EXPLORING THE EFFECTS OF CYBER-BULLYING ON STUDENT'S ATTITUDE IN ONLINE LEARNING: A CASE STUDY OF UUM

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EXPLORING THE EFFECTS OF CYBER-BULLYING ON STUDENT'S ATTITUDE IN ONLINE LEARNING: A CASE STUDY OF UUM

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ABSTRAK

Pada masa kini, penggunaan besar-besaran perkhidmatan teknologi maklumat dalam bidang pembelajaran yang berbeza telah membawa kepada peningkatan kejadian siber-buli sebagai tindak balas. Terdapat beberapa kajian yang dijalankan untuk mengukur atau mengkaji kesan aktiviti siber-buli pada aspek tingkah laku individu dalam konteks universiti. Oleh itu, kajian ini bertujuan untuk menentukan jenis siber buli yang wujud dalam persekitaran pembelajaran dalam talian di UUM dan kesannya terhadap sikap pelajar untuk menggunakan alat dalam talian tersebut. Soal selidik telah diedarkan di kalangan 280 responden dan hanya 207 soalan telah didapati sah untuk analisis data. Analisis faktor telah digunakan untuk menentukan faktor-faktor utama yang menyumbang kepada siber buli pelajar UUM. Sebanyak tiga faktor yang telah dikenalpasti: 1) menerima e-mel dan mesej dengan identiti yang berbeza; 2) meminta akses tanpa kebenaran; dan 3) penggunaan imej melalui webcam. Kajian ini juga menunjukkan bahawa terdapat hubungan yang signifikan antara faktor-faktor ini dan sikap pelajar. Hasil analisis regresi menunjukkan bahawa sikap pelajar telah dipengaruhi oleh faktor yang dipercayai memihak kepada hasrat mereka untuk menggunakan ‘Learningzone’ sebagai alat pembelajaran dalam talian.

Kata kunci: Cyber-buli, alat pembelajaran dalam talian, Teori Pembelajaran Sosial, sikap.

ABSTRACT

Nowadays, the massive use of information technology services in different learning fields has led to more cyber-bullying in return. There are few studies conducted to measure or examine the effects of cyber-bullying activities on individual's behavioral aspects within the university context. Therefore, this study aimed at determining the types of cyber-bullying exist in online learning environment in UUM and its effect on student's attitude to use online tools. Questionnaire was administrated among 280 respondents, only 207 questions were found to be valid for data analysis. An exploratory factor analysis was used to determine the key factors contributing to UUM students' cyber-bullying. A total of three factors were resulted 1) Receiving emails and instant messages with different identities, 2) Asking for access without permission, and 3) Use of webcam images. The result also showed that there were a significant correlation between these factors and students' attitude. The regression analysis result showed that students' attitude were affected by two factors which believed to favor their intention to use learningzone as an online learning tool. Recommendation and future studies are discussed in this research.

Keywords: Cyber-bullying, online learning tools, Social Learning Theory, attitude.

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LIST OF ABBREVIATIONS

DNS	Domain Name System
SLT	Social Learning Theory
EFA	Exploratory Factor Analysis
ICT	Information and Communication Technologies
ISP	Internet Service Provider
LAN	Local Area Network
POP	Point of Presence
SCAM	Social Commerce Adoption Model
SNSs	Social Networking Services
STD	Standard Deviation
VIF‘s	Variance Inflation Factors

CHAPTER ONE
INTRODUCTION

1.1 Introduction

The rapid development in online supported tools has also brought challenges such as cyber-bullying. Examples of cyber-bullying acts are aggression, distress, fake identity (Miller & Lowen, 2012). These acts have been diffused because of the massive usage of cell phones, text messages, email, Internet messaging, social networks, pictures, and video clips among students in their learning activities online. As such, scholars are paying much attention to this new form of bullying as an attempt to learn more about factors affecting the use of online tools. Few studies have examined the effects and relationships between student's attitude and use of online tools towards cyber-bullying activities in the online learning environment. This research examined that relationship in order to provide understanding necessary for shaping future research about e-learning adoption among university students in the Malaysian context.

Online learning tools are performed faster and more independently nowadays, which provide students and online learners with the reliable tools for storing and retrieving information within its entities or objects distributed over channels, at the same time, this has led to process high security standards in order to reduce the risks of using online tools for different communication purposes (Jahnke et al., 2012). An example of online risks is cyber-bully which identified as the use of the online tools and related technologies to harm other end users by using their information, redistricting and stealing identity (Beetham & Sharpe, 2013).

In this context, bullying is differentiated from other offensive behavior on the basis that bullying tends to be targeted at a particular person for reasons other than the person's gender or race (Baresi & Guinea, 2005).

Researchers reported that the main reasons for having user victimized is the increasing of technology use, the lack of face-to-face interaction and the degree of anonymity afforded by the Internet (Dooley, Pyżalski, & Cross, 2009; Erdur-Baker, 2010). Cyber-bullying does not require physical strength so it may provide an opportunity for smaller, weaker individuals to dominate others (Dempsey, Sulkowski, Nichols, & Storch, 2009). Therefore, identifying the impact of different cyber-bullying activities will helps to address different meanings, which might help in further decision-making practices in online learning environments (Beetham & Sharpe, 2013).

Some cyber-bullies depend on the use of Internet with the following:

- User PC: This helps to send and receive all manner of audio and video content; the category includes sound cards, webcams and microphones.
- User Communication Equipment: This helps to connect users' PC(s) to a Local Loop; this category includes modems, phone lines, Local Area Network (LAN) cards, routers and firewalls.
- Local Loop Carrier: This category of equipment helps user to identify the location based on the Internet Service Provider (ISP), Point of Presence (POP), and includes cables, satellites, power lines and wireless.

- User Services: use to grantee access, and includes Domain Name System (DNS), email, etc.
- ISP Backbone: This interconnects the ISP's POPs, as well as interconnecting the ISP to other ISP's and online content.
- Origins of Online Content: This helps to provide an original source of information.

All the mentioned above provide the necessary access to the host by interacting through user interface in order to perform the cyber-bullying.

1.2 Problem statement

Previous studies (e.g., Kowalski and Limber, 2007; Nansel et al., 2001), were mainly focused on the factors that contributed to the users preferences and willingness to use online tools. This include risky experience that user may face in the online environment such as cyber-bullying activities (Mitchell, 2011). However, results from recent studies on cyber-bullying suggest some students reported being targets of cyber-bullying at least once (Calvete, Orue, Estévez, Villardón, & Padilla, 2010; Heirman & Walrave, 2012; Varjas, Henrich, & Meyers, 2009). Such situation lead students to have unexplained reactions toward the online environment which in turn effects on their willingness to continue use it for definite purposes. In addition, some studies reported on the variables that have statistically significant relationships with both cyber-bullying and traditional bullying behaviors such as knowledge of Internet risk and risk of being a target of bullying (Mishna, Saini, & Solomon, 2009; Pujazon-Zazik & Park, 2010).

Cyber-bullying is different from traditional bullying because one needs only a valid e-mail address to create or participate in groups online, so it is very easy to setup "fake" accounts and start anonymous bullying. Moreover, cyber-bullying nowadays is targeting different individuals in different contexts. For example, in the university context, cyber-bullying influence learners attitude and perception to use online tools alongside with the face to face learning (Aricak et al., 2008). However, there are still many questions are yet to be investigated since cyber bullying is a relatively new area of research in the Malaysian university context especially. For example, Malaysian universities are yet to identify the main cyber-bullying activities associated with the use of online tools for different learning purposes. Presently, additional research on cyber-bullying activities in the Malaysian context has been impeded by poor theoretical conceptualisation of how it relates to individual attitude to use or utilize tool.

In addition, the format of cyber-bullying in the online environment may provide a medium through which students who have been targeted of bullying (e.g., high achieving students) can participate in aggressive victimization to their colleagues (the act of the target bullying the bully).

Based on this, we have found that there are few studies conducted to measure or examine the effects of cyber-bullying activities on individual's behavioral attitude within the Malaysian university context, which may drive user's preference (preference to use was explained by Piller (2006) as the attitude-related reasons of individual) to use online tools especially among university students (Mitchell, 2011). Furthermore, few empirical studies have been conducted on cyber-bullying in terms of students' achievement (Huang & Chou,

2010; M. S. Mitchell, 2011). As is summarized in the literature, user's behavior towards using Internet tools can be explained by their attitude to use so (Huang & Chou, 2010; Mitchell, 2011). We believe in this study that these factors (individual's behavioral attitude, user's preference, and achievement) might play a major role in effecting student's preference to use online learning tools.

Finally, scholars have been researching the topic in an attempt to learn more about this phenomenon and its possible effects on user's behavior. Hence, this research attempts to examine that effect and its relationship to the student's attitude to use online learning tools in Universiti Utara Malaysia (UUM).

1.3 Research questions

This research aims to answer the following questions:

- What types of cyber-bullying exist in online learning environment in UUM?
- What is the effect of cyber-bullying on student's attitude to use online learning tools in UUM?

1.4 Research objective

This research aims at achieving the following:

- To identify the types of cyber-bullying exist in online learning environment in UUM.
- To determine the effects of cyber-bullying on students attitude to use online tools in learning in UUM.

1.5 Research significance

Addressing the effects and relationships of cyber-bullying on student's attitude to use online tools can bring the following benefits:

- Identify the types of cyber-bullying that students mostly face in the Malaysian online learning environments.
- Provide evidence about the effect of cyber-bullying activities among university student's behaviour on their attitude to use online learning tools.
- Provide evidences for further research on cyber-bullying in the Malaysian online learning environments.

1.6 Research Scope

The forming of the present research model was based on analyzing empirical data on the incidence of cyber-bullying in different internet uses found in the literature. During the reviewing of literature, the researcher found that this study cannot be generalized to the national population, therefore, the data expected from this study may shed some light on the self-reported rates of incidence of cyber-bullying in UUM, as well as the general characteristics (e.g., gender, age group, knowledge of Internet risk) of the cyber-bully.

1.7 Operational definitions

- **Online learning environment:** is the place where learners can learn and access online materials at any time and from anywhere based on the Internet connection (Anderson, 2008).

- **Bullying:** is an attempt to raise oneself up by directly demeaning others; the attacker or the one who committee bullying expects an improvement in his social status or self-esteem by putting others down (Nansel et al., 2001).
- **Cyber-bullying:** refers to online abuses involving juveniles or students through using e-mail, instant messages, social networking sites, and other digital messaging systems (Li, 2007; Limber, 2012).
- **Attitude:** is identified as the individual's judgment and feeling towards carrying out the behavior through his or her expected consequence (Friedkin, 2010)**.**
- **Social Learning Theory:** is the theory for examining the changes in individual's behavior towards activities with regards to the environmental related issues (Lam, Kraus, & Ahearne, 2010)**.**

1.8 Summary

This section gives an insight of the work by describing the motivation factors that lead to the selection of the area studied. It also explains the objectives of conducting the research, as well as its significance to the real world situation. These elements are important as it ignites the implementation of the research. This research focuses on determining the effects of cyber-bullying activities on student's attitude to use online learning tools. The rationality for linking the effect of cyber-bullying activities on student's attitude to use online tools was based on the literature and the premises of SLT. The next chapter deals with the literature review which elaborates on related works that have been established in the same field.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The increasing use of tools and technologies have played an active role in fostering and stimulating better outcomes for students as they are able to gain knowledge from the most latest and advanced form of teaching methods. Zhang (2012) explicated that it is very important to evaluate the effectiveness of these technologies with considering at the same time the associated challenges such as online bullying, and fraud. This chapter addresses the literature related to bullying and cyber-bullying in which the common classification is introduced. In addition, some previous studies were also provided in order to show the similarity and differences with the present research. The review on traditional and cyber-bullying is organized according to the variables in the literature.

2.2 Traditional Bullying

Traditional bullying is defined as the intentional, malicious, verbal or physical harassment of another person with at least one occurrence (Gradinger, Strohmeier, & Spiel, 2009; Raskauskas & Stoltz, 2007; Wang, Nansel, & Iannotti, 2011). It also known as the process of aggressive behavior or intentional 'harm-doing' which is carried out repeatedly and over time in an interpersonal relationship characterized by an imbalance of power (Law, Shapka, Hymel, Olson, & Waterhouse, 2012) for example a need for power and control, aggression, and proactively targeting the victim.

2.3 Cyber-bullying

Cyber-bullying is the online risky activities that usually occur through the Information Technology that students access every day, including cell phones, text messages, email, Internet messaging, social networks, pictures, and video clips (Slonje & Smith, 2008). Cyber-bullying can take place 24/7: 24 hours a day, 7 days a week, from anywhere (Bastiaensens et al., 2013). The main categories of cyber-bullying were adapted from Willard (2007) to explain these types for possible use in this study.

Table 2. 1 Eight Categories of Cyber-bullying (Adapted from N. E. Willard (2007))

Type of Bullying	**Description**
Flaming	• Short lived argument between protagonists • Extended, heated argument leading to threats of violence • Questionable credibility of threats
Harassment	• Repeated ongoing assault • Usually one sided • Can have multiple protagonists harassing a target • Email, instant messenger, texting • Some protagonists may not even know target • Could be criminal—especially if involving hate or bias • Target is direct recipient of material

Denigration	• Harmful, untrue, or cruel speech about a target • Posted online and/or circulated via email, texting, instant messenger • Target is not direct recipient • Included public postings and sending of digital images (which may have been digitally altered) • May include defamation or invasion of privacy
Impersonation	• Falsely identifying as the target • Posting or sending material that shows the target in a bad light or interferes with target's relationships and friendships • Often a means of the protagonist getting the target in trouble with authorities
Outing and Trickery	• Posting or otherwise circulating images and other personal communications that are embarrassing to the target • Target is not direct recipient of the attack • Images can often been sexually suggestive and verge on sexual harassment
Exclusion	• Deliberate exclusion of the target from communications to which he or she was previously privy to • Often occurs when the protagonist convinces multiple people to

	"defriend" the target
Cyberstalking	• Repeated harassment including threats of harm • Can be intimidating, offensive, or involve extortion • Protagonist often lulls target into sense of false security before slowly escalating harassment
Cyberthreats	• Often linked to the termination of a sexual relationship • Direct threats which demonstrate intent to harm self or others; often includes detailed information about event • Distressing material intimates that the writer may be at risk for hurting self or others

2.4 Cyber-bullying in online learning

The online activities that involve cyber-bullying might occur anywhere and at any time where it is more known than traditional bullying. In addition, online cyber-bullying activities depends on the use of Information Technology (IT) tools to harm or harass other people with less effort (Smith, Mahdavi, Carvalho, & Tippett, 2006). In the online learning environment, a cyber-bully nowadays requires less effort and time to perpetrate an attack, while the spread of negative attacks is no longer limited to the bully and target.

This lead to students to harassment and gossip in short time which in turn might affect student's willingness to experience the Internet related tools (Froeschle, Mayorga, Castillo, & Hargrave, 2008; Willard, 2008). As such, it can be concluded that cyber-bullying is more likely to face students in the online environment. Figure 2.1 shows the process of cyber-bullying in the online learning environment.

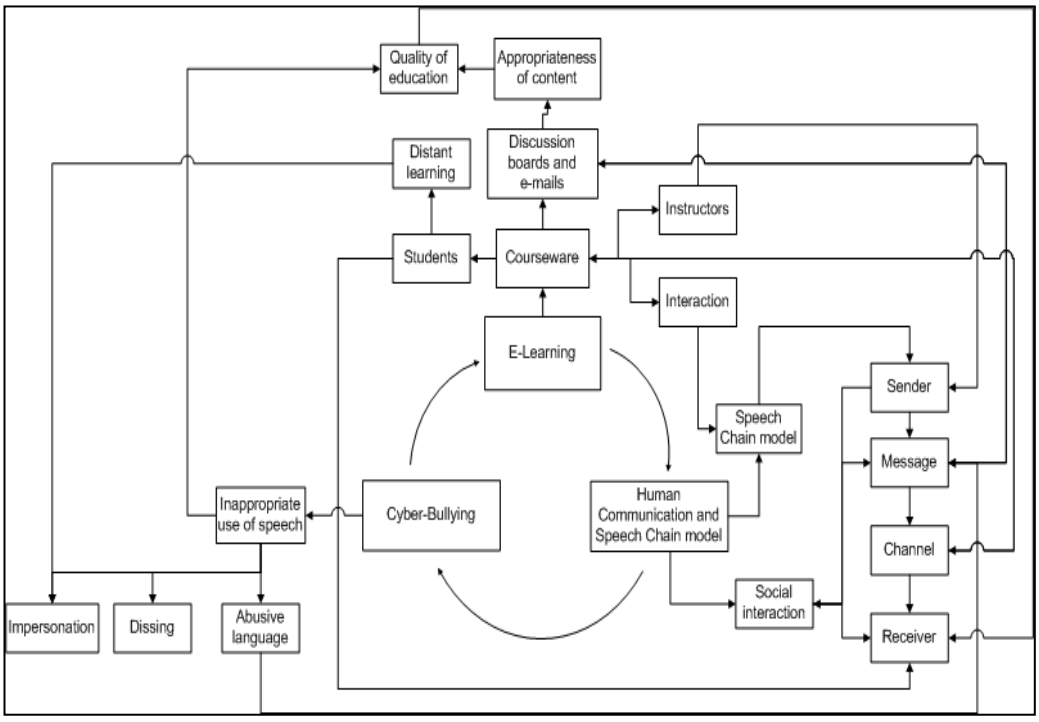

Figure 2. 1Cyber-bullying in online learning (Chelly, 2008).

Figure 2.1 shows that there are four main processes facilitate the cyber-bullying in the online learning environments. It consists of the sender of the message, the content of the message such as letter, a video, or an audio clip, the channel in which the infrastructure is needed to deliver the message, and receiver of the message to which it was sent to. For example, the sending of harassing emails and instant messages with fake identity to another individual or group of people.

All these elements effect the human communication which might be related to e-learning and cyber-bullying. In addition, the communication between users is involved in e-learning such that the instructor may have conversations with the students through discussion boards and/or e-mail. In the e-learning environment, where discussion boards are available to the instructors and students to interact, cyber-bullying may become an issue (Chelly, 2008).

2.5 Theoretical Framework

This research relied on the Social Learning Theory (SLT) in order to explain the rationality of proposing the effects of cyber-bullying on student's behavioral aspects to use online learning tools. This theory is built up of two important aspects which are behavioral and cognitive theories. According to Bandura (1977), SLT explain how the behavior can be learned from the environment through modeling such as reciprocal determinism, observational learning, and facilitation. He also believed that people learn new functional value through observation. Bandura and Bryant (2002) supported that by observing other people from the environment and it will affect and may influence their thinking.

On the other hand, the concept of SLT can be grouped into three categories: (1) psychological determinants of behavior, (2) observational learning, and (3) environmental determinants of behavior this is shown in Figure 2.2.

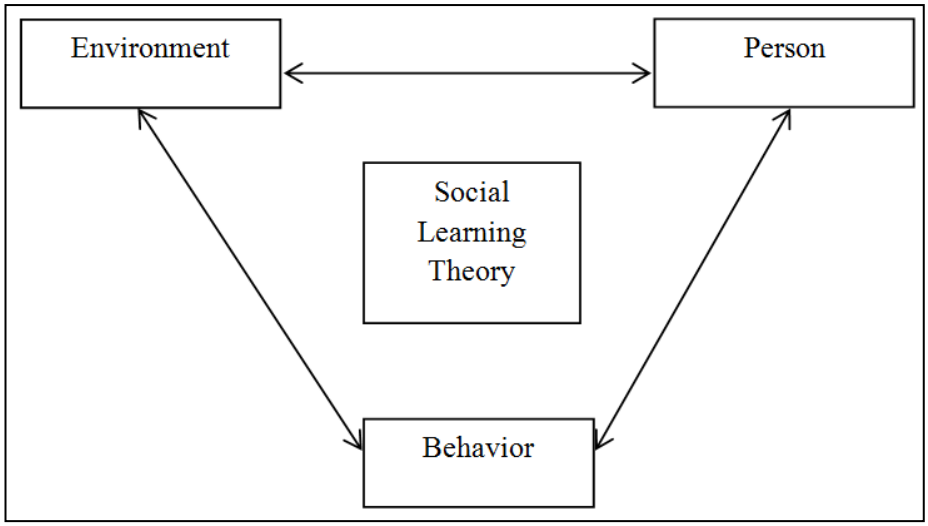

Figure 2. 2 Social Learning Theory (SLT) (McAlister, Perry, & Parcel, 2008)

McAlister et al. (2008); Peters (2007) and Turner, Nicholson, and Sanders (2011) have found that the environmental factors influence individuals, but individuals can also influence their environments and regulate their own behavior. Therefore, the environment may affect the behavior of UUM students in this context; this led use to propose that the environment where cyber-bullying is exist might influence UUM student's attitude to use online learning tools. Bandura and Schunk (1981) explained that people belief that system related challenges can be considered as environment element that may affect users' attitude to use so. The research model was shaped based on these premises as shown in Figure 2.3.

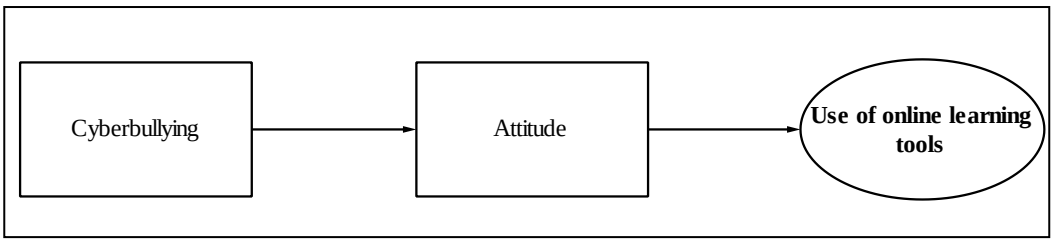

Figure 2. 3 Research model

In this research, cyber-bullying refers to online abuses involving juveniles or students through using e-mail, instant messages, social networking sites, and other digital messaging systems. This in turn believed by the researcher to have an effect on student's attitude to use the online learning tools such as learningzone and online discussion necessary for learning. Attitude towards such activities is addressed as student's judgment towards cyber-bullying through his or her expected consequence from using online tools.

2.6 Social Learning Theory

Social learning theory (SLT) is built up of two important aspects which are behavioral and cognitive theories. According Bandura, SLT assumes that modeling influence produces learning principally though their informative functions and those observers acquire mainly symbolic representations of modeled activities rather than specific stimulus-response associations. In this formulation, modeling phenomena are governed by four interrelated sub processes such as attention, retention, reproduction and motivation. On the other hand, the concept of SLT can be grouped into three categories: (1) psychological determinants of behavior, (2) observational learning, and (3) environmental determinants of behavior (McAlister et al., 2008).

According Bandura, a person cannot learn much by observation if he does not attend to, or recognize, the essential features of the model's behavior (Grusec, 1992). One of the component functions in learning by example is therefore concerned with attentional processes. In SLT, it had found that the environmental factors influence individuals, but individuals can also influence their environment and regulate their own behavior (McAlister et al., 2008;

Peters, 2007). Therefore, the environments may affect the behavior of people. In addition, Bandura and Bryant (2002) mentioned that a person's behavior development is influenced by the role of observational learning. Bandura (2006) supported that the symbolism of functional value has an effect.

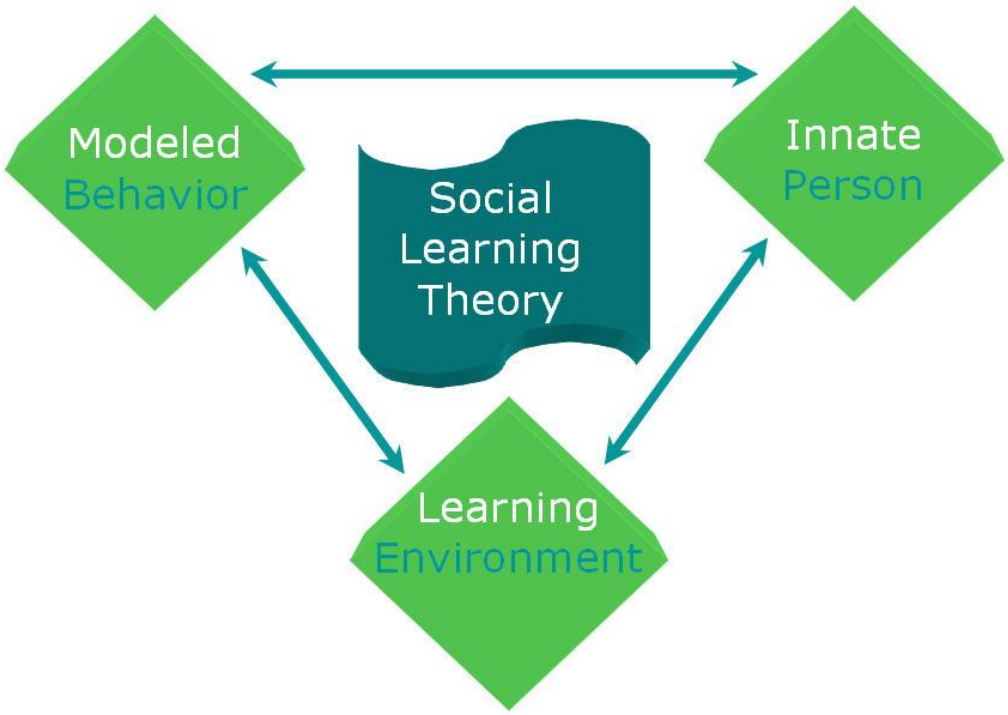

Figure 2. 4 Social Learning Theory.

In one of the article, they examined theoretical thoughts of SLT and their influences on human behavior within social and cultural context. However, this research believes that different cyber-bullying activities may influence users' behavior, which warrants the use of cultural focused evidence-based practices to meet the needs of students seeking assistance with problem behaviors in a variety of environmental settings (Chavis, 2012). According to Bandura (1969), SLT is one of the most influential theories of learning and human development and is rooted in many of the basic concepts of traditional learning and it

considers that people learn from one another. Thus, the use of observational learning, imitation, or modeling explains a wide variety of human behavior using SLT and approach.

2.7 Attitude

User attitude is reflection of individual towards a process in which it influences the use of technology (Karahanna, Straub, & Chervany, 1999). In addition, developing individual's attitudes to adapt online tools with the considerations of cyber-bullying activities involves improving understanding of these activities (Adam Mahmood, Burn, Gemoets, & Jacquez, 2000).

Attitude in this study involves the user perceptions towards current cyber-bullying activities into the use of online learning tools. Online learning tools adoption will be easier if the organizations are willing to determine the effect of different internal and external events associated with students learning (Legris, Ingham, & Collerette, 2003).

McFarland (2001) presents the importance learner attitude to use technology through their perceptions of usefulness and usability of the technology as well as external variables that may influence users' perceptions, attitude and usage. Therefore, in this study, the researcher investigates how different cyber-bullying activities in the online environment effects students' attitude to use these tools.

2.8 Intention to Use

Understanding the students' intentional change towards services or tool is considered an important event for promoting better use of technology (Kennewell, Tanner, Jones, & Beauchamp, 2008). Having different online

learning tools with associated challenges are useless unless they translate into behavioral intentions. Due to this fact, much research has been done to develop a model that is capable of predicting behavioral intentions (Venkatesh, Thong, & Xu, 2012).

As it turns out, attitude alone is indeed insufficient in predicting behavioral intentions. Students with favorable attitudes may not act on these attitudes because of environmental circumstances (Brown, Massey, Montoya-Weiss, & Burkman, 2002). Therefore, cyber-bullying activities may also have an effect beyond a direct impact on students' intention to use online learning tools.

2.9 Social learning activities online

With the growth of technologies in this globalized world, it is hardly a surprise that everyone working with technologies especially social networking. The social networking domain has become one of the fastest growing online environments connecting hundreds of millions of people worldwide.

People using the existing social networking for many purposes, such as marketing, entertainment, keeping in touch with people hundreds of miles away, update status, connecting with different users, share information, learning etc. However, cyber-bullying with people using social networking with different domain in many fields, such as education, business, community, medical professionalism, engineering, etc.

In progress and society advances, cyber-bullying had been the reason for engaging as tools of interaction with customers, social interaction and relationship building. It is also as channels of information, collaboration and

promotion (Constantinides & Lorenzo-Romero, 2013). Moreover, cyber-bullying activities can be a good system for commerce. It is an online environment where people can present their profiles, make links to other users and communicate with them (Gbadeyan, 2010).

In addition, users to share information product to their friends and they receive commercial information (Liang, Ho, Li, & Turban, 2011). Other than that, user interface is very important in online learning. It is for presence of items representing organizational disclosure, information dissemination and involvement (Chailom & Kaiwinit, 2011; Waters, Burnett, Lamm, & Lucas, 2009). Therefore, SNSs in learning can reach useful data for predictions of user trends and the behavior, it will influence and maximize the effectiveness of the environment to establish their practices (Qiao, 2008).

Many advantages of using SNSs in learning were associated with the number of users to use SNSs in learning, Qiao (2008) mentioned that, the big volumes of traffic online for SNSs in learning such as in YouTube, Facebook and MySpace. The reason of people lying in SNSs is that valuation generated form trusts within specific social networks and therefore, it can improve profitability, effectiveness and efficiency of advertising. In addition, (Swamynathan, Wilson, Boe, Almeroth, & Zhao, 2008) others have also supported that, users join these networks, publish and maintain their own profiles and establish links to their friends. It can establish between the connected users. Waters et al. (2009) advised that, to use an SNS such as Facebook, users need to understand how to use SNSs as their membership numbers continue to expand their learning and networking.

Users need to keep updating their profile such as posted multimedia files, status, or summaries their campaigns. Moreover, Bakshy, Rosenn, Marlow and Adamic (2012) supplemental that, sharing information or updating profile may affect consumer to attend the profile of the user. Despite the other users didn't add the users as their friends, students can get the information through their friends share. Many of the method of using SNSs in cyber-bullying activities, Tavakolifard and Almeroth (2012) believe that using information exchange users and consumers to be effectiveness of e-learning. For instance, a product rating between two learners may influence the users' perception to learn.

According to Chailom and Kaiwinit (2011), fast development of business, a lot of information presented on the Web shows great challenges to consumers searching what they are interested in. Therefore, to gain more information, users may use the SNSs as these sites to collect the information about learners. This has become extremely beneficial for firms on track in and shape learners behavior.

Spencer and Buffett (2012) suggested that, to attract consumers of buying product, users can share or advertise the promotion information such as sending hem offer messages through SNSs. Other than that, users can send a statistical update message to statistics learners to report the purchase offer, including details on instance messages and learning offers.

2.9.1 Cyber-bullying in social networks

Ellison (2007) define social networking as a web-based services that allow individuals to construct a public or semi-public profile within a system, create a

list of other users that share a connection, and see and navigate through their list of connections and of those created by others within the system.

Cyber-bullying activities usually take place in online social networking example of SNSs such as Facebook, MySpace, Twitter, Bebo, etc. It has attracted millions of users, many of whom have integrated these sites into their daily practices. SNSs can use for many fields such as commerce, education, politics, health, computing, engineering, etc. The reason for using SNSs is to get in contact with new people, keep in touch with friends, general socializing, get information, sharing content, profile surfing, etc. SNS networks spread information and the guidance websites collect them and help promote group-purchase networks, particularly the new emerging ones (Qiuzhen, Jing, & Jun, 2010).

Cyber-bullying related activities in SNSs are increasingly attracting the attention of other researchers in which they believe to influence the user's perception to use online network. To use SNSs, participants are not necessarily "networking" or looking new people; instead, they are primarily communication with people who are already a part of their extend social network. SNSs have implemented a wide variety of technical features.

Students joining in SNS for sharing information and update status (Ellison, 2007). According to Charles et al. (2012), cyber-bullying in online tools have become important aspect for managing relationships with a larger network of people who provide social support and serve as conduits for useful information and other resources (Lee, Leung, Qiu, & Chu, 2012; Shen, 2012).

Cyber-bullying activities in SNS are organizing and distribute the contents by focusing the user first and the user's awareness and behavior become the most concern. Thus, SNS could satisfy the users by fulfill the user's diversified demand (Shen, 2012).

Cyber-bullying activities in online learning today and social networking have already fused into the general society as part of the culture. Many learning sectors have been drawn to participate in SNSs due to high daily activity rate in SNSs like Facebook (Chen, Lai, Goh, & Daud, 2013). People use the system of Facebook to create their own page. It has been proven to increase online engagement for learning, some, especially the small-group of learning startups.

According to Lesma and Okada (2012) study, individual who use SNSs usually faces some cyber-bullying activities in which other members face their identity to get information related to that users for other bullying purposes. Even they know SNSs in learning is a risk, but they can read and learn feedback from others users, it may affect trust to users before adapt to it. In addition, SNSs that can increase the learning through communication and share information to other. Bandura (2006) emphasized the mutuality of influence in interpersonal communication. People share information, give, gain understanding of each other's views, and influence each other (Bandura & Bryant, 2002).

Garrison (2011) pointed that, online learning provides ideal environments for students to attend classes on campus. It also provides students with the opportunity to participate in classes from the comfort of home where self-discipline and motivation is required. Online learning also enables students to submit and do essays, quizzes, exams, research, and group projects. Therefore,

in the university context, students are expected to participate in on-line discussions and activities on a regular basis.

Since the growth of SNSs in learning, many of researchers research about effects of cyber-bullying activities of SNSs in learning. Hajli (2012) studied social networking adoption model, which is Technology Acceptance Model (TAM) and Social Commerce Adoption Model (SCAM). The author analyses some of the components of social commerce which affect the intention to use system of individuals by proposing and testing SCAM. In the other study (Qiuzhen et al., 2010), combination of SNSs with e-system. In the research explain it, as a social networking platform, SNS itself, which has huge social networking and popularity, is more conducive to develop e-tool.

Especially, the recent unwanted activities that target users while communicating in chatting rooms, posting, and group conversation. The combination of e-learning tools and social networks fully tap the learning value of social networking. Stephen (2009) examined the economic value implications of a social network between users in a large online social commerce marketplace. In this marketplace each user creates his or her own site to attract other users. Generally online learning (or eLearning) is the use of electronic media and information and communication technologies (ICT) in education in which learner can easily access and display learning materials anytime and anywhere (Rosenberg, 2001).

In conclusion, this study aims to investigate factors affecting UUM students use online tools such as SNSs in learning with considering the cyber-bullying activities.

2.10 Related studies

Ybarra (2004) reported in his study that majority of youth are connected to the Internet. As such, this may lead youth to be opened to negative experiences with possibility of Internet harassment. The author has examined the cross-sectional relationship among youth with depressive symptomatology and Internet harassment. The author also aimed at determining the key factors for explaining such relation. Therefore, the author invited 1501 individuals to participate in a telephone survey about their Internet behaviors and experiences. The cross examination showed that there was no significant association among youth in Internet usage characteristics and other psychosocial challenges. The author highlighted that importance of investigating factors contributing to the negative Internet experience in order to direct online users to better usage experience. This in turn allows users to feel greater satisfaction and have interaction with others (Gregson, Crewe, & Brooks, 2002).

Kowalski and Limber (2007) investigated the frequency of electronic bullying activities among 3,767 students from the middle school in the southeastern and northwestern United States. The questionnaire consisted of items that developed for determining the relation between students' experiences with electronic bullying, as both victims and perpetrators. The result showed that 11% of the students had been electronically bullied at least once; 7% of the students were reported to be bully/victims; while 4% of them were electronically bullied someone else. The authors identified the most common method used by those students in electronic bullying such as the use of instant messaging, chat rooms, and e-mail.

Father more Ang, Tan, and Mansor (2011) investigated the different normative beliefs about aggression between narcissistic exploitativeness and cyber-bullying. They extracted the data from two Asian adolescent samples Singapore and Malaysia. They found that narcissistic exploitativeness was corresponding to cyber-bullying and normative beliefs about aggression. They suggested that previous beliefs can be the mechanism of action not only in offline but also in online contexts and across cultures. Cyber-bullying prevention and intervention efforts should include modification of norms and beliefs supportive of the legitimacy and acceptability of cyber-bullying.

While Gnasigamoney and Sidhu (2013) highlighted the threat of cyber-related and its influence on user behaviour in the online environment within the school context. They identified and explained related behaviours that seem to be taking place among Malaysian pre-adolescents and adolescents and its possible impact on their behaviours leading towards cyber-related crimes. Based on the empirical study, they found that an attention must be paid for different age groups who use Internet in their everyday thing.

Mitchell (2011) conducted her study to examine the effects of cyber-bullying activities on student's achievement to use online tools. She collected her study's data from administrating a questionnaire to 847 students. The result showed higher-achieving students were no more likely to understand the risks involved with using the Internet than students who earned lower grades. Meanwhile, she found that majority of students who involved in self-reported program and other who did not were equally likely to have involvement in cyber-bullying as either

a target, bully, or both. She found that the main factor drive cyber-victimization was the knowledge of internet risk which was found to be the most statistically significant factor.

Another study was carried by Gradinger et al. (2009) to determine the co-occurrence of traditional bullying, cyber-bullying, traditional victimization, and cyber-victimization. They investigated the mean for each by analyzing the probability of students involving in a definite activity online (e.g., traditional, cyber, or both), victims (e.g., traditional, cyber, or both), and bully-victims differed regarding adjustment. To do so, they administrated a survey among 761 students where (49% boys). The analysis result showed that majority of students were found to be a target for traditional bully-victims, and more students were combined bully-victims.

Griffith and Liyanage (2008) explained that SNS that have become available via the Internet for teaching and learning. SNSs were reviewed such as "Facebook" and "MySpace". Characteristics of these sites are reviewed and then compared to evaluate the trust and privacy issues of shared information available to any given social group. The authors highlighted that trust and privacy plays a critical role when SNS are used for the purpose of teaching and learning. Thus, the negative and positive aspects of SNS are reviewed in detail. This knowledge can form the basis to assist with regulating SNS for teaching and learning.

Cain (2008) explained how possible cyber-bullying activities in SNSs such as Facebook and MySpace are extremely popular as indicated by the numbers of members and visits to the sites. SNSs allow students to connect with users with similar interests, build and maintain relationships with friends, and feel more

connected with their campus. The first criticisms of online social networking are that students may open themselves to public setting of their online personas and risk physical safety by revealing excessive personal information. This issue of online social networking in education was extracted by drawing upon articles in both the lay press and academic publications. The author reported on how students with different online experience are capable of facing bullying challenges associated with the use of online postings in admission, discipline, and student safety decisions. The author also addressed the needs for using the online material found on social networking sites in colleges of pharmacy. Finally, He added that extensive research is still needed to identify other issues associated with the use of online social networking.

Berne et al. (2012) conducted their study by involving 61 publications in order to identify the relationship between constructs for measuring the online cyber-bullying effects of end users, resulting in 34 instruments. They reviewed and reported on the suitability of current instruments for measuring and examining different cyber-bullying activities, relevant information was coded using a structured coding manual. After reviewing different instruments, they found that half of the instruments included in this review do not use the concept cyber-bullying. The constructs measured by the instruments range from internet harassment behavior to electronic bullying behavior to cyber-bullying. Therefore, they categorized these instruments into two groups, cyber-bullying instruments and related instruments.

Aricak et al. (2008) reported on the importance of studying the effect of different cyber-bullying, harassment through the use of information and communication

technology such as cell phones and the Internet. They conducted wide exploration of the main factors contributing the students bullying among educators' understanding of cyber-bullying. A total of 269 Turkish students were surveyed on their engagement in and coping strategies for cyber-bullying. The results showed that 35.7% of the students displayed bully behaviors, and 23.8% of the students displayed bully-victim behaviors. Only 5.9% of the students were victims.

In addition, Arıcak (2009) explored the bullying related issues with the internet as online technology for communicating among university students worldwide. He focuses on the resulted harmful consequences of one type of misuse of online technology: cyber-bullying. Therefore, the author examined the relations between cyber-bullying and psychiatric symptoms by using a cross-sectional and correlational research. A total of 695 questionnaires were administrated to undergraduate university students (247 males and 448 females). The result showed that there are significant differences between "non-bully-victims," "pure-victims," "pure-bullies," and "bully-victims," according to the self-reported psychiatric symptom scores. He also found that cyber-bullying could predict the possibility of future cyber-bullying.

CHAPTER THREE
METHODOLOGY

This chapter consists of the methodology to be applied in this research. In this chapter, the research methodology is introduced by addressing the research design and procedure in terms of factor identification, sampling, instrumentation, the pilot study, validity, reliability, data collection, and data analysis. Details regarding each term are also reported.

3.1 Introduction

This study applies a quantitative method by means of a survey. A survey is commonly used to collect data from a wide area by selecting a representative sample of a large population, as opposed to qualitative methods that use case studies that select a few individuals or phenomena, which, in most cases, do not represent the entire population.

The use of quantitative techniques in this research is considered necessary to procure a valid result and to establish the relationship, if any, between cyber-bullying activities and students behavioral aspects such as attitude to use online learning tools. Quantitative method based survey tries to quantify the problem and understand how prevalent it is by looking for projectable results to a larger population which presents the UUM students for the case of this study.

Therefore, the quantitative method was used as a way of collecting adequate data in this study.

3.2 Research Design

Mitchell and Jolley (2012) described that the research design as a blueprint, or outline, for conducting the study in such a way that maximum control will be exercised over factors that could interfere with the validity of the research results. The research design is the researcher's overall plan for obtaining answers to the research questions guiding the study. However, designing a study helps researchers to plan and implement the study in a way that will help them obtain the intended results, thus increasing the chances of obtaining information that could be associated with the real situation.

Research design must specify as clearly as possible and must determine the best way to do it (Babbie, 2012). In this study, we used a quantitative exploratory descriptive design to identify and analyze factors affecting users' behavior to use online tools with cyber-bullying. Moreover, quantitative research methods attempt to maximize objectivity and generalizability of findings and are typically interested in prediction. However, quantitative methods are frequently characterized as assuming that there is a single "truth" that exists, independent of human perception (Babbie, 2012). Therefore, quantitative method can be in the questionnaire survey. In addition, the dependent variable is measured to determine if the manipulation of the independent variable had any effect. Babbie (2012) explained that, a good measurement technique should be both valid and reliable.

The data for this research were obtained from primary and secondary sources. The primary data involved the use of a questionnaire that was designed to consider the participants' views on current cyber-bullying activities in online

spaces. In addition, the secondary sources involved data extracted from the online report, journals, books, and other relevant publications to better understand the current research literature on cyber-bullying. Figure 3.1 presents the overall research method, which consists of three phases.

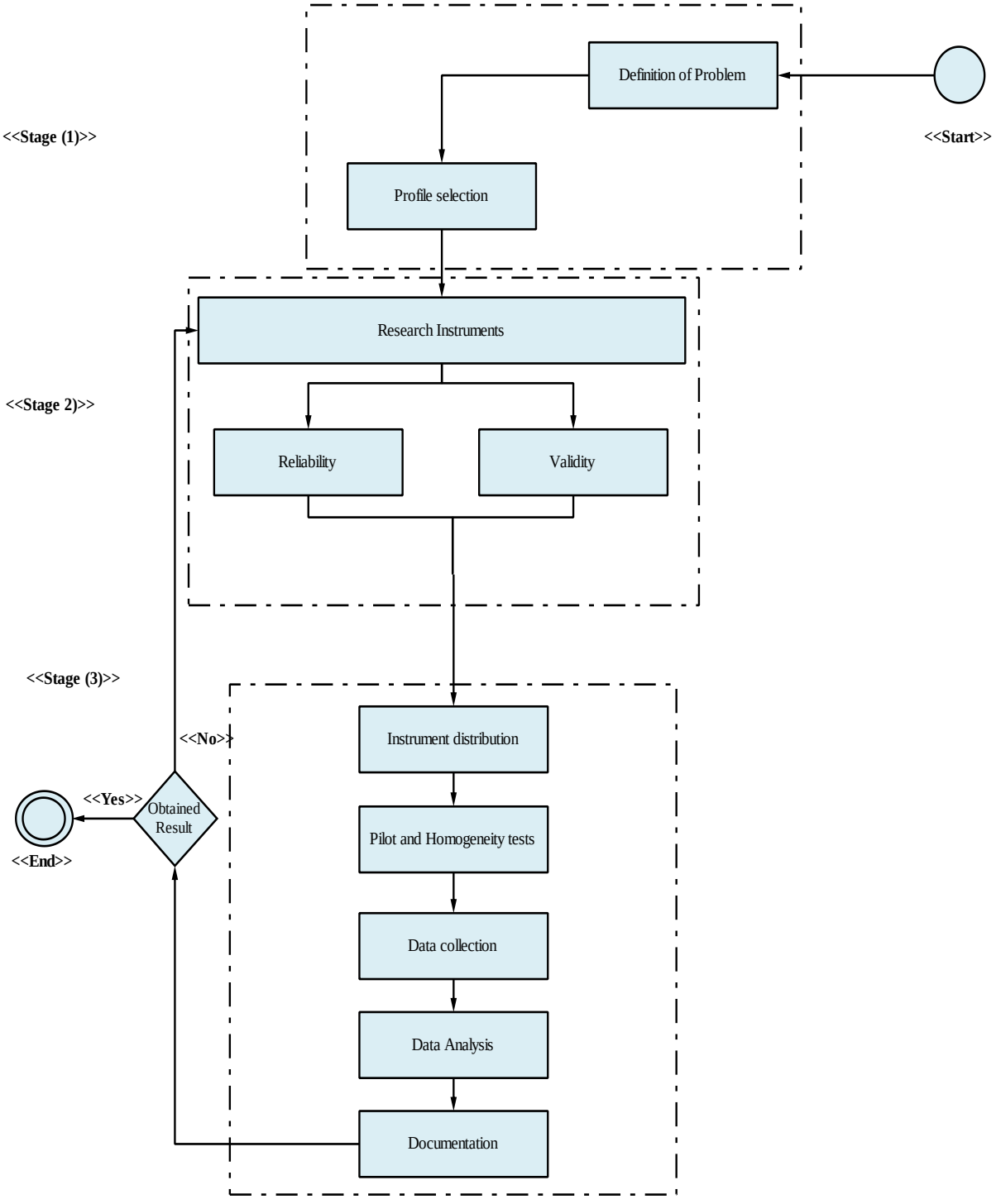

Figure 3. 1 Research methodology (Constructed from (Sandelowski, 2000))

On the other hand, questionnaire research method come in many different forms from factual to opinion based and tick boxes to free text responses. It can be viewed as quick and easy to do. A questionnaire form must be clear about the aim of the topic, in a cost effective way and will help the researcher to improve the implementation (cited by web learning technology dissemination initiative). Moreover, questionnaire provides a tool for eliciting information which can tabulate and discuss. It is also an evidence that can fulfill the purpose of the study (Taylor-Powell & Marshall, 1996).

Thus, there are two different ways that in the question that will be created such as open-ended question and closed-ended question. Open-ended questions allow respondents to provide their own answer. While, a close-ended question is a list answer, and respondents select either one or more multiple response, it is only in one word or very short phrase answer. Besides that, close-ended questions had many types of responses, such as two-option responses, one best answer, rating scale, ordered choice, items in a series, paired comparisons, matching and multi-choice answer (Friborg & Rosenvinge, 2013). Therefore, in this study will be used close-ended questions to examine and collect the data.

Some of the advantages of using questionnaires in this study are (1) The responses are gathered in a standardized way, so questionnaires are more objective; (2) It is quick to collect information using a questionnaire; (3) It is a potent way of collecting information from a large portion group in a short period and in a relatively cost effective way; (4) The results of the questionnaires can usually be quickly and easily quantified through the software, SPSS. (5) The data can be quantified to compare and identify changes during the evaluation

process (Bonn et al., 2012; Soer, Reneman, Vroomen, Stegeman, & Coppes, 2012; Weintraub et al., 2012).

In this study, to find the results, close-ended question is matched with our study. We decided to use the questionnaire in type of close-ended questions with the rating scale tool. While, the answer was measured with the scale of strongly disagree to strongly agree. The potential advantages to use a rating scale that establishment the answer to be clear and balanced. However, scale of strongly disagree to strongly agree that may verify the elements of environments that affect the users' cyber-bullying to use online learning tools. For example, the users willing to use online learning tools in leering whether influenced by these all elements such as cyber-bullying activities.

3.2.1 Stage one:

A- Definition of problem

In this stage the researcher relied on the secondary sources in the formation of current research problem such as research articles, conference papers, reports, and books. This is to identify the main variables necessary for identifying and constructing the research problem in which it concerns about the effects of cyber-bullying activities on student's attitude UUM to use learningzone.

B-Profile selection (sampling)

This section determines the population and sample size for this study. A population is any group of individuals who have one or more characteristics in common that are of interest to the researcher (Creswell, 2009). Population was identified by Sperling and Gay (2003) as the group of interest to the researcher,

i.e., the group to which the results of the study will ideally generalize. In this study, the population refers to the undergraduate and postgraduate students at UUM. A total of 6000 students represent the population of both groups at UUM. Based on the Table 3.1, the sample size for this study was 280 students. Simple random sampling was used to draw the sample. The reason for choosing this technique is to ensure that all groups have the chance to participate in this study.

Table 3. 1 Determining the sample size (Adapted from Stoker (1981))

N			Relationship of sample	Sample size	
20			100%	20	
30	÷20 =	1,5	80%	√1,5	x 20 = 24
50	÷20 =	2,5	64%	√2,5	x 20 = 32
100	÷20 =	5,0	45%	√5	x 20 = 45
200	÷20 =	10	32%	√10	x 20 = 63
500	÷20 =	25	20%	√25	x 20 = 100
1000	÷20 =	50	14%	√50	x 20 = 141
10 000	÷20 =	500	4,5%	√500	x 20 = 447
100 000	÷20 =	5 000	1,4%	√5 000	x 20 = 1 414
200 000	÷20 =	10 000	1,0%	√10 000	x 20 = 2 000
29 688	÷20 =	1 484		√1 484	x 20 = 770

3.2.2 Stage two:

A-Research instrument

For the purposes of this study, data was gathered by means of closed-ended questionnaire the researcher personally asked each respondent to fill out the questionnaire. The survey was categorized into two sections; the first section consists of personal information form to capture students' gender, age, education level, internet use, and use of learningzone. The second section consists of 35

items addresses the main constructs adapted and modified from previous researches. These are cyber-victimization (consists of 22 items), attitude (consists of 9 items), and use of online learning tools (consists of 4 items). A five-point Likert scale was used in this study to describe level of agreement with each item: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. Table 3.2 presents the total number of questions and response categories in each section of the survey.

Table 3. 2 Number of questions and response categories by questionnaire section

Section	**Description**	**Number of Questions**	**Scale**	**Adapted or Modified**
Demographics	To investigate the participants' age group, gender, and school.	5	Nominal	Literature
		Scale-41 items		
Cyber-victimization		22	Scale: 5-point Likert scale	Adapted from (Akbulut, Sahin, & Eristi, 2010b)

1. While using online learning tools, I have received harassing e-mails or instant messages.
2. While using online learning tools, I was invited to social applications including gossips or inappropriate chat.
3. While using online learning tools, I have received instant messages including incorrect or bad things about my friends.
4. While using online learning tools, I have confronted with tricks to get my personal information and publish it on the Web.
5. While using online learning tools, I was blocked by others in instant messaging programs.
6. While using online learning tools, I have received messages with religious or politic content without my consent.
7. While using online learning tools, I have received threatening e-mails or instant messages.
8. While using online learning tools, I have faced with people using my personal information without my consent.
9. While using online learning tools, I have suffered from software aiming to get my personal information.
10. While using online learning tools, I have received insulting e-mails or instant messages.

11. While using online learning tools, I have published personal photographs and videos without any consent.
12. While using online learning tools, I was disturbed by people I do not want to chat with in the instant messaging programs.
13. While using online learning tools, I was deceived by people who are pretending to be someone else.
14. While using online learning tools, I have lost passwords or be obliged to change them because of password thieves.
15. While using online learning tools, I have found people speaking on my behalf using my nickname without my knowledge.
16. While using online learning tools, I have received obscene e-mails.
17. While using online learning tools, I have received unwanted content to my personal computer without my consent.
18. While using online learning tools instant messaging programs, I have faced different cursing or slang languages.
19. While using online learning tools, I have experienced that others use my Webcam images without my consent.
20. While using online learning tools using my webcam, I

have seen obscene images.

21. While using online learning tools, I have received proposals with sexual allusion from people I know / I do not know.
22. While using online learning tools, I have confronted with people hiding their identities while communicating.

Attitude	9	Scale: 5-point Likert scale	Adapted from (Hofer & Pintrich, 1997)

1. I have been urged to vote for or sign in a religious, politic or sports group.
2. I have been specifically and intentionally excluded from an online group / chat room.
3. I experienced that publication of my personal information through e-mails or instant messaging tools without my consent.
4. I experienced that my personal information is shared online without my consent.
5. I saw incorrect and mean-spirited things written about myself.
6. I was mocked in online social utilities because of my physical appearance, and character.
7. I generally have positive attitudes towards online

learning tools.

8. I believe I can take risks in learning with the online learning tools.
9. Online learning tools enable me to access the learning resources easily.

Use of online learning	5	Scale: 5-point Likert scale	Modified from (Venkatesh, Morris, Davis, & Davis, 2003)

1. I intend to use online learning tools in the future.
2. I predicate I would use online learning tools frequently.
3. I plan to use online learning tools in my work.
4. State the degree that you are willing to use online learning tools as daily basis

B- Validity: Content validity

Two experts were involved in this study to assess on the content validity of the questionnaire. The two experts were chosen based on their area of specialty in internet related research. Their comments consist on the number of questions and how it should reflect the study's dependent variables. They recommend reducing the number of questions to 3 for attitude to have more consistent result. Another comment was on the period to be allowed for the respondents to give their responses. All the comments were considered by the researcher and changed upon the experts' point of view.

C- Reliability

Reliability is concerned with the consistency of measurement, that is, the degree to which the questions used in a survey elicit the same type of information each time they are used under the same conditions.

Evidence of the initial reliability of the instrument was provided by a definite sample of learners from UUM. In this research, the reliability of the subscales was determined by internal consistency (alpha coefficient). A Cronbach's Alpha greater than 0.70 suggests acceptable reliability (Checkoway, Pearce, & Kriebel, 2004). Therefore, Cronbach's alpha above 0.70 suggests acceptable reliability in this study.

3.2.3 Stage three:

A-Pilot Study

Pilot study was conducted among 30 students for reliability measures. Cronbach's alpha was used to measure the result from the pilot study using Statistical Package for Social Science (SPSS) program version 20. The respondents in the pilot study were not included in the main data evaluation. The pilot study result showed that all the constructs achieved acceptable reliability >0.70 as recommended by Checkoway et al. (2004).

B- Data Collection

Data collection procedures were established upon meeting the students face to face and explaining to them the purpose of the study in the covering letter. A questionnaire was given to them in order to capture their responses related to the aim of this study.

C- Data Analysis

The collected data was analyzed using the SPSS program. The data was summarized using descriptive statistics, including means and standard deviations, and factor analysis for measuring the significance differences between groups and extract the factors contributing to the student's attitude to use learningzone. A regression test was used to determine the effects of these strategies, while correlation was used to identify the relationship as shown in Table 3.3.

Table 3. 3 Data collection and analysis procedure

No.	Research Question	Method	Analysis
1	What types of cyber-bullying exist in online learning environment in UUM?	Questionnaire	Mean & Standard deviation, For factor validity (Kaiser-Meyer-Olkin measure of sampling adequacy (KMO-test), Bartlett's test of sphericity, and principal component analysis (PCA), and scree plot)
2	What is the effect of cyber-bullying on student's attitude to use online tools in learning in UUM?	Questionnaire	Regression test and correlation

3.3 Summary

The methods used in this study provided the necessary information and data to address the identified research questions. The data analysis identified any relationship between cybervictimization and other students' behavioral aspects such as attitude towards the use of learningzone. A deeper understanding of this relationship could help UUM to determine the effects of cyber-bullying on students learning to use learningzone.

CHAPTER FOUR
RESULTS

The analysis methods used to generate this study result are introduced in this chapter which divided into three main phases. The first phase consists of screening and cleaning the data, the second phase consists of the descriptive statistics, while the third phase consists of answering the research questions asked earlier.

4.1 Introduction

This study aimed at identifying the cyber-bulling related acidities faced by UUM students in the learningzone. However, the effect of these activities on student's attitude to use online learning tools was also considered in which it believe to affect the student's use of online learning tools. In order to answer the research questions mentioned in the first chapter, the researcher has evaluated the student's perception towards cyber-bullying activities using questionnaire.

Exploratory Factor Analysis (EFA) was used to determine the factors associated with cyber-bullying at UUM to use online learning tools. This was examined based on the student's use of learningzone as a tool for learning online. A summary of research questions testing results is described together with an illustration of the findings from correlation and regression analysis.

4.2 Data screening and cleaning

This study considered the main and first process of data screening and cleaning to ensure that the collected data has not missing values, has no outliers, and

items are distributed normally within the cases (Van den Broeck & Fadnes, 2013). These activities are described as follows:

4.2.1 Missing Data

In order to detect the missing data, the researcher used SPSS V 20 for checking the missing data. A total of 280 questionnaires were distributed among students from different departments at UUM, 230 responses were received back. However, the researcher found that there were 2 questionnaires with missing data were detected which is considered minimal (Pallant, 2010). A complete data set of 227 questionnaires was then analyzed and proclaimed free of missing data as shown in Table 4.1.

Table 4. 1 Missing data

	Valid		**Missing**		**Total**	
	N	Percent	N	Percent	N	Percent
Q1	227	98.7%	3	1.3%	230	100.0%
Q2	227	98.7%	3	1.3%	230	100.0%
Q3	227	98.7%	3	1.3%	230	100.0%
Q4	227	98.7%	3	1.3%	230	100.0%
Q5	227	98.7%	3	1.3%	230	100.0%
Q6	227	98.7%	3	1.3%	230	100.0%
Q7	227	98.7%	3	1.3%	230	100.0%
Q8	227	98.7%	3	1.3%	230	100.0%
Q9	227	98.7%	3	1.3%	230	100.0%

Q10	227	98.7%	3	1.3%	230	100.0%
Q11	227	98.7%	3	1.3%	230	100.0%
Q12	227	98.7%	3	1.3%	230	100.0%
Q13	227	98.7%	3	1.3%	230	100.0%
Q14	227	98.7%	3	1.3%	230	100.0%
Q15	227	98.7%	3	1.3%	230	100.0%
Q16	227	98.7%	3	1.3%	230	100.0%
Q17	227	98.7%	3	1.3%	230	100.0%
Q18	227	98.7%	3	1.3%	230	100.0%
Q19	227	98.7%	3	1.3%	230	100.0%
Q20	227	98.7%	3	1.3%	230	100.0%
Q21	227	98.7%	3	1.3%	230	100.0%
Q22	227	98.7%	3	1.3%	230	100.0%
Q23	227	98.7%	3	1.3%	230	100.0%
Q24	227	98.7%	3	1.3%	230	100.0%
Q25	227	98.7%	3	1.3%	230	100.0%
Q26	227	98.7%	3	1.3%	230	100.0%
Q27	227	98.7%	3	1.3%	230	100.0%
Q28	227	98.7%	3	1.3%	230	100.0%
Q29	227	98.7%	3	1.3%	230	100.0%
Q30	227	98.7%	3	1.3%	230	100.0%
Q31	227	98.7%	3	1.3%	230	100.0%

Q32	227	98.7%	3	1.3%	230	100.0%
Q33	227	98.7%	3	1.3%	230	100.0%
Q34	227	98.7%	3	1.3%	230	100.0%
Q35	227	98.7%	3	1.3%	230	100.0%

4.2.2 Outliers

The researcher has also checked for possible outliers after the checking for missing data is completed. Outliers take place when some responses deviate from the rest of the sample. It can be identified as the response with extreme values in a sample. Having such extreme values in the data will lead to result inaccurate results when analysis is performed. The allowed range for outliers is from -3 to 3 which represents the standardized residual (Zacharias et al., 2004).

Therefore, the researcher utilized the regression estimation in SPSS in order to determine the possible outliers within the 227 cases. The outliers were estimated based on the predicated relation between the independent constructs in terms of the cyber-bullying activities along with students' attitude and their use of online learning tools.

The data with less than 10% outliers are omitted because this would not make problematic the data analysis (Hair Jr, Hult, Ringle, & Sarstedt, 2013). A total of 21 cases were eliminated due to extreme value (220, 180, 150, 113, 122, 190, 137, 102, 59, 16, 200, 199, 179, 145, 178, 212, 39, 132, 146, 70, 26, accordingly). This leaves a total of 207 responses for the main data analysis.

4.2.3 Normality test

The researcher has also checked the data for normality after removing the outliers, normality is the way the data distributed in hierarchical way in order to ensure a reliable result for multiple regression analysis (Pallant, 2010; Park, 2008). It is necessary to continuously screen constructs for normality of data distribution in the early stages of multivariate analysis.

Skewness value (measure of symmetry of a distribution) and kurtosis value (measurement of the peakness or flatness of distribution when compared with a normal distribution) are two elements calculated to find the normality of the data (Noruésis, 2011). The recommended value for skewness should not exceed 1.96 and -1.96, while the kurtosis value should not be more than 7. Appendix B shows the obtained normality for all the constructs through the range of skewness and kurtosis values.

4.2.4 Multicollinearity

Multicollinearity is the measure for indicating any unusual data or values within the constructs. This involves the repeated data or blind answering of the questionnaire. In order to measure this, the researcher used Variance Inflation Factors (VIF‘s) to evaluate this assumption. A VIF larger than 10 implies a serious problem with multicollinearity (Noruésis, 2011). Table 4.2 shows the multicolleanarity result for all the constructs, based on the table; it can be found that there is no serious problem with multicollinearity where all VIF for variables ranged from 0.996 to 1.569.

Table 4. 2 Multicolleanarity measure for the constructs

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	4.070	.161		25.238	.000		
Cyber	-.058	.065	-.062	-.891	.374	1.000	1.000
2 (Constant)	3.129	.213		14.683	.000		
Cyber	-.338	.075	-.360	-4.477	.000	.637	1.569
Attitude	.561	.091	.495	6.151	.000	.637	1.569
1 (Constant)	1.678	.114		14.745	.000		
Cyber	.499	.046	.602	10.803	.000	1.000	1.000
2 (Constant)	.542	.212		2.553	.011		
Cyber	.515	.043	.622	12.092	.000	.996	1.004
Use	.279	.045	.316	6.151	.000	.996	1.004

a. Dependent Variable: Use of

4.3 Reliability Measures

It is very important to perform the reliability analysis after cleaning the data. This is to ensure that the responses are within the acceptable range of reliability. Cronbach‘s alpha coefficient was computed for every single scale. According to Pallant (2010) Cronbach‘s alpha is acceptable with a minimum value of 0.70. Therefore, the researcher performed the reliability testing where the result of Cronbach‘s alpha for each scale is shown in Table 4.3. The result shows that all

constructs in a reliable measure with a total Cronbach's Alpha of 0.887 for all the 35 items.

Table 4. 3 Reliability measures

Construct	**Cronbach's Alpha**	**Number of items**
Cyber-bullying	0.958	22
Attitude	0.810	9
Use of	0.895	4
Total	0.887	35

4.4 Demographic background

The demographic background for the 207 respondents were gathered in order to provide a clear understanding about the distribution of respondents in terms of age, gender, education level, internet use, and social network. These characteristics were included in order to provide demographic information on the sample. Table 4.4 shows the descriptive statistics for each demographic factor in this study.

Table 4. 4 Summary of descriptive demographic factors

Demographic	Categories	Frequency	Percent
Gender			
Male		54	26.1%
Female		153	73.9%
Age (Years)			
<20		43	20.8%
21-25		95	45.9%
26-30		51	24.6%
31-35		15	7.2%
36-40		1	.5%
41-45		1	.5%
46-50		1	.5%
Education			
Degree		175	84.5
Master		26	12.6
PhD.		6	2.9
Internet use			
Daily		205	99.0
Weekly		2	1.0
Use of learningzone			
Daily		107	51.7
Weekly		97	46.9
Monthly		3	1.4

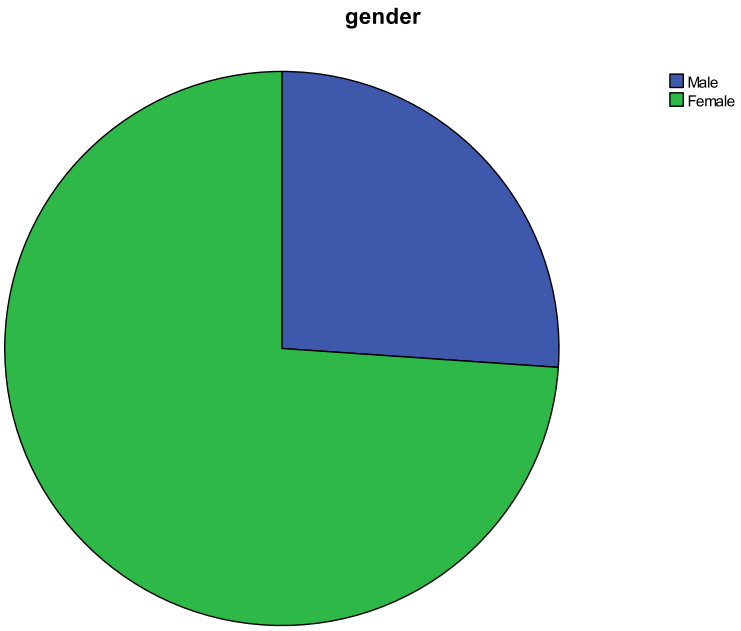

Figure 4. 1 Gender distribution

Figure 4.1 showed that majority of respondents females 153 (73.9%), while males were only 54 (26.1%).

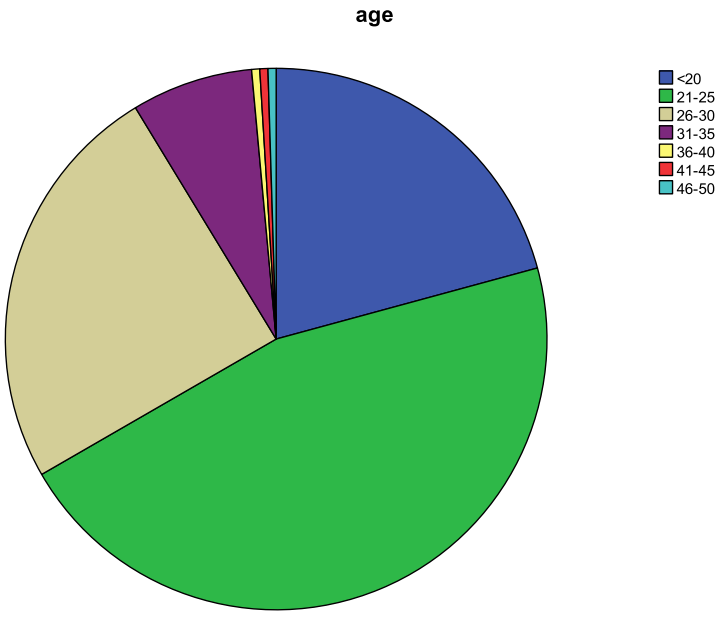

Figure 4. 2 Age distribution

In addition, 43 (20.8%) of the respondents were <20 age group, 95 respondents (45.9%) were ranging from 21-25 years old, and 51 respondents (24.6%) were

ranging from 26-30 years old while 15 respondents (7.2%) were 31-35 years old. The other age groups scored less than 0.5%, as illustrated in Figure 4.2.

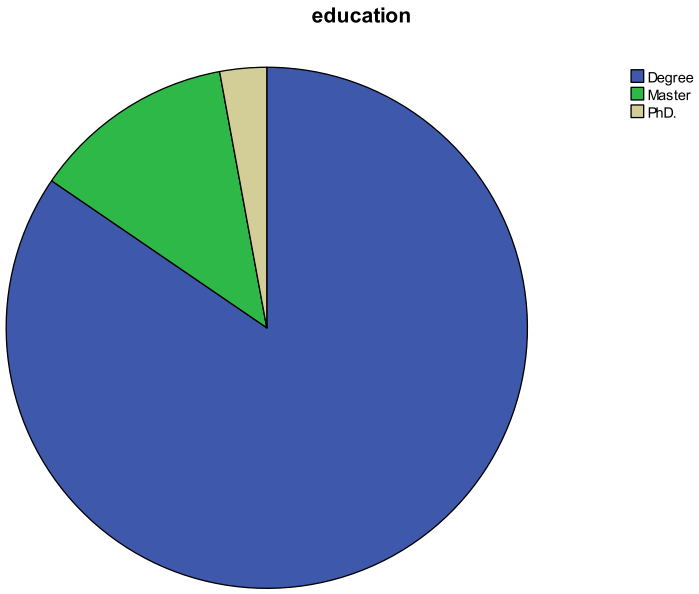

Figure 4. 3 Education distribution

As mentioned beforehand, the responders total were (207), where 175 was from Degree (84.5) and 26 from Master, while PhD was 6 students, as shown in figure above.

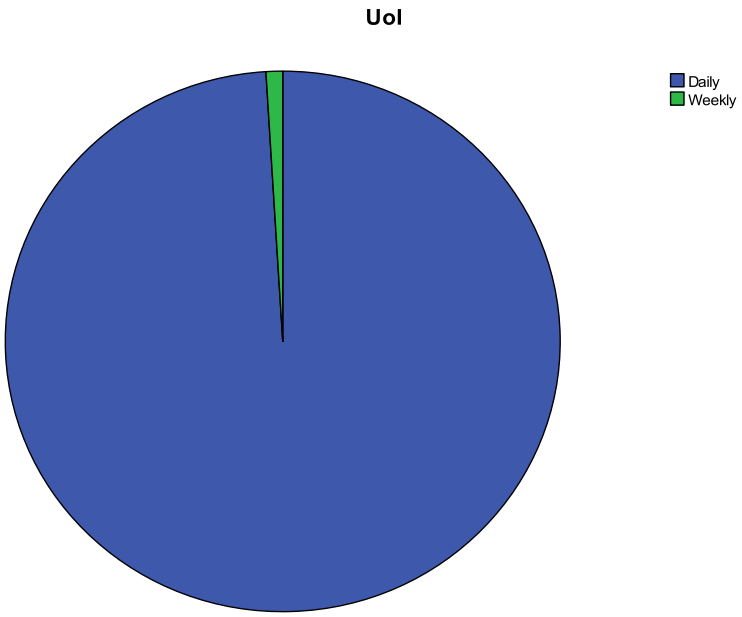

Figure 4. 4 Internet use distribution

In terms of internet usage, a total of 207 of respondents (99.0%) were using the internet daily, while the rest of 2 respondents (1.0%) were using it weekly (see Figure 4.4). However, the 107 of respondents (51.7%) were found to use learning zone daily, 97 respondents (46.9%) were found to use learningzone weekly, and only 3 of them (1.4%), see Figure 5.5. More detail depicted in Table 4.4.

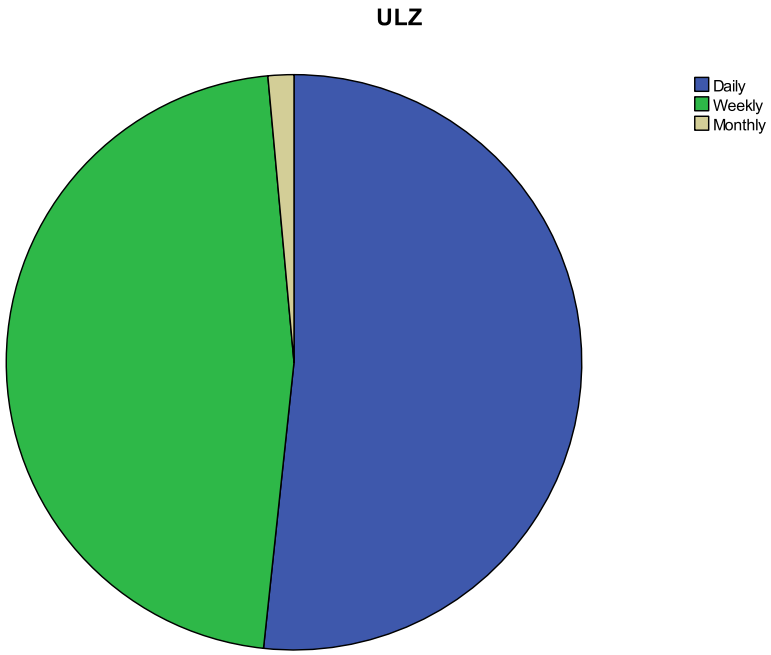

Figure 4. 5 Use of learningzone distribution

4.5 Descriptive Statistics

Descriptive statistics were utilized to demonstrate the characteristics of the data sample. It provides for simplicity of the respondents information sample in order to define a set of constructs or items in a manner that is easy to comprehend. Table 4.5 shows the mean and standard deviation for the cyber-bullying items along with the normality value for every single item.

Based on the result from Table 4.5, it can be concluded that majority of respondents were not agree on items related to others use Webcam images without their consent with mean=2.04 and STD=0.970.

The respondents were also found to equally disagree with other aspects related to using personal information without consent with mean=2.20 and STD=1.021, blocked by others in instant messaging programs with mean=2.20 and STD=0.959, and receiving instant messages including incorrect or bad things about friends with mean=2.20 and STD=1.002. They disagreed that they have received proposals with sexual allusion from people they know or they do not know with mean=2.08 and STD=1.002.

Moreover, the respondents referred that, they faced some peoples speaking behalf them by using their nickname without their permission. Where, mean= 3.93 and STD=1.00. In addition, respondents agreed also on webcam use by seeing obscene images with mean= 3.85 and STD=0.98. Moreover, respondents were agreed also on using social media led them to confront with people hiding their identities while communicating with mean= 3.84 and STD=0.95. However, only few respondents found to be equally not sure about items related to hiding identities while communicating with mean=2.57 and STD=1.217, faced different cursing or slang languages with mean=2.57 and STD=1.155, and invited to applications including gossips or inappropriate chat with mean=2.57 and STD=1.204. This means that respondents were not sure about other cyber-bullying aspects related to internal system events. In addition, the result shows that students were aware of some bullying activities that may resulted from previous experience in which it shaped their ability to distinguish them in future use.

Table 4. 5 Descriptive statistics for Cyber-bullying

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CBQ1	207	2.44	1.104	.154	.169	-1.140	.337
CBQ2	207	2.57	1.204	.159	.169	-1.203	.337
CBQ3	207	2.20	1.002	.557	.169	-.471	.337
CBQ4	207	2.52	1.092	.193	.169	-.887	.337
CBQ5	207	2.20	.959	.483	.169	-.514	.337
CBQ6	207	2.28	1.046	.431	.169	-.777	.337
CBQ7	207	2.17	.990	.524	.169	-.464	.337
CBQ8	207	2.20	1.021	.588	.169	-.514	.337
CBQ9	207	2.52	1.127	.276	.169	-.876	.337
CBQ10	207	2.23	1.025	.434	.169	-.701	.337
CBQ11	207	2.26	1.027	.364	.169	-.881	.337
CBQ12	207	2.59	1.140	.092	.169	-1.043	.337
CBQ13	207	2.39	1.069	.250	.169	-.990	.337
CBQ14	207	2.42	1.196	.466	.169	-.893	.337
CBQ15	207	2.17	.998	.602	.169	-.275	.337
CBQ16	207	2.31	1.084	.489	.169	-.615	.337
CBQ17	207	2.50	1.140	.312	.169	-.985	.337
CBQ18	207	2.57	1.155	.209	.169	-.902	.337
CBQ19	207	2.04	.970	.858	.169	.413	.337
CBQ20	207	2.21	1.010	.544	.169	-.519	.337
CBQ21	207	2.08	1.002	.750	.169	-.202	.337

CBQ22	207	2.57	1.217	.231	.169	-1.141	.337

As for the student's attitude, the descriptive statistics result in Table 4.6 shows that majority of respondents were agreed that online learning tools enable them to access the learning resources easily with mean=3.82 and STD=1.012. The result also showed that they were generally have positive attitudes towards online learning tools with mean=3.74 and STD=0.954. However, others were found to disagree about other aspects related to personal information publication through e-mails or instant messaging tools without their consent with mean=2.39 and STD=1.032, display incorrect and mean-spirited things written about themselves with mean=2.25 and STD=0.993, and mocked in online utilities because of physical appearance, and character with mean=2.26 and STD=0.990. The result shows that students were having a positive attitude about the use of learningzone and that they were able to access and use it easily. This means that cyber-bullying activities has not influenced students attitude that much to process learning. However, the result also sends a clear message to the university to enhance the learningzone's privacy and security for personal account.

Table 4. 6 Descriptive statistics for Attitude

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ATTQ1	207	2.52	1.047	.340	.169	-.510	.337
ATTQ2	207	2.71	1.077	.140	.169	-.710	.337
ATTQ3	207	2.39	1.032	.550	.169	-.205	.337
ATTQ4	207	2.46	1.122	.457	.169	-.699	.337

ATTQ5	207	2.25	.993	.500	.169	-.376	.337
ATTQ6	207	2.26	.990	.335	.169	-.779	.337
ATTQ7	207	3.74	.954	-.924	.169	1.127	.337
ATTQ8	207	3.44	1.036	-.604	.169	-.149	.337
ATTQ9	207	3.82	1.012	-.901	.169	.610	.337

As for students' intention, all the respondents were found to agree on all the items asked. For instance, respondents were intend to use online learning tools in the future with mean=3.99 and STD=0.862, they were also planning to use online learning tools in their work with mean=3.94 and STD=0.780. In addition, respondents also agreed that they use of online learning tools frequently with mean=3.92 and STD=0.841. And willing to use online learning tools as daily basis with mean=3.89 and STD=0.888.

Table 4. 7 Descriptive statistics for Intention to use

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
UOLQ1	207	3.99	.862	-.753	.169	.356	.337
UOLQ2	207	3.94	.780	-.580	.169	.555	.337
UOLQ3	207	3.92	.841	-.586	.169	.175	.337
UOLQ4	207	3.89	.888	-.662	.169	.451	.337

4.6 Factor Analysis

Question1: *What types of cyber-bullying exist in online learning environment in UUM?*

In order to answer this question, the researcher generate the principle factor analysis performed using exploratory factor analysis to determine the factors for sample proportions because it possesses the ability to summarize the collected data and minimize the invalid items (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

Therefore, we used EFA measured by extraction method principal component analysis in order to extract the overall loading for the present study's items. To do so, the researcher set up the Varimax rotation to identify the double loading items named rotated matrix loading. In accordance with the suggestion by (Crane, Busby, & Larson, 1991; Salako, 2006), Kaiser-Meyer-Olkin (KMO), measurement of sampling adequacy and the significance of Bartlett's Test of Sphericity (BTS) was also measured along with the scree plot representation.

Table 4.8 presents the KMO for human resource of 0.948, which is considered factorable; and the BTS is significant, (less than 0.05). Thus, the EFA is appropriate for this study.

Table 4. 8 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.948
Bartlett's Test of Sphericity	Approx. Chi-Square	3250.500
	Df	231
	Sig.	.000

A total of three components were extracted in the EFA, 22 questions were examined using principal component analysis with Varimax rotation. The analysis yielded three factors explaining a variance showed in Table 4.9 for the entire set of variables.

Table 4. 9 Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.829	53.769	53.769	11.829	53.769	53.769	5.188	23.582	23.582
2	1.492	6.782	60.551	1.492	6.782	60.551	4.776	21.710	45.292
3	1.044	4.743	65.295	1.044	4.743	65.295	4.401	20.003	65.295
4	.807	3.670	68.965						
5	.698	3.174	72.138						
6	.647	2.943	75.081						
7	.588	2.673	77.754						
8	.527	2.394	80.148						

9	.507	2.306	82.454
10	.466	2.118	84.572
11	.449	2.041	86.613
12	.389	1.768	88.381
13	.354	1.608	89.989
14	.330	1.501	91.491
15	.323	1.468	92.959
16	.292	1.326	94.285
17	.257	1.166	95.451
18	.246	1.116	96.567
19	.221	1.003	97.570
20	.201	.915	98.485
21	.179	.813	99.297
22	.155	.703	100.000

Extraction Method: Principal Component Analysis.

The three factors explained a total of 65.29% of the variances. The EFA result also showed that item number 8 processed a low loading in which it led to the illumination of that item and reanalyzes the EFA for the 21 items.

The reanalysis result showed that the first factor consists of q1, q2, q3, q4, q5, q6, q7, and q20, explained 23.58% of the variance with factor ranged from 0.0.53 to 0.778. The second factor derived was labeled under q9, q11, q12, q13, q14, q16, q17, and q18 with total variance of 21.71% explained by this factor with factor loading ranged from 0.535 to 0.694 as shown in Table 4.10. The third

factor derived was labeled under 15, q19, q20, q21, and q22 with total variance of 20.00% explained by this factor with factor loading ranged from 0.774 to 0.834. The fourth factor derived was labeled under q4, q5, q6, and q22 with total variance of 41.34% explained by this factor with factor loading ranged from 0.501 to 0.667. Such result led us to conclude that there factors related to cyber-bullying among UUM students.

The first factor consists of items related to receiving harassing emails and instant messages with fake identity; therefore, this factor was labeled as "receiving emails and instant messages with different identities". However, the second factor consists of items related to interfering with the personal information through emails and an instant message, therefore, this factor was labeled as "asking for access without permission". The third factor consists of items related to permission to use webcam, therefore, this factor was labeled as "use of webcam images".

Table 4. 10 Rotated Component Matrix[a]

	Factor1	**Factor2**	**Factor3**
CBQ1	.732		
CBQ2	.719		
CBQ3	.778		
CBQ4	.523		
CBQ5	.637		
CBQ6	.645		
CBQ7	.692		
CBQ9		.645	

CBQ10	.660		
CBQ11		.543	
CBQ12		.670	
CBQ13		.649	
CBQ14		.584	
CBQ15			.612
CBQ16		.535	
CBQ17		.694	
CBQ18		.647	
CBQ19			.789
CBQ20			.778
CBQ21			.666
CBQ22			.609

In addition, this can also be found in the scree plot distribution in Figure 4.6, it confirms the initial value for the variances and factor loading resulted from Table 4.11 and Table 4.12.

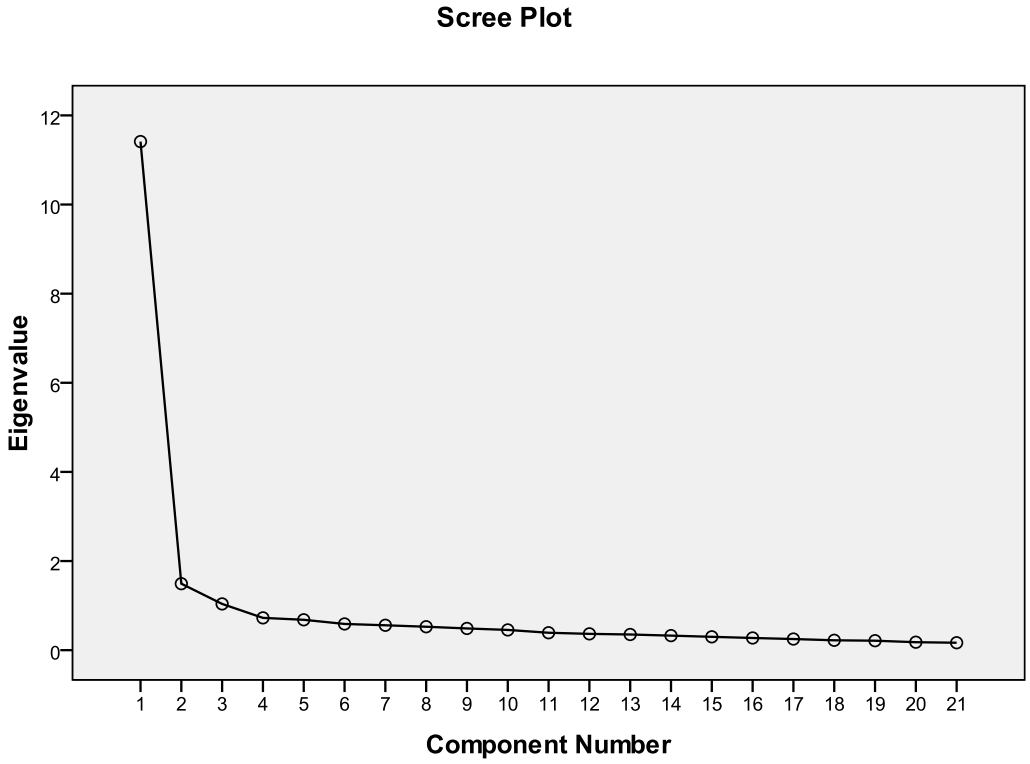

Figure 4. 6 Scree Plot for Cyber-bullying

Table 4.11 and Table 4.12 shows the resulted factors form the cyber-bullying items after performing EFA.

Table 4. 11 Cumulative data extraction

	Initial	Extraction
CBQ1	1.000	.646
CBQ2	1.000	.685
CBQ3	1.000	.690
CBQ4	1.000	.669
CBQ5	1.000	.598
CBQ6	1.000	.677
CBQ7	1.000	.695

CBQ9	1.000	.630
CBQ10	1.000	.670
CBQ11	1.000	.608
CBQ12	1.000	.679
CBQ13	1.000	.726
CBQ14	1.000	.595
CBQ15	1.000	.613
CBQ16	1.000	.678
CBQ17	1.000	.635
CBQ18	1.000	.595
CBQ19	1.000	.757
CBQ20	1.000	.740
CBQ21	1.000	.635
CBQ22	1.000	.721

Table 4. 12 Extracted factors

Domain	**Factors**
Cyber-bullying	• Receiving emails and instant messages with different identities • Asking for access without permission • Use of webcam images

4.7 Correlation and Regression Analysis

Question2: *What is the effect of cyber-bullying on student's attitude to use online learning tools in UUM?*

In order to answer this question, the researcher performed correlation analysis along with the regression analysis to find the relationship and effect between the resulted factors and student's attitude to use online tools for learning. The results show that the all scales are significantly correlated in Table 4.13 with the student's attitude where Factor one (Receiving emails and instant messages with different identities) scored r=0.484 ($p < 0.05$) is considered normally and positively correlated with student's attitude. In addition, we found that asking for access without permission to be highly correlated with student's attitude with r=-0.594 ($p>0.05$).

However, the result also showed that the use of webcam images was highly correlated with student's attitude with r= 0.577 ($p<0.05$). This led the researcher to conclude that all the resulted factors are positively associated with the student's attitude to use online learning tools as shown in Table 4.13.

Table 4. 13 Correlation analysis

		Factor1	Factor2	Factor3	Attitude
Factor1	Pearson Correlation	1	.786**	.676**	.484**
	Sig. (2-tailed)		.000	.000	.000
Factor2	Pearson Correlation		1	.802**	.594**
	Sig. (2-tailed)			.000	.000
Factor3	Pearson Correlation			1	.577**

	Sig. (2-tailed)	.000
Attitude	Pearson Correlation	1
	Sig. (2-tailed)	

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

In addition, to find the effect between the resulted factors and students' attitude to use online learning tools, the research used multiple regression analysis, taking attitude as dependents and the other resulted three factors as independent variables.

The regression analysis performed showed that the factors which has a positive influence on student's attitude are Factor two "Asking for access without permission" (ß=0.263, p=0.001) and Factor three "Use of webcam images" (ß=0.212, p=0.003),

While Factor one "Receiving emails and instant messages with different identities" was found to has no significant effect on students attitude (ß=0.009, p=0.90). As p value <0.05 for all these factors, it led the researcher to conclude that Factor2 and Factor3 are the main factors that affect UUM student's attitude as shown in Table 4.14. With adjusted R value of =38% explained the variance in the scores in regards to student's attitude based on the current cyber-bullying activities as shown in Table 4.15.

Table 4. 14 Regression Analysis for structure readiness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.618[a]	.381	.372	.51404

a. Predictors: (Constant), Factor3, Factor1, Factor2

Table 4. 15 coefficient of the regression

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	Factor1	.009	.071	.011	.124	.901
	Factor2	.263	.081	.360	3.248	.001
	Factor3	.212	.070	.280	3.011	.003

a. Dependent Variable: Attitude

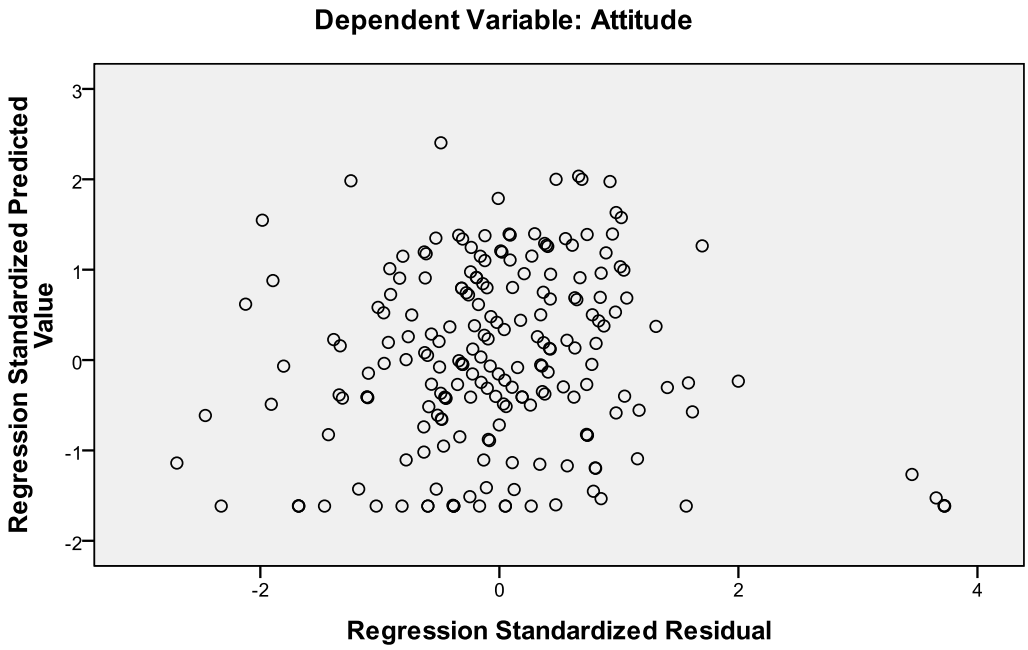

Figure 4. 7 Normal Regression standardized residual for attitude

Figure 4.7 shows the normal regression standardized residual for the effect of the resulted factors on student's attitude. The distribution of the factors is normal and inline with the student's attitude to use online learning tools.

In terms of students' intention to use online learning tool, the researcher examined the effect of student's attitude on the 4 items of intention adapted from previous studies. The result showed that the adjusted R value of =7% explained the variance in the scores in regards to student's intention to use online learning tool with (ß=0.315, p=0.00). This mean that student's attitude towards current cyber-bullying activities affect their intention to use online learning tools.

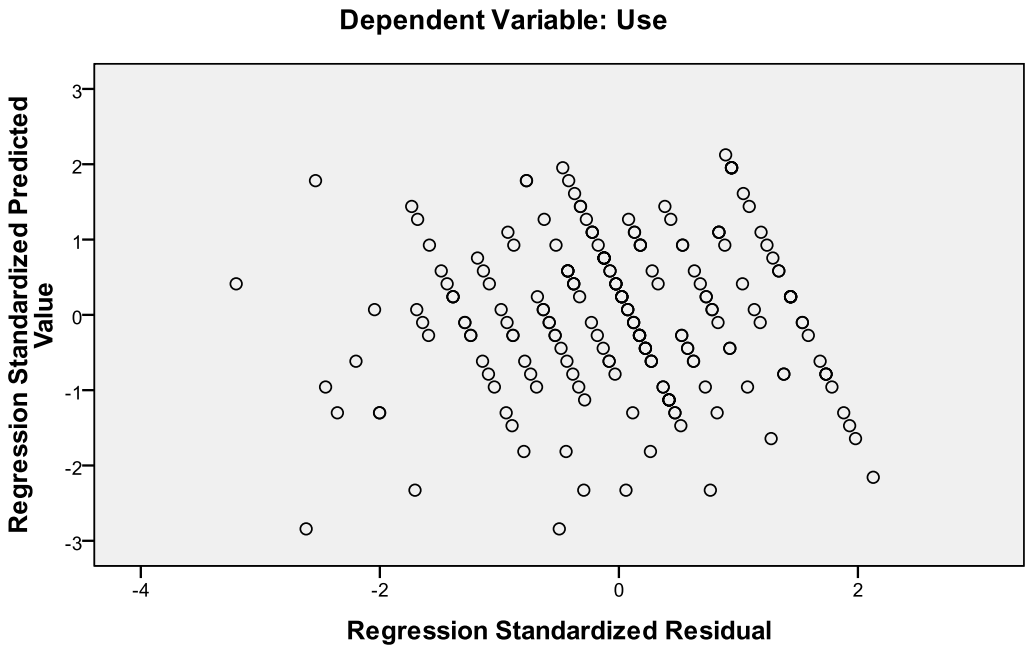

Figure 4. 8 Normal Regression standardized residual for intention to use

4.8 Summary

This chapter introduced the data analysis procedure by dividing it into three main sections. The first section elaborate on the data screening and cleaning, the second section elaborate the descriptive statistics result followed by the third section the factor analysis. The result showed that three factors were resulted based on the students enters from UUM.

CHAPTER FIVE
DISCUSSION and CONCLUSION

5.1 Discussions

This chapter highlights the result and its relation to the previous studies' findings on promoting online learning use. Cyber-bullying activities was studied and examined among 207 students in UUM. An exploratory factor analysis was used to extract the factors associated with current cyber-bullying in the Malaysian context. This was labeled into two questions of "What types of cyber-bullying exist in online learning environment in UUM?" and "What is the effect of cyber-bullying on student's attitude to use online learning tools in UUM?"

The researcher found that there are three main types that contribute to the student's cyber-bullying activities in UUM, these are 1) Receiving emails and instant messages with different identities, this factor was found to be covered by previous studies for example Smith et al. (2008) who found that text messages and emails can influence the way individual perceive process. In the case of this study, this study found that majority of students has been experiencing such situation. The second factor was 2) Asking for access without permission, the obtained result stands inline with the one found by Bauman (2010) who stated how self-blaming attributions resulted from such activity predicted emotional distress in response to a cyber-bullying. It also supports the claim of Grigg (2010) who found how cyber-aggression is used to describe a wide range of behaviours other than cyber-bullying including the permission to access and use.

The third factor 3) Use of webcam images, which was supporting to the claims of Akbulut, Sahin, and Eristi (2010a) who found how cyber-bullying associated with webcam images effect the user's perception towards online activities. However only cyber-bullying and attitude that influence on the intention to use online learning in the future.

This study provides additional evidences to the body of knowledge and extant literature on bullying in the online environment. First, cyber-bullying is a bullying that occurs even among students with different educational level. To date, few research studies have examined bullying issue in this new context where the perception of student towards using online tool was limited investigated.

The astonishing high proportion of university students who had experiences of cyber-bullying suggests that cyber-bullying is becoming an increasingly significant problem for trusting online tools and especially the emails received from it. The result was also found to be enriching the main premises of social learning theory adapted in this study.

Second, the result of this study found to be inline with other previous studies such as Zhou et al. (2013) in which they found that cyber-bullying experiences effect students perception to learn. The result also enriches Ryan, Kariuki, and Yilmaz (2011) recommendations about measuring the effect of cyber-bullying on students behavioral changes and its relation to perform learning tasks.

As evidenced in previous research, cyber victims can be affected in many ways, including psychological, emotional, and academic problems (Stassen Berger, 2007). Students could suffer from emotional depression and decreased academic

achievement. Future research must explore how cyber-bullying decreases, maintains or exacerbates other forms of bullying.

5.2 Limitation of the Study

In the current study, the researcher faced several challenges and these challenges a limit of this researcher:

1. Due to the limitation in time and financial resources, this study is limited to investigate the current status of cyber-bullying at UUM. It focuses on student's attitude towards cyber-bullying in these universities.
2. The researcher relayed only on the quantitative method to determine the effect of cyber-bullying on student's attitude to use the online learning tools.

5.3 Recommendations for Future Work

This study has focused on understanding the extent to which cyber-bullying concerned students' attitude at UUM to which it was viewed as a problem which affected students use of online learning tools. Also we hoped to determine if they can identify and manage cyber-bullying at the university level and how. Therefore, the researcher believes that using only a survey method in cyber-bullying research is a limitation and it should be extended to interviewing students with more deep questions about their precepts of online tools.

Hence, further studies should make use of qualitative methods to grasp the perceptions of cyber-bullying. In addition, due to the time limit and resources, the researcher encourages of considering other data sources as the one used in

this study was neither as accurate nor complete as would be the case if face to face interviews were completed or if larger samples could be utilized.

In terms of the research instrument, other extended version of cyber-bullying questionnaire can be included where the survey used in this study was limited to findings and to assume that candidates were similar in terms of their educational level and other personal characteristics. Enhanced data display and further analysis may have yielded more information and focused the research conclusions in a different way; however, the multiple researcher approach was made use of herein and the analysis of these data sources was undertaken as necessary.

Potential shortcomings in this research that are sources for bias include researcher pre-understanding of the issues, possible outcomes and grasp of the phenomena globally. Future research is needed to continue to develop an understanding of cyber-bullying. Future research should interview cyber-bullies, cyber-victims and bystanders if possible and enhanced data analysis and even meta-analyses of existing studies would prove useful.

5.4 Conclusion

This study highlighted the main aspects related to the impact of cyber-bullying activities on student's attitude to learn using learningzone tools. A research model was designed using social learning theory. The empirical study was also reported to show the similarities and differences with previous researches. Quantitative data analysis method was used for this study based questionnaire to be distributed among UUM students. The factor analysis result showed that there are types of cyber-bullying exist in online learning environment in UUM.

The result also showed that these three factors are positively correlated with students' attitude to use online learning tools. The researcher found that students' attitude resulted from the perception of two contribute to the use of online learning tool. Future studies should consider applying mixed method for conforming the present research findings.

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