (AADK). The United Nations Office for Drugs and Crime has introduced the internet as a preventive measure in handling drug abuse. This is an attempt to replace the drugs with a better activity for the adolescents. This study can create an awareness of the problems associated with the internet, so that proper guidance is given to those in the programme. According to the United Nations Office on Drugs and Crime (2003), the



Global Youth Network Project and Prevnet Network had collaborated and worked with people who were already using the internet as a drug abuse prevention method. AADK can learn from this example and introduce internet as a preventive measure as the internet is an exciting experience for adolescents. In addition, it is a creative and effective method to prevent drug abuse. This study on internet addiction and its impact on school discipline as well as academic performance will help AADK plan the internet programme to be used so that the internet is used wisely to curb drug abuse.

This study will also encourage schools and institutions of higher learning to implement internet literacy as part of their learning. Internet literacy teaches students technology literacy and information literacy. Technology literacy focuses on the skills in using a computer, managing databases and software. Information literacy focuses on the skills in getting the needed information from the internet and evaluating it before using it. According to WU Wenying & CUI Fangying (2018), internet literacy is an important factor in reducing internet addiction among young people. Internet literacy teaches young people the skills to use technology in the proper way to enhance their academic learning. It also teaches students to identify the information which is needed and use it appropriately for academic purposes. WU Wenying & CUI Fangying (2018), also say that internet literacy can improve students' quality of life as it prepares them for lifelong learning and better careers.

In conclusion, this study can be used to help adolescents face the problem of internet addiction and reduce its impact on school discipline problems as well as academic performance. The findings of this study can provide information to schoolteachers and school counselors which will help them to deal with the many disciplinary problems they face in schools. They can organise get-togethers with



parents and guide them to handle the problems faced by their children in a better way. In addition, AADK can use the information from this study to plan effective and wise use of the internet in curbing drug abuse. NGOs also can benefit from this study as they can use this information to spread awareness among adolescents and conduct effective programmes both for parents and their children. It will also encourage the introduction of internet literacy in schools and institutions of higher learning.

1.8 Limitations of The Study

This study's limitations are mainly focused on the data acquired for analysis. One of the limitations is getting truthful answers to the IAT questionnaires given to the students. The validity of the answers given by the students is questionable as they might have deliberately given the wrong answer to avoid detection. As a result, the number of students identified with internet addiction based on the questionnaire might not represent the actual number of students addicted to the internet. This can be rectified by explaining to the students the significance of the study and the importance in giving correct and true answers. The students should be advised that internet addiction is a problem that can be resolved by using the right approach.

The use of a projective test to confirm the prevalence of internet addiction among secondary school students may pose a few limitations. Firstly, the projective tests must be administered properly and with no bias to obtain the best results. If the LSBT interpreter is biased and tries to influence the respondents' drawings the data obtained will not reflect the true unconscious mind. This limitation can be addressed by



not commenting on the drawings and not speaking to the respondents when they are drawing. Secondly, the respondents must draw the trees following the instructions as closely as possible and draw the trees in the correct sequence. They need to project their unconscious mind onto the A4 paper. The limitation here is the possibility that they might not truly express their unconscious thoughts. Hence, this will not give a true picture of what is in their unconscious. As a result, the data collected and analysed will not be accurate and the analysis will not be true. This limitation can be overcome by giving clear instructions to the respondents. Thirdly, the tree drawings need to be interpreted as accurately as possible and with no biasness. This limitation can be overcome by using Sivakumar's principles of interpretation.

In conclusion we can say that the study has its limitations. However, these limitations can be overcome or at least minimized with the correct approach and technique. The data collection and interpretation need to be done as carefully and accurately as possible to get reliable findings. Furthermore, it is important to record the raw data and the analysis of the data as accurately as possible.

1.9 Conceptual and Operational Definition of Terms

A few conceptual and operational terms have been used in this research. A conceptual term refers to an idea or concept that is formed in the mind. A conceptual definition explains what a concept means. An operational term refers to the way a variable is measured. An operational definition explains how a variable is measured. A few of the





important conceptual and operational terms used in this thesis are explained in this section.

1.9.1 Conceptual Definition of Terms

1.9.1.1 Adolescents

Adolescents are teenagers between the ages of 13 and 19 years. They are stepping into adulthood from childhood. This is a transitional phase where they undergo rapid physical and emotional changes. They grow taller, bigger and attain puberty. They also experience many emotional challenges and feel a need to establish their own identity.

During this time, they are willing to try out anything which is challenging just to be part of a peer group or just in defiance of adults, especially their parents. Adolescents do not like to be controlled or take instructions from their elders. According to Feng, Ma, and Zhong (2019), adolescents are learning to be independent and are breaking away from their parents and peers. Adolescents are attracted to the internet as it helps them to form an identity of their liking and keep it a secret. They can also form new relationships in secret. In addition, the internet enables them to communicate with their friends and relatives in an interesting and interactive manner. Feng et al., (2019) also say that the internet has a negative effect on the adolescents learning and academic performance. Adolescents who are addicted to the internet may have discipline issues in school as they are easily influenced by their peers and the internet. According to McNicol and Thorsteinsson (2017), adolescents who are highly stressed, have anxiety issues or are going through a depressive period in their lives are also overusing the





internet. This is especially true for adolescents who find it difficult to cope with the events in their lives. The internet is an escape mode for them.

1.9.1.2 Internet Addiction

Internet addiction can be defined as an impulse-control disorder which does not involve addiction to a substance. It is a behavioural disorder in which the individual uses the internet more than normal. According to Neverkovich et al., (2018), internet addiction is an addictive behaviour. It is a desire for a pleasant emotional feeling which releases serotonin, a brain hormone. This hormone reduces the physical needs in an individual such as sleep and meals. Neverkovich et al., (2018), say that the internet provides a way for the adolescents to act without restrictions and control. Thus, they do not need to behave according to social expectations. Adolescents also get the emotional support which is lacking in their real society from their online friends. Thus, the adolescents are inclined to spend more time on the internet even though they are aware of the negative effects. According to McNicol and Thorsteinsson (2017), internet addiction causes an adolescent to have poor academic performance and discipline problems in school.

1.9.1.3 Hermeneutic Science

Hermeneutic science is an interpretative science which has been used for many years to interpret biblical texts, judicial texts, and classical texts. There were specific rules to guide the interpretation of these canonical texts which are authoritative in nature such





as the Bible and the law. However, over a time of 150 years, hermeneutic science has been transformed to include the interpretation of all types of communication between humans, all kinds of written texts, verbal texts, and non-verbal texts. This is now known as modern hermeneutics and was introduced by Friedrich Schleiermacher, the Father of Modern Hermeneutics. According to Suddick, Cross, Vuoskoski, Galvin, and Stew (2020), Heidegger considered hermeneutic science a method to interpret and understand human existence. He introduced the concept of hermeneutic circle where the understanding of the whole text is important for the interpreter to understand parts of the text and the understanding of parts of the text is important for the understanding of the whole text. This means the hermeneutic interpreter will first interpret the whole text, then use this understanding to interpret parts of the text. He will then use the understanding of parts of the text to interpret the whole text. This process will be repeated until the hermeneutic interpreter gets a clear meaning and a consensus is reached on the meaning of the text. According to Vladutescu (2018), the essence of hermeneutics is the agreement on the subject at hand be it worldly matters or matters of philosophy. There are six steps in interpreting a text hermeneutically. The first step is to acknowledge that there is a problem to be addressed. The second step is to realise that the goal of hermeneutic process is to have a consensus in understanding the interpretation. The third step is to realise the importance of using a common language and having mutual agreement when interpreting a text. The fourth step is to have a preliminary understanding of the text and then to acknowledge the understanding of the deeper structure. The fifth step is to relay the interpretation of the text as accurately as possible. Finally, the sixth step is to be open-minded when interpreting the text and ignore personal prejudice on the text. According to Vladutescu (2018), the six steps will enable the interpreter to interpret a text correctly.





1.9.1.4 Discipline Problems

According to Sadik (2018), discipline problems are common in schools. They disrupt the learning environment in a school and create an unpleasant teaching and learning environment both for the students and the teachers. Teachers as the dominant persons with power, usually punish the undisciplined students. However, punishment does not solve discipline problems, in fact it may cause a repeat of the same discipline problem. According to Mahmud et al., (2019), truancy is the number one discipline problem in Malaysian schools despite many preventive measures taken by the education authorities, teachers and parents. In fact, Mahmud et al., (2019) say that adolescents express their disappointment in school through truancy. Punishment enforced on these students will only make the students lose interest in school and increase the prevalence of truancy. According to Sadik and Yalcin (2018), good discipline in the classroom creates a positive teaching and learning environment for the students. Disciplining students does not mean strict enforcement of school rules, as it can lead to passive student participation and extremely silent students. It is an educational process where students are taught the importance in following school rules and a sense of responsibility is instilled in them to behave well.

1.9.1.5 Triangulation

Triangulation refers to the use of more than one method for collecting data especially in a qualitative research methodology. According to Noble and Heale (2019), triangulation is used to increase the validity and reliability of the findings in qualitative





research. Triangulation helps to eliminate biasness that can arise from the usage of a single method to collect data. It also helps to explain the findings of the data in a balanced and non-biased manner. According to Burgess and Murcott (2014), triangulation refers to mixing different types of data or different types of methodology in explaining research finding. They say that both quantitative and qualitative research methods can be mixed and used in a social science research. According to Burgess and Murcott (2014), triangulation in methodology helps the researcher to have a deep understanding of his findings. In this study however, data triangulation is used to collect data from the same sample as it is a qualitative study. Three different instruments are used to collect data from the same sample. This will help to validate the findings of this study.



1.9.2 Operational Definition of Terms

1.9.2.1 Projective Tests

Projective tests are tests used to understand an individual's unconscious mind. This is done by recording the responses of the individual to an ambiguous stimulus. The stimuli can be a verbal text or a non-verbal text. There are many types of projective tests such as the Rorschach Inkblot Test, Draw-A-Person Test and House-Tree-Person Test. According to Janetius, Varma, and Shilpa (2019), the unconscious mind stores an individual's thought processes, feelings and memories. These hidden memories and thought processes can be revealed by a projective test through the automatic responses given by an individual in response to an ambiguous stimulus. Thus, projective tests are





better at revealing an individual's innermost thought processes and feelings than questionnaires. These projective tests are often used in clinical and counselling centres. Janetius et al., (2019) say that there are five types of projective tests i.e. abstract, thematic, expressive, constructive and association.

1.9.2.2 Baum Test

The Baum Test is a projective test introduced by a Swiss psychologist, Charles Koch in 1952. Charles Koch named his Baum Test the Tree Drawing Test and it was used to assess a person's personality during the developmental stage of growth. According to Koch (1952), the test has been used by educators, school psychologists, industrial psychologists, vocational consultants, school consultants and psychiatrists. Koch (1952) affirms that the test proved to be very valuable as an aid in educational consultations and vocational aptitude testing diagnosis. The Baum Test has been used widely by psychoanalysts to identify and treat schizophrenic patients as well as to study the cognitive ability of children. The Baum Test is a test where the respondents are asked to draw fruit trees which are then interpreted accordingly. Koch (1952) also likened the Baum Test to graphology as it can be interpreted in a similar manner in terms of the space used on the paper such as left and right spacing, top, and bottom spacing and rear and front zones. The features of the fruit trees, namely the crown, the trunk and the roots are interpreted using the hermeneutic method. According to Koch (1952), the tree drawing test can be classified as a projective test as it is a non-verbal text as it is a drawing and it is easy to administer. The Baum Test can be done in 30 minutes and it is non-invasive, as such respondents do the test willingly. The





Loganathan and Sivakumar's Baum Test which is an expressive projective test will be used in this research. In this test, the respondent is asked to draw four fruit-bearing trees on an A4 paper, and the drawing is interpreted. This Baum Test which requires respondents to draw four fruit-bearing trees was introduced by Loganathan and improved by Sivakumar. Sivakumar has introduced principles of interpretation so that the text is interpreted accurately. According to Sivakumar (2015), the interpretation must be done by first looking at the tree as a whole and then the parts of the tree. The Hermeneutic approach will be used to analyse the surface structure and the deep structure of the drawings.

1.9.2.3 Academic Performance



Academic performance is measured based on the grades and marks obtained by students in their school standardized examinations, public examinations and other forms of tests. It categorises students into three main groups: good, average and poor. Those who obtain high scores are categorized as good, average scores are categorized as average and those who obtain below average scores are in the poor category. According to Babineau (2017), a school's performance is measured by the academic achievement of the students. Academic achievement refers to two key measurements i.e., the academic proficiency and academic growth achieved by the students. According to Babineau (2017), academic proficiency refers to the scores achieved in standardized tests or examinations. Academic growth on the other hand, refers to the progress made by a student between two tests. Babineau (2017) also says that the academic performance and progress are determined by a few factors such as the socio-economic background





of students and the school climate. According to Ingersoll, Sirinides, and Dougherty (2018), school leadership play an important in role in determining and uplifting the school academic performance. School leadership who emphasise on effective teaching and learning produce good academic results. In addition, maintaining high academic standards, creating a positive atmosphere in the school building and providing support as well as recognition to teachers are among other factors that promote good academic performance.

1.10 Conclusion

In conclusion, there is a prevalence of internet addiction in Malaysia due to easy access of the internet and the internet framework provided by the government to enhance computer literacy. The background of this study says that internet addiction has a negative impact on academic performance and increases the number of discipline problems in school. Thus, the three research questions in this research will focus on identifying internet addiction and investigating the impact of internet addiction on academic performance and discipline problems. This study will be significant mainly to schoolteachers and school counsellors as they are the ones working closely with the students. The limitations of this research can be overcome to produce reliable and valid findings. The operational definitions of the terms used were also explained to enhance the understanding of the terms used. The literature related to this study will be discussed in the next chapter.

