PREDICTORS OF ONLINE IDENTITY RECONSTRUCTION FROM AN ADVANCED SELF-DISCREPANCY THEORY PERSPECTIVE

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PREDICTORS OF ONLINE IDENTITY RECONSTRUCTION FROM AN ADVANCED SELF-DISCREPANCY THEORY PERSPECTIVE

ABSTRACT

In face-to-face communication, to avoid sanctions and disapproval from others, most people choose to hide the negative aspects of their true self (such as socially undesirable personalities, beliefs, and consciousness) that conflict with the social norms and laws. In contrast, in an anonymous online environment (e.g., anonymous social network platforms), people feel less restrained and can express their true self more freely and openly. When interacting with others online, people can reconstruct an identity that is partly or even completely different from their physical identity, namely online identity reconstruction. However, whether people reconstruct their online identity based on their true self is not yet clear. In addition, people have been spending increasingly more time online every day, particularly on social network platforms. With the various social network platforms available, people can freely choose to use any of them and switch to others as they wish. Therefore, it is important for service providers to improve user satisfaction and retain users. Even though existing research has investigated online user satisfaction from different perspectives, there is still a lack of research on the effects of online identity reconstruction on user satisfaction. Using the sequential exploratory design, I conducted qualitative research in the first phase to explore the role of the true self in online identity reconstruction. In the qualitative phase, data were collected from 57 participants through interviews. Content analysis revealed four factors (anonymity, less restraints, online-offline dissociation, and online listeners) that motivate people to involve their true self as a part of their self-guides online and express more of their true self when reconstructing their identity in an anonymous virtual environment. By incorporating the true self as an important part of an individual‘s self-guide and identity,

the qualitative study advanced the self-discrepancy theory, making it more comprehensive for anonymous environments. Built on the results of the qualitative phase, quantitative research was conducted in the second phase to investigate the effects of identity reconstruction on user satisfaction. Given that people can reconstruct an online identity on the basis of their own ideas, it is likely that online identity reconstruction fulfills their psychological needs, thereby, affecting their satisfaction. Drawing upon the advanced self-discrepancy theory and the framework of psychological well-being, I built a theoretical model in the quantitative phase to test how online identity reconstruction (which includes three domains of the self: the ought self, the ideal self, and the negative true self) affects people‘s need for autonomy and self-acceptance (which are highly related to online identity reconstruction), and further influences users‘ overall satisfaction with social network platforms. The quantitative data (n = 837) were collected from QQ, a social network platform in China. All the main effects in the research model were supported. In particular, online identity reconstruction on social network platforms was found to be positively associated with people‘s need for autonomy and self-acceptance. Additionally, the self-acceptance level and autonomy exhibited a positive relationship with user satisfaction. This study makes various contributions to the literature and practice.

Keywords: Identity reconstruction; Negative true self; Advanced self-discrepancy theory; Self-determination theory; Users‘ satisfaction;

PREDIKTOR PEMBINAAN SEMULA IDENTITI DALAM TALIAN DARI PERSPEKTIF TEORI PERCANGGAHAN DIRI MAJU

ABSTRAK

Dalam komunikasi secara *face-to-face*, untuk menghindari sekatan dan penolakan daripada orang lain, kebanyakan orang akan memilih untuk menyembunyikan aspek negatif diri mereka yang sebenar (seperti personaliti, fikiran, kepercayaan dan kesadaran yang tidak diingini sosial) yang bertentangan dengan norma dan undang-undang sosial. Sebaliknya, dalam persekitaran atas talian tanpa nama (contohnya, platform rangkaian sosial tanpa nama) orang mungkin merasa kurang dihalang dan dapat menyatakan dirinya yang sebenar dengan lebih bebas dan terbuka. Apabila berinteraksi dengan orang lain secara atas talian, orang dapat merekodkan identiti dalam talian sebahagiannya atau sepenuhnya berbeza dari identiti fizikal mereka, iaitu pembinaan semula identiti dalam talian. Walaubagaimanapun, tidak jelas sama ada orang akan membina semula identiti dalam talian mereka berdasarkan diri mereka yang sebenar. Di samping itu, orang menghabiskan lebih banyak masa dalam talian setiap hari, terutamanya di platform rangkaian sosial. Dengan pelbagai platform rangkaian sosial yang ada, orang boleh memilih untuk menggunakan salah satu daripadanya dan beralih kepada yang lain seperti yang mereka mahukan. Oleh itu, adalah penting bagi penyedia perkhidmatan untuk meningkatkan kepuasan pengguna dan mengekalkan pengguna. Walaupun, penyelidikan yang sedia ada telah menyelidik kepuasan pengguna dalam talian dari perspektif yang berbeza. Namun, masih terdapat kekurangan pada penyelidikan mengenai kesan pembinaan semula identiti dalam talian terhadap kepuasan pengguna. Menggunakan reka bentuk *sequential exploratory*, kajian ini telah menjalankan penyelidikan kualitatif pada fasa pertama untuk meneroka peranan diri yang sebenar dalam pembinaan semula identiti atas talian. Dalam fasa kualitatif, data

dikumpulkan daripada 57 peserta melalui temuduga. Analisis kandungan ini mendedahkan empat faktor (tidak dikenali, kekurangan pengasingan, pemisahan secara dalam talian dan pendengar dalam talian) yang mendorong orang untuk melibatkan dirinya sendiri (terutamanya diri yang benar-benar negatif) sebagai sebahagian daripada panduan diri mereka sendiri dalam talian dan menyatakan diri yang lebih benar apabila membina semula identiti mereka dalam persekitaran maya tanpa nama. Dengan memasukkan diri yang benar sebagai bahagian penting dari panduan diri dan identiti individu, kajian kualitatif telah mengedepankan teori percanggahan diri, menjadikannya lebih komprehensif untuk persekitaran tanpa nama. Dibina pada keputusan fasa kualitatif, penyelidikan kuantitatif telah dijalankan pada fasa kedua untuk mengkaji kesan pembinaan semula identiti terhadap kepuasan pengguna. Memandangkan orang dapat membina semula identiti dalam talian berdasarkan idea mereka sendiri, kemungkinan pembinaan semula identiti dalam talian dapat memenuhi keperluan psikologi mereka karenanya, mempengaruhi kepuasan mereka. Menggambarkan teori perselisihan diri yang maju dan rangka kerja kesejahteraan psikologi, model teori ini telah dibina dalam fasa kuantitatif untuk menguji bagaimana pembinaan semula identiti dalam talian (yang merangkumi tiga domain diri: diri sendiri, diri yang ideal dan diri sendiri yang negatif) memberi kesan kepada keperluan rakyat untuk autonomi dan penerimaan diri (yang berkait rapat dengan pembinaan semula identiti dalam talian), dan seterusnya mempengaruhi kepuasan pengguna secara keseluruhan dengan platform rangkaian sosial. Data kuantitatif (n = 837) dikumpulkan dari QQ,iaitu sebuah platform rangkaian sosial dari China. Semua kesan utama dalam model penyelidikan telah disokong. Khususnya, pembinaan semula identiti dalam talian di platform rangkaian sosial secara positif dikaitkan dengan keperluan rakyat untuk autonomi dan penerimaan diri. Di samping itu, tahap penerimaan diri dan autonomi mempunyai hubungan positif

dengan kepuasan pengguna. Kajian ini memberi sumbangan penting kepada literatur dan mempunyai implikasi untuk praktikal.

Kata kunci: Pembinaan semula identiti; Diri yang negatif; Teori percanggahan diri yang maju; Teori penentuan diri; Kepuasan pengguna;

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LIST OF SYMBOLS AND ABBREVIATIONS

AVE	:	Average Variance Extracted
CA	:	Cronbach‘s alpha
CR	:	Composite reliability
ERP	:	Enterprise Resource Planning
GWI	:	Global Web Index
IS	:	Information Systems
IT	:	Information Technology
PLS	:	Partial Least Squares
PWB	:	Psychological Well-being
RQ		Research Question
SNS	:	Social Network Sites
SWB	:	Subjective Well-being
TAM	:	Technology Acceptance Model
WUS	:	Website User Satisfaction

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

1.1 Internet users

As Web 2.0 applications grow rapidly, the vast development of the Internet provides people with a new world of interactions and communication (Cheung & Lee, 2010). Through the Internet, an individual can be connected with more than a billion geographically separated users around the world when he or she is online. The total number of worldwide Internet users has increased tenfold since 1999, reaching one billion in 2005 (Internet Live Stats, 2018). After that, it only took five years to reach a second billion and four years for the third billion. According to Internet World Stats (2018), there were approximately 4.16 billion Internet users in the world by the end of 2017, which means that around 54.4% of the global population can access the Internet through different types of devices, such as personal computers, laptops, and mobile phones. In developed regions, such as Europe and North America, the percentage of the population that has an Internet connection is more than 85%, twice as many as in less developed regions like Africa and Asia (Internet World Stats, 2018).

Moreover, in developed countries, nearly 90% of the population can access the Internet (Internet Live Stats, 2018). Google now processes more than 3.5 billion searches per day on average. Today, 2.5 million emails are sent in one second around the world (Internet Live Stats, 2018).

1.2 Social networking

Among the 4.16 billion global Internet users in 2017, more than 2.46 billion used social media (Statista, 2018). By adopting computer-mediated technologies, social media changes the way that individuals interact and communicate with others. It enables individuals and organizations to post, view, modify, and share user-generated content via a range of online platforms. In the past decade, owing to the wide diffusion of

mobile technologies and Web 2.0 Internet-based applications, a large number of new social media platforms have been developed, including Facebook, WhatsApp, QQ, WeChat, Tumblr, Instagram, Twitter, Baidu Tieba, and so on. On average, every Internet user has 5.54 social media accounts, and 91% of retail brands use two or more social media channels (Morrison, 2015).

Among all the social media applications, social network platform influences people's daily life tremendously (Correa, Hinsley, & de Zúñiga, 2010; Powell, 2009; Tapscott, 2008). It has become an extremely popular "social force," especially for young people (Posey et al., 2010). In 2017, 71% of the Internet users used social network platforms (Statista, 2018). More precisely, the report from the Global Web Index suggested that people spend 6.15 hours per day online through personal computers, laptops, smartphones, and tablets. Of the time that people spend online, 28% is occupied by social networking. Moreover, those who aged between 18 years and 34 years spend nearly four hours a day on social network platforms (GWI, 2016).

In the past decade, the increase in users of social network platforms was amazing. For example, Statista (2018) reported that Facebook gained 250,000 new users every day from 2007 to 2009, and this number has doubled from 2009 to 2013. Its monthly active users rose from 50 million to 250 million between 2007 and 2009 and rapidly reached 1.11 billion by the end of March 2013. The latest statistic indicates that the monthly active users of Facebook reached 2.19 billion at the end of July in 2018 (Statista, 2018); its mobile application had 1.76 billion monthly active users, an increase of 15% over the previous year. Social network platforms in China, such as QQ and WeChat, have likewise developed rapidly. The monthly active users of QQ and WeChat reached 806 million and 1040 million, respectively by the end of July in 2018 (Statista,

2018). Figure 1.2.1 shows the most popular social network platforms worldwide, ranked by the number of active users as of July 2018 (in millions).

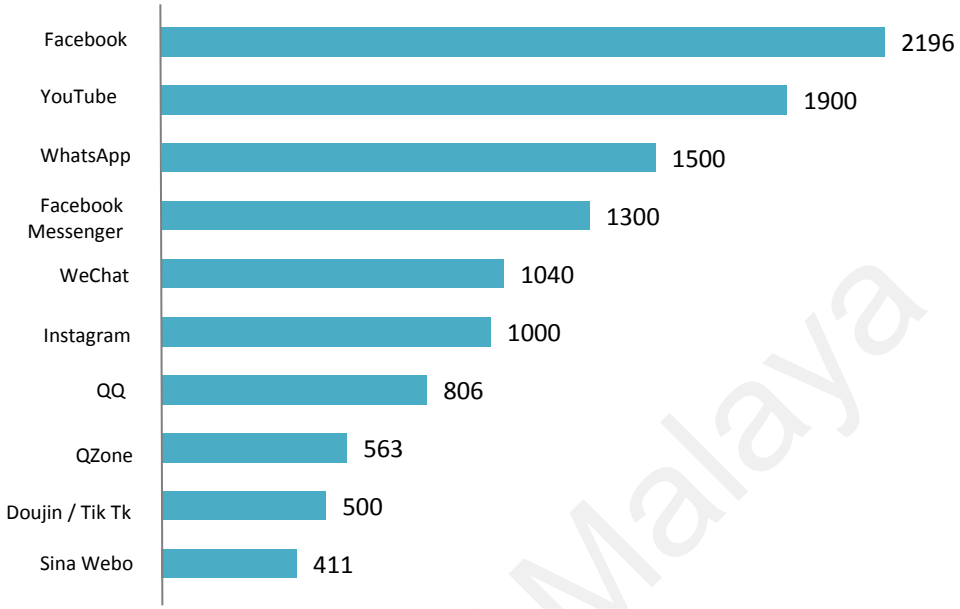

Figure 1.2.1: Number of active users of leading social network platforms (Statista, 2018)

1.3 Profile and identity

Social network platforms are defined as online platforms used by individuals to create, extend, and maintain their social networks or social relations with other people (–Social network service," Wikipedia, 2018). These platforms provide people with a means to keep in touch with their real-life friends, whom they cannot see frequently. For example, through online social networking, individuals can share with friends everything that happens around them with words, videos, and pictures, and their friends can view, like, or comment on these posts. People can also more easily develop friendships with strangers (even geographically distant ones) who share similar interests.

Before using a social network platform, a person must register an account and create a personal profile (as shown in Figure 1.3.1) which includes some personal information, such as name, gender, age, interests, and educational background (Stutzman, 2006; Yurchisin, Watchravesringkan, & Mccabe, 2005). The profile is the first channel through which users provide information to others, especially when they want to make friends with strangers (Goffman, 1959). It is the online identity that an individual presents to others on social network platforms.

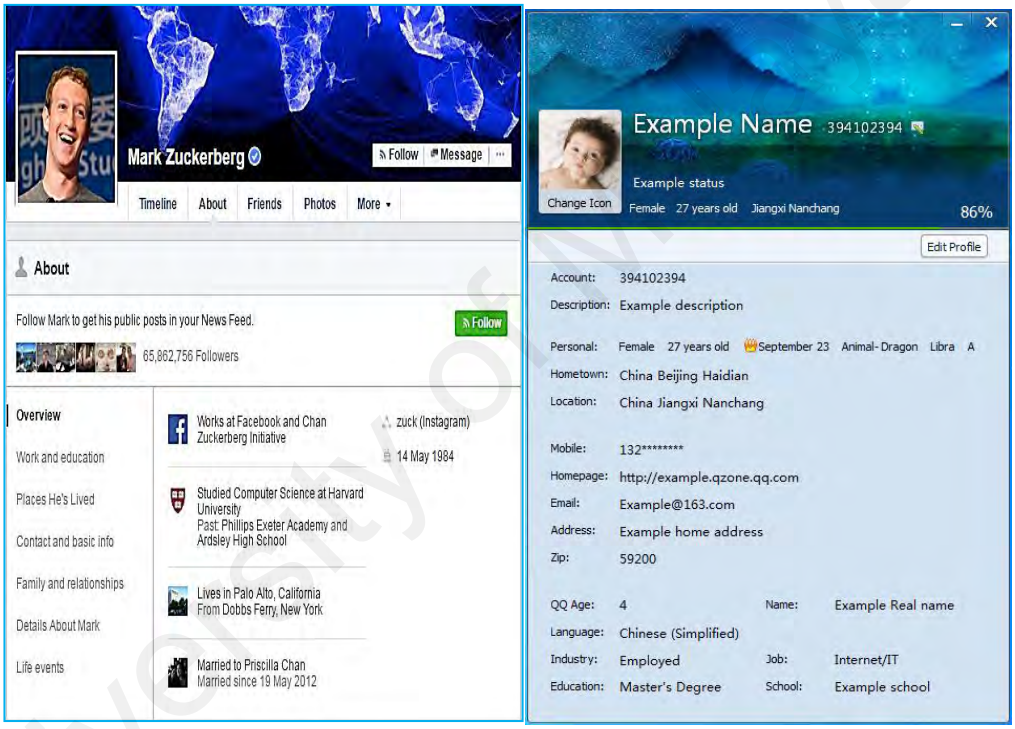

Figure 1.3.1: Personal profiles of Facebook (left) and QQ (right)

In the cyberspace, people are free from the constraints of physical bodies and the physical environment (Hayles, 1993). Online anonymity provides people with a unique world in which to express themselves and interact with others. However, because the construction of individual profiles on most social network platforms is based on the input of users themselves, it is difficult for service providers and other users to assess the veracity of profile information (Livingstone, 2008). Individuals can also manage or edit their profiles freely and openly. Because they can conceal their bodies behind the

screen, users can hide, fabricate, or even fake their personal information when constructing their social network profiles (Hu, Zhao, & Huang, 2015). Therefore, under the conditions of the cyberspace, people's online identities are no longer stable. People can represent themselves as freely as they want on social network platforms. They can also create or discard an identity at will.

On social network platforms, communities are created based on common interests (so-called interest-based social network communities) (Fogel & Nehmad, 2009). People can join these communities to connect with others who share their interests, participate in community activities, join discussions, and make new friends. Although the social network community is a basic function of social network platforms, it differs from the platforms themselves. On social network platforms, individuals can select people who they want to befriend. For example, they can send requests to people they want to connect with and can reject the friend requests from those they do not. However, when users join social network communities, they are connected to other community members without knowing anything about them. Typically, the community members come from geographically diverse places. Thus, the profiles that users present in the interest-based communities are the first channels through which others acquire some knowledge about them, just like corporal bodies are in the physical world (Goffman, 1959).

As mentioned above, the profiles on social network platforms and interest-based communities can be managed and edited by users through the functions provided by the social network platforms (Stutzman, 2006). The verification of profile information is difficult (Livingstone, 2008) because the profiles are constructed based on the users' own input. The credibility of the information is not guaranteed. In some cases, people may choose to (re)construct a virtual identity that is partly or even entirely different from their physical identity in the offline world by hiding or fabricating information

(e.g., name, gender, age, location, or email address). For example, a man could pretend to be a woman to tease his roommate, or an average worker could act as a successful businessman to attract attention and gratify his vanity.

Though people can also fake parts of their identities in face-to-face communication, this kind of identity reconstruction in real life is limited by physical reality and individuals‘ physical bodies. The anonymity of the Internet, however, enables people to reconstruct their identities to a greater extent by hiding the physical characteristics behind the screen. With a reconstructed online identity, an individual can obtain feelings that he or she may never experience in the real world (Bargh & McKenna, 2004; McKenna & Bargh, 1998; McKenna, Green, & Gleason, 2002).

1.4 Identity reconstruction

In the rapidly changing and developing world, identity is a significant analytic tool to understand society and human behavior for researchers in different areas(Gee, 2000). In general, identity is defined as a certain ―kind of people" that an individual expresses and is recognized as by others in a given context (Hacking, 1983, 1986). Subjective to various given contexts, an individual‘s identity is ambiguous and unstable (Gee, 2000; Seidman, 2014). For example, as a former president of the United States of American, Barack Obama, was ambitious, circumspect and decisive while working in the White House (Immelman, 2008). However, as a father, his daughters recognize him as a mild and fun dad at home who ―teeters on the edge of being embarrassing sometimes" (Pawlowski, 2014).

Identity is also defined as the actual attributes that an individual presents in daily life, namely the actual self (Hu et al., 2015). The actual self was proposed by Higgins (1987, 1989) in the self-discrepancy theory, along with the ideal self and the ought self. While

the actual self reflects the current state of an individual, the ideal self and the ought self reflect an individual‘s wishes and responsibilities, respectively.

The actual self represents the characteristics that an individual or others think he or she possesses. It reflects the current state of the individual. The ideal self represents the characteristics that an individual or others wish he or she to possess ideally. It reflects someone‘s hopes and aspirations. The ought self represents the characteristics that an individual or others believe he or she should or ought to possess. It reflects someone‘s sense of duties, responsibilities, and obligations (Higgins, 1987, 1989).

The actual self composes an individual‘s identity that he or she presents to others (Wylie, 1979), the ideal self and the ought self are typically regarded as the self-guide, the standard for well-being and self-evaluation (Higgins, Strauman, & Klein, 1986). Different people may possess different self-guides: some people may use both the ideal self and the ought self as their self-guide, some people may only use the ought self as their self-guide, whereas some others may only use the ideal self as the self-guide (Higgins, 1987). On social network platforms, it has been suggested that people choose to reconstruct their identity and self-guide with more of the ideal self and less of the ought self to become more motivated (Higgins, 1987, 1989; Hu et al., 2015).

In the physical world, an individual‘s self-guide, which consists of the ideal self and the ought self, serves as a significant standard for self-enhancement and self-improvement (Strauman, 1996). As a long-accepted notion, people are motivated to positively enhance and improve themselves to achieve different goals in the physical world. For example, students need to work hard to enhance their knowledge in order to improve their academic performance. Professional athletes need to train hard to improve their ability to win matches or races. Consequently, an individual‘s self-expression and

self-guide in the physical world are mostly positive, aiming to build a good image and obtaining positive evaluations (Evans & Petty, 2003).

However, the emergence of the Internet has changed the way people interact with others and constitutes a unique opportunity for the construction of identities and self-guides (Bargh & McKenna, 2004; Toma & Hancock, 2013; Yurchisin et al., 2005). By hiding the corporal bodies behind the screen, the way people express themselves has found a new dimension. In the anonymous environment of the cyberspace, individuals can hide and/or fabricate their personal information, such as hiding or even faking their gender. Thus, people can reconstruct their online identity on the basis of their own discretion with little fear of sanctions and disapproval from others (Hu et al., 2015). They can also express themselves more freely and openly online (Bargh, McKenna, & Fitzsimons, 2002). In this case, an individual‘s self-expression online may no longer be purely positive as it is in the physical world. Additionally, people‘s self-guide online (with which individuals are motivated to match their virtual identities) may no longer be limited to the ideal and the ought self. Individuals may also want to behave according to their ―true self,‖ expressing their intrinsic personalities, minds, beliefs, and consciousness that are usually hidden in the physical world.

Thus, two interesting questions arise: Apart from the three domains of the self proposed in the self-discrepancy theory, should the ―true self‖ be regarded as a part of an individual‘s identity and self-guide in the cyberspace? If yes, why do people choose to express more of the ―true self‖ in the online world than in the real world?

1.5 Psychological well-being

Prior research has suggested that people reconstruct an online identity for various reasons, including vanity, disinhibition, enjoyment, access to new social networks, privacy concerns, escape from old social networks, and avoid disturbance (Hu et al.,

2015). The reconstructed online identity can gratify the users' different needs, thereby making them motivated when participating in social network platforms.

By hiding, fabricating, or faking their profile information, people can fulfill their wishes, hopes and aspirations more easily with a reconstructed online identity (Hu et al., 2015). Additionally, they are free from the restraints of the social norms and laws of the physical world and can behave according to their intrinsic personalities, minds, beliefs, and consciousness, and thus, become more satisfied with their online identities and more motivated to use social network platforms (Hu et al., 2015). Meanwhile, existing research has found that the fulfillment of an individual's autonomy and self-acceptance plays a significant role in his or her psychological well-being (Ryff, 1989). As a significant standard to evaluate people's mental health, psychological well-being has been studied extensively in different areas in the physical world (Campbell, 1981; Ryan & Deci, 2000a). There is an increasing desire to explore people's psychological well-being in the online world. In comparison with the physical world, it is more likely that the highly anonymous cyberspace provides people with a unique environment to better fulfill their psychological needs with a reconstructed online identity.

Psychological well-being is an essential standard to evaluate whether people are happy or not (Ryff, 1989). It is likely that people are satisfied when they feel happy on social network platforms. Then, two interesting questions arise: Will online identity reconstruction on social network platforms satisfy people's autonomy and improve their self-acceptance level? Moreover, whether the fulfillment of autonomy and self-acceptance influences people's overall satisfaction on social network platforms?

1.6 Research objectives and research questions

In summary, the research objectives of the current study are: 1) to advance self-discrepancy theory by examining the role of the true self in online identity

reconstruction and exploring the motivations for expressing the true self in the cyberspace; 2) to devise a research model that investigates the associations between the expression of different domains of the self (relating to online identity reconstruction) and people's psychological well-being, and further examines how psychological well-being is related to individuals' overall satisfaction in an anonymous online environment.

To achieve the above-mentioned objectives, the detailed research questions of this study are as follows:

RQ1: From the perspective of the true self, what adjustments are needed to make the traditional self-discrepancy theory more comprehensive for the online world?

RQ2: If the true self is a part of an individual's identity and self-guide in the cyberspace, why do people choose to express more of the true self in the online world than in the real world?

RQ3: What are the relationships between the expression of three domains of the self (i.e., the ought self, the ideal self, and the true self) and the fulfillment of autonomy and self-acceptance?

RQ4: How do the fulfillment of autonomy and self-acceptance relate to the overall satisfaction on social network platforms?

1.7 Chapter summary

In this chapter, the background of this study was introduced. With a brief literature review, four interesting questions regarding identity reconstruction and user satisfaction were raised. Seeking to address the four research questions, the current study aimed to contribute to the literature by theoretically conducting mixed model research, consisting of two steps. Firstly, this study explored the role of the true self in an individual's

identity and self-guide online and the reasons why people choose to express more of their true self in an anonymous environment with qualitative research methods. Then, on the basis of the results of the qualitative research, a quantitative research model was developed to investigate how the expression of the self (relating to online identity reconstruction) are associated with the people‘s fulfillment of autonomy and self-acceptance, and eventually the overall satisfaction in social network communities.

Chapter 2 presents a detailed review of the existing literature related to this study, providing deeper insights into the concepts of identity, the expression of the true self online, user satisfaction, and psychological well-being. In Chapter 3, the theoretical foundations of this study are introduced. True self, the self-discrepancy theory, and the self-determination theory served as the theoretical background for the first phase of this study (the qualitative study). The results of the qualitative study and the model of psychological well-being provided theoretical guides for the second phase of this study (the quantitative study).

Chapter 4 presents the research design of this study, followed by the general introduction of the mixed model research methodology. Given that this study used the same research site throughout the investigation, this research site is also introduced in this chapter.

In Chapter 5, the qualitative research method is introduced first. Then, the detailed research methods of the qualitative study (study one) are introduced, including the research design and the data collection methods. Subsequently, the data analysis procedure and the results are reported.

Chapter 6 presents the research model and the hypotheses of the quantitative study (study two), followed by the research methods (such as measurement development,

sampling methods, and data collection). The results of the quantitative study are reported at the end of this chapter.

Chapter 7 discusses the findings of this study. Chapter 8 presents a short conclusion, indicating the theoretical and practical contributions of this study. Limitations and future research ideas are presented at the end.

CHAPTER 2: LITERATURE REVIEW

In this chapter, the concept of identity is explained, followed by a review of the existing research on online identity and identity reconstruction, such as the differences between physical identity and online identity. The studies about true self expression online are then introduced. Thereafter, a detailed review of user satisfaction and psychological well-being is presented.

2.1 Self-expression and identity in the physical world

Identity is regarded as one of the most significant analytic tools for researchers to explore human behavior and society in different areas (Gee, 2000). It is not a simple concept to explain, and various definitions can be found in the existing literature. For example, the Cambridge English Dictionary (2018) defines identity as ―who a person is, or the qualities of a person or group that make them different from others" in English and ―the reputation, characteristics, etc. of a person or organization that makes the public think about them in a particular way" in Business English. Apart from this, the definition of identity in the Longman Dictionary (2018) of Contemporary English is ―the qualities and attitudes that a person or group of people have, that make them different from other people."

According to classic liberal humanism, an individual's identity is a ―clear set of characteristics which is authentic, fixed and stable" (Thurlow, Lengel, & Tomic, 2004, p 97; Woodward, 1997). In other words, identity is a set of characteristics that are established during an individual's adolescence and remain more or less the same throughout his or her life (Thurlow et al., 2004). More specifically, Stone (1996) suggested that every single earthly body grounds a single, essential personality, which is constant. With respect to identity as a static characteristic of people, this definition can help to classify people on the basis of race, class, and gender.

However, this is not really how most people experience identity in their daily life. As one of the foundational researchers in the field of communication studies, Goffman (1959) suggested that an individual‘s identity may not be inherent and fixed throughout his or her lifetime. A person may perform various actions in different contexts and with different audiences. This is also in line with the notion proposed by Harter (1999) and Mead (1934), who stated that a person exhibits himself or herself differently to different people in different situations. For example, a person may behave very diligently at the workplace or in a job interview but behave lazily with family or when alone. In this case, an individual‘s identity is presented as being diligent in one context and lazy in another. Another example is that the way someone presents himself or herself at a bar is usually different from the way he or she behaves in office.

Compared to the classic liberal humanism, the definition of identity proposed by Goffman (1959) in the field of communication studies includes a series of dramatic acts instead of particular impressions. This is also in line with the research on symbolic interaction, which shows that a person presents himself or herself slightly differently to different people (Marwick, 2013). In summation, an individual‘s identity consists of numerous aspects, such as race, class, gender, and personalities. Some aspects are typically fixed, and the others are changeable. It has been found that most people are highly skilled in changing their self-presentation in different situations appropriately (Marwick, 2013).

Previous research has also found that people‘s identity is not only whom and what they believe they are, but also whom and what others see them as (Solomon, 1983). It includes both effective and cognitive understanding of ―who am I” (Schouten, 1991). Self-conception, which helps to better explain an individual‘s identity, was proposed by Markus and Nurius (1986). It was found that an individual‘s self-conception includes

both ―now selves" and ―possible selves"(Leung, 2011; Markus & Nurius, 1986). The ―now selves" are the present selves that an individual expresses and are recognized as by others. The ―possible selves" are the images of the self that an individual is willing to be or is afraid of becoming. A combination of the ―now selves" and the ―possible selves" becomes an individual's identity that he or she uses in daily life (Leung, 2011; Markus & Nurius, 1986).

From the perspective of postmodernist theorists, an individual's identity is a ―project" that people can strategically construct by using consumer goods and mass media (Giddens, 1991). More specifically, people can construct their identities through different clothes, adornments, exercise or plastic surgery, thereby, becoming different from their peers and becoming ―better"(Woodward, 1997).

2.2 Online identity and identity reconstruction

2.2.1 Differences between the physical identity and online identity

With the emergence of the Internet in the mid-1990s, the way that people express themselves changed. Some studies proposed the concept of ―disembodied communication" to describe individuals' interactions in the online world (Marwick, 2013), as most computer-mediated communications in the mid-1990s were textual conversations. People can communicate and interact with others in chat rooms, on bulletin boards, and in multi-user dungeons through the Internet without seeing each other's photographs or videos (Marwick, 2013; Rheingold, 1993; Surratt, 1998; Turkle, 1995).

Compared with the traditional face-to-face interactions, the computer-mediated communication in the cyberspace frees people from physical cues, such as race, gender, and class. In this case, people can strategically choose whatever they want to present online (Marwick, 2013). The terms ―internet identity," ―digital identity," and ―online

identity" have been synonymously used in previous studies to define an individual's self-expression in the online world (Baym, 2015; Boyd, 2010; Boyd, Chang, & Goodman, 2004; Doring, 2002; Huffaker & Calvert, 2005; Millen & Patterson, 2003; Papacharissi, 2002; Turkle, 1995; Vasalou, Joinson, & Pitt, 2007; Walker, 2000).

Ruyter and Conroy (2002) defined online identity as the characteristics that can help to define a person in the cyberspace, thereby making him or her different from other online users. Similar to the physical identity in the real world, it is difficult for a person to explain who he or she is without an identity in the online world (Kim, Zheng, & Gupta, 2011). It has also been suggested that people's online identity is the key to how they can take part in an activity in the online space and interact with others electronically (Satchell et al., 2006).

In the cyberspace, people can construct their online identity by themselves by creating and editing homepages or profiles with a variety of digital tokens such as pictures, avatars, icons, nicknames, and videos. Although most online platforms require users to follow a template when creating their homepages or profiles (Marwick, 2013), all the information is provided by the users themselves. It is difficult for the service providers and the other users to check the veracity of the information on these homepages or in these profiles (Livingstone, 2008). Moreover, the editing of the homepages or profiles is normally open and free for the users to perform themselves at any time (Hu et al., 2015). In this case, it has been suggested that the Internet provides people with a more free environment to express their customized or even faked identity without the constraints of physical bodies and physical reality (Hayles, 1993; Marwick, 2013).

Except for the information and the materials that people choose to reveal to the other users on the homepages or profiles in the cyberspace, an individual's online identity is

also expressed through interactions and communications with others in the online world (Marwick, 2013). From the typing speed to the head portrait or a specific word used in chatting, every piece of digital information that a user provides could be a part of his or her online identity. Compared with the physical identity in the real world, the cues of an individual‘s online identity are scattered and relatively few (Marwick, 2013).

Previous research has argued that the cyberspace is attractive to people given that it provides people with the freedom of self-expression (Blinka & Smahel, 2009; Leung, 2011; Yurchisin et al., 2005), particularly for people who are bored or lack of self-esteem and social support in the real world (Leung, 2011). Turkle (1995) found that an individual‘s identity in multi-user dungeons is multiple, anonymous, and invisible. An individual can present himself or herself differently in multi-user dungeons with multiple identities when interacting with other users (Turkle, 1995). Turkle (1995) also asserted that people could perform identity experimentation in the online space to redefine their online identity for the ―possible selves" (images of the self that an individual is willing to be or is afraid of becoming).

It has been found that an individual‘s identity in the online world may be different from his or her physical identity (Calvert, 1999; Hu et al., 2015; Jacobson, 1999; Kim et al., 2011; Turkle, 1995). An individual‘s offline identity is limited by his or her corporal body and the physical situations (Bargh et al., 2002; Donath, 2002; Jensen Schau & Gilly, 2003; Kim et al., 2011; MacLeod, 1999; Schaubroeck & Merritt, 1997). The factors (e.g., race, age, and gender) that affect an individual‘s physical identity are normally beyond his or her control (Kim et al., 2011). However, in the online world, people can construct and present their online identities selectively (Hu et al., 2015; Jacobson, 1999; Kim et al., 2011; Turkle, 1995). An individual can choose different digital means to present the identity that he or she wishes to express online (Kim et al.,

2011). In this case, the virtual identity that an individual builds online is thus not necessarily tied to his or her physical identity (Calvert, 1999).

Kim et al. (2011) stated that the difference between physical identity and online identity could be explained from five dimensions: context, development, control, presentation, and constraints (as shown in Table 2.2.1). First of all, an individual's physical identity inherently corresponds to his or her corporal body and physical situations (Donath, 2002; Kim et al., 2011). It is the key factor that distinguishes a person from other human beings in a face-to-face environment (MacLeod, 1999). In contrast, virtual identity is the representation of an individual in the online world. The construction and the presentation of an individual's online identity are free from the limitations of his or her corporal body and physical characteristics (Hu et al., 2015).

Apart from this, the development of an individual's physical identity takes time and effort, because the construction of an offline identity requires one to build relationships and friendships with others (Bailenson & Beall, 2006; Huffaker & Calvert, 2005; Kim et al., 2011). In contrast, the development of online identity is relatively fast. People can present themselves differently on the basis of their wishes, owing to the freedom of cyberspace (Hu et al., 2015; Kim et al., 2011). For example, a shy person who is an introvert in the physical world may behave actively after hiding his or her corporal body behind the screen.

Additionally, the physical identity is difficult to control, given that people cannot control how others perceive them (Kim et al., 2011). The presentation of an individual's offline identity is based on the face-to-face interactions with others, and certain aspects of his or her physical identity are difficult to hide (Hu et al., 2015; Kim et al., 2011). However, the construction of an individual's online identity is under his or her control, because he or she can hide or even fake the personal information when interacting with

other users in the online world (Hu et al., 2015). Moreover, the individual can selectively choose whatever he or she wishes to present when portraying his or her online identity (Hu et al., 2015; Ruyter & Conroy, 2002).

Table 2.2.1: Differences between physical identity and online identity (Kim et al., 2011)

Dimensions	Physical identity	Online identity
Context	Real world (face-to-face)	Virtual setting
Development	By building relationships and friendships with others to present his or her identity in the real world, it takes time and effort for the development of an individual's physical identity (Bailenson & Beall, 2006; Huffaker & Calvert, 2005).	People can present themselves as per their wishes given the freedom in the cyberspace, then the development of an individual's online identity is relatively fast.
Control	It is difficult to control because people cannot control how others perceive them and it is not easy to hide personally identifiable information in the real world.	People can hide or even fake their personally identifiable information in the online world. In this case, the construction of an individual's online identity is under control.
Presentation	The presentation of an individual's physical identity is based on face-to-face interactions with others, certain aspects of his or her physical identity are difficult to hide.	People can selectively choose whatever they wish to present when portraying their identities in the online world.
Constraints	An individual's offline identity is limited by his or her corporal body and physical situations (Bargh et al., 2002; Donath, 2002; MacLeod, 1999; Schau & Gilly, 2003; Schaubroeck & Merritt, 1997).	The construction of an online identity is only limited by the availability of system-enabled visual or textual representations. In general, people can present themselves as per their wishes.

Another difference between the physical and the online identity lies in the constraints for constructing identities. An individual's offline identity is limited by his or her corporal body and physical situations (Bargh et al., 2002; Donath, 2002; MacLeod, 1999; Schau & Gilly, 2003; Schaubroeck & Merritt, 1997). For example, a short person may not be able to claim an identity as a tall person in the real world. In contrast, the

presentation and the construction of the online identity are only limited by the availability of system-enabled visual or textual representations (Kim et al., 2011). For instance, online users can choose different emoji from the system to express their emotions when interacting with other users. However, the number of emoji is limited, and some users may not be able to find a suitable emoji that truly represents their emotions (Kim et al., 2011). In general, people can present themselves as per their wishes online (Hu et al., 2015; Ruyter & Conroy, 2002). For example, a male user can even pretend to be a female online if he wants to.

2.2.2 Online identity reconstruction

The evolution of research on online self-expression and virtual identity has been in line with the development of information technology (as shown in Table 2.2.2). In the early age of the Internet, most of the studies focused on how Internet users express themselves in a completely anonymous online environment, such as chat rooms, bulletin boards and multi-user dungeons (Rheingold, 1993; Surratt, 1998; Turkle, 1995). Rheingold (1993) presented readers a tour of the online culture in the virtual community and the users‘ free expression of ideas on bulletin boards. Turkle (1995) explored the relationship between the online and the offline world and how the experiences in the cyberspace affected people‘s real life. It was also found that people can express themselves differently to other users in multi-user dungeons through multiple, anonymous, and invisible online identities (Turkle, 1995).

Then, more recently, some researchers began to investigate people‘s online identity on dating sites at the beginning of the 21st century (Ellison, Heino, & Gibbs, 2006; Gibbs, Ellison, & Heino, 2006; Yurchisin et al., 2005). Ellison et al. (2006) found that people may adopt suitable tactics, such as constructing an identity on the basis of their ―ideal self,‖ when presenting themselves on dating sites in order to find an ideal partner.

Exploring individuals‘ profiles on dating sites, Yurchisin et al. (2005) found that people can re-create their online identity when using online dating services.

Moreover, with the emergence of social media, many studies in the past few years have focused on an individual‘s self-expression on social network platforms, such as Facebook, Twitter, and QQ (China) (Amichai-Hamburger & Vinitzky, 2010; Cheung, Chiu, & Lee, 2011; Hu et al., 2015; Moore & McElroy, 2012; Pfeil, Arjan, & Zaphiris, 2009; Ross et al., 2009; Zhao & Jiang, 2011; Zhao, Grasmuck, & Martin, 2008). Adopting the five-factor model of personality (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism), Ross et al. (2009) suggested different motivations for Facebook use. On the basis of a study by Ross et al. (2009), Amichai-Hamburger and Vinitzky (2010) found that people‘s personality traits have a strong influence on their behavior on Facebook. Moreover, Pfeil et al. (2009) investigated the differences and similarities in the use of Myspace between older people (users over 60 years old) and teenagers (users aged between 13 and 19 years). Compared with older people, teenagers have larger networks of friends and express more negative emotions when creating their profiles on Myspace (Pfeil et al., 2009).

Table 2.2.2: The evolution of research on self-expression in the online world

Timeline	**Research context**	**Research focus**
Early age of the Internet	Chat rooms, bulletin boards, and multi-user dungeons	The difference between online and offline self-expression
At the beginning of the 21st century	Internet dating sites	The expression of more of the ideal self
Last ten years	Social media	Self-expression and patterns of use on social media

In addition to the general research on people's self-expression in the online world, the concept of "identity reconstruction" (also called the identity recreation or self-presentation strategy) has been proposed by several researchers (Ellison et al., 2006; Hu et al., 2015; Huang, Kumar, & Hu, 2017; Malli, Said, & Fadlallah, 2017; Marwick, 2013; Wängqvist & Frisén, 2016; Zhao et al., 2008). Identity reconstruction refers to the phenomenon in which people create a virtual identity that is partly or even entirely different from their real identity in the offline world (Hu et al., 2015). For example, on an online dating site, an individual may fake some basic information (e.g., height and income per month) in his or her profile to make him or her more attractive to others.

In the physical world, because of the restraints of social norms and laws, people usually need to follow different "rules" to meet social expectations when presenting the physical identity to others (Hu et al., 2015). For example, employees ought to show their diligence to their employers; students should behave honestly in their daily life. However, the emergence of the Internet has changed this. The anonymity of the Internet enables people to reconstruct their virtual identity on the basis of their own ideas to a greater extent and with fewer concerns (Hu et al., 2015). People can conceal, fabricate or even fake personal information when reconstructing their identity online (such as on anonymous social network platforms) by hiding their corporal body and physical characteristics behind the screen (Ellison et al., 2006). Moreover, people can even reconstruct a completely different online identity in the cyberspace to gain a unique experience. For example, a boy can act like a girl in the online world to cheat other Internet users.

With a reconstructed online identity, people can enjoy a more open and freer environment when interacting with others online. Therefore, identity is no longer stable in the online world (Hu et al., 2015). Online identity is a fluid and polymorphous entity

that allows people to represent themselves as freely as they wish to in the anonymous online environment (Robins, 1995). They can also create or discard an identity at will. The phenomenon of identity reconstruction is more salient in the context of social network platforms than in the offline world, given that online identities are the key elements of people‘s interactions in the cyberspace (Hu et al., 2015).

Adopting the self-discrepancy theory (Higgins, 1987, 1989) and the regulatory focus theory (Higgins, 1997, 1998), Hu et al. (2015) conducted a qualitative study to explore the reasons why people choose to reconstruct their online identity in interest-based QQ communities. It was found that people may reconstruct their online identity because of vanity, disinhibition, enjoyment, access to new social networks, escape from old social networks, privacy concerns, and avoidance of disturbance (Hu et al., 2015).

In the case of people motivated by vanity, they reconstructed the online identity on the basis of their wishes, hopes, and aspirations (Hu et al., 2015). Therefore, they were expected to be more confident with the reconstructed identity when interacting with others on social network platforms. With respect to the people who chose to reconstruct their identity because of disinhibition, most of them might have felt pressured in the physical world. With the reconstructed identity, they could do things that they would not do in a face-to-face environment, such as being rude or aggressive on social network platforms (Hu et al., 2015).

Furthermore, people who chose to reconstruct their identity because of enjoyment may have fun with identity reconstruction in two ways. Some people may find the process of reconstructing a new identity, which is partly or even entirely different from the physical identity, very interesting (Hu et al., 2015). They can have fun in choosing a cool nickname, selecting a nice head portrait, and constructing other details. In addition, interacting with others with a reconstructed new identity may bring people joy (Hu et

al., 2015). For example, a female may reconstruct a male identity to communicate with other girls to enjoy the feeling of being a male.

People who chose to reconstruct their identity because of privacy concerns and avoidance of disturbance may have been worried about the leakage of their personal information (Hu et al., 2015). Thus, they would feel safer after hiding their personal information in the online world. With a reconstructed online identity, they may avoid disturbance from strangers. Moreover, for people who chose to reconstruct their identity because of "access to new networks" and "escape from old social networks," a reconstructed virtual identity can help them get rid of their disliked social circle and make new friends (Hu et al., 2015).

While Hu et al. (2015) proposed different motivations for online identity reconstruction, Huang et al. (2017) found further gender differences in these motivations. Using a sample of 418 Chinese participants, they suggested that males and females are motivated differently during online identity reconstruction. In particular, females pay more attention to physical attractiveness than males when reconstructing an online identity. Males are more inclined to reconstruct their online identity for the purpose of meeting new friends and free self-expression. The concern for the misuse of personal information is a more important motivator for men's online identity reconstruction (Huang et al., 2017).

2.3 The true Self

2.3.1 Definitions and the expression of the true self online

The true self is defined as an individual's personalities, minds, beliefs and consciousness that he or she intrinsically think and believe (Harter, 2002). Some researchers have proposed that the true self is a sense of self that is different from the actual self (McKenna, 2007). True self reflects what people really think and believe

(Harter, 2002). It is suggested that the true self is one of the essential parts of people's identity, as people have the need to express who they are in social interactions (Baumeister, 1998; Gollwitzer, 1986; Rogers, 1951). However, the expression of the true self is often difficult in face-to-face communication.

People who cannot fulfill their need for the expression of the true self through face-to-face communication may find it easier to express their true self in social interactions on the Internet (Amichai-Hamburger, Wainapel, & Fox, 2002). Bargh et al. (2002) suggested that the true self is more likely to be active in online interactions. They conducted three experiments to explore the expression of the actual self and the true self in both online and offline communications. It was found that people expressed more of their true self in communications with strangers through the Internet than in face-to-face communication (Bargh et al., 2002).

2.3.2 Characteristics of the Internet and the expression of the true self

The Internet may facilitate the expression of the true self because of the following three characteristics: anonymity, asynchronicity, and connectivity (Bargh et al., 2002; McKenna & Bargh, 2000). The characteristic of anonymity means that people can become unidentifiable to others online (Lapidot-Lefler & Barak, 2012). The following two types of anonymity are closely associated with computer-mediated communications: discursive anonymity and visual anonymity (Hollenbaugh & Everett, 2013). Discursive anonymity refers to the status that the contents posted online cannot be linked to a specific source (Scott, 2004). People can achieve discursive anonymity by hiding their personal information (such as age, occupation, and contact information) so that other Internet users do not know their personal details and cannot link the contents that they post to their offline identity. Visual anonymity refers to the status that people are not physically present online (Scott, 2004). On the Internet, people can easily achieve visual

anonymity, because in most cases, online communications are text-based (Lapidot-Lefler & Barak, 2012).

In face-to-face communication, people's self-disclosure is inhibited by various factors. As suggested by Derlega and Chaikin (1977), most people do not engage in self-disclosure because it is not guaranteed that the information they disclose will not be leaked to other acquaintances by the listener. In addition, the listener may respond negatively to their self-disclosure. Moreover, the disclosure of negative aspects may have real costs in face-to-face communication, such as ridicule or outright rejection (Bargh et al., 2002). The anonymity of the Internet greatly reduces people's concerns about self-disclosure.

Discursive anonymity enables people to express their true self safely online (Bargh et al., 2002). By withholding their identification information, people can express their true self online with fewer concerns, because the self-disclosure online cannot be linked to their offline identity (Scott, 2004), and the strangers online are not part of their social circle (Derlega & Chaikin, 1977). Therefore, individuals do not have to worry that their disclosure about true self will be leaked to the persons they do not want to reveal the details to (such as an ex-girlfriend). With visual anonymity, people may feel less inhibited in expressing their true self online. The absence of physical cues (such as eye contact) makes people more willing to express themselves (Lapidot-Lefler & Barak, 2015; Suler, 2004). In online interactions, people usually cannot see or hear each other. Thus, they do not see the disapproval signs (such as a frown) when they express their true self.

Another characteristic of the Internet is asynchronicity. In face-to-face communications, people usually need to make immediate responses in the conversations. However, in online interactions, people can respond to a message after they have

figured out how to respond properly, maybe minutes or even hours later (Suler, 2004). In addition, people can decide when to log on and off the Internet, and they can edit the content repeatedly before sending it out (McKenna & Bargh, 2000). This greater control in the interactions makes it easier to express the true self online (Amichai-Hamburger et al., 2002). Moreover, the connectivity of the Internet can help individuals find like-minded partners online (Bargh et al., 2002).

2.3.3 The true self and personalities

In addition to the facilitating conditions on the Internet, the expression of the true self is associated with personality traits (Amichai-Hamburger et al., 2002; Marriott & Buchanan, 2014). Table 2.3.1 is a summary of the studies that have examined the associations between personality traits and the expression of the true self online. Five major dimensions were proposed in the five-factor model of personality traits, namely extraversion, openness to experience, agreeableness, conscientiousness, and neuroticism (McCrae & John, 1992). Using a sample of 40 hi-tech workers, Amichai-Hamburger et al. (2002) investigated the effect of extroversion and neuroticism on the expression of the true self. They found that extroversion was negatively associated with the online true self expression, while neuroticism was positively associated with the online true self expression, which implied that less extroverted (i.e., more introverted) and more neurotic people were more likely to express their true self online (Amichai-Hamburger et al., 2002). Their further analysis suggested that people who are extroverted (i.e., high in extroversion scores) prefer to express their ―real me" in face-to-face communications, while people who are introverted (i.e., low in extroversion scores) prefer to express their ―real me" online (Amichai-Hamburger et al., 2002).

In line with the findings of Amichai-Hamburger et al. (2002), the findings of Marriott and Buchanan (2014) confirmed that introverted, neurotic, and shy people are

more likely to express their true self online. They suggested that the effects of extraversion and neuroticism on the expression of the true self online were mediated by shyness (Marriott & Buchanan, 2014). Similarly, the studies by Tosun and Lajunen (2009, 2010) suggested that psychoticism and neuroticism are positively associated with an individual's expression of his or her true self online. In addition, it has been found that agreeableness and conscientiousness are negatively associated with the online true self expression (Marriott & Buchanan, 2014).

Table 2.3.1: Personality traits and online true self expression

Papers	Main findings
Amichai-Hamburger et al. (2002); Marriott and Buchanan (2014);	Extroversion was negatively associated with the online true self expression.
Amichai-Hamburger et al. (2002); Marriott and Buchanan (2014); Tosun and Lajunen (2009, 2010);	Neuroticism was positively associated with the online true self expression.
Marriott and Buchanan (2014)	Agreeableness and Conscientiousness are negatively associated with the online true self expression.
Tosun and Lajunen (2009, 2010);	Psychoticism was positively associated with the online true self expression.
Marriott and Buchanan (2014)	Shyness was positively associated with the online true self expression.
Marriott and Buchanan (2014)	Extraversion and neuroticism on the expression of the true self online were mediated by shyness.

The aforementioned findings support the view that the Internet facilitates the expression of the true self. In face-to-face communication, people who are introverted, neurotic, shy, and psychotic may have difficulties in expressing their true self. For example, extroverted people usually have close and warm relationships with others in the real world (McCrae & John, 1992), which may facilitate their expression of the true self in face-to-face communication. In contrast, introverted people are usually quiet and

shy (McCrae & John, 1992). Neurotic people who are emotionally unstable tend to feel nervous and anxious in social interactions (Tosun & Lajunen, 2009). In addition, it has been found that psychoticism is a mixture of low conscientiousness and low agreeableness (Marriott & Buchanan, 2014). Therefore, psychotic people may be self-centered, less cooperative and less organized (McCrae & John, 1992). Thus, they may not be welcomed by others and have less opportunity to express their true self in face-to-face communications. With these personalities, people may find it difficult to disclose their thoughts and feelings face-to-face. Therefore, they are more likely to take advantage of the Internet and express their true self online (Amichai-Hamburger et al., 2002).

2.3.4 The true self and relationships

Previous research has also indicated that the expression of the true self is associated with the formation and the maintenance of relationships (McKenna et al., 2002; Tosun, 2012; Tosun & Lajunen, 2010). McKenna et al. (2002) suggested that people who believe that they are better able to express their true self online are more likely to form close relationships with the ones whom they met over the Internet. In addition, Tosun and Lajunen (2010) found that the expression of the true self online positively correlates with the different motivations for Internet use: ―establishing new relationships," ―having ‗Internet only' friends," ―maintaining long-distant relationships," and ―supporting daily face-to-face relationships." Moreover, the associations between the true self expression and the first two motivations were stronger than the associations between the true self expression and the last two motivations, which means that people with a higher tendency to express their true self online are more likely to use the Internet as a ―social substitute" than as a ―social extension" (Tosun & Lajunen, 2010). Similar patterns have been found on social network platforms (Tosun, 2012). People with a high level of true

self expression use Facebook more frequently for establishing new relationships than for maintaining existing friendships (Tosun, 2012).

2.3.5 The true self and social network platform use

In addition to the formation and the maintenance of relationships, the expression of the true self online is also related to other motivations for social network use (Choi & Sung, 2018; Johnson & Ranzini, 2018; Seidman, 2014; Tosun, 2012). For example, it has been found that the expression of the true self online is positively associated with general self-disclosure, emotion disclosure and the communication activities on Facebook, which means that people who express more of their true self on Facebook tend to use Facebook for communication purposes, post more information about themselves, and express more emotions on Facebook (Seidman, 2014). The motivation to express the true self is associated with individuals‘ selection of social network platforms. People who want to share their hidden qualities use Snapchat more frequently than Instagram (Choi & Sung, 2018b). In addition, the expression of true self mediated the relationship between rejection sensitivity and the use of online dating services (Hance, Blackhart, & Dew, 2018). Moreover, people who express high levels of the true self online are more likely to engage in passive observations, such as viewing the profiles and the photo albums of others (Tosun, 2012).

Even though considerable attention has been paid to the expression of the true self online, the existing research has mainly explored the true self as an independent aspect of the self (Seidman, 2014; Tosun, 2012). None of these studies has regarded the true self as a two-dimensional concept; nor have they investigated the expression of the true self from the perspective of online identity reconstruction in an anonymous environment. Drawing on the self-discrepancy theory and the self-determination theory, the current study aimed to fulfill these gaps by proposing the concepts of positive true

self and negative true self to explore the role of the true self in an individual's identity and self-guide online, and the reasons why individuals choose to express more of their true self in an anonymous environment.

2.4 User satisfaction

2.4.1 The success of information systems

In the field of marketing, customer satisfaction is defined as "the number of customers, or the percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds the specified satisfaction goals" (Farris et al., 2010, p 55). It is a key measure to indicate the success of the services and the products provided by a company.

With respect to the files of information systems, the customers of the services and the products become are the users who have used or experienced these information systems. Most researchers regard user satisfaction as one of the most significant indicators of the success of an information system. By definition, user satisfaction is "the opinion of the users about a specific computer application that they use" (Doll & Torkzadeh, 1988).

Since the 1980s, data computing in organizations has changed to data processing and then to end-user computing (Doll & Torkzadeh, 1988). User satisfaction has attracted considerable attention from both organizations and researchers when exploring suitable indicators to evaluate the success of information systems (Bailey & Pearson, 1983; Baroudi, Olson, & Ives, 1986; Benson, 1983; Ives, Olson, & Baroudi, 1983).

The accelerated development of information technology and the Internet has motivated many large organizations to increase their investments in the development of information systems (Zviran & Erlich, 2003). Therefore, suitable indicators of the success of information systems are needed to evaluate whether these investments are

worthy or not. Thus, evaluating the success of information systems was one of the most critical problems in the field of information systems for the researchers in the latter half of 20th century, and various measures have been developed since (Brancheau, Janz, & Wetherbe, 1996; Dickson et al., 1984).

Research on the measurement of the success of information systems first appeared in the early 1970s (Bailey & Pearson, 1983; Dickson et al., 1984; Ginzberg, 1978; Larcker & Lessig, 1980; Liebowitz, 1999; Nolan & Seward, 1974; Robey, 1979; Swanson, 1974, 1982; Vertinsky, Barth, & Mitchell, 1975; Zmud, 1978). As an abstract concept, it was found that the success of information systems is difficult to measure by using a single factor (DeLone & McLean, 1992; Zviran & Erlich, 2003).

Robey (1979) indicated that the success of information systems could not be evaluated through direct measures. Cost/benefit ratio (King & Schrems, 1978), information value (Gallagher, 1974; King & Epstein, 1983), and organizational performance (Turner, 1982) were proposed by different researchers as possible measurements of the success of information systems around the 1980s.

Moreover, Ives and Olson (1984) suggested two categories of factors to evaluate the success of information systems: system acceptance (namely, information satisfaction, system usage, and system impact on the user) and system quality (e.g., reliability of the computer system, on-line response time, and the ease of terminal use). Furthermore, Zmud (1978, 1979) proposed eight dimensions and three main variables (namely, user satisfaction, information system usage, and user performance) that may affect the success of information systems.

Based on the theory of reasoned action (as shown in Figure 2.4.1) proposed by Ajzen and Fishbein (1969), the Technology Acceptance Model (as shown in Figure 2.4.2) was

introduced by Davis (1985, 1989) to evaluate the success of information systems by incorporating user behavior (e.g., attitude towards the use, behavioral intention to use, and actual system use). It has been widely accepted that the Technology Acceptance Model is one of the most widely-used and most important theoretical models in the field of information systems (Lee, Kozar, & Larsen, 2003).

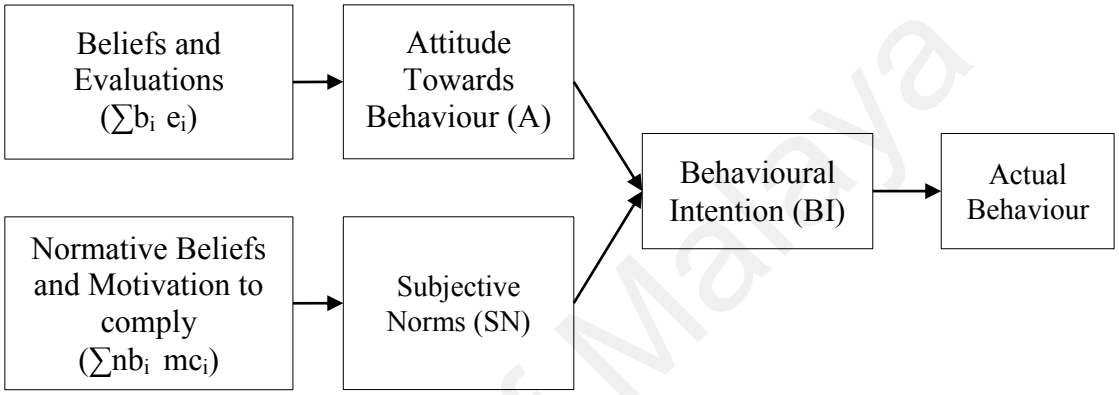

Figure 2.4.1: The theory of reasoned action (Ajzen & Fishbein, 1969)

The Technology Acceptance Model has been adopted in many studies to test the reliability and the validity of information systems (Adams, Nelson, & Todd, 1992; Chin & Todd, 1995; Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Dishaw & Strong, 1999; Hendrickson, Massey, & Cronan, 1993; Segars & Grover, 1993; Szajna, 1996; Taylor & Todd, 1995). Considerable criticism and a number of suggestions have been proposed after the widespread use of this model.

For example, Davis et al. (1989) conducted a comparative study between the Technology Acceptance Model and the theory of reasoned action. They examined the ability of each model to predict people‘s computer acceptance by measuring the users‘ intentions in terms of their perceived ease of use, perceived usefulness, attitudes, subjective norms, and related variables (AL-Sabawy, 2013; Davis et al., 1989).

Taylor and Todd (1995) suggested two additional constructs (namely, social influence and behavioral control) to the Technology Acceptance Model to better predict the use of information technology by both experienced and inexperienced users. Dishaw and Strong (1999) combined the Technology Acceptance Model with the task-technology fit model. The finding of their study indicated that the integrated model could better assess the success of information systems (Dishaw & Strong, 1999).

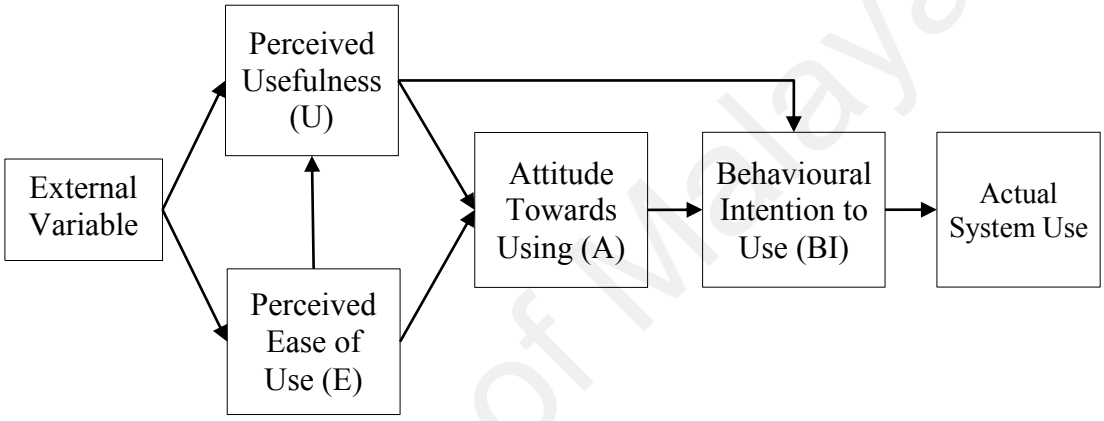

Figure 2.4.2: The Technology Acceptance Model (Davis, 1985, 1989)

The Technology Acceptance Model has been extended twice to better evaluate the success of information systems. In 2000, an essential extension of the Technology Acceptance Model was provided by Venkatesh and Davis (2000). They introduced Technology Acceptance Model 2 (as shown in Figure 2.4.3) by adding two groups of constructs to the old model: cognitive instrumental processes (i.e., perceived ease of use, output quality, job relevance, and result demonstrability) and social influence processes (i.e., voluntariness, subjective norm, and image).

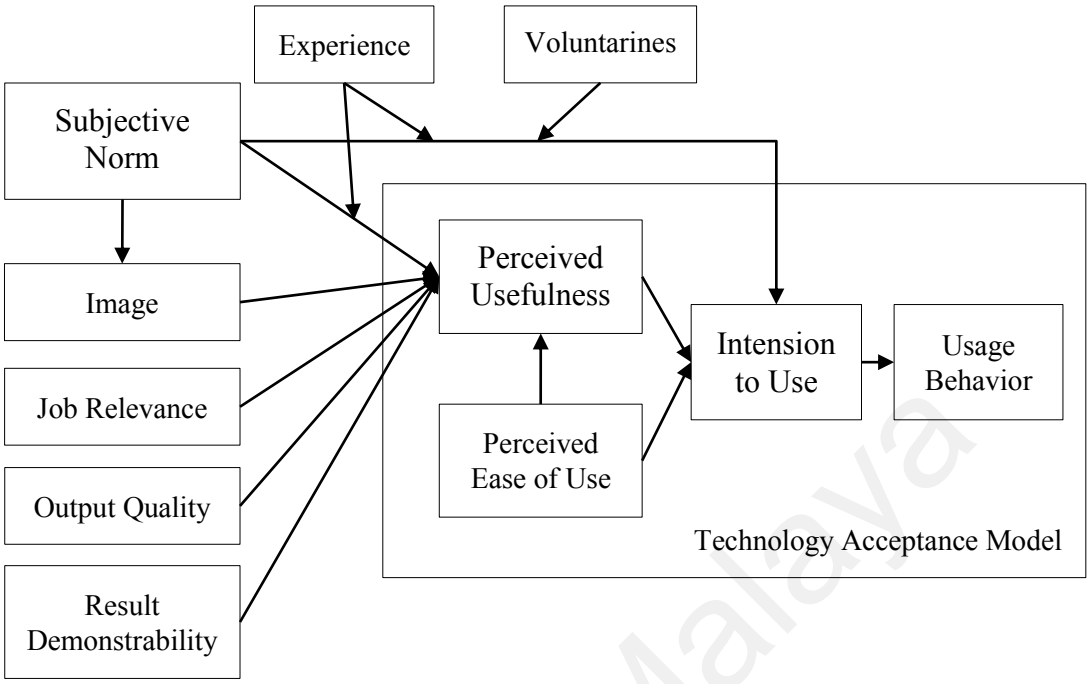

Figure 2.4.3: Technology Acceptance Model 2 (Venkatesh & Davis, 2000)

After eight years, Venkatesh and Bala (2008) proposed Technology Acceptance Model 3 (as shown in Figure 2.4.4) by evaluating the ease of use at the individual level (AL-Sabawy, 2013). Therefore, the updated model can facilitate the managers' decision-making process and the involvement of the employees in organizations (AL-Sabawy, 2013; Venkatesh & Bala, 2008).

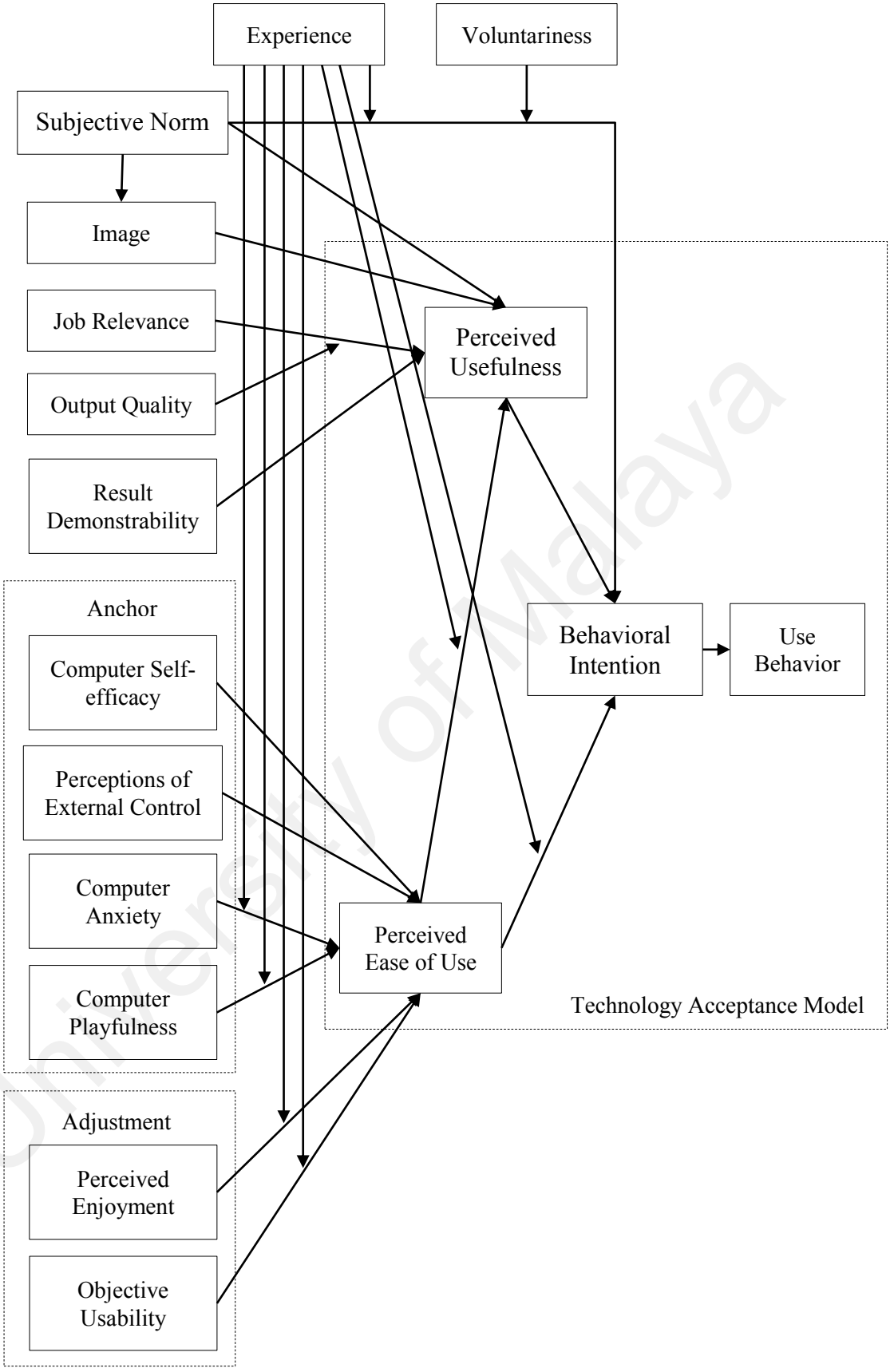

Figure 2.4.4: Technology Acceptance Model 3 (Venkatesh & Bala, 2008)

Besides the Technology Acceptance Model and its extensions (Davis, 1985; Venkatesh & Bala, 2008; Venkatesh & Davis, 2000), another important model in the field of information systems called "information systems success model" was introduced by DeLone and McLean (1992) after reviewing and analyzing more than 100 existing research papers related to the measurement of the success and the effectiveness of information systems published between 1981 and 1987. The information systems success model includes six major dimensions: system quality, information quality, use, user satisfaction, individual impact, and organizational impact (as shown in Figure 2.4.5).

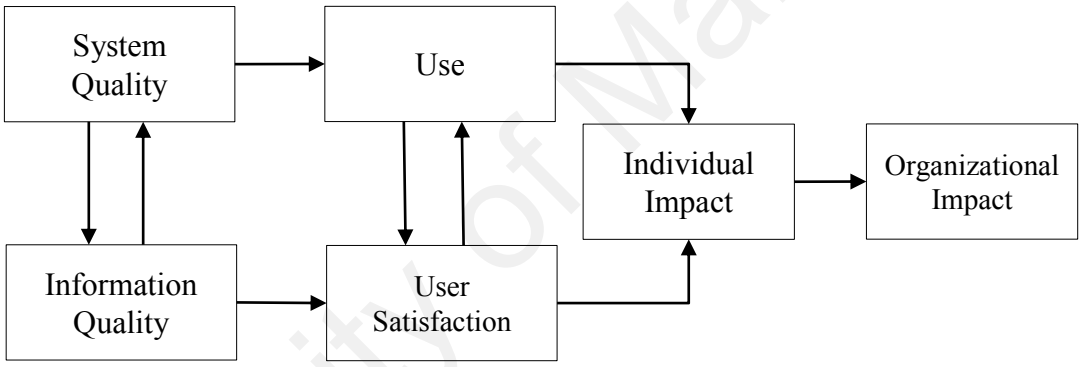

Figure 2.4.5: IS success model (DeLone & McLean, 1992)

This model was widely used in different studies in the latter years of the 20th century (Ballantine et al., 1996; Bonner, 1995; Drury & Farhoomand, 1998; Melone, 1990; Seddon, 1997; Swanson, 1994; Torkzadeh & Doll, 1994). Moreover, Swanson (1994) conducted several studies to apply the information system success model to different types of systems. The results of all the studies were in line with the basic model of DeLone and McLean, which implied that the six major factors proposed by DeLone and McLean (1992) are applicable to a variety of information systems, although more additional factors are required for the evaluation of some specific systems. Some other research also provided refinements in the use of the basic DeLone and McLean model

(DeLone & McLean, 1992) to evaluate some specific systems, such as management planning systems (Raghunathan & Raghunathan, 1994), expert systems (Yoon, Guimaraes, & O'Neal, 1995), and executive information systems (Rainer & Watson, 1995).

Drawing upon the six major dimensions proposed in the DeLone and McLean model, some studies tried to find more factors or new models to assess the success of information systems (Rocha, 2012; Seddon, 1997; Urbach, Smolnik, & Riempp, 2010; Wang & Liao, 2008; Wilkin, 2006). Other studies tried to test the validity of the old model (Pitt, Watson, & Kavan, 1995; Rai, Lang, & Welker, 2002; Seddon, 1997). In 2003, ten years since the DeLone and McLean model was introduced, an updated model (as shown in Figure 2.4.6) was published in response to the problems raised by the old model (Al-Debei, Jalal, & Al-Lozi, 2013; Delone & McLean, 2003).

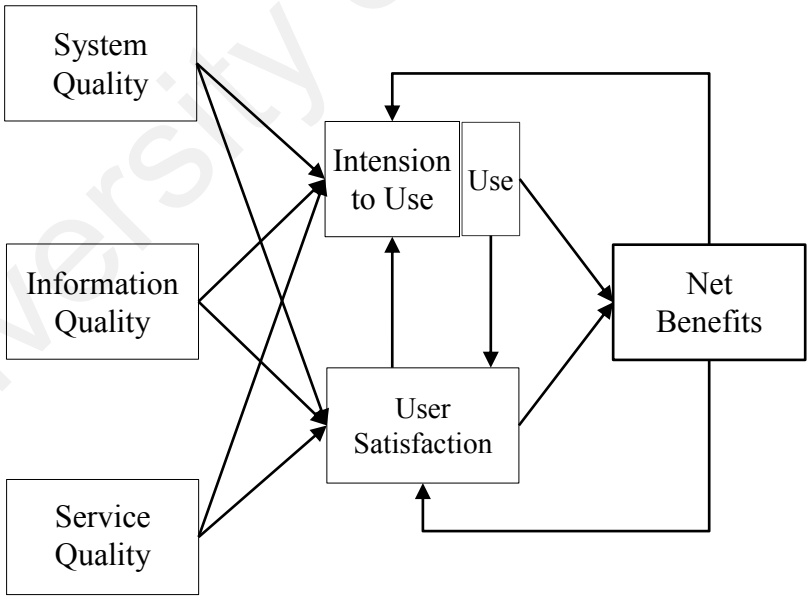

Figure 2.4.6: The updated IS success model (Delone & McLean, 2003)

The updated information systems success model includes six dimensions: information quality, system quality, service quality, intention to use, use, user satisfaction, and net benefits (Delone & McLean, 2003). Compared with the old model,

the updated model added ―service quality" as a predictor of the success of an information system and adopted ―net benefits" as the combination of ―individual impact" and ―organizational impact" (Delone & McLean, 2003). By using the ―intention to use" construct instead of ―use," the updated model also clarified that the construct focuses more on user's attitude than on the user's behavior (Al-Debei et al., 2013; Delone & McLean, 2003).

2.4.2 User satisfaction in information systems

Although various measures have been developed for measuring the success of an information system, user satisfaction has commonly been recognized as one of the most significant and prevalent criteria of the success of information systems (Zviran & Erlich, 2003). Moreover, it is highly applicable and very easy to use (Mahmood et al., 2000; Melone, 1990). Powers and Dickson (1973) found that user satisfaction is one of the main variables that affect the success of information systems given that users use an information system if they are satisfied with the system. In contrast, people will not use the system frequently if they do not perceive the system as satisfactory. Moreover, it has been suggested that user satisfaction is positively associated with an organization's performance (Neumann & Segev, 1980). Swanson (1974) also proposed that the involvement of users in the development phase of an information system is the key to system success.

Similar to the development of information systems' success measurements, various measures were developed in the late years of the 20th century to evaluate user satisfaction of an information system (Bailey & Pearson, 1983; Baroudi et al., 1986; Ives et al., 1983; Melone, 1990; Nolan & Seward, 1974; Robey, 1979; Rushinek & Rushinek, 1986; Swanson, 1982; Wan & Wah, 1990). Although the definitions of user satisfaction in the aforementioned studies may not be completely the same, they all

emphasize on the importance of collecting opinions from end-users in different forms for evaluation purposes (Zviran, Pliskin, & Levin, 2005). For example, user satisfaction was defined as the extent to which users think an information system meets their needs (Ives et al., 1983).

The concept of user satisfaction with an information system first appeared in the early 1960s. Cyert and March (1963) suggested that meeting users‘ needs should be considered an important factor to reinforce the satisfaction of an information system in firms (Ives et al., 1983). After this study, user satisfaction attracted considerable attention when researchers attempted to evaluate the effectiveness and acceptance of information systems (Bailey & Pearson, 1983; Baroudi et al., 1986; Igbaria & Nachman, 1990; Ives et al., 1983; Zviran, 1992). Baroudi et al. (1986) found that user satisfaction had a positive relationship with the use of an information system and suggested that user satisfaction should be a key measure of an information system‘s success. Apart from this, Igbaria and Nachman (1990) proposed another positive relationship between user satisfaction and hardware/software accessibility and availability, and system utilization after analyzing the data collected from users in six organizations. Moreover, Gelderman (1998) suggested that user satisfaction was positively associated with the performance of information systems. This study also proved that user satisfaction is the most appropriate indicator for evaluating the effectiveness and the acceptance of an information system (Gelderman, 1998).

As one of the most significant and prevalent criteria of an information system‘s success (Zviran & Erlich, 2003), the measurements of user satisfaction with an information system were also widely studied in the early 1980s. Some studies around the 1980s measured user satisfaction through only a single question (e.g., ―Please rate your overall satisfaction about the systems that you used”). It was found that this

measure had large measuring errors and was unreliable (Nunnally, 1978), given that user satisfaction is obviously affected by various factors (Zviran & Erlich, 2003). Jenkins and Ricketts (1979) suggested a list of 20 factors for measuring user satisfaction through literature reviews. These 20 factors can be grouped into five dimensions: input procedure, system processing, report content, report format, and report value (Zviran & Erlich, 2003). This measurement of user satisfaction only focused on the quality of the information system itself; it did not consider the involvement of the users and the service providers (Conrath & Mignen, 1990; Ives et al., 1983).

Bailey and Pearson (1983) proposed a list of 39 questions that may influence end-user satisfaction with an information system after a detailed review of the related studies and suggestions from some information system experts (Zviran & Erlich, 2003). This is one of the most frequently used instruments for user satisfaction (Au, Ngai, & Cheng, 2002). Ives et al. (1983) re-evaluated Bailey and Pearson's (1983) study and developed a short measurement (including 13 factors) of user satisfaction. These 13 factors that were closely related to user satisfaction were categorized into three dimensions: information quality, personnel and information system services, and user knowledge or involvement. This short measurement was shown to be reliable and valid in Baroudi and Orlikowski's (1988) study after collecting and analyzing the data from 358 end-users of the information systems in 26 companies (Zviran & Erlich, 2003).

In the late 1980s, when data computing in organizations changed to data processing and then to end-user computing, Doll and Torkzadeh (1988) found that the previous measurements of user satisfaction were mostly developed to evaluate the general satisfaction with the information system function rather than satisfaction with a specific information system application that the end-users were using (Zviran & Erlich, 2003). Therefore, Doll and Torkzadeh (1988) proposed a 12-item instrument (End-User

Computing Satisfaction Instrument) to connect the end-users and the information system application directly to measure the satisfaction of these end-users (Zviran & Erlich, 2003), given that most of the end-users were not information system experts who could provide answers about information quality and personnel and information system services easily.

The End-User Computing Satisfaction Instrument (as shown in Figure 2.4.7) includes five main components: content, accuracy, format, ease of use, and timeliness. The 12 items of this instrument are listed in Table 2.4.1. It was regarded as a reliable and comprehensive instrument given that it involved the measurement of ~~–e~~ase of use" (Xiao & Dasgupta, 2002). The End-User Computing Satisfaction Instrument (Doll & Torkzadeh, 1988) was widely used in other research to evaluate the success of different information systems (Doll & Xia, 1997; McHaney & Cronan, 1998, 2000; McHaney, Hightower, & White, 1999; Soliman, Mao, & Frolick, 2000; Torkzadeh & Doll, 1991, 1994; Xiao & Dasgupta, 2002), such as computer simulation systems (McHaney & Cronan, 1998, 2000), representational model decision support systems (McHaney et al., 1999), and data warehouses (Soliman et al., 2000).

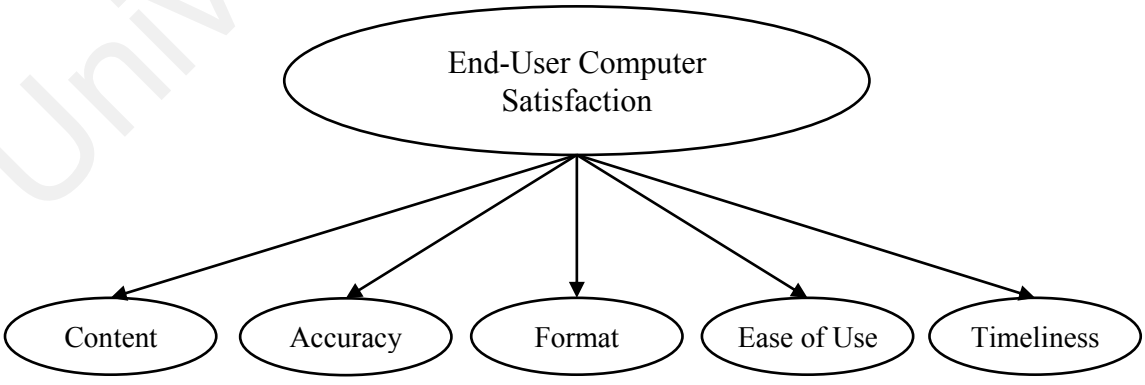

Figure 2.4.7: End-User Computing Satisfaction Instrument (Doll & Torkzadeh, 1988)

Table 2.4.1: End-User Computing Satisfaction Instrument (Doll & Torkzadeh, 1988)

Construct	Measurement questions
Content	Does the system provide the precise information you need? Does the information content meet your needs? Does the system provide reports that seem to be just about exactly what you need? Does the system provide sufficient information?
Accuracy	Is the system accurate? Are you satisfied with the accuracy of the system?
Format	Do you think the output is presented in a useful format? Is the information clear?
Ease of use	Is the system user-friendly? Is the system easy to use?
Timeliness	Do you get the information you need in time? Does the system provide up-to-date information?

Moreover, drawing upon the social cognitive theory, it was found that social environmental factors, technological environmental factors, and cognitive factors may affect user satisfaction in E-learning systems (Wu, Tennyson, & Hsia, 2010). In the same context, by combining McLean and DeLone's model (DeLone & McLean, 1992) and the Technology Acceptance Model (Davis, 1985), Lin and Chen (2012) suggested that course information, system quality, and platform information can influence user satisfaction and the continuous use of the systems.

2.4.3 User satisfaction in Internet-based information systems

At the beginning of the 21st century, the number of websites increased to more than 17 million from only 130 in 1993 (NetCraft and Internet Live Stats, 2018). The Internet

provides people with a new way to spread information without the physical boundaries of a face-to-face environment (Xiao & Dasgupta, 2002). Owing to the huge development of information technology at the end of the last century, a remarkable increase was found in the number of Internet-based information systems. At the same time, the development of web technology has helped to enhance the interactions and relationships between organizations and customers (Sharma & Baoku, 2013).

Compared with the traditional corporate information systems, web-based information systems can help people to get access to different information more easily and faster owing to the rapid development of the Internet (Kiang, Raghu, & Shang, 2000; Xiao & Dasgupta, 2002). The validity of End-User Computing Satisfaction Instrument (Doll & Torkzadeh, 1988) for web-based information systems was also checked in several studies (Abdinnour-Helm, Chaparro, & Farmer, 2005; Xiao & Dasgupta, 2002).

With the development of Internet-based information systems, the traditional measurement of end-user satisfaction also had to be improved to better fit the requirements of the new digital marketing context, as the role of an individual customer in Internet-based information systems was slightly different from that of an end-user in a traditional corporate information system (AL-Sabawy, 2013; Wang, Tang, & Tang, 2001). Therefore, the measurement of user satisfaction in Internet-based information systems became a hot research topic at the beginning of the 21st century (Lai, 2006; Liu & Khalifa, 2003; McKinney, Yoon, & Zahedi, 2002; Muylle, Moenaert, & Despontin, 2004; Trepper, 2000; Wang et al., 2001).

Trepper (2000) suggested that the security of user accounts and a convenient system design play significant roles in the assessment of the user satisfaction of an Internet-based information system. Wang et al. (2001) measured the construct "Customer Information Satisfaction" with different factors (including ease of use, customer

support, security, payment and transaction, digital services/products, information content, and innovation). On the basis of the information system success theory, hypermedia design theory, and previous studies, Muylle et al. (2004) proposed a standard instrument for measuring Website User Satisfaction (WUS), including three factors: connection (ease-of-use, entry guidance, speed, structure, and hyperlink connotation), information (relevance, accuracy, comprehensiveness, and comprehensibility), and layout.

Additionally, Lai (2006) suggested the measurement for user satisfaction in the field of e-business, including three factors (ease of use, content, and dependability). It has also been found that user satisfaction influences the users‘ loyalty to the website (Cristobal, Flavián, & Guinaliu, 2007), thereby affecting the continued use of the website (Liao, Chen, & Yen, 2007). The research findings of Verdegem and Verleye (2009) revealed nine factors that have an impact on the user satisfaction toward the e-government system: infrastructure, security/privacy, cost, customer friendliness, content, awareness, availability, usability, and technical aspects. McNamara and Kirakowski (2011) reported the use of three factors (namely, efficiency, helpfulness, and transparency) to measure the user satisfaction of digital products.

Concurrent with the development of information technology, increasingly more researchers are working on the study of user satisfaction in new platforms based on the Web 2.0 technologies, such as social network platforms, blogs, and wikis (Sharma & Baoku, 2013). The existing studies have identified various factors that have a significant influence on user satisfaction, such as system quality and information quality (Dong, Cheng, & Wu, 2014), perceived control (Zhao & Lu, 2012), perceived usefulness and perceived privacy risk (Lin, Featherman, & Sarker, 2017), and perceived bridging social capital and flow experience (Chang & Zhu, 2012). The Web 2.0 technologies focus

more on the interactions between users rather than the relationships between the users and the service providers. The role of service providers has changed from a product or information provider to an aggregator who manages content posted by all the users (Weber, 2009).

As one of the most important measures of an information system‘s success, user satisfaction has been widely explored in different areas of information systems, such as websites, ERP systems, E-learning systems, and E-commerce. Most studies have agreed that user satisfaction was an important construct for the assessment of a user‘s continuance intentions toward a system (AL-Sabawy, 2013). The current study adopted user satisfaction as a dependent variable to explore whether an individual becomes more satisfied with a reconstructed virtual identity on social network platforms.

2.5 Psychological well-being

2.5.1 Happiness and well-being

In the previous century, many studies were proposed by social psychologists to explore whether people are happy or not in their daily life (Campbell, 1981; Diener, 1984; Diener et al., 1985; Schwarz & Clore, 1983; Veroff, Douvan, & Kulka, 1981). Well-being, an interchangeable concept with happiness (Cardak, 2013; Ong & Lin, 2016), has attracted considerable attention from the researchers in the field of optimistic psychology. For example, some researchers have attempted to discover the factors that may affect an individual‘s mood states and positive feeling, thereby influencing his or her well-being in the offline world (Diener et al., 1985; Schwarz & Clore, 1983).

Cardak (2013) suggested that well-being describes a kind of ideal life that is healthy, well, positive, and purposeful in daily life (Myers, Sweeney, & Witmer, 2000). Close relationships were found between an individual‘s lifestyle, health, and well-being (Cardak, 2013). More specifically, better well-being in daily life can improve people‘s

health status and change their lifestyles (Dogan, 2006). Previous research has also found that social support and social relations (including both the positive and the negative sides of social interactions) have significant influences on an individual‘s well-being (Bowlby, 1969; Cobb, 1976; Durkheim, 1951; Faris, 1934; La Rocco & Jones, 1978; Lin et al., 1979; Mitchell, Billings, & Moos, 1982; Rook, 1984, 1984; Williams, Ware Jr, & Donald, 1981). For example, Rook (1984) suggested that the outcomes from negative social relations play a more important role in affecting people‘s well-being than the positive ones on the basis of an investigation of 120 elderly widowed women. It has also been found that supportive social relations can help to reduce the stress in people‘s daily life (Cobb, 1976, 1979; House, 1981; Mitchell et al., 1982).

Additionally, some sociologists have suggested that life satisfaction is an important indicator to evaluate whether an individual is happy or not, thereby, measuring his or her well-being (Andrews & McKennell, 1980; Andrews & Withey, 1976; Bryant & Veroff, 1982; Campbell, Converse, & Rodgers, 1976). More specifically, many studies have measured well-being by asking participants about their overall life satisfaction, together with their feelings about career, families, income, and social relationships (Andrews, 1991; Diener, 1984). However, some researchers thought that these quality-of-life studies mostly explored people‘s well-being from the data perspective rather than the fundamental meaning (Headey, Kelley, & Wearing, 1993). In other words, the adoption of life satisfaction measurements cannot help to understand the basic definition of well-being (Sauer & Warland, 1982).

Moreover, some prior endeavors have tried to find out more valid and reliable measurements to evaluate people‘s positive and negative feelings achieved in their daily life (Green, Goldman, & Salovey, 1993; Watson, Clark, & Tellegen, 1988), thereby, measuring their well-being. For example, according to Bradburn's (1969) seminal work,

which also paid little attention to the essential meaning of well-being, an individual‘s well-being is no longer the balance between his or her positive feelings and negative feelings achieved in daily life. The positive feelings and negative feelings should be considered independent dimensions when exploring whether people are happy or not. Apart from this, the frequency and the intensity of both positive and negative feelings are important for evaluating an individual‘s well-being (Bradburn, 1969; Diener et al., 1985). Additionally, Bradburn (1969) found that people who experienced strong feelings frequently were not happier than those who experienced a few strong feelings. Compared to the intensity of feelings, the frequency of feelings can help to better measure an individual‘s long-term well-being (Diencr, Sandvik, & Pavot, 1991; Diener & Larsen, 1993).

In the field of optimistic psychology, some researchers have regarded well-being as a two-dimensional concept (Cardak, 2013; Keyes, Shmotkin, & Ryff, 2002; Ryan & Deci, 2000b), which includes hedonic well-being (referred to as subjective well-being) and eudemonic well-being (referred to as psychological well-being). Subjective well-being refers to happiness and relief, which includes positive feelings of life satisfaction (Cardak, 2013; Waterman, 1993). It focuses on how to obtain pleasure and avoid pain (Ryan & Deci, 2000b).

Diener et al. (1999) found that ―affective balance‖ and overall life satisfaction can be used to measure an individual‘s subjective well-being. As an affective component, ―affective balance‖ refers to the balance between frequent positive effects and infrequent negative effects (Diener, 1984; Ong & Lin, 2016). People who are happy need to have more positive effects than negative effects in their daily life. As a cognitive component, overall life satisfaction can help people to subjectively understand their quality of life, thereby determining whether they are happy or not (Ong & Lin, 2016).

2.5.2 Psychological well-being in the physical world

In contrast, psychological well-being is related to challenges, chasing important goals, making efforts, and personal growth and improvement (Ong & Lin, 2016; Ryan & Deci, 2000b; Seligman, 2004; Sheldon & Elliot, 1999; Warr, 2011). After a systematic review of the existing related literature, Ryff (1989, 1995) proposed a multidimensional model of psychological well-being, which includes six factors (namely autonomy, environmental mastery, personal development, positive relations with others, purposes of life, and self-acceptance). This model provided a comprehensive definition of psychological well-being and has been widely used by researchers (Cardak, 2013).

Nine theories were involved when Ryff (1989, 1995) conceptualized the six factors into the model of psychological well-being. These nine theories were the guiding theories from three subfields of psychology (as shown in Figure 2.5.1). Firstly, Erikson's (1959) personal development, Buhler's (1935) basic life tendencies, and Neugarten's (1973) executive processes of personality from developmental psychology. Secondly, Maslow's (2013) fifth level of self-actualization needs, Allport's (1961) formulation of maturity, Rogers's (1961) theory about a fully functioning person, and Jung's (1933) individuation theory from clinical psychology. Lastly, Birren and Renner's (1980) aging mental health and Jahoda's (1958) conception of positive mental health from mental health literature.

All the factors of Ryff (1989, 1995) model were summarized from more than one of the aforementioned theories. Some of these factors were constructed from the elements of more than five theories. For example, self-acceptance includes not only the positive evaluations of oneself proposed by Maslow's (2013) fifth level of self-actualization needs, Rogers's (1961) theory about a fully functioning person, Allport's (1961)

formulation of maturity and Jahoda's (1958) conception of positive mental health, but also the acceptance of both good and bad personalities mentioned in Jung's (1933) individuation theory and the acceptance of past life suggested by Erikson's (1959) personal development.

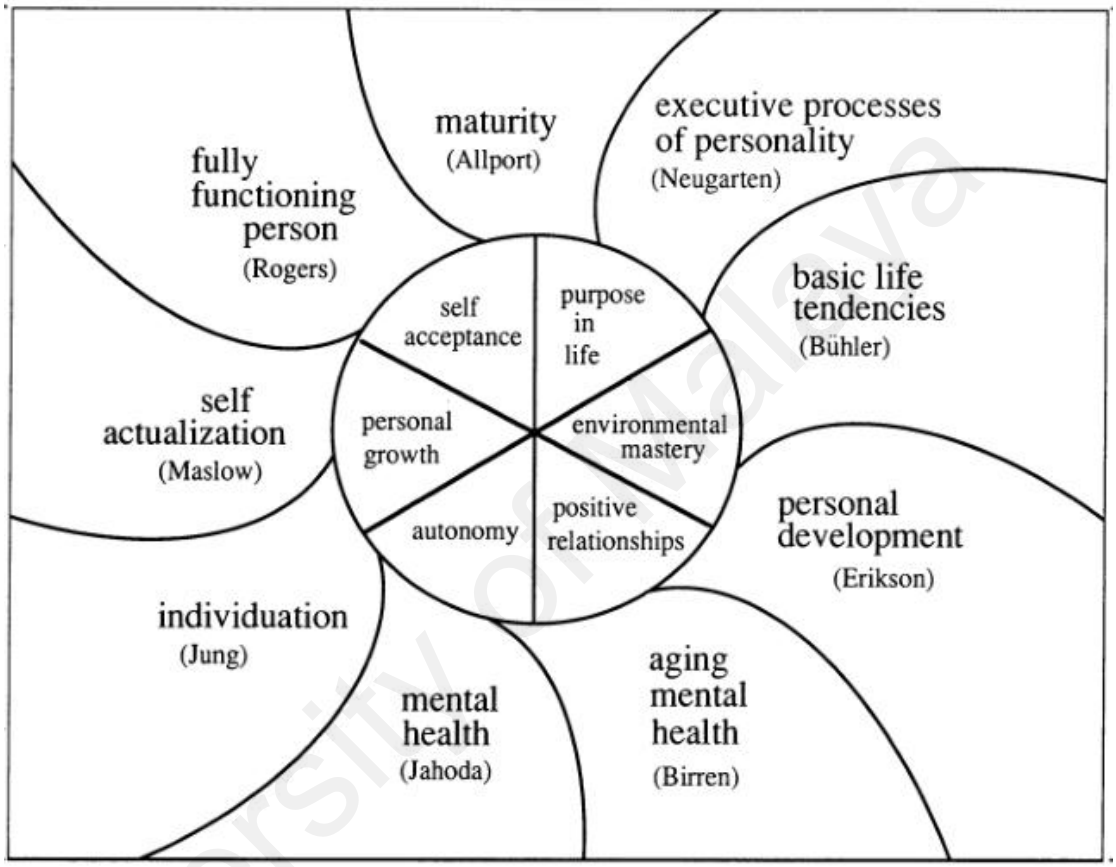

Figure 2.5.1: Core dimensions of psychological well-being and their theoretical origins (Ryff, 1995)

Moreover, Ryff's (1989, 1995) model defined an individual‘s psychological well-being as a person who has a positive attitude toward not only past life but also both the good and the bad aspects of oneself (self-acceptance); has a high quality of interpersonal relationships and feels warm, satisfying, and trusting with others (positive relations with others); can behave independently and act according to personal standards rather than others‘ judgments (autonomy); has a sense of mastery in managing the surrounding environment rather than lacking control of one‘s life (environmental

mastery); has meaningful life and goals for the future, rather than lacking direction in life (purpose in life); and has improved and expanded over time and pursues continued growth in life (personal growth). Altogether, these six factors of Ryff's (1989, 1995) model were integrated from developmental psychology, clinical psychology, and mental health. The model provides people with a holistic conceptual framework of psychological well-being for future studies (Cardak, 2013).

2.5.3 Internet use and psychological well-being

With the tremendous development of information technology, many studies have attempted to explore how the Internet influences an individual‘s well-being (as shown in Table 2.5.1). As mentioned earlier, on average, people spend nearly six hours every day online through various electronic devices (GWI, 2016). In other words, the Internet has become an indispensable part of people‘s lives, particularly young people‘s life (Gülnar & Kazaz, 2017).

Through the Internet, people can check the latest news, search for anything that they are interested in, maintain and expand social relationships, and so on. At the same time, with the development of mobile technology, people can access the Internet more easily through electronic devices. As a consequence, an interesting phenomenon that young people keep staring at their smartphones while walking has attracted increasing attention from society and from researchers (Gülnar & Kazaz, 2017).

Many studies have been conducted to explore the relationship between the Internet use and people‘s psychological problems (such as loneliness and depression) (Caplan, Williams, & Yee, 2009; Chen & Persson, 2002; Gross, Juvonen, & Gable, 2002; Huang, 2010; Kim, LaRose, & Peng, 2009; Kraut et al., 1998; Van den Eijnden et al., 2008). For example, Kraut et al. (1998) found that the increased usage of the Internet will decline the communication with others in the physical world and increase the feeling of

depression and loneliness on the basis of an analysis of 169 participants‘ first one to two years‘ behavior since they went online. Analyzing 663 students in a longitudinal study, Van den Eijnden et al. (2008) found an increased feeling of depression among the students who used the instant messenger compulsively for six months

Table 2.5.1: The effects of Internet use on psychological well-being

Effects	**Psychological outcomes**		**Reasons**	
Mixed-effects	Depression	Increase	Increased Internet use declines communications with others in the physical world.	Kraut et al. (1998); Van den Eijnden et al. (2008)
		Decrease	Make people‘s voices heard and increasing communication with others	Silverman (1999)
	Self-esteem	Increase	Internet use increases the perception of social bonds and social support online.	Erwin et al. (2004)
		Decrease	Negative feedbacks	Valkenburg et al. (2006)
	Loneliness	Increase	Increased Internet use declines communications with others in the physical world.	Kraut et al. (1998);
		Decrease	Communicate with other online	Gülnar and Kazaz, (2017)
Positive effects	Increase psychosocial well-being		Positive feedbacks and social support	Nabi et al. (2013)

However, some other studies have suggested that suitable Internet use may lead to some positive outcomes, such as computer skills, community involvement, and decreased loneliness and depression (Gülnar & Kazaz, 2017; Kraut et al., 2002; Shaw & Gant, 2002; Silverman, 1999). For instance, Kraut et al. (2002) found that the use of the Internet could be helpful in reducing depression and increasing communication with others.

Moreover, Silverman (1999) stated that the Internet could somehow help to make people‘s voices heard, thereby decreasing an individual‘s feeling of depression. Additionally, previous research has also found that the use of the Internet can help to increase people‘s self-esteem and their perceptions about social bonds and social support (Erwin et al., 2004; Kraut et al., 2002; Shaw & Gant, 2002; Zhao, 2006).

In summation, the use of the Internet has both positive and negative effects on an individual‘s psychological feelings. As one of the most significant standards to evaluate people‘s feelings (Ryff & Keyes, 1995), some studies have also chosen to explore the relationship between psychological well-being and the Internet use (Bernal-Ruiz et al.,, 2017; Caplan et al., 2009; Cardak, 2013; Casale, Lecchi, & Fioravanti, 2015; Huang, 2010; Lai et al., 2015; Mei et al., 2016). People who spend more time online perform fewer daily activities in the physical world, such as face-to-face communication and outdoor sports, thereby affecting their psychosocial well-being (Bernal-Ruiz et al., 2017; Kraut et al., 2002)

With respect to the social network platforms, it has been found that the use of these platforms is also related to individuals‘ psychosocial well-being (Nabi, Prestin, & Therefore, 2013; Valkenburg, Peter, & Schouten, 2006). The social support and positive feedback that people receive on social network platforms are associated with greater psychosocial well-being, whereas negative feedback decreases people‘s self-esteem and psychosocial well-being (Nabi et al., 2013; Valkenburg et al., 2006).

However, it is not clear whether psychological well-being is associated with user satisfaction online. Although much work has been performed regarding user satisfaction, there is a lack of research on user satisfaction from the perspective of online identity reconstruction and psychological well-being. The current study aimed to address this gap and thereby contribute to the literature by building a research model that investigated the associations between the domains of the self (relating to identity reconstruction) and people‘s online psychological well-being (measured by autonomy and self-acceptance), thereby affecting the individuals‘ overall satisfaction in an anonymous online environment.

2.6 Chapter summary

In this chapter, extensive literature related to this study was reviewed. On the basis of the detailed literature review, the knowledge gaps in the existing research were identified. Although much work has been done on online identity, true self expression online, user satisfaction, and psychological well-being, there is a lack of research combining all these factors. Taking all these factors into account, the current study aimed to fill the knowledge gaps by exploring the role of the true self in identity reconstruction and further investigating the effects of identity reconstruction on psychological well-being and user satisfaction.

CHAPTER 3: THEORETICAL BACKGROUNDS

This chapter introduces the theoretical backgrounds of the present study in detail. The first phase of this study involves the qualitative approach. It is grounded in the concept of true self, the self-discrepancy theory, and the self-determination theory. The second phase of this study uses the quantitative approach. It adopts two important constructs from the framework of psychological well-being to explore the associations between online identity reconstruction and user satisfaction.

3.1 The true self

Rogers (1951) suggested that true self is one of the significant aspects of an individual's identity and people are highly motivated to express such an important aspect in social interactions (Baumeister, 1998; Gollwitzer, 1986). However, in face-to-face communication, if those aspects conflict with social norms and expectations, most people may choose to hide these attributes due to the fear of disapproval from others (Tosun, 2012). For instance, McKenna and Bargh (1998) mentioned that marginalized beliefs (such as ideological and homosexuals) could not be fully expressed through communication and interactions in the real world.

Due to the constraints of social norms and laws in the physical world, the personalities, minds, beliefs, and consciousness that people express to others are mostly positive (Evans & Petty, 2003), as well as their self-guide. For instance, students usually hope to have good academic performance throughout their study; and children ought to be honest in daily life. However, the dark side of personality traits cannot be ignored.

Many socially undesirable personality traits can be found in previous research about personality and social psychology, such as cynicism, domineering (McHoskey, Worzel, & Szyarto, 1998), callousness, dishonesty, egocentricity (Hare, 1991), impulsivity,

neuroticism, and aggression (Levenson, Kiehl, & Fitzpatrick, 1995). The expression of the aforementioned undesirable personalities in the physical world will conflict with social norms and expectations; hence, individuals may be negatively judged by others. As a consequence, in the physical world, most people have to hide those intrinsic negative personality traits (Ventegodt, Andersen, & Merrick, 2003). In other words, the negative aspect of personality does exist, however, it is not suitable to be fully expressed in face-to-face communication in the offline world (Bargh et al., 2002).

Thus, an individual's true self not only includes positive aspects, but also negative ones (namely, the positive true self and the negative true self). As mentioned earlier, true self was defined as the self that people intrinsically think and believe (Harter, 2002). The positive true self includes an individual's positive personalities, minds, beliefs, and consciousness. The negative true self includes an individual's negative personalities, minds, beliefs, and consciousness. More specifically, the positive true self includes the positive aspects of true self that are in line with social norms and expectations in the physical world. In contrast, the negative true self includes the negative aspects of true self that conflict with social norms and expectations.

Typically, an individual may try to hide the negative true self when presenting his or her identity in the physical world in order to leave a better impression on others. For instance, an employee needs to show assiduous to the boss even if he or she is a sluggard; most corrupt officials need to act rectitude and hide their avarice from others. However, the anonymity of the online world enables people to express their negative true self with less fear of negative social evaluations and disapproval from others (Bargh et al., 2002; McKenna & Bargh, 1998).

As the space transition theory proposes, people behave differently when they move from one space to another (Jaishankar, 2008). For instance, people may behave

themselves in the offline world due to their status and position. When they move into the cyberspace, they may act differently, such as expressing the negative true self or even committing cybercrimes (Choo, 2011, 2014; Imgraben, Engelbrecht, & Choo, 2014; Martini & Choo, 2014).

Hence, without the limitations of the corporal bodies, people can be partly or even completely anonymous in the online world, which frees them from social norms and social sanctions in the physical world. In addition, in comparison to the offline world, disclosing the negative true self in an anonymous online world may lead to less real costs (such as negative judgments from others, and damage to relationships) (Bargh et al., 2002). Thus, true self (especially negative true self) is more likely to be active when individuals reconstruct their identity in the online world than in the physical world (Bargh et al., 2002).

3.2 Self-discrepancy theory

3.2.1 Background

3.2.1.1 Domains of the self

Three basic domains of the self were proposed in the self-discrepancy theory (Higgins, 1987, 1989):

(a) The actual self, which is the representation of the attributes that someone (yourself or significant others) believes you actually are. It is the identity that an individual expresses and is recognized by others in a given context.

(b) The ideal self, which is the representation of the attributes that someone (yourself or significant others) would like you, ideally, to possess. It is derived from the wishes, hopes, and aspirations of someone and/or the significant others, which an individual wants to attain, or what significant others want him or her to attain.

(c) The ought self, which is the representation of the attributes that someone (yourself or significant others) believes that you should or ought to be. It is derived from the duties, obligations, and responsibilities of someone and/or the significant others, which an individual needs to follow and fulfill or the significant others think him or her should follow and fulfill.

The actual self reflects an individual's self-concept (Wylie, 1979), the ideal self and the ought self are typically regarded as the self-guide, the standard for well-being and self-evaluation (Higgins et al., 1986). Different people may possess different self-guides: some people may use both the ideal self and the ought self as their self-guide, some may only use the ought self as the self-guide, whereas some others may only use the ideal self as the self-guide (Higgins, 1987).

3.2.1.2 Standpoints on the self

In addition to the three different domains of the self, the self-discrepancy theory proposes two different standpoints on the self with regard to the self-state representations (Higgins, 1987, 1989): a) an individual's personal standpoint, and b) the standpoint of some significant others (e.g., parents, friends, and teachers).

3.2.1.3 Six types of self-state representations

There are six basic types of self-state representations after the combination of three basic domains of the self with two different standpoints on the self; namely, actual/own, actual/other, ideal/own, ideal/other, ought/own, and ought/other (as shown in Figure 3.2.1).

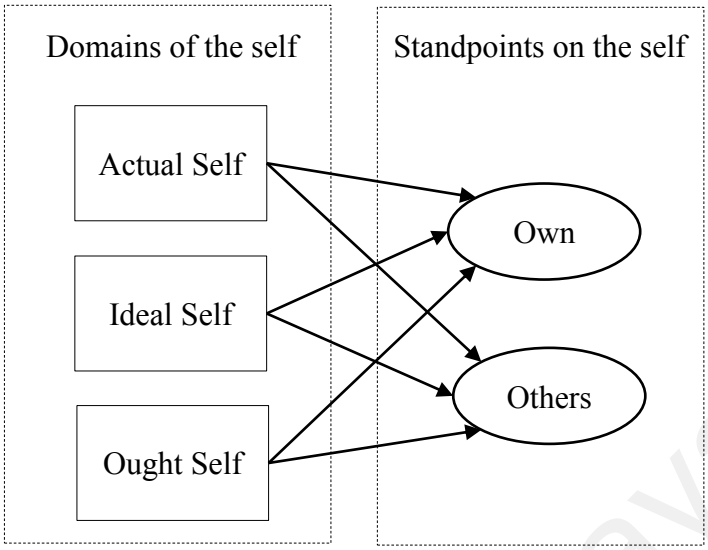

Figure 3.2.1: Self-discrepancy theory (Higgins, 1987)

3.2.2 Using self-discrepancy theory on social network platforms

In different given contexts, researchers can use different self-state representations when adopting the self-discrepancy theory (Higgins, 1987). As mentioned earlier, the (re)construction of users‘ profiles on social network platforms is mainly on the basis of the input of users themselves. It is difficult for the service providers and other users to assess the veracity of the information provided in the profiles (Livingstone, 2008). The free and open online environment enables people to reconstruct their virtual identity according to their own ideas to the greatest extent. In this case, the current study chose three basic domains of the self from individuals‘ own standpoints (namely, the actual self, the ideal self, and the ought self) to explore related questions about identity reconstruction on social network platforms.

To better explain the difference between the three basic domains of the self, an example will first be provided. For a man who is currently an engineer, the identity of an engineer is the actual self that is perceived by himself and others. One of his wishes is to be a photographer, which is the ideal self from his point of view. At the same time,

himself and his significant others (e.g., his wife) believe that he should take care of his children. Then, the responsible father is the ought self he should be.

As defined in the self-discrepancy theory (Higgins, 1987, 1989), the actual self represents an individual‘s identity that he or she presents and is recognized by others, the ideal self and the ought self constitute people‘s self-guide which is the significant standards for their behavior (Higgins et al., 1986; Wylie, 1979). However, it is likely that an individual‘s identity (the actual self) and self-guide (the ideal self and/or the ought self) are not consistent; in other words, different kinds of discrepancies may exist between an individuals‘ identity and self-guide.

These discrepancies can lead to various psychological discomforts (Higgins, 1987). The greater discrepancy will induce greater psychological discomforts (Bizman, Yinon, & Krotman, 2001; Debrosse et al., 2018). The self-discrepancy theory stated that, in order to alleviate psychological discomfort, individuals are oriented to align their identity with the self-guide (Higgins, 1987). In other words, people are motivated to align their actual self in accordance with the ideal and the ought self to reduce the self-discrepancy (Higgins, 1987, 1989).

The three basic domains of the self and self-guide were adopted into the cyberspace to discuss the reasons why an individual chooses to reconstruct his or her virtual identity on anonymous social network platforms (Hu et al., 2015). It was suggested that people‘s self-guide and identity in an anonymous environment are different from that in the physical world (Hu et al., 2015). The expression of the ought self will decrease because of the relative few restraints and responsibilities online. Hence, the expression of the ideal self will increase (Hu et al., 2015), given that the wishes that are difficult to fulfill in the physical world may be gratified with a reconstructed identity in the online world. For example, an ugly girl can post edited photos which make her look pretty.

Specifically speaking, an individual may choose to reconstruct his or her online identity, by presenting more of the ideal self and less of the ought self to reduce the self-discrepancy between the self-guide and the online identity (Hu et al., 2015). In other words, it is likely that the self-guide can be fulfilled more easily if an individual can reconstruct an online identity on the basis of his or her own ideas.

3.2.3 The inadequacy of the traditional self-discrepancy theory in the online world

The traditional self-discrepancy theory (Higgins, 1987, 1989) was developed approximately 30 years ago. As the information technology developed rapidly, the Internet provides people with an entirely different virtual environment to express themselves and communicate with others. The way that people interacted with others in the physical world 30 years ago is completely different from the way people interact with others in the online world today. In other words, the three domains of the self that proposed by the traditional self-discrepancy theory (Higgins, 1987, 1989) are not sufficient in the online world. The existing research also suggested that an additional self should be involved in the traditional theory better to explore human behaviors in both the online and offline world (Carver, Lawrence, & Scheier, 1999).

In the current study, the two aspects of the true self (the positive true self and the negative true self) were used as the new domains of the self to advance the traditional self-discrepancy theory for its better usage in both the physical and Internet world. In addition to the actual self, ideal self and ought self, the true self is also an important component of people‘s identity and self-guide in an anonymous environment (Hu et al., 2015; Rogers, 1951). By definition, true self refers to the intrinsic personalities, minds, beliefs, and consciousness that an individual really thinks and believes (Harter, 2002). The anonymity of the online world provides people with a more open and freer place to

express the personalities, minds, beliefs, and consciousness that they really think and believe, even some aspects of the true self may conflict with social norms and expectations in the offline world.

Hence, the expression of the true self in an anonymous environment will free people from the majority of the negative outcomes that may occur in the physical world. In summation, it is more likely that the anonymity of the online world enables people to behave according to their true self (especially the negative true self), with less fear of disapproval from others in the offline world (Hu et al., 2015).

As mentioned earlier, the true self should be distinguished according to two dimensions: a) the positive true self, which refers to the positive aspects of the true self that are in line with social norms and social expectations in the offline world; b) the negative true self, which refers to the negative aspects of the true self that conflict with social norms and social expectations. The combination of the true self and the traditional self-discrepancy theory (Higgins, 1987, 1989) may help to better explain individuals‘ behavior in both the online and offline world. Thereby, it may help the providers of online services better to identify Internet users‘ needs and improve their satisfaction level.

3.3 Self-determination theory

Apart from the self-discrepancy theory (Higgins, 1987, 1989), the self-determination theory (Ryan & Deci, 2000a), which also emphasize on how human behaviors are motivated, was adopted in the present study to better understand individuals‘ needs of identity reconstruction in the anonymous online environment. The self-determination theory suggested that people are motivated differently when they are doing something (Ryan & Deci, 2000a). For instance, an individual may be motivated to engage in doing something because he or she wishes to do it or because he or she is pressured to do it.

Thus, individuals conduct their behavior according to their own interests and/or external benefits. This is also in line with the description of the self-guide in the self-discrepancy theory (Higgins, 1987, 1989). On the basis of various goals and reasons, the motivations that guide people‘s behavior are distinguished into two types: intrinsic motivations and extrinsic motivations (Ryan & Deci, 2002).

When intrinsically motivated, an individual does an activity naturally, following his or her inner interests. And he or she is not doing it for separable consequences (Ryan & Deci, 2000b). The participation and accomplishment of this activity fulfill his or her innate needs, like vanity. When extrinsically motivated, an individual engages in doing something for separable outcomes rather than for an intrinsic interest in the action itself (Ryan & Deci, 2000b). People often take a particular action because it will bring them material rewards, like money.

More importantly, the self-determination theory highlights three innate psychological needs; namely, competence, relatedness, and autonomy (Ryan & Deci, 2002). Competence refers to the need of feeling effective in doing something and being able to express one‘s capacities. The fulfillment of competence brings an individual a sense of confidence (Ryan & Deci, 2002). Relatedness refers to the need of being connected to others, especially to make friends with the people who share the same inner interests. The fulfillment of relatedness brings an individual a sense of belongingness (Ryan & Deci, 2002). Autonomy refers to the need of acting according to one‘s own volition and thought. When the need for autonomy is fulfilled, individuals regard their behavior as an expression of their sense of the self (Ryan & Deci, 2002).

Hence, the fulfillment of the aforementioned three needs is essential for individuals‘ self-enhancement, self-improvement and psychological well-being (Deci & Ryan, 2000). Therefore, an individual‘s behavior is motivated to fulfill these needs in both the

online and offline world. Moreover, it is likely that people can fulfill these needs more easily with a reconstructed online identity in an anonymous environment.

3.4 Psychological well-being

As an essential standard for evaluating people‘s feelings, psychological well-being has been defined as the optimal status of an individual‘s psychological functioning and experience (Ryff & Keyes, 1995). Ryff (1989) developed an integrated theoretical framework and a series of instruments with which to assess multiple facets of psychological well-being. Six dimensions of psychological well-being were measured in Ryff‘s framework: 1) self-acceptance, which refers to a positive attitude toward the self, accepting good and bad qualities; 2) positive relations with others, which refers to warm and trusting personal relationships with others; 3) autonomy, which refers to a sense of freedom and self-determination; 4) environmental mastery, which refers to the ability to manage the environment, making use of opportunities or creating suitable contexts for personal needs; 5) purpose in life, which refers to a sense of directedness, having goals and objectives in life; 6) personal growth, which refers to the development and improvement in self (Ryff, 1989).

The framework and scales of psychological well-being have been widely used by researchers who are interested in human behavior. However, whether the dimensions of psychological well-being are sufficiently distinct has already been debated.

As mentioned above, the six dimensions of Ryff's (1989, 1995) model were integrated from different elements of nine guiding theories from three subfields of psychology. All the dimensions were summarized from more than one theory among the nine guiding theories. Moreover, some of them were constructed from the elements of more than five theories. For example, the factor ―self-acceptance” was defined based on the ideas drawn from Maslow's (2013) fifth level of self-actualization needs, Rogers's

(1961) theory about a fully functioning person, Allport's (1961) formulation of maturity, Jahoda's (1958) conception of positive mental health, and Jung's (1933) individuation theory, and Erikson's (1959) personal development theory.

In other words, one theory among the nine guiding theories may contribute to multiple dimensions of Ryff's (1989, 1995) model. In this case, some studies have argued that there is substantial overlap between these dimensions (Clarke et al., 2001; Kafka & Kozma, 2002; Springer & Hauser, 2006). For example, conceptual overlap and high latent variable correlations have been found amongst the dimensions of self-acceptance, purpose in life, environmental mastery, and personal growth (Springer & Hauser, 2006)

In the current study, people‘s psychological well-being in the online world was measured in terms of autonomy and self-acceptance. These two dimensions were adopted because they are distinct from each other (Cheng & Chan, 2005; Springer & Hauser, 2006), while substantial overlaps have been found among the omitted dimensions (Clarke et al., 2001; Kafka & Kozma, 2002; Springer & Hauser, 2006). In addition, autonomy and self-acceptance are strongly related to the behavior of online identity reconstruction (Hu et al., 2015; Ryff, 1989; Springer & Hauser, 2006). Given that people can reconstruct their identity online based on their ideas (Hu et al., 2015), the reconstructed virtual identity may be more acceptable to them. Thus, identity reconstruction is likely to influence people‘s self-acceptance. At the same time, with a reconstructed identity, individuals can behave with relative few restraints, which make it easier for them to act according to their own thoughts. Therefore, online identity reconstruction is likely to be associated with people‘s autonomy.

3.4.1 Autonomy

Autonomy is a basic innate psychological need and is essential for personal well-being (Ryan & Deci, 2000b). A person is autonomous when he or she enacts behaviors willingly and fully endorses the values expressed by those behaviors (Chirkov et al., 2003). Therefore, people feel autonomous to the greatest extent when acting according to their interests and desires (as with their true self) (Deci & Ryan, 1985, 2000). In contrast, people may feel a lack of autonomy when they are forced to do something in a manner with which they do not identify or to follow social norms that they do not accept.

As Higgins (1987) suggested, people compare their current state (i.e., identity) to certain standards (i.e., self-guide) and regulate their behavior to reduce the discrepancy between the two. Some behaviors are autonomous, initiated by internal ideas and beliefs (as with the true self), whereas other behaviors are controlled, initiated by external pressure and forces (as with the ought self). Previous research has revealed that external events (such as evaluation, surveillance, imposed goals, rewards, deadlines, tangible rewards, and threats) tend to make people feel controlled, diminishing their feeling of autonomy (Deci & Ryan, 1985). In contrast, opportunities to choose, the acknowledgment of feelings, and self-direction were found to enhance people‘s feelings of autonomy (Deci & Ryan, 1985, 1987).

Significant differences have been found between people who feel autonomous and those who feel that their actions are controlled. When autonomous, people exhibit greater interest, excitement, and confidence in their activities (Ryan & Deci, 2000b). Autonomy has been positively associated with people‘s performance and persistence in an activity (Deci & Ryan, 1991). The fulfillment of autonomy can also lead to higher

self-esteem (Deci & Ryan, 1995), vitality (Nix et al., 1999), and general well-being (Ryan, Deci, & Grolnick, 1995).

3.4.2 Self-acceptance

Self-acceptance involves the recognition of various parts of oneself, including both the good and bad sides, while helping individuals to evaluate all their efficient and inefficient aspects appropriately. People with high self-acceptance levels usually have a positive attitude toward themselves (Ryff, 1989). In addition to the general acceptance of both the positive and negative aspects of the self, self-acceptance also examines whether people are satisfied and happy with themselves (Shepard, 1979). Therefore, self-accepting individuals are aware of both their positive and negative sides. They accept all these aspects as part of their personality and are satisfied with themselves to the greatest extent. In contrast, people who fail to achieve self-acceptance feel inefficient and dislike their own characteristics. Additionally, an individual‘s self-acceptance level was found to affect his or her life satisfaction (Choy & Moneta, 2002).

Given the anonymity of the online world, it is difficult for service providers and other users to check the veracity of the information in the profiles (Livingstone, 2008). Hence, an individual can reconstruct a virtual identity on the basis of his or her ideas to the greatest extent (Hu et al., 2015). In other words, an individual can select any aspects of the ideal self, the ought self and the true self as he or she wishes to construct a virtual identity in an anonymous environment. As a consequence, this individual is more likely to have a high level of self-acceptance toward his or her online identity, thereby having a positive attitude toward the reconstructed virtual identity and becoming more satisfied when using this reconstructed virtual identity (Higgins, 1987; Ryff, 1989).

3.5 Chapter summary

In the current study, the true self and the self-discrepancy theory provided support for how people reconstruct their identity online (i.e., express the various aspects of the self with a reconstructed online identity), while the self-discrepancy theory and the self-determination theory could jointly explain why people reconstruct their identity online (i.e., to reduce self-discrepancies and being motivated by their own needs). With a reconstructed online identity, it might be easier for individuals to meet their psychological needs, such as behaving according to their own thoughts (autonomy) and accepting their online identity to a greater extent (self-acceptance). As a consequence, individuals might become more satisfied in the online world.

CHAPTER 4: RESEARCH DESIGN

After a detailed review of related literature, the current study adopted a two-step mixed model research approach to explore the following four research questions:

RQ1: From the perspective of the true self, what adjustments are needed to make the traditional self-discrepancy theory more comprehensive for the online world? **RQ2:** If the true self is a part of an individual's identity and self-guide in the cyberspace, why do people choose to express more of the true self in the online world than in the real world? **RQ3:** What are the relationships between the expression of three domains of the self (i.e., the ought self, the ideal self, and the true self) and the fulfillment of autonomy and self-acceptance? **RQ4:** How do the fulfillment of autonomy and self-acceptance relate to the overall satisfaction on social network platforms?

This study employed a mixed model, adopting the sequential exploratory design. A qualitative research approach (study one) was used to answer RQ1 and RQ2, exploring the role of the true self (including both the positive and negative true self) as a part of an individual's reconstructed identity and self-guide in social network communities and the reasons why individuals choose to express more of the true self online. Regarding the ethical issues when exploring human behavior and consciousness, the qualitative research was approved by the University of Malaya Research Ethics Committee (Document number: UM.TNC2/RC/H&E/UMREC-99).

For RQ3 and RQ4, a quantitative research approach (study two) was adopted to explore how online identity reconstruction influences people's satisfaction in the anonymous online environment by affecting the fulfillment of autonomy and self-acceptance. The primary objective of study one was to advance the traditional self-discrepancy theory with the true self, while study two aimed to test the elements of the

advanced theory. The results of study one (qualitative study) served as a part of the theoretical foundations of study two (quantitative study).

4.1 Introduction of research methods

4.1.1 Qualitative research and quantitative research

Various research methods are available in the field of information systems research, such as qualitative research and quantitative research (Järvinen, 2008). Qualitative research is a good way to explore and investigate the complexity of human behavior and consciousness in naturalistic circumstances (Chin, Choo, & Evans, 2015; Chin, Evans, & Choo, 2015; Denzin & Lincoln, 1995). It seeks to explain a phenomenon from the perspective of the participants in the particular social and cultural context. Strauss and Corbin (1990) have also suggested that qualitative research methods are suitable means to understand and study social reality. Qualitative research is usually exploratory, answering ―how" and ―why" questions (Creswell, 1994). Therefore, qualitative research is often conducted to investigate: a) knowledge of a particular phenomenon; b) people's experiences; c) social processes (e.g., social norms); and other complex issues (Patton, 1990). For clearly defined questions, quantitative research is a better choice. Quantitative research can be used to test hypotheses and examine whether two events are related and how, in terms of being positively related, negatively related, or not related at all (Creswell, 1994).

Qualitative research and quantitative research differ in several ways. For example, qualitative research methods are subjective, while quantitative research methods are objective (Creswell, 1994). Qualitative research aims to provide explanation and understanding, while quantitative research aims to make predictions and controls (Flick, 2014). The data collection methods for qualitative research are usually semi-structured or unstructured, while the quantitative data collection methods are often structured

(Creswell, 1994). Qualitative research produces in-depth and detailed data on a relatively small number of subjects, while quantitative research produces systematic data on a wide range of individuals (Patton, 1990).

4.1.2 Mixed models

Despite various distinctions, qualitative research and quantitative research is often combined in practice, forming mixed method research. Mixed method research has been defined as ―research in which the investigator collects and analyses data, integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study" (Tashakkori & Creswell, 2007, p. 4). Some researchers suggested that the term ―mixed model" is more appropriate in describing research that applies both qualitative and quantitative approaches because various issues arise during the mixing process (such as analyzing mixed data, reporting mixed results); hence, the mix of research methods is only a part of the mixing process (Tashakkori & Teddlie, 1998). By combining qualitative and quantitative findings, mixed models can provide a broader range of perspectives on the complex phenomena under investigation (Bryman, 2007; Foss & Ellefsen, 2002). One advantage of mixed models is that the combination of research approaches helps answer the research questions that cannot be answered by a single approach alone, hence, better meets the complex research objectives (Creswell & Plano Clark, 2007; Creswell et al., 2003).

Qualitative and quantitative approaches can be mixed in different ways. Creswell et al. (2003) have proposed six major designs of mixed models: sequential explanatory design (Figure 4.1.1), sequential exploratory design (Figure 4.1.2), sequential transformative design (Figure 4.1.3), concurrent triangulation design (Figure 4.1.4), concurrent nested (embedded) design (Figure 4.1.5), and concurrent transformative design (Figure 4.1.6).

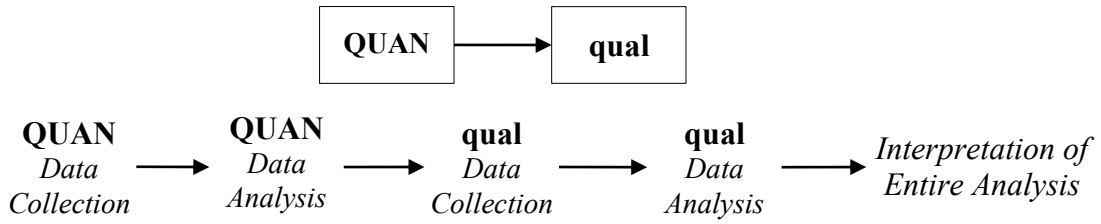

Figure 4.1.1: Sequential explanatory design

As shown in Figure 4.1.1, in the sequential explanatory design, quantitative data is collected and analyzed in the first phase of research. Qualitative data is then collected and analyzed in the second phase of research. The qualitative approach is built on the results of the quantitative study (Creswell, 2009). In the sequential explanatory design, qualitative results are usually used to explain and interpret quantitative results, especially when some quantitative results are unexpected (Creswell et al., 2003).

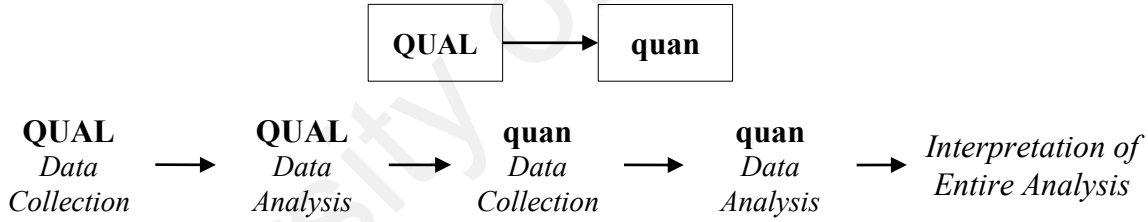

Figure 4.1.2: Sequential exploratory design

The sequential exploratory design is similar to the sequential explanatory design, but the sequence is reversed. As shown in Figure 4.1.2, in the sequential exploratory design, qualitative data is collected and analyzed in the first phase of research. Quantitative data is then collected and analyzed in the second phase of research. The quantitative approach is built on the results of the qualitative research (Creswell, 2009), while the primary focus of sequential exploratory design is to explore a phenomenon (Creswell et al., 2003). It has been suggested that this model is appropriate when there is a need to test the elements of a theory that emerges in the qualitative phase (Morgan, 1998).

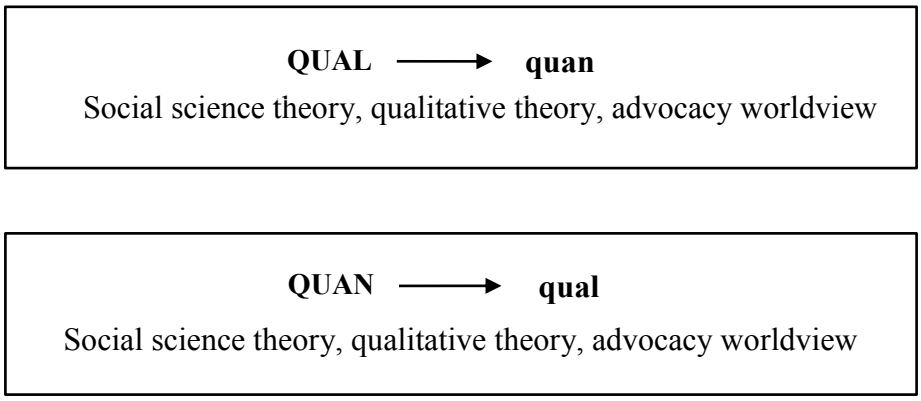

Figure 4.1.3: Sequential transformative design

As shown in Figure 4.1.3, the sequential transformative design also has two phases; either qualitative research followed by quantitative research, or quantitative research followed by qualitative research (Creswell et al., 2003). Unlike the sequential explanatory and exploratory design, which may or may not be guided by an explicit theory, the sequential transformative design is implemented within an explicit theoretical perspective (such as a social science theory) and the guidance of the theory is more important than the use of mixed methods (Creswell, 2009).

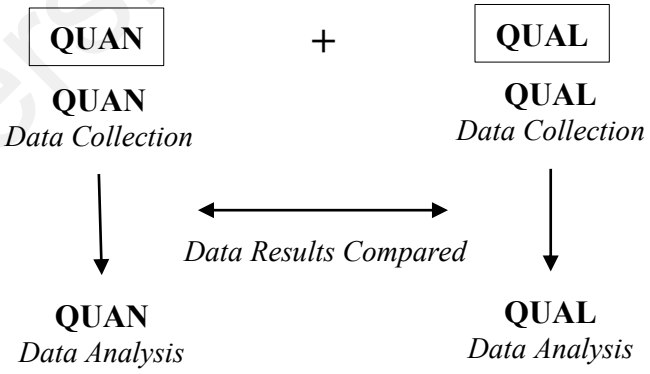

Figure 4.1.4: Concurrent triangulation design

As shown in Figure 4.1.4, quantitative and qualitative data are collected simultaneously in concurrent triangulation design. The data can be merged through data transformation (e.g., quantify qualitative data), so that the data collected by two different approaches can easily be compared and/or combined to examine the

convergence and differences (Creswell, 2009). Otherwise, the research can discuss the results side by side, such as providing qualitative quotes to support or disconfirm the results of quantitative analysis. The concurrent triangulation design is often used to confirm, cross-validate or corroborate findings. On this model, the weaknesses of one method are offset by the strength of the other. The quantitative approach and qualitative approach are equally weighted (Creswell, 2009).

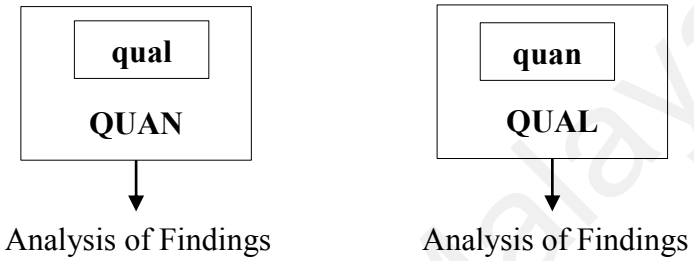

Figure 4.1.5: Concurrent nested (embedded) design

In concurrent embedded design (as shown in Figure 4.1.5), quantitative and qualitative data are collected concurrently at the same phase, but one of the approaches (quantitative or qualitative) is the primary method for data collection and guides the study, while the other approach (qualitative or quantitative) is secondary method that provides support for the main procedures (Creswell et al., 2003).

For example, in the experiment of smoke quitting, quantitative data can be used to measure the outcomes of the treatment (which are the main focus of the experiment), while qualitative data can be collected to evaluate participants' personal experiences throughout the treatment (Creswell, 2009).

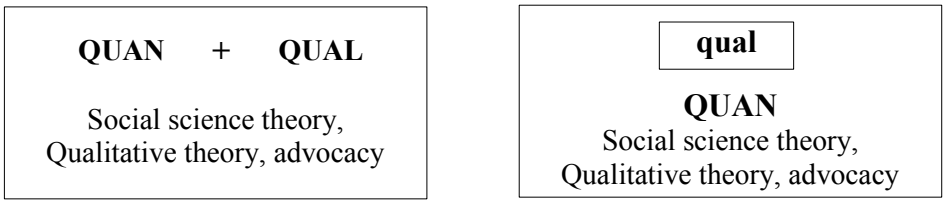

Figure 4.1.6: Concurrent transformative design

In the concurrent transformative design (as shown in Figure 4.1.6), the research is guided by a specific theoretical perspective, which is similar to the aforementioned sequential transformative design, although quantitative data and qualitative data are collected simultaneously. Researchers can implement the quantitative and qualitative approaches with equal weight (i.e., triangulation design), or embed one method in the other (i.e., embedded design). No matter which concurrent model is used, the purpose is to evaluate the theoretical perspective at different levels. The similarities and differences of each mixed model design are summarized in Table 4.1.1.

Table 4.1.1: The similarities and differences of each mixed model design (Creswell, 2009)

Mixed model designs	Data collection sequence	The presence of theoretical perspectives
Sequential explanatory	First phase: Quantitative Second phase: Qualitative	There may or may not be an explicit theoretical perspective
Sequential exploratory	First phase: Qualitative Second phase: Quantitative	There may or may not be an explicit theoretical perspective
Sequential transformative	First phase: Quantitative or Qualitative Second phase: Qualitative or Quantitative	Guided by an explicit theoretical perspective
Concurrent triangulation	Quantitative and Qualitative data collected concurrently; Quantitative and Qualitative approaches weighted equally;	There may or may not be an explicit theoretical perspective
Concurrent nested (embedded)	Quantitative and Qualitative data collected concurrently; One method is primary, and the other is supportive;	The primary method is guided by an explicit theoretical perspective
Concurrent transformative	Quantitative and Qualitative data collected concurrently Quantitative and Qualitative approaches could be weighted equally or use one method as a primary method;	Guided by an explicit theoretical perspective

4.2 Research site in two studies

The research site of both study one and study two was QQ, a social network platform launched in China. It was adopted because of its popularity and its high level of anonymity. By the end of July 2018, QQ had more than 800 million monthly active users worldwide (Statista, 2018). Not similar to some other social network platforms like Facebook which include so many "Faces" and users mainly connect with their real-world friends, within QQ, users seldom reveal their personal information in the profile.

QQ users can create and join different communities based on common interests to communicate and interact with others. For example, travelers can join a community in QQ to discuss topics they are interested in, such as the expense of traveling in a particular place, famous local food and souvenirs, and visa issues of traveling abroad. Online gamers can join QQ communities to discuss and share game tips. The topics discussed in a community are usually related to the common interest of the members. Within these communities, a member can send a friend request to any other members that he or she is interested in. Thus they become QQ friends of each other and can communicate privately outside the community.

Some of these interest-based communities are very large (they may include more than one thousand members), while most members are geographically separated strangers. The profiles of members and the contents that members discuss in an interest-based community are open to all the members of this community. Members seldom disclose their personal information while communicating with others in the community, given that most community members are strangers to them. To protect privacy, most members will choose to reconstruct their online identities by hiding or even faking personal information in profiles. Here, examples include setting a cartoon picture as his or her profile photo and using an obvious pseudonym instead of revealing the real name.

4.3 Chapter summary

In this chapter, different types of mixed model research were introduced. The current study used the sequential exploratory design. A qualitative study (study one) was conducted first, with a quantitative study (study two) conducted later, based on the results of the qualitative study. The two studies were conducted in the same research site, which was also introduced in this chapter.

CHAPTER 5: QUALITATIVE STUDY (STUDY ONE)

In this chapter, a general introduction of the qualitative research method comes first. After that, the particular methods used in the qualitative phase of this study (study one) are introduced, such as the research design and data collection methods. The qualitative data are then analyzed with the method of inductive content analysis. Sequentially, the results of study one are presented, which serve as a part of the theoretical foundations for the quantitative phase of this study (study two).

5.1 Introduction to qualitative research method

5.1.1 Qualitative research design

When conducting qualitative research, different qualitative research designs are available. The most common qualitative designs are ethnography, grounded theory, action research, and case study (Padgett, 2016). Ethnography is defined as ~~"t~~he systematic process of observing, detailing, describing, documenting, and analyzing the lifeways or particular patterns of a culture (or subculture) in order to grasp the lifeways or patterns of the people in their familiar environment" (Leininger, 1985, p. 35). Therefore, in ethnographic research, researchers spend a large amount of time staying with people and observing their behavior patterns (Lewis & Russell, 2011). In addition to observations, researchers usually interview the key informants (referring to the people who understand the culture best) to obtain in-depth information (Aamodt, 1991). Ethnography focuses on how people live and interact with others. The goal of ethnography is to develop theories that help understand the phenomena studies in the cultural context (Leininger, 1985; Lewis & Russell, 2011).

Grounded theory research is defined as ~~"a~~n inductive, theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data"

(Martin & Turner, 1986, p. 141). Grounded theory research is also an approach to develop theories, emphasizing the generation of theories rather than testing hypotheses (Corbin & Strauss, 1990). In grounded theory research, data are collected and analyzed simultaneously. Newly collected data are constantly compared with the data that have been collected in earlier phases (Charmaz, 1996).

Action research "aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport, 1970, p. 499). Action research hence tries to seek action to solve an immediate problem, improve practice, and make theoretical contributions at the same time. The outcomes of action research are practical actions and scientific knowledge (Coughlan & Coghlan, 2002). Action research includes five phases: diagnosing, action planning, action taking, evaluating, and specifying learning (Susman & Evered, 1978). These processes are iterative, and the practitioners (such as employees of the organization under investigation) participate actively in the processes (Coughlan & Coghlan, 2002).

Case study research is "an empirical inquiry that investigates a contemporary phenomenon within its real-life context" (Yin, 1994, p. 13). A case may refer to an event, an entity, or an individual. The case study method can be used to provide in-depth examinations of a phenomenon, develop theories, and test theories (Darke, Shanks, & Broadbent, 1998; Flyvbjerg, 2006). It shares some similarities with other qualitative research methods, but there are also distinctions. The motivations and outcomes of research are usually different. Ethnography is dedicated to cultural analysis. Researchers are highly involved in the cultural context. The outcomes of ethnography and grounded theory research are theories. For action research, researchers aim to solve a practical problem. A solution to the problem will be provided, along with

scientific knowledge. Whereas the case study method focuses on providing an in-depth understanding of a specific phenomenon, theories and solutions may or may not be the outcomes of the case study research. Less control or manipulation of variables are involved in case study research (Darke et al., 1998).

5.1.2 Qualitative data collection methods

In qualitative research, the most commonly used data collection methods are focus groups, participant observation, and personal interviews (Gill et al., 2008). In focus groups, several participants are brought together to discuss a particular subject (Morgan & Spanish, 1984). The discussion is usually guided by the researcher. Unlike direct group interviews (in which participants answer the interview questions in turn), focus groups encourage participants to talk with each other (Kitzinger, 1995). People can exchange their ideas and experiences related to the topic. Focus groups are especially useful when the researcher‘s focus is on collective views and group interactions (Gill et al., 2008). Interpersonal communications in focus groups can highlight collective values and group norms (Kitzinger, 1995). Researchers can also observe participants when they are concentrated on the topic (Morgan & Spanish, 1984). Although the comfortable and open atmosphere in group discussions can encourage participants to share attitudes and experiences that are less easily accessible in personal interviews, the presences of other group members may increase people‘s concerns to share their ideas (Kitzinger, 1995). Moreover, participants may be not willing to share an opinion that is not in line with the group norms.

When the research topic is sensitive, and participants are reluctant to discuss it in a group environment, personal interviews are better choices. Participants may perceive less normative pressures and more confidentiality (Gill et al., 2008). The personal interview aims to explore an individual‘s ideas, experiences, or motivations on specific

matters (Clifton & Handy, 2003). It can be applied when the existing knowledge about the phenomenon is scarce, or there is a need to acquire in-depth insights from individuals (Gill et al., 2008).

Personal interviews can be unstructured, semi-structured, and structured. An unstructured interview is conducted with specific research themes, but there are no specific interview questions (Doody & Noonan, 2013). It may start with a broad question, and the following questions are proposed based on participants‘ responses (Holloway & Wheeler, 2010). Participants may find it confusing because there is no clear guidance.

The unstructured interview can be useful when significant in-depth insights from individuals are required (Gill et al., 2008). In contrast, structured interviews follow a clear schedule. The same questions are proposed to all the participants in the same way (such as wording and order). The structured interview is efficient, and the data are easy to code (Holloway & Wheeler, 2010), but it leaves no room for follow-up questions that may provide further elaboration on the topic (Doody & Noonan, 2013).

Semi-structured interviews are guided by several key questions, through which similar types of data can be collected, and participants can perceive a sense of order (Holloway & Wheeler, 2010). Researchers can change the order of the questions based on the progress of each interview. They can also propose follow-up questions to explore issues that arise spontaneously (Doody & Noonan, 2013).

It is frequently difficult for researchers to get all the things they want to know in personal interviews because the participants are not completely open, or the researchers don‘t have enough information to propose specific questions (Becker & Geer, 1957). Participant observations may be a solution to this situation. Participant observation is a

qualitative data collection method that consists of two parts: observation and participation (Kawulich, 2005). With observation, researchers are able to generate "systematic description of events, behaviors, and artifacts in the social setting chosen for study" (Marshall & Rossman, 1989, p. 79), while participation refers to the extent of researcher involvement in the group or the event under study (Laurier, 2010).

The degree of involvement can affect both the quality and amount of data the researchers can collect (Kawulich, 2005). In participant observations, a researcher can be a complete observer, an observer as a participant, a participant as an observer, or a complete participant (Gold, 1958). When being complete observers, researchers only observe and collect data passively (Spradley, 1980); there is few or no interaction between researchers the subjects. When being observers as participants, researchers interact with subjects slightly. Short interviews may be conducted, but the main focus is still on observations (Adler & Adler, 1994). When being a participant as an observer, researchers may develop relationships with the subjects and participate in their central activities, but not fully committed to the group (Adler & Adler, 1994; Spradley, 1980). When being complete participants, researchers become members of the group entailing that they have close relationships with the subjects (Adler & Adler, 1994; Spradley, 1980).

The more involved the researchers, the more detailed data they can collect. However, as the extent of involvement increases, the risk of losing objectivity also increases. In addition, the event in which a researcher is interested may not frequently occur, which make it difficult to be observed over a reasonable time span (Kawulich, 2005).

5.2 Research methods for study one

On the basis of the purpose of study one, the case study method was adopted. When compared with other qualitative research methods, the case study research suits the aims

and objectives of study one. The qualitative study in the first phase aimed to investigate the role of the true self in the behavior of online identity reconstruction and to explore the motivations for expressing the true self in an anonymous online environment. Even though the qualitative study tried to extend the traditional self-discrepancy theory (Higgins, 1987, 1989), it was still guided by the traditional self-discrepancy theory, not attempting to generate a new theory. The case study method is hence the most suitable method that can provide an in-depth understanding of online identity reconstruction in the anonymous environment and answer the research questions of study one at the same time.

5.2.1 Data collection

Regarding study one, the focus was on the behavior of identity reconstruction and the expression of the true self. Both issues are sensitive and not easy to observe. Therefore, semi-structured interviews were used in study one to explore participants‘ ideas about the true self.

In comparison with unstructured and structured interviews, the semi-structured interview is more flexible. It keeps the subjects focused on the topic and allows the researcher to explore deeper when something interesting comes up (Runeson & Höst, 2009). The semi-structured interview can also help researchers to explore subjects‘ unique experiences or perspectives, allowing subjects to describe their thoughts in their own words (Mason, 2002).

However, considering that the expression of the true self (especially the negative true self) is sensitive, some participants may feel inhibited in answering associated questions in personal interviews. In this case, semi-structured interviews were adopted as the primary data collection method, while anonymous semi-structured questionnaires were used as a supplementary method to collect data.

Both open-ended and close-ended questions were used in interviews, as well as in anonymous questionnaires. With closed-ended questions, it is easier and quicker for participants to answer questions by choosing from a list of ready-made options (Kelley, 1983). With open-ended questions, respondents can provide answers in their own words freely and openly (Geer, 1988). It will then be easier to investigate and explore an individual‘s perception and consciousness related to the true self (Kelley, 1983; RePass, 1971; Wallenberg, 1998).

To solicit participants, the interview invitations were sent out to three large interest-based QQ communities (each included more than one thousand members) recommended by QQ community search function under the category of interest. For the voluntary participants who were willing to take part in study one and attend our interview, they could choose two ways to conduct the interview (through telephone or online chat) on the basis of their needs. The purpose of study one (qualitative study) and the kind of information would be collected and presented in the study were introduced to all the participants first. The interview began after the participants fully understood the research and agreed to continue. No official consent (oral/written) was provided since all the data were collected and analyzed anonymously in this research. The data collection of study one was also approved by the University of Malaya Research Ethics Committee (Document number: UM.TNC2/RC/H&E/UMREC-99).

Each interview lasted approximately 25 minutes. During the interviews, some basic questions about participants‘ personal information were asked as a warm-up, such as age, educational background, and working fields. Afterward, the main interview questions (such as –what motivates you to express your true self online, especially the negative true self?”) were proposed to explore participants‘ ideas about the expression

of the true self when they reconstructed their self-guide and identity in both the online and offline world.

In addition, thirty personality trait adjectives were selected from a published personality trait list (Anderson, 1968). Participants were asked to classify these personality trait adjectives into different categories based on their understanding in general, such as "suitable to express in the real world," "the ideal self," "the negative true self." The adjectives in the published personality trait list were rated based on people's likeableness, from the "best" personality trait to the "worst" personality trait. The personality trait adjectives selected in study one were all frequently encountered words and distributed averagely in the top, middle and bottom of the personality trait list. The thirty selected personality trait adjectives were listed according to the order of Anderson's (1968) published personality trait list (from positive to negative based on people's likeableness) for participants to classify into different categories.

5.2.2 Participants

Eventually, 57 participants were involved in study one, including 27 male and 30 female. These participants had different educational backgrounds, varying from high school graduates to PhDs. They also came from more than ten different fields such as manufacturing, computer science, and management. Moreover, the age of these participants ranged from under 20 years old to over 40 years old (as shown in Figure 5.2.1). The average time that each of the participants spent online every day was 5.35 hours.

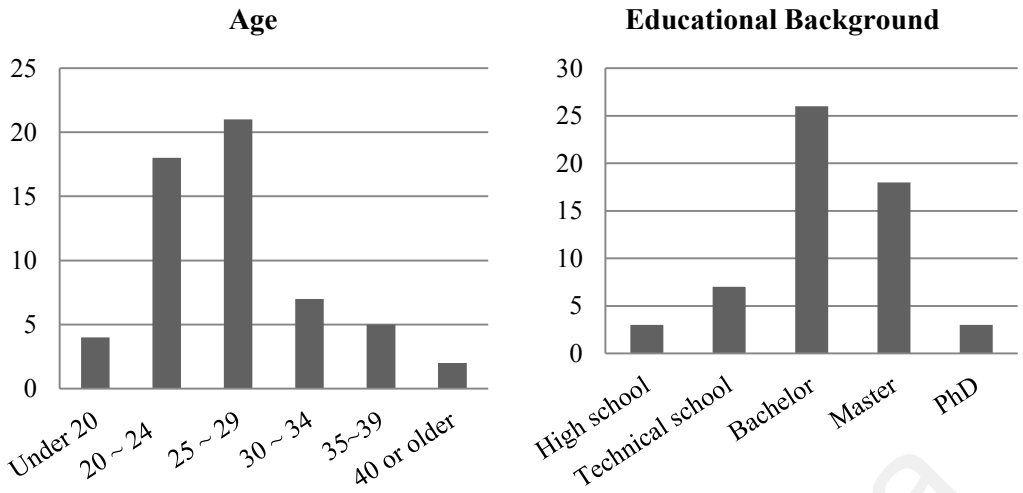

Figure 5.2.1: Demographic information of participants

5.3 Data analysis

As mentioned earlier, the interview questions of study one included both closed-ended and open-ended questions. For the data collected from closed-ended questions, the results were easily quantifiable (Cahyani, Martini, & Choo, 2016, 2017; Penwarden, 2013). Being that participants were required to select answers from pre-selected options, unique or unanticipated answers are not allowed in this kind of questions. For the data collected from open-ended questions, the inductive content analysis method was adopted in the data analysis phase. The inductive content analysis is a widely used method in qualitative research. It is flexible for analyzing text data obtained from interviews and survey questions (Cavanagh, 1997). The main feature of the inductive content analysis is hence to classify a large amount of text into a smaller number of categories (Weber, 1990), aiming to generate a condensed description of the phenomenon (Elo & Kyngäs, 2008).

5.3.1 Content analysis

In study one, the content analysis was used to analyze data collected from the open-ended questions. As a widely-used data analysis method, content analysis can help to

describe a social phenomenon through classifying and coding text or words into smaller groups or categories (Burnard, 1996; Weber, 1990), thereby eliciting the concepts or the categories from complex contents (Elo & Kyngäs, 2008). In general, there are two different kinds of content analysis methods based on the different purposes of research, namely, inductive and deductive content analysis (Elo & Kyngäs, 2008).

In terms of the deductive content analysis method, it is mainly adopted in quantitative research to retest research models, hypotheses, and theories on the basis of previous knowledge (Catanzaro, 1988; Gabriel, 2013; Marshall & Rossman, 1989). Furthermore, it usually starts with a hypothesis to focus on causality (Gabriel, 2013).

Accordingly, the inductive content analysis method is widely used in qualitative research to answer related research questions and so to ~~–e~~xplore new phenomenon or looking at previously researched phenomena from a different perspective" (Gabriel, 2013). The inductive approach is recommended when the previous knowledge of a phenomenon is not structured and sufficient (Lauri & Kyngäs, 2005). It can also be used to generate new themes, categories or theories from the raw data (Zhang & Wildemuth, 2009). For both inductive and deductive content analysis, the procedure of data analysis includes three phases; namely, preparation, organizing, and reporting phase (Elo & Kyngäs, 2008). The process of the preparation phase and the reporting phase of both inductive and deductive content analysis are the same.

For the preparation phase, the researcher firstly needs to choose the unit of analysis (such as words, sentences, or paragraphs) (Cavanagh, 1997; Guthrie et al., 2004; McCain, 1988; Zhang & Wildemuth, 2009). A suitably sized unit of analysis can help to improve the efficiency of data analysis (Catanzaro, 1988; Graneheim & Lundman, 2004). Given that the researcher needs to keep the unit of analysis in mind throughout the data analysis process, if it is too large, then it will be too difficult to remember (Elo

& Kyngäs, 2008; Graneheim & Lundman, 2004). After choosing the unit of analysis, the next step is to read through the data several times carefully and to make sense of all the data (Burnard, 1991; Polit & Beck, 2004).

Turning to the organizing phase, the researcher should begin to organize the data after making sense of all the data (Elo & Kyngäs, 2008), while with the deductive approach, the researcher needs to develop an analysis matrix on the basis of previous studies, such as research models, theories, and literature reviews (Hsieh & Shannon, 2005; Polit & Beck, 2004; Sandelowski, 1995). After that, code the data based on the analysis matrix (Elo & Kyngäs, 2008), and then test the hypotheses. On the other hand, if the researcher conducts an inductive approach, the procedure of organizing the data includes open coding, coding sheets, grouping, categorization, and abstraction (Elo & Kyngäs, 2008). The detailed process of the organizing phase of inductive content analysis will be introduced in the next section, together with the data analysis procedure of study one.

For the reporting phase, a clear report of the detailed analyzing process and the results is needed in both inductive and deductive approach (Elo & Kyngäs, 2008). The report can help the readers better understand how researchers reach the final results from the data.

5.3.2 Inductive content analysis of study one

According to the research objective and research questions proposed in study one, the inductive content analysis method was adopted to explore the reasons why people choose to express more of the true self in the online world than in the real world. The process of inductive content analysis is shown in Figure 5.3.1.

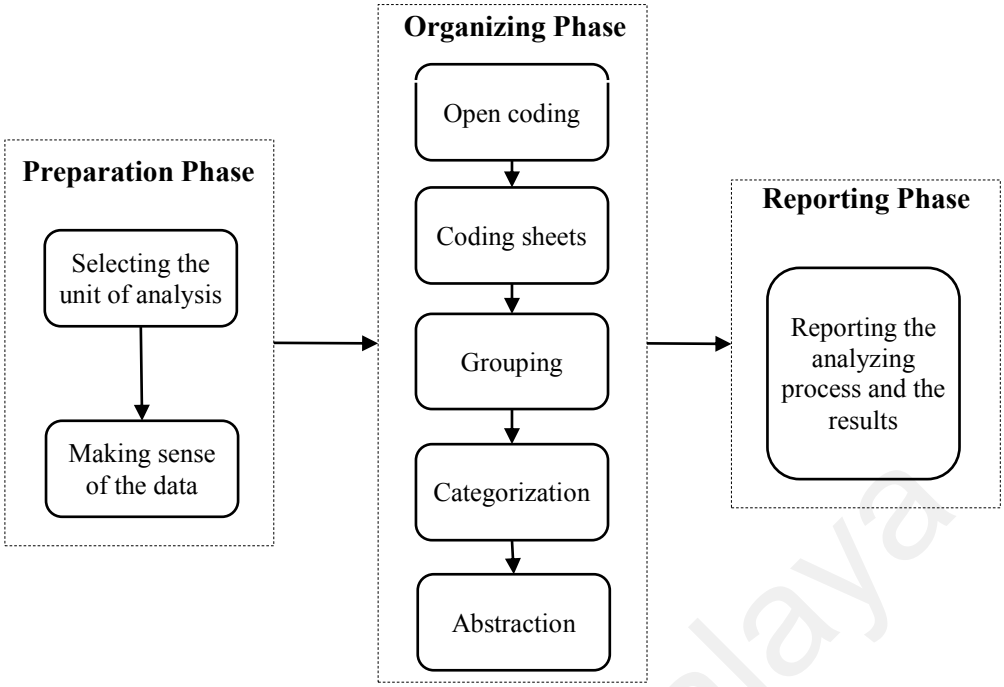

Figure 5.3.1: Procedure of inductive content analysis (Elo & Kyngäs, 2008)

In the qualitative study (study one), the unit of analysis was the thematic unit. The words, phrases, and sentences expressing similar ideas were coded as a unit in the open coding stage. The following are two examples of coding. The first example is: ―I can hide a lot of information, like names, addresses." This sentence was labeled as ―information hidden," which reflected that people hide their personal information on purpose. The second example is: ―It's not face-to-face. I don't have to meet anyone directly." ―I won't be affected by face-to-face factors." These two sentences were both labeled as ―not face-to-face" because both sentences expressed the idea that the communication in the online world is not face-to-face. In the open coding stage, the researcher should mark as many coding labels as necessary to describe the data comprehensively (Burnard, 1991; Hsieh & Shannon, 2005). In this study, the data were coded iteratively until no more new labels emerged.

All the coding labels were then compared with each other, and similar ones were placed into the same label group (Burnard, 1991). For example, the labels ―not face-to-

face," ~~n~~o appearances," and ~~n~~o tones" were classified into the label group of ~~p~~hysical cues absent," while the label ~~i~~nformation hidden" and ~~b~~ackground unknown" were classified into the label group of ~~u~~n-identifiable."

In the end, the interrelated label groups were classified into high-level categories (Burnard, 1991). In the case of this study, the label groups ~~p~~hysical cues absent" and ~~u~~n-identifiable" were classified into a high-level category - Anonymity. Eventually, four categories were summarized; namely, anonymity, less restraints, online-offline dissociation, and online listeners. Figure 5.3.2 is an example of how the category was generated from coding labels.

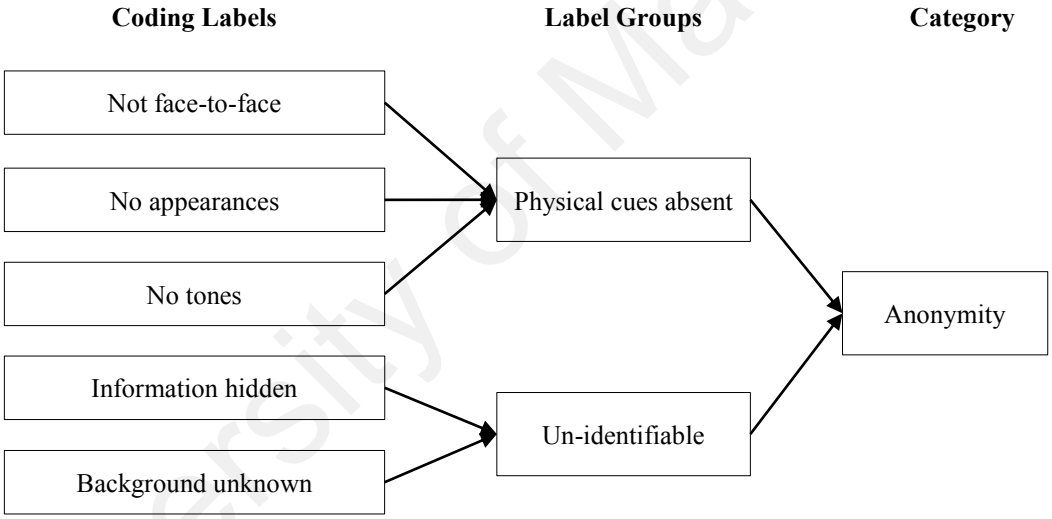

Figure 5.3.2: Category generation of "Anonymity"

5.4 Results

5.4.1 Expression of the true self

The majority of the participants (96.49%) agreed that everyone has both positive and negative personalities, thoughts, and beliefs. They mentioned various negative personality traits that people may have in the real world, such as violent, selfish, mean, falsity, aggressive, and lazy. These negative personality traits are a part of the true self, but are not socially desirable (McHoskey et al., 1998). The expression of these traits in

the real world may cause negative social evaluation and disapproval from others. Therefore, they cannot be fully expressed in face-to-face communication.

However, due to the high level of anonymity in interest-based QQ communities, the cost of expressing the aforementioned socially undesirable personalities in QQ communities is much less. Thus, community members can express their negative personalities, minds, beliefs, and consciousness to the greatest extent with fewer concerns. Hence, the current study asked participants to choose whether the selected thirty personality trait adjectives (Anderson, 1968) are suitable for expression in the physical world, given that all the personality traits (both the positive and negative ones) could be expressed in the anonymous environment if they want. Moreover, in order to explore how an individual's self-guide is constructed in both the online and offline world, while participants were also asked to classify the selected personality traits into the four domains of the self on the basis of their own understanding in general. The results are shown in Table 5.4.1.

Table 5.4.1: Summary of results

Categories	Personality Traits	Ideal Self	Ought Self	Positive True Self	Negative True Self
Unambiguously positive personalities	Honest	**26.32%**	**33.33%**	**40.35%**	0.00%
	Obedient	**33.33%**	**36.84%**	**29.82%**	0.00%
	Thrifty	**22.81%**	**40.35%**	**36.84%**	0.00%
	Righteous	**31.58%**	**38.60%**	**28.07%**	1.75%
	Cautious	**33.33%**	**29.82%**	**36.84%**	0.00%
	Responsible	**22.81%**	**38.60%**	**38.60%**	0.00%
	Polite	**33.33%**	**35.09%**	**31.58%**	0.00%
	Disciplined	**24.56%**	**45.61%**	**29.82%**	0.00%
	Objective	**12.28%**	**57.89%**	**29.82%**	0.00%
	Materialistic	**14.04%**	**49.12%**	**33.33%**	3.51%

Table 5.4.1, continued

Categories	Personality Traits	Ideal Self	Ought Self	Positive True Self	Negative True Self
Unambiguously positive personalities	Patient	**28.07%**	**49.12%**	**22.81%**	0.00%
	Frank	**26.32%**	**26.32%**	**47.37%**	0.00%
	Modest	**33.33%**	**36.84%**	**29.82%**	0.00%
	Persistent	**12.28%**	**47.37%**	**28.07%**	12.28%
	Independent	**26.32%**	**40.35%**	**33.33%**	0.00%
	Humorous	**17.54%**	**40.35%**	**40.35%**	1.75%
	Self-confident	**26.32%**	**45.61%**	**26.32%**	1.75%
	Generous	**33.33%**	**35.09%**	**31.58%**	0.00%
Slightly negative personalities	Daydreamer	17.54%	5.26%	24.56%	52.63%
	Impulsive	3.51%	3.51%	12.28%	**80.70%**
	Vain	3.51%	1.75%	7.02%	**87.72%**
	Conceited	5.26%	1.75%	10.53%	**82.46%**
	Neurotic	3.51%	0.00%	8.77%	**87.72%**
Unequivocally negative personalities	Superficial	0.00%	1.75%	7.02%	**91.23%**
	Rude	1.75%	5.26%	3.51%	**89.47%**
	Greedy	3.51%	5.26%	3.51%	**87.72%**
	Domineering	0.00%	7.02%	1.75%	**91.23%**
	Cynical	1.75%	8.77%	0.00%	**89.47%**
	Uncivil	1.75%	3.51%	3.51%	**91.23%**
	Antisocial	1.75%	5.26%	3.51%	**89.47%**

As shown in Table 5.4.1, the thirty personality trait adjectives fell into three categories (unambiguously positive personalities, slightly negative personalities, and unequivocally negative personalities). The first category included eighteen personality trait adjectives. More than 80% of the participants thought these personality trait adjectives were suitable for being expressed in the physical world. In fact, all of these eighteen personality traits turned out to be unambiguously positive personalities which are in line with social norms and laws in the real world.

The second category included five personality traits. Whether these traits were suitable for being expressed in the physical world was controversial. Approximately half of the participants thought these personality traits could not be expressed in the physical world, while the other half of the participants thought it is suitable to express these traits in the real world. These five personality traits were slightly negative personalities; hence, some people might think the expression of these personalities will not cause massive damage to their lives. In some extreme cases, these slightly negative personality traits may even be helpful in their daily life. The third category included seven personality trait adjectives. Less than 20% of the participants thought these traits were suitable for being expressed in the physical world. These seven personality traits were unequivocally negative, which conflicts with the social norms and laws of the physical world.

The results were consistent with Anderson's (1968) research about personality traits. The eighteen personality trait adjectives in the first category were distributed into the top and middle of Anderson's (1968) personality trait list, indicating that most people hold positive or neutral attitudes toward them. The five personality trait adjectives in the second category were located at the middle and bottom of the personality trait list, indicating that most people hold neutral or negative attitudes toward them. The seven personality trait adjectives in the third category were located at the bottom of Anderson's (1968) personality trait list, indicating that most people hold negative attitudes toward them.

Taking the aforementioned results into account, participants‘ responses about the domain of the self to which these personality traits belong were also meaningful. For the first eighteen unambiguously positive personality traits that definitely can be expressed in the physical world, participants preferred to regard them as the ideal self, the ought

self, or the positive true self when constructing identity and self-guide. This suggested that people's identity and self-guide in the physical world are mostly positive, while they believe that the positive true self is suitable for being expressed in the physical world.

With respect to the seven unequivocally negative personalities that definitely cannot be expressed in the real world and four slightly negative personalities (except daydreamer) that can be expressed in the offline world in some extreme cases, participants tend to treat them as the negative true self when constructing identity and self-guide. This suggested that people think the negative true self is not suitable to be expressed in the offline world. The results also indicated that the negative true self was distinctive from the positive true self; thus, it is reasonable to propose the true self as a two-dimensional concept. One possible explanation for the exception of daydreamer could be that daydreams about significant others are associated with the feeling of happiness, love, and connection (Poerio et al., 2015). People can obtain some positive experience from daydreams; therefore, some people may not regard daydreaming as the negative true self.

5.4.2 Motivations for the true self expression online

In total, 47 participants (82.46%) agreed that individuals could express their true self more freely and openly online than offline. The majority of them also admitted that they would like to follow the true self when they are online. The inductive content analysis revealed four reasons why people express more of the true self online: anonymity, less restraints, online-offline dissociation, and online listeners (as shown in Table 5.4.2).

Thirty-two participants mentioned that anonymity is one of the motivators for expressing the true self online. Given that the communications online are mostly text-based, there is no face-to-face contact. Indeed, as one participant indicated: "It's not

face-to-face. I don‘t have to meet anyone directly.” In other words, people are no longer inhibited by physical cues (e.g., disapproval signs from others) (Suler, 2004). Another participant stated: ―When interacting with others online, I feel more relaxed. There is no need to cope with others‘ emotions when I talk. I can‘t see or hear them. Their tones of speaking won‘t affect me.” In addition, people can stay behind the screen, partly or even totally hide their real personal information and background, so expressing whatever they wish. Hence, individuals can hide and fabricate their personal information when reconstructing identity (Hu, Zhao, & Huang, 2014). For example, one participant mentioned that: ―On the Internet, you don‘t have to face anyone. Nobody knows what you look like, who you really are. This anonymous environment makes me feel safe. I can express myself as free as I want.”

Twenty-six participants indicated that they would like to behave according to their true self online because the restraints in the online world are relatively fewer than in the offline world. There are various constraints in the real world; individuals need to obey different rules, try to meet social expectations, and maintain various relationships. Just like one participant indicated: ―In the real world, sometimes I am pressured to hold back my real thoughts.” People usually have to behave themselves, and cannot express their true self freely (Bargh et al., 2002), especially when the intrinsic personalities, minds, beliefs, and consciousness are not socially desirable (such as the negative true self). However, the situation is different in the anonymous virtual world. There are much fewer laws, rules and norms online. People can behave more freely as if the legal and moral restrictions are temporarily suspended (Suler, 2004). They have the freedom to reconstruct their virtual identity and behave according to their true self in the anonymous environment. For instance, one of the participants mentioned: ―There are fewer restraints on the Internet, so there is not much to worry about. It is OK to express my true self freely and openly, especially some negative aspects.”

Sixteen participants stated that they express more of the true self in their online identity and regard this as a part of their online self-guide because the online and offline world are not directly connected. The dissociation of the online world and the physical world enables people to behave with fewer concerns. Hence, people may feel less vulnerable about acting out online when they can separate their online behaviors from their offline identity and real life (Suler, 2004). Even if individuals follow their negative true self, doing things they will not usually do, their actions online will not be linked to their real life directly. As indicated by one participant: "It's just like wearing a persona. My online image will not affect my offline image. I will not get myself in trouble when I express my negative true self online."

Ten participants regarded other Internet users as good listeners for what they really think and believe. For instance, one participant stated: "It is easier to tell what I really think to strangers online. I do not have to worry about the consequences of expressing my true self." This kind of interaction with strangers online is similar to the case of "strangers on a train" (Rubin, 1975), in which people open up and talk to the stranger sitting in the next seat. Hence, individuals may talk about intimate details that they have never told their colleagues or even friends and family. Additionally, some participants are looking for support from others. Just as mentioned by one of the participants: "On the Internet, you can always find a group of people who share the same idea with you. They understand you, and will not judge you negatively. Expressing my true self to these people makes me feel supported."

Table 5.4.2: Results of the content analysis

Category	Description	Label groups	Coding labels
#1: Anonymity	The physical cues are absent in the anonymous environment online. People can hide their identification information, which makes them feel safe to express themselves.	Physical cues absent	Not face-to-face
			No appearances
			No tones
		Un-identifiable	Information hidden
			Background unknown
#2: Less restraints	The open environment online makes people feel less constrained. They are less concerned about responsibilities and evaluations, which make them feel freer to express themselves.	Open environment	No pressure
			Lacking surveillance
		Free expression	Fewer responsibilities and limitations
			Talk freely
			Careless about others' evaluations
#3: Online-offline dissociation	People perceive that their behavior and relationships online are not likely to affect their offline life significantly.	Behavior and identity dissociation	Difficult to locate
			Wearing masks online
			Disappear or log off at will
			No serious consequences
		Relationship dissociation	Online relationships are weak and unstable
			Online social networks are separate from offline social networks
#4: Online listener	People are more willing to express themselves online. Their voices can be easily heard by others.	Voice be heard easily	Messages spread widely
			Immediate responses
		Willingness to talk	More willing to express to others online
			No suitable friends to talk to offline
			Easy to disclose to strangers online

5.5 Chapter summary

The qualitative study (study one) explored the role of true self in online identity reconstruction. It is found that people are more likely to express more of the true self online because of four reasons: anonymity, less restraints, online-offline dissociation, and online listeners. The results suggested that the negative true self is more salient than the positive true self in the online world because most people believe that it is not suitable to express the negative true self in face-to-face communication. The anonymous and less restrained online environment facilitates the expression of the negative true self. Therefore, people are more likely to regard the negative true self as a part of their self-guides online and express more of the negative true self with a reconstructed virtual identity.

CHAPTER 6: QUANTITATIVE STUDY (STUDY TWO)

This chapter introduces the details of the quantitative phase of this study (study two). First, a research model is proposed on the basis of the findings of the qualitative study (study one) and the psychological well-being framework. Hypotheses are then developed based on previous research. Next, the research methods of the quantitative study are reported (such as the measurements, sampling methods, and data collection), followed by the results of study two (such as the measurement model and the structural model).

6.1 Research model and hypotheses

After incorporating the true self into the traditional self-discrepancy theory, it is found that as an individual‘s self-guide consists of the true self (both the positive and negative aspects), the ought self (e.g., duties, responsibilities), and the ideal self (e.g., hopes, wishes). Furthermore, it was suggested that the positive true self overlaps with the ought self and the ideal self when an individual reconstructs his or her identity and self-guide in both the online and offline worlds. The reason is that the positive personalities, minds, and beliefs that are in line with social norms and social expectations (i.e., positive true self) are usually included in duties, responsibilities, wishes, and hopes from people‘s self-guide. For example, most people take care of their parents when the parents are old. It is difficult to distinguish whether this behavior is motivated by their intrinsic willingness to look after the parents (the positive true self), or the responsibility of a son or daughter (the ought self). Whereas the negative true self, which is mostly hidden in the real world, is discharged in the anonymous environment due to the release of social norms and laws online.

The traditional self-discrepancy theory proposes that people are motivated to reduce their psychological discomforts by decreasing the self-discrepancy between identity and

self-guide (Higgins, 1987). As mentioned above, the positive true self overlaps with the ought self and the ideal self when an individual reconstructs his or her identity and self-guide in both the online and offline world. It has been suggested that people choose to present less of their ought self, more of their ideal self and negative true self when reconstructing their online identity on social network platforms. Therefore, the three distinct domains of the self (i.e., the ought self, the ideal self, and the negative true self) were incorporated into the research model. Meanwhile, the current study has adopted two important constructs of psychological well-being, autonomy and self-acceptance (Ryff, 1989), to evaluate people's perceptions about virtual identity reconstruction in the anonymous environment. This study also attempted to examine whether the fulfillment of autonomy and self-acceptance are related to individuals' satisfaction with social network platforms. The research model involved here is shown in Figure 6.1.1.

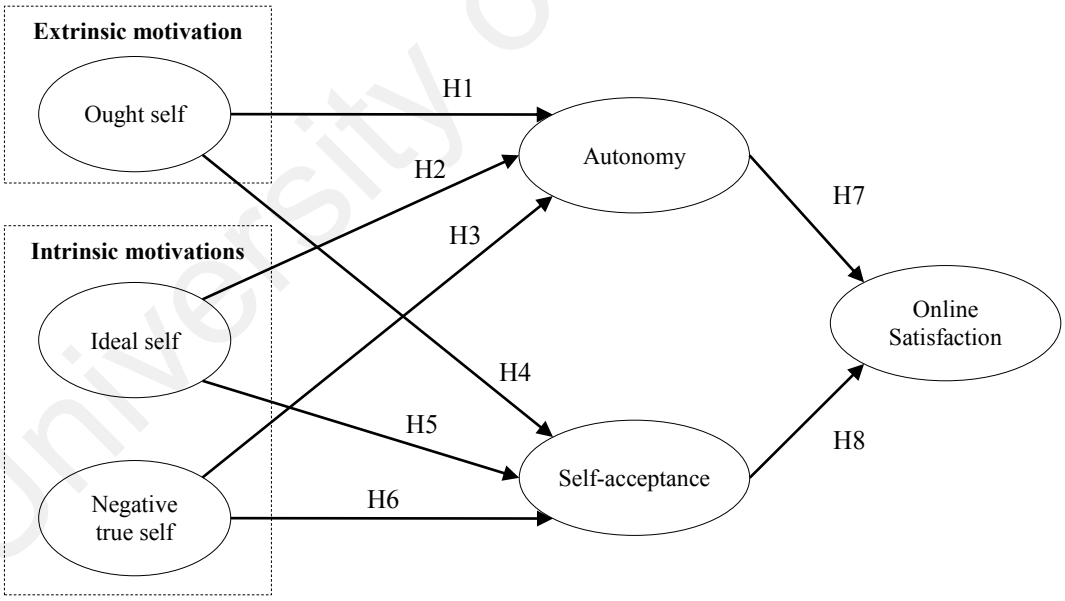

Figure 6.1.1: The research model

A total of eight hypotheses were proposed to examine the relationships between the variables. For example, hypothesis one postulated that *–Compared to the real world, the decreased expression of the ought self online is positively associated with an*

individual's autonomy". The development of hypotheses is presented in detail in the following sections.

6.1.1 Autonomy

It has been posited that people are driven by two types of motivations in daily life: intrinsic motivation and extrinsic motivation (Ryan & Deci, 2002). Individuals' behaviors change based on the extent to which they are autonomous or controlled (deCharms, 1968). Autonomous behaviors are mostly intrinsically motivated; that is, they are performed on the basis of an individual's volition, personal importance, and inner interests (deCharms, 1968). People conduct autonomous behaviors according to their spontaneous ideas, feelings, and consciousness (as with the true self and the ideal self in the self-guide) rather than for separable consequences (deCharms, 1968; Ryan & Deci, 2000a). In contrast, controlled behaviors are mostly extrinsically motivated and performed to meet requirements and restraints. Controlled behaviors are conducted when people are pressured by interpersonal or intrapsychic requirements (as with the ought self in the self-guide) (Ryan, 1982). For example, studying hard is an autonomous behavior when a student is intrinsically motivated to learn and tries to prepare him or herself for the future; however, it is a controlled behavior if a student does not like learning and only tries to meet graduation requirements.

Autonomy, which is defined as an individual's need to perform according to his or her own volition and ideas, is a significant innate psychological need (Ryan & Deci, 2002). Researchers have suggested that once the need for autonomy is fulfilled, individuals will regard their behavior as an expression of their sense of the self (Ryan & Deci, 2002). In the online world (such as on social network platforms), the anonymity of the Internet frees people from their interpersonal or intrapsychic requirements to the greatest extent. The ought self then diminishes because people perceive fewer

responsibilities and duties online. By reconstructing a virtual identity, people can express less of the ought self and feel less restrained by social norms and laws (Hu et al., 2015). The decreased expression of the ought self is likely to make people feel less controlled and more autonomous.

Additionally, people can reconstruct an identity that includes the characteristics that they ideally wish to possess (Hu et al., 2015), thus, the expression of the ideal self subsequently increases in the online environment. Given that the ideal self reflects one's hopes and aspirations (Higgins, 1987), the increased expression of the ideal self is likely to cause people to feel more autonomous. Due to the increased sense of disconnectedness from the real-life contexts (Selwyn, 2008), people can express their true self (especially their negative true self) freely with fewer concerns about the negative judgments from others in the online world (McKenna et al., 2002). Given that the true self is an important part of one's identity and that individuals are highly motivated to express it in social interactions (Baumeister, 1998; Gollwitzer, 1986), the increased expression of the negative true self online is likely to fulfill people's need for autonomy. Therefore, the following hypotheses were proposed.

H1: *Compared to the real world, the decreased expression of the ought self online is positively associated with an individual's autonomy.*

H2: *Compared to the real world, the increased expression of the ideal self online is positively associated with an individual's autonomy.*

H3: *Compared to the real world, the increased expression of the negative true self online is positively associated with an individual's autonomy.*

6.1.2 Self-acceptance

As an important factor in evaluating people‘s psychological well-being, an individual‘s level of self-acceptance is the most frequently used standard of an individual‘s well-being (Ryff, 1989). Furthermore, an individual‘s self-acceptance level is the main characteristic of his or her self-actualization and maturity (Ryff, 1989), which are both crucial to mental health. A low self-acceptance level indicates that a person has different emotional difficulties, such as uncontrolled depression and anger (Carson & Langer, 2006).

The ability and willingness to disclose one‘s true self (especially its negative aspects) to others are the important factors in self-acceptance (Carson & Langer, 2006). Owing to the constraints of social norms and expectations in the real world, most people have to behave in a manner that matches the expectations of others, impresses others or ―puts up a good front‖ (Carson & Langer, 2006). It has been suggested that people may be more likely to follow the scripted responses of others mindlessly when they feel that those others will judge them negatively in the physical world (Carson & Langer, 2006). As a result, these people will distance themselves from their honest feelings, which may lead to a low level of self-acceptance.

However, in the online world, people can hide the corporal bodies behind the screen; thus, they cannot see another person‘s frown, shaking head or bored expression when interacting with others (Suler, 2004). People are therefore less pressured by social responsibilities and social norms when expressing themselves in an anonymous online environment (Hu et al., 2015). The expression of the ought self then decreases, while individuals can behave in accordance with their true self using a reconstructed virtual identity. They can express their real thoughts and ideas (especially the negative ones) with less fear of disapproval, which may, in turn, improve their self-acceptance level.

Moreover, the reconstructed identity may be more acceptable for individuals, as they can easily reconstruct a virtual identity that involves more characteristics of their ideal self, thus making the reconstructed identity more desirable. Therefore, the following hypotheses were proposed:

H4: *Compared to the real world, the decreased expression of the ought self online is positively associated with an individual's online self-acceptance level.*

H5: *Compared to the real world, the increased expression of the ideal self online is positively associated with an individual's online self-acceptance level.*

H6: *Compared to the real world, the increased expression of the negative true self online is positively associated with an individual's online self-acceptance level.*

6.1.3 Satisfaction

The fulfillment of autonomy and self-acceptance is crucial for mental health. It has been suggested that individuals will regard their behaviors as an expression of their sense of the self once the need for autonomy is fulfilled (Ryan & Deci, 2002). In the online world, the anonymity of the Internet frees people from the interpersonal or intrapsychic requirements to the greatest extent. It is likely that people can choose to do whatever they naturally want with rare pressures online. They can behave in the way that they intrinsically believe online with less fear of disapproval and negative judgments from others, which may make it easier to fulfill their need for autonomy in the online world than in the physical world.

Within the anonymous online environment, people can reconstruct the virtual identity based on their own ideas, choosing the characteristics that they are willing to present. People are no longer worried about how they are coming across to others (Carson & Langer, 2006). With a reconstructed identity in the anonymous environment,

individuals can disclose themselves (both the positive and negative sides) more open and freer than in the physical world which, thereby, may lead to a high level of self-acceptance. This is also in line with previous research that found people were more willing to express their true self in the online world, and the expression of the true self could increase self-acceptance (McKenna & Bargh, 1998).

The Internet can satisfy people's various needs. For example, researchers have found that the use of Facebook satisfies people's intrinsic need for autonomy (Reinecke, Vorderer, & Knop, 2014). Previous research demonstrated that people experience more positive emotions online if their needs are satisfied (Shen, Liu, & Wang, 2013). Satisfying the need for autonomy is positively related to enjoyment (Ryan, Rigby, & Przybylski, 2006; Tamborini et al., 2010; Tamborini et al., 2011), while enjoyment positively influences online satisfaction (Kim & Stoel, 2004). The fulfillment of autonomy is likely to be positively associated with an individual's satisfaction in an anonymous online environment. Moreover, people's self-acceptance level is likely to increase when they reconstruct a virtual identity online because they accept their positive side and do not consider their negative side a problem (Ceyhan & Ceyhan, 2011). Individuals with a high level of self-acceptance tend to evaluate themselves positively. Hence, the fulfillment of autonomy and increased self-acceptance leads to a positive psychological experience (Ryff, 1989). People tend to feel happy and satisfied. This positive experience may lead to users' overall satisfaction in the online world. Therefore, the following hypotheses were proposed:

H7: *The fulfillment of autonomy is positively associated with an individual's satisfaction online.*

H8: *The level of self-acceptance is positively associated with an individual's satisfaction online.*

6.2 Research methods for study two

6.2.1 Partial least squares (Tool: Smart-PLS 2.0)

The partial least square (PLS) approach was used to test the research model of study two because it is a suitable method for testing a theory newly adapted in a field. It is a modeling technique that is widely used in information system research to analyze complex models with multiple constructs and different interaction effects (Ahuja, Galletta, & Carley, 2003). Additionally, it is capable of testing complex models with multiple direct effects (such as assessing the reliability and the validity of construct measures and testing the relationships among the constructs at the same time) (Wold, 1982).

6.2.2 Measures

All the variables in study two were measured using multi-item scales (three to four items for each construct). The scales for online satisfaction were adapted from items developed and rigorously validated by McKinney et al. (2002) and Wixom and Todd (2005), such as "Overall, my interactions within cyberspace are very satisfying." Self-acceptance was assessed by the items adapted from Ryff and Keyes (1995) and Springer and Hauser (2006). The scales included items such as "In general, I feel confident and happy about the identity that I present in the online world" and "I like most parts of the identity that I express online, including the negative parts." The measurement of autonomy was adapted from Van den Broeck et al. (2010) and Ryff and Keyes (1995), such as "I feel free to express myself online." The items of ideal self were adapted from Michikyan et al. (2015). The scales included items such as "The free and open environment in the online world makes it easier to fulfill my wishes and hopes." The negative true self was measured with the items adapted from Rosenfeld (1979) and McKenna et al. (2005). The scales included items such as "Compared to the real world, I can be more open and freer in disclosing negative mind and beliefs in the online

world." The items measuring the ought self were modified based on the items of a similar construct (i.e., online disinhibition) according to the definitions (Denollet, 2005; Udris, 2014), such as "There is no need to worry about others' evaluation when doing anything in the online world."

All items were measured using seven-point Likert-type scales, ranging from "strongly disagree" (1) to "strongly agree" (7). Two pilot studies were conducted to improve the validity of the scales, involving seventy-six and fifty-five respondents, respectively. Based on the results and feedback of the respondents in pilot studies, some of the survey items were slightly modified to better measure the constructs. The convergent and discriminant validity of the items were then refined. The reliability of the final scales used in this study was satisfactory (Cronbach's alpha greater than 0.80). Since QQ is a Chinese social network platform, QQ users are mostly from China. The questionnaire used in study two was translated into Chinese for data collection purpose.

6.2.2.1 Reliability

Reliability is an important standard to assess the quality of measurement instruments. It means the consistency or the repeatability of the measurements (Gajdosik & Bohannon, 1987). Reliable measure produces consistent results (e.g., similar scores) each time it is administrated under the same conditions (Frost et al., 2007). There are two kinds of reliability: test-retest reliability and internal consistency reliability.

Test-retest reliability reflects the extent to which the results are the same for measurements administered under the same conditions at different times (Muijs, 2010). In other words, the same measurements should produce similar results when used with the same participant at different times. When the measurements have been tested and retested, the correlation coefficient between the results of the tests should be as high as possible (at least above 0.7) (Muijs, 2010). The major concern in assessing test-retest

reliability is the time interval to conduct a retest (Frost et al., 2007). If the time interval is short, the respondents may still remember their answers in the last test and answer the retest with the same answers which can lead to an overestimation on the reliability of the measurements (Muijs, 2010). If the time interval is too long, the respondents' opinions may change over time. Thus their answers may be different. This can lead to an underestimation on the reliability of the measurements (Muijs, 2010). The recommended time interval for conducting retests is one to two weeks.

In study two, the data collection in both pilot studies and the main study was anonymous. The identification information (e.g., phone number or email address) was not collected. I could not contact the same respondents to conduct retests entailing that the test-retest reliability for measurements was not evaluated in this study.

Internal consistency reliability refers to the extent to which the measurements that are designed to assess the same variable can produce comparable results (Nunnally, 1978). It reflects the homogeneity among the items, indicating that all the items are measuring the same thing (Muijs, 2010). Cronbach's alpha is often used to evaluate the internal consistency reliability. For instruments with at least two items, the value of Cronbach's alpha should exceed 0.70; for instruments with only one item, a minimum threshold of 0.9 is recommended (Nunnally, 1978). Cronbach's alpha was calculated for all the constructs, suggesting the measurements have good internal consistency reliability. The detailed results of the internal reliability test were reported in section 6.3.1, together with other statistics for the measurement model.

6.2.2.2 Validity

Validity is another indicator of the quality of measurements instruments. Validity refers to ~~"t~~he degree to which an instrument measures what it is purported to measure; the extent to which it fulfills its purpose" (Gajdosik & Bohannon, 1987, p. 1870). Good

reliability of measurements does not guarantee good validity. Indeed, measures can be very reliable (producing similar results every time) but not measure what they are intended to measure. For example, a weighing scale consistently measured the weight of an object as 2 kilograms. But the object's true weight is actually 2.5 kilograms. In this case, the weighing scale is very reliable, but not valid (cannot measure the true weight of the object). The validity of measurements can be evaluated from three aspects: content validity, criterion validity and construct validity.

Content validity is the extent to which the measurements cover representative facets of the construct (Anastasi & Urbina, 1997). For example, the Facebook use intensity scale may lack content validity if it only measures the duration of Facebook use but fails to take into account the frequency of Facebook use. The evaluation of content validity usually involves experts in the area of the construct (Frost et al., 2007). With adequate knowledge about the construct, the experts can provide professional opinions on whether the measurements are representative and appropriate. Non-experts can help to improve the "face validity" (the extent to which the measurements *appear* to be representative and appropriate), which is a good start to content validity (Muijs, 2010).

Criterion validity refers to how well the measurements are related to external standard measurements (Frost et al., 2007). Criterion validity is usually evaluated for new measurements. To improve the criterion validity of new measurements, well-established measurements could be used as a criterion. The new measurements and the criterion should be theoretically related (Muijs, 2010). For example, if a researcher wants to create new measurements for students' intelligence, he or she can compare the new measurements with existing intelligence measurements or academic performance measurements. The results of the new intelligence measurements should be correlated with the results of existing intelligence measurements because they measure the same

construct. Based on the theory, a causal relationship should exist between the results of the new intelligence measurements and the results of academic performance measurements, because students‘ intelligence is likely to affect their academic performances.

Construct validity is more complicated. It is usually evaluated from two aspects: a) convergent validity, a clear link between the measurements and the construct they are supposed to measure; and b) discriminant validity, a clear distinction between different measures (Nunnally, 1978). In other words, the instruments should only measure the construct they are intended to measure and not measure other constructs (Frost et al., 2007).

In this study, the measurements for the constructs were adapted from the existing literature, created by experts in the respective field. Therefore, the content validity of the measurements was adequate. In addition, this study has not used new measurements. All the measurements were well-established and had been used by numerous studies. Thus, criterion validity was not applicable to the measurements of this study. The construct validity of the measurements was tested in section 6.3.1 when evaluating the measurement model. The results suggested good construct validity (both convergent and discriminant validity).

6.2.3 Data collection

Before data collection takes place, there is a need to identify the target population and how to draw a sample from the population. First of all, the concepts of population and sample are introduced. All the items or individuals under consideration constitute a ―population" (Kothari, 2004). However, it is usually not possible to collect data from all individuals of interest because the population is usually very large. Therefore, a few items or individuals are usually selected from the population to collect data. The

selected subset of the population is referred to as a ―sample" (Johnson & Bhattacharyya, 2010). However, the major concern in selecting samples from the target population is the representativeness of the samples. The more representative a sample is, the more valid it is to generalize the results obtained from the sample with regard to the target population (Kitchenham & Pfleeger, 2002).

6.2.3.1 Sampling methods

The sampling methods can be categorized into two types: probability sampling and non-probability sampling. In probability sampling, the random selection procedure is conducted. The probability of each member of the target population being selected in the sample is known and non-zero (Kitchenham & Pfleeger, 2002). In non-probability sampling, randomization is not used in sampling selection. There is no specific probability of each member of the target population being selected in the sample (Kothari, 2004).

Probability sampling methods aim to minimize subjectivity and bias in sample selection in order to obtain a representative sample (Kitchenham & Pfleeger, 2002). Even though the samples drawn by non-probability sampling methods may not be as representative as those drawn by probability sampling methods, the researcher may consider use non-probability sampling methods in some situations, such as when the population is not well defined, the population is too large, or the researchers are limited by time, cost, and workforce (Etikan, Musa, & Alkassim, 2016). Typical probability sampling methods include simple random sampling, systematic sampling, stratified random sampling, and cluster sampling, while typical non-probability sampling methods include convenience sampling (or opportunity/accidental sampling), purposive sampling (or judgment sampling), quota sampling, and snowball sampling.

Simple random sampling is a probability sampling method in which the probability of each member of the target population being selected in the sample is the same (Kitchenham & Pfleeger, 2002). Each member has an equal chance to be selected, while the selections are independent from each other (i.e., the selection of one member will not affect the probability of selecting other members) (Teddlie & Yu, 2007). Before conducting simple random sampling, each member of the target population should be identified in a list of the population. Random numbers then can be assigned to the members using a random number generator (a computer program that provides a set of unpredictable numbers that do not display any distinguishable patterns). Then order the members based on the random number (such as in ascending order) and select the members based on the required sample size (Kitchenham & Pfleeger, 2002).

Systematic sampling is a probability sampling method in which the first member is selected randomly from the list of the population; then every *k*th member is selected (*k* is the sampling interval, calculated by dividing population size by the sample size) (Acharya et al., 2013). The selection of subsequent members returns to the top of the population list once it passes the end of the list. Systematic sampling is more efficient than simple random sampling if the population list is random. However, if the population list has a hidden pattern (such as alphabetical order), the randomness of systematic sampling is threatened (Kitchenham & Pfleeger, 2002).

Stratified random sampling is a probability sampling method in which the target population is first divided into subgroups (or strata) based on certain criteria (such as gender, age, and education level), then simple random sampling method is used to select representative samples for each stratum (Teddlie & Yu, 2007). The size of sub-samples selected from each stratum is usually based on the size of the stratum. For example, if the population is divided into two groups by gender (with 40% female and 60% males),

then the final sample should also comprise of 40% females and 60% males. The stratified random sampling can be applied when researchers are interested in the differences between and among strata (Kitchenham & Pfleeger, 2002).

Cluster sampling is a probability sampling method in which the target population is randomly sampled in groups (or clusters) rather than individual members (Teddlie & Yu, 2007). The population is first divided into different clusters (such as based on the geographic district); then the clusters are selected with the simple random sampling method. In one-stage cluster sampling, all the members in the selected clusters are included in the final sample. In two-stage cluster sampling, after clusters are randomly selected in the first stage, the members in the selected clusters are sampled in a second stage, usually by the simple random sampling method (Acharya et al., 2013). Although the target population is divided into sub-groups in both cluster sampling and stratified sampling, cluster sampling differs from stratified sampling. In cluster sampling, the sampling unit is the sub-groups (or clusters), while in stratified sampling, the sampling unit is the individuals in the sub-groups (or strata). Cluster sampling aims to reduce cost and improve the efficiency of sampling, while stratified sampling aims to improve the precision and representation (Surbhi, 2016).

One example can be used to explain the aforementioned probability sampling methods in more detail - a study interested in the academic performances of the undergraduate students in a specific university. The target population is a total of 2,000 undergraduate students, and the research plan is to collect data from 200 of them. The complete population list is available at the student record department of the university.

If the researcher only wants to evaluate the overall academic performances of the students, he or she can then use the simple random sampling method. First, assign random numbers to each student in the population list. Then sort the students based on

the random numbers (such as in ascending order) and choose the first 200 students for data collection. If the student record list is random, then the systematic sampling method is a good choice. The researcher can choose the first student randomly (e.g., the student numbered 344), then choose every 10^{th} student after that (the students numbered 354, 364…). The researcher can also divide the students into different clusters (such as the students from city A, city B…), then select the clusters randomly. Previous studies provided good suggestions for the cluster size and the number of clusters required for data collection (e.g., Bennett et al., 1991; Yoon et al., 1997).

If the researcher wants to know whether male and female students differ in academic performances, he or she can use the stratified random sampling method. First, divide the 2,000 students into two groups based on gender (900 male students and 1100 female students). Then draw random samples from each group. Based on the size of each group, the final sample should comprise 90 male students and 110 female students.

Convenience sampling is a non-probability sampling method in which the members of the target population are included in the sample because they are convenient to the researcher, such as easy to access, willing to take part, and available at a given time (Dornyei, 2007). Convenience sampling is also known as accidental sampling, while the members of the target population are sometimes selected simply because they happen to be at the right place during the right time (Acharya et al., 2013). Convenience sampling is easy to conduct as the cost is relatively low and the participants are readily available (Etikan et al., 2016). However, the samples drawn by the convenience sampling method are likely to be biased. People with a high level of willingness to take part in sampling may differ from those who are not willing to participate (Kitchenham & Pfleeger, 2002).

Purposive sampling (also known as judgment sampling) is a non-probability sampling method in which the members in the target population are selected on purpose

or by the judgment of the investigator (Etikan et al., 2016). Purposive sampling is often used in qualitative studies to select well-informed participants (Creswell & Plano Clark, 2011). When carrying out purposive sampling, the researchers deliberately recruit participants with specific qualities that are relevant to the research (Etikan et al., 2016). For example, if a researcher wants to identify the motivations for the use of Facebook, then he or she can select individuals with Facebook experience because these individuals are likely to provide more information that is useful to the researcher than those who have never used Facebook.

Snowball sampling is a non-probability sampling method in which additional participants are selected based on the information provided by the initial participants (nominating people they believe are suitable and willing to participate) (Acharya et al., 2013). The sample group grows like a rolling snowball. The nominating process continues until the sample reaches the required size (Kitchenham & Pfleeger, 2002). Snowball sampling is useful when the target population is difficult to identify and not easy to access for researchers, such as hackers, sex workers, or drug users.

Quota sampling is a non-probability sampling method in which the target population is first divided into sub-groups (just as in the stratified sampling method), and then each sub-group is sampled with non-probability sampling method (such as in the convenience sampling or snowball sampling method) (Kitchenham & Pfleeger, 2002). The number of members selected from each sub-groups is usually proportional to the size of the sub-group (just as in the stratified sampling method). Quota sampling is similar to the stratified sampling method; however, non-probability sampling methods are used to select members. Therefore, quota sampling does not require the population list. Quota sampling can also be used if the researcher has a specific demand for the sample (Acharya et al., 2013). For example, the researcher needs a sample of 150

females and 180 males. The research should stop recruiting female participants when 150 females have already taken part in the research, and continue recruiting male participants until the required number of males is obtained.

6.2.3.2 Data collection for study two

In the quantitative phase of this study (study two), the population was the Chinese social network platform users. There were over one billion active social network users in China in 2018. Therefore, it was impossible to produce a complete list that covers each member of the population. In other words, probability sampling methods were not applicable to this study. After careful consideration of the advantages and disadvantages of different non-probability sampling methods, the convenience sampling method was adopted in study two for data collection.

To solicit participants, a questionnaire was sent to three different kinds of interest-based QQ communities (i.e., the community of online gamers, the community of car lovers, and the community of travelers). For each kind of interest-based QQ communities, the top three most active communities (that included more than one thousand members) recommended by the QQ search function were selected in study two.

6.2.4 Respondents

Finally, 837 responses were collected in study two. The sample consisted of 47.7% male and 52.3% female respondents, while the respondents aged from under 20 years to over 60 years old. In addition, their educational backgrounds varied from high school or lower to PhDs or above. Table 6.2.1 shows the detailed demographic characteristics of respondents.

Table 6.2.1: Demographic information of participants

Variable	Frequency	Percentage (%)
Gender		
Male	399	47.7
Female	438	52.3
Age		
< 20	17	2.0
20-24	150	17.9
25-29	271	32.4
30-34	216	25.8
35-39	95	11.4
40-44	44	5.3
45-49	27	3.2
50-54	12	1.4
55-5	4	0.5
>=60	1	0.1
Education		
High school or lower	26	3.1
Technical training	143	17.1
Bachelor‘s degree	605	72.3
Master‘s degree	62	7.4
Doctorate degree or above	1	0.1

6.3 Results

6.3.1 Measurement model

The internal consistency reliability of survey items was assessed using two important indicators, Cronbach‘s alpha and composite reliability, which reflect how well the items used to assess the same construct perform in terms of producing similar results. The level generally accepted for both Cronbach‘s alpha and composite reliability is 0.70 (Fornell & Larcker, 1981; Nunnally, 1978). Table 6.3.1 then shows the reliability statistics. The values of Cronbach‘s alpha ranged from 0.81 (for the negative true self)

to 0.92 (for autonomy), and composite reliability values of each construct ranged from 0.89 (for the negative true self) to 0.94 (for autonomy). All of them exceeded the recommended standard, thus indicating satisfactory reliability for the measurement items.

The convergent validity of the measurement model was assessed via the composite reliability and the average variance extracted (AVE). Fornell and Larcker (1981) suggested that in order to ensure convergent validity, the composite reliability should be above 0.7 and the value of AVE should exceed 0.5. As shown in Table 6.3.1, all the composite reliability values were greater than the acceptable level of 0.7. Meanwhile, the AVE values ranged from 0.72 (for the negative true self) to 0.80 (for the ideal self, autonomy, and satisfaction), so exceeding the suggested standard of 0.5. Therefore, the convergent validity of the measurement model in this study was found to be sufficient.

Table 6.3.1: Reliability and validity statistics

Construct	CA	CR	AVE	Ideal	Ought	NegT	Auto	SelfA	Satis
Ideal self	0.88	0.92	0.80	**0.90**					
Ought self	0.85	0.91	0.78	0.39	**0.88**				
Negative true self	0.81	0.89	0.72	0.32	0.30	**0.85**			
Autonomy	0.92	0.94	0.80	0.43	0.38	0.43	**0.90**		
Self-acceptance	0.90	0.93	0.76	0.67	0.52	0.40	0.43	**0.87**	
Satisfaction	0.88	0.92	0.80	0.63	0.42	0.37	0.40	0.78	**0.90**

Note: The diagonal elements (in bold) are the square root of AVEs, and off-diagonal elements are the correlations.

The discriminant validity, which reflects the extent to which the constructs are different from each other, was verified by looking at the square root of AVEs and the correlations among the latent variables (Chin, 1998; Fornell & Larcker, 1981). The diagonal elements in Table 6.3.1 are the square roots of AVE values for the constructs, while the elements in the corresponding rows and columns are the correlation

coefficients of the constructs. The square root of AVE for each construct was greater than the construct's correlations with other constructs, demonstrating that the constructs in the measurement model were different from each other.

Another criterion for convergent and discriminant validity is the fact loading of each indicator. The indicators measuring different constructs should be distinct and load higher on the construct that they are measuring (Barclay, Higgins, & Thompson, 1995; Chin, 1998). The factor loadings and cross-loadings for the measurement items are hence shown in Table 6.3.2.

Table 6.3.2: Factor loadings and cross-loadings

Construct	Items	Ideal	Ought	NegT	Auto	SelfA	Satis
Ideal self	Ideal1	**0.89**	0.35	0.26	0.40	0.59	0.56
	Ideal2	**0.92**	0.36	0.29	0.37	0.61	0.56
	Ideal3	**0.87**	0.35	0.30	0.38	0.60	0.58
Ought self	Ought1	0.35	**0.88**	0.24	0.31	0.48	0.39
	Ought2	0.36	**0.86**	0.29	0.34	0.43	0.35
	Ought3	0.33	**0.89**	0.28	0.36	0.47	0.38
Negative true self	NegT1	0.31	0.27	**0.87**	0.38	0.35	0.34
	NegT2	0.32	0.29	**0.88**	0.40	0.40	0.35
	NegT3	0.15	0.20	**0.79**	0.30	0.23	0.23
Autonomy	Auto1	0.39	0.32	0.34	**0.88**	0.38	0.35
	Auto2	0.36	0.34	0.34	**0.91**	0.34	0.30
	Auto3	0.44	0.34	0.43	**0.89**	0.45	0.42
	Auto4	0.34	0.37	0.42	**0.90**	0.38	0.35
Self-acceptance	SelfA1	0.59	0.49	0.36	0.39	**0.87**	0.65
	SelfA2	0.57	0.51	0.39	0.42	**0.87**	0.66
	SelfA3	0.59	0.40	0.31	0.36	**0.88**	0.70
	SelfA4	0.59	0.42	0.33	0.35	**0.88**	0.73
Satisfaction	Satis1	0.55	0.35	0.29	0.34	0.70	**0.89**
	Satis2	0.58	0.40	0.37	0.36	0.72	**0.90**
	Stais3	0.57	0.38	0.34	0.38	0.68	**0.90**

All the indicators achieved higher loading on the construct of interest than on other constructs. In summation, the results indicated that the internal consistency reliability, convergent validity, and discriminant validity of the measurement model were adequate.

6.3.2 Structural model

Figure 6.3.1 shows the results of structural model tests, including standardized path coefficients, path significances, and the variance explained (R^2) by each path. The R^2 value was used to evaluate the explanatory power of the structural model. The R^2 for online satisfaction reached 0.62, the R^2 for autonomy was 0.31, and the R^2 for self-acceptance was 0.55, suggesting the explanatory power of the research model was acceptable. The standardized path coefficients and path significances indicated the results of the hypotheses testing.

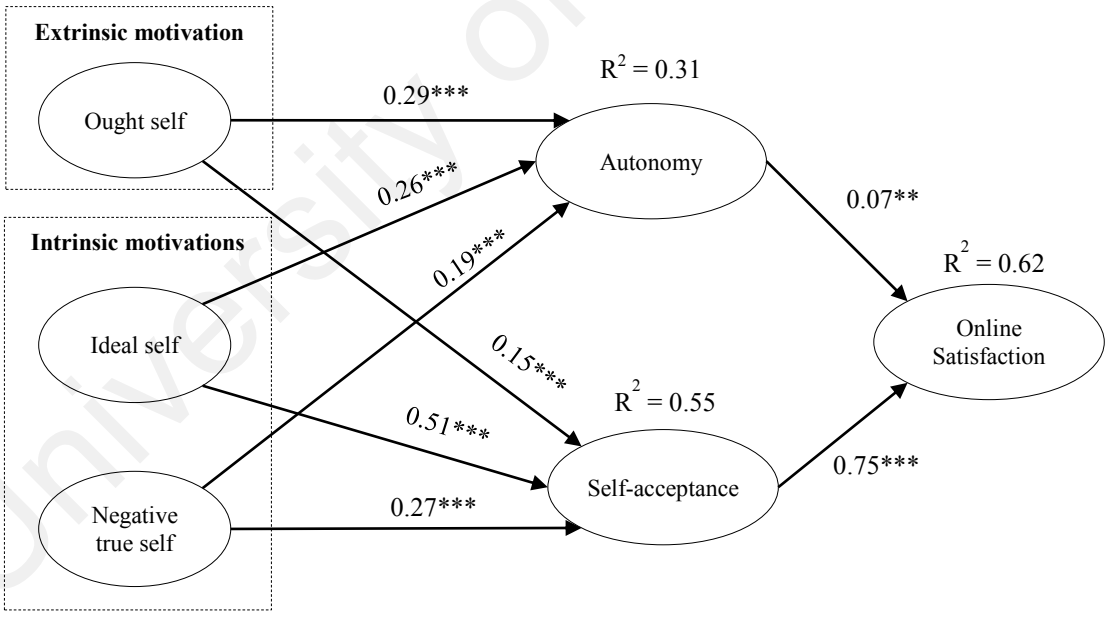

Figure 6.3.1: PLS result of the research model

The results revealed that the relationship between the decreased expression of the ought self online and the fulfillment of an individual's autonomy was significant and positive ($\beta = 0.29$, $p < 0.001$), i.e., H1 was supported. At the same time, the increased expression of the ideal self ($\beta = 0.26$, $p < 0.001$) and the negative true self ($\beta = 0.19$, $p < 0.001$) online had significant positive relationships with the fulfillment of an individual's autonomy, i.e., H2 and H3 were supported. In addition, a significant positive relationship was found between the decreased expression of the ought self and an individual's online self-acceptance ($\beta = 0.15$, $p < 0.001$), i.e., H4 was supported. The increased expression of the ideal self ($\beta = 0.51$, $p < 0.001$) and the negative true self ($\beta = 0.27$, $p < 0.001$) online had significant positive relationships with an individual's online self-acceptance, i.e., H5 and H6 were supported. Furthermore, H7 and H8 were also supported, which indicated that the fulfillment of autonomy ($\beta = 0.07$, $p < 0.01$) and the online self-acceptance ($\beta = 0.75$, $p < 0.001$) were both positively associated with an individual's satisfaction online. Therefore, all the relationships proposed in the research model were supported in study two. The summarized hypotheses and results were shown in Table 6.3.3.

Table 6.3.3: Results of hypotheses testing

Hypotheses	***β***	**t-value**	**Results**
H1: Compared to the real world, the decreased expression of the ought self online is positively associated with an individual's autonomy.	0.29***	8.3659	Supported
H2: Compared to the real world, the increased expression of the ideal self online is positively associated with an individual's autonomy.	0.26***	7.4401	Supported
H3: Compared to the real world, the increased expression of the negative true self online is positively associated with an individual's autonomy.	0.19***	5.4662	Supported
H4: Compared to the real world, the decreased expression of the ought self online is positively associated with an individual's online self-acceptance level.	0.15***	6.0658	Supported

Table 6.3.3, continued

Hypotheses	*β*	t-value	Results
H5: Compared to the real world, the increased expression of the ideal self online is positively associated with an individual's online self-acceptance level.	0.51***	17.6749	Supported
H6: Compared to the real world, the increased expression of the negative true self online is positively associated with an individual's online self-acceptance level.	0.27***	9.8194	Supported
H7: The fulfillment of autonomy is positively associated with an individual's satisfaction online.	0.07**	2.9248	Supported
H8: The level of self-acceptance is positively associated with an individual's satisfaction online.	0.75***	37.0588	Supported

6.4 Chapter summary

This chapter has presented the quantitative phase of this study. The data were collected through an online survey, with the results suggesting that the reliability and validity of the survey items were adequate. Moreover, all the proposed relationships in the research model were significant. The findings suggested that online identity reconstruction played a vital role in gratifying people's needs for autonomy and self-acceptance, furthermore influencing users' overall satisfaction online.

CHAPTER 7: DISCUSSION

7.1 Study one (qualitative study)

7.1.1 Advancing self-discrepancy theory with the true self

The traditional self-discrepancy theory proposed three domains of the self: the actual self, the ought self, and the ideal self. The theory also suggested that the ought self and the ideal self are significant standards and directions for people to form and present their identity (Higgins, 1987, 1989). However, the results of study one suggested that in addition to the ought self and the ideal self, people are also willing to behave in accordance with their true self. The traditional self-discrepancy theory is thus exhaustive in interpreting the reconstruction of identity and self-guide in the anonymous environment. Therefore, by incorporating the true self, the current study proposed an advanced self-discrepancy theory in which the true self is also an important part of individuals‘ identity and self-guide. The results of this study also validated the advanced self-discrepancy theory and provided possible explanations for why the true self was left out in the traditional self-discrepancy theory (Higgins, 1987, 1989).

The results revealed that unambiguously positive personality traits were classified into not only the ought self and the ideal self but also the positive true self. By definition, the positive true self is the intrinsic ideas about what people really think and believe, the ought self and the ideal self in self-guide consist of individuals‘ own ideas about their duties, wishes, and aspirations. In some cases, duties, wishes, and aspirations are also the ideas that people intrinsically wish to achieve. Hence, it is difficult to distinguish the positive true self from the ought self and the ideal self. In other words, the positive true self generally overlaps with the ought self and the ideal self. This outcome is also in line with the results that all the unambiguously positive personalities were evenly distributed in the three domains of the self (the ideal self, the ought self,

and the positive true self). This might be the reason why the true self was not included as the self-guide in the traditional self-discrepancy theory (Higgins, 1987, 1989).

In addition, the exclusion of the true self in the traditional self-discrepancy theory may also be explained from the perspective of the self-determination theory. Self-determination theory suggests that external regulations (i.e., extrinsic motivations) could be transformed into internal regulations (i.e., intrinsic motivations) (Deci et al., 1994). This process is referred to as internalization where there are two different types of internalization: introjection and integration (Deci et al., 1994). In introjection, the external regulation is partially internalized, which means an individual ―takes in" the regulation, but doesn't accept it as his or her own (Deci & Ryan, 2000). This individual does something because he or she feels that he or she has to do it, not because he or she wants to do it; these include the duties, responsibilities, and obligations of the ought self. In integration, the external regulation is fully internalized, which means an individual recognizes the value of an activity, fully accepting and integrating it with his or her own goals (Deci & Ryan, 2000), such as the intrinsic beliefs, consciousness, hopes, and aspirations in the positive true self and the ideal self.

However, it is difficult for an individual to distinguish whether an external regulation is partially or fully internalized. That is the reason why people cannot clearly distinguish the positive true self from the ought self and the ideal self, which is also in line with the finding of this study that the positive true self was mixed up with the ought self and the ideal self in the physical world. The above might constitute another explanation of why the true self was left out of the traditional self-discrepancy theory (Higgins, 1987, 1989).

Even though there is no clear distinction between the positive true self and the ought self or the ideal self, the positive true self is an important part of people's identity and

self-guide (Rogers, 1951). People are highly motivated to express such an essential aspect of themselves in social interactions (Baumeister, 1998; Gollwitzer, 1986). The results also revealed that the negative true self was not suitable to be expressed in the physical world. As a consequence, an individual‘s self-guide in the physical world consists of the ought self, the ideal self, and the positive true self (as shown in Figure 7.1.1-a).

The results of study one also indicated that people might reconstruct their identity in order to express more of the true self (especially the negative true self) in the anonymous online environment. As the results revealed, people were pressured by various constraints in the real world. The true self, especially the negative true self, cannot be easily expressed in daily life. It was suggested that individuals‘ true self is more likely to be active in the online world than in the offline world (Bargh et al., 2002). Compared to the real world, most people regard the cyberspace as an anonymous, free, and open environment, which provides a better platform to act out the true self (especially the negative true self). In the cyberspace, individuals can express more of the negative true self when reconstructing their identity and self-guide which is also reflected in the results about the allocation of negative personalities in people‘s identity and self-guide. The personality trait adjectives, which were classified into the negative true self by participants with high percentage, were also classified into the category of being suitable to be expressed in the physical. In addition to the negative true self, individuals can also customize both the ought self and the ideal self on the basis of their own ideas when reconstructing their identity and self-guide in the anonymous cyberspace (as shown in Figure 7.1.1-b) (Hu et al., 2015).

By expressing more of the true self with a reconstructed virtual identity, an individual can reduce the discrepancy between his or her identity and self-guide,

therefore, becoming motivated and satisfied in the online world (Higgins, 1987). People are intrinsically motivated to regard the true self as their self-guide and include more of the true self when reconstructing their identity in the cyberspace. The expression of the true self online also fulfills individuals‘ needs for competence, relatedness, and autonomy; moreover, it is essential for individuals‘ psychological growth, integrity, and well-being.

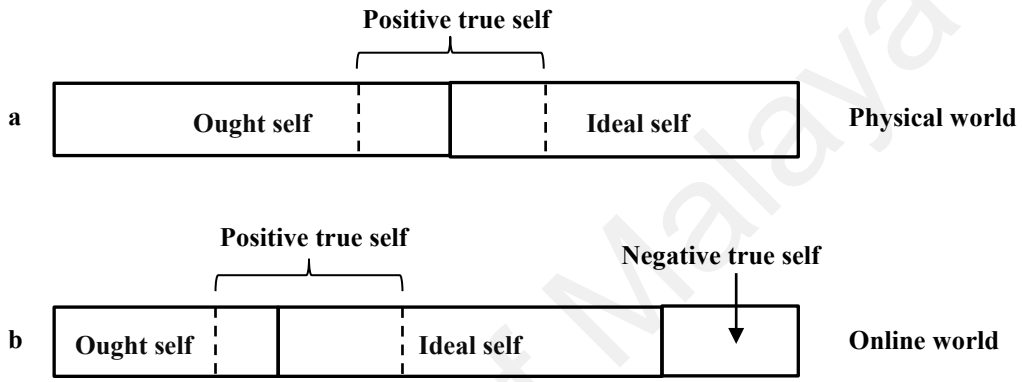

Figure 7.1.1: Self-guide in the physical world and the online world

7.1.2 Motivations for expressing more of the true self online

The current study also identified four reasons that motivate people to express more of the true self in the anonymous environment. According to the self-determination theory (Ryan & Deci, 2002), the behaviors of individuals are driven to fulfill three innate psychological needs. Behaving according to more of the true self online fulfills individuals‘ needs for competence, relatedness, and autonomy.

The need for competence suggests that people desire to perform effectively in order to obtain the experience of being competent (Deci & Ryan, 2000; White, 1959). The results of study one revealed that the online-offline dissociation diminished people‘s concerns about acting out both the positive and negative true self online. Their online behaviors will not be directly connected to their physical life. The incidence of

anonymity and less restraint online also enables individuals to reconstruct their virtual identity more freely and openly, such as expressing more of the true self. Therefore, people can behave in accordance with their own ideas more effectively during communications on the Internet than when face-to-face. This makes them feel competent. For example, a shy person, who feels frustrated when interacting with strangers in the offline world, may be competent in online communications without the disclosure of his or her corporal body.

These results were in line with previous studies which suggested that technological communication acts as a facilitator for people who cannot articulate their inner thoughts and/or feelings effectively in face-to-face communication because of the risk of embarrassment or disapproval (Bryant et al., 2006; Manning & Ray, 1993). McKenna et al. (2002) also found that socially anxious people could better express their true self on the Internet than in the real world. Additionally, introverted and neurotic people who have difficulties in face-to-face social interactions are more likely to benefit from the anonymity of the Internet and express their true self in the cyberspace (Amichai-Hamburger et al., 2002).

The need for relatedness implies that people desire to be connected to, and be supported by others (Baumeister & Leary, 1995; Deci & Ryan, 2000). Individuals want to be cared for by others and feel that they are part of a community (Ryan & Deci, 2002). For the people who regard other Internet users as listeners, they are hoping that their true self is heard, understood, and accepted by others. The result showed that people feel understood and supported when they reveal their true self to like-minded people online. Disclosing the true self would create empathic bonds between people and facilitate the establishment of close relationships (Bargh et al., 2002).

Therefore, acting out the true self fulfills individuals‘ need for relatedness. Individuals who express more of the true self online are more likely to build new relationships with strangers and have ―Internet only" friends (Tosun & Lajunen, 2009). Previous research found that people were more likely to establish close relationships with others in the online world with a greater extent expression of the true self (McKenna et al., 2002). Moreover, this kind of online relationship is under control; people can build or break these relationships based on their own volition and thought.

The need for autonomy suggests that people desire to act with a sense of volition in order to feel psychologically free (Deci & Ryan, 2000). The findings thus indicated that the various constraints in the offline world would prevent people from expressing their true self. In the physical world, it would be usually difficult to lay bare one‘s own bosom to others, especially the negative ones because no one is willing to share the dark aspects of his or her self to friends and family. However, people need to express those personalities, minds, beliefs, and consciousness (Rogers, 1951). Indeed, the opportunity to express the greater extent of the true self online (especially the negative true self) satisfies individuals‘ needs for autonomy. Their behaviors in acting out the true self online are self-determined. According to the results, it was clear that there were relatively fewer restraints and responsibilities on the Internet; people could decide what to say and what to do on the basis of their own ideas. They can be completely anonymous, and behave according to their true self with less fear of being identified and negatively evaluated. These occurrences were supported by the prior study, which suggested that autonomy in the anonymous environment enables individuals to experiment with new behaviors and explore their hidden identity (Christopherson, 2007).

7.2 Study two (quantitative study)

By adopting the advanced self-discrepancy theory, study two investigated how virtual identity reconstruction affects individuals‘ psychological well-being (including the fulfillment of autonomy and self-acceptance), thereby influencing people‘s overall satisfaction in the anonymous online environment. The results revealed that the decreased expression of the ought self online was positively related to an individual‘s autonomy and self-acceptance. The anonymous online environment frees people from the general duties and responsibilities of the physical world (Hu et al., 2014). In this case, an individual can choose to present less of the ought self because he or she does not have to worry about the expectations and evaluations of others with a reconstructed identity in the online world (Hu et al., 2015). Thus, he or she will be less pressured and his or her sense of self-acceptance increases, thus becoming more autonomous. This finding was in line with previous research which found that people might feel like they are being controlled when they were pressured to do something (Deci & Ryan, 1985), and that use of Facebook satisfied people‘s intrinsic needs for autonomy (Reinecke et al., 2014). Moreover, behaving in a manner that is intended to meet others‘ expectations diminishes the feeling of self-acceptance (Carson & Langer, 2006).

Additionally, the results also suggested that the increased expression of the ideal self online was positively associated with the fulfillment of an individual‘s autonomy and self-acceptance. On the Internet, individuals can reconstruct their identity based on their ideal self (Yurchisin et al., 2005), so presenting the characteristics that they desire to possess. The anonymous online world hence provides people with a unique environment better to fulfill their wishes, hopes, and aspirations with a reconstructed virtual identity (Hu et al., 2015). With a more desirable identity, people tend to be more autonomous and accept themselves to a greater extent in the anonymous environment. This finding was consistent with prior studies suggesting that people feel autonomous when their

behaviors are initiated by their own desires (Deci & Ryan, 1995, 2000) and that the use of social network platforms has positive an influence on self-acceptance (Jung, Pawlowski, & Kim, 2017).

Moreover, the current study found a positive relationship between the increased expression of the negative true self online and the fulfillment of an individual‘s autonomy and self-acceptance. In order to leave a good impression on others in the physical world, most people will choose to hide those negative personality traits, ideas, beliefs, and consciousness that conflict with general social norms and expectations (Carson & Langer, 2006). The anonymity of the Internet frees people from the negative outcomes of expressing their negative true self. People can behave in a manner that they intrinsically prefer in the online world with fewer concerns for disapproval from others (Suler, 2004). The opportunity to express the negative true self also contributes to an individual‘s self-acceptance, as self-acceptance refers to the acceptance of not only the positive sides of the self but also the negative sides (Ceyhan & Ceyhan, 2011). Therefore, people become more autonomous and self-accepting when they can express more of their negative true self online. This finding was consistent with previous research which suggested that the expression of the true self on Facebook (especially aspects of the hidden self) is positively related to acceptance-seeking (Seidman, 2014).

Furthermore, study two found that both the self-acceptance level and autonomy were positively associated with the satisfaction of users online. Previous research has suggested that individuals‘ self-acceptance level and the feeling of autonomy are two significant standards for the evaluation of people‘s psychological well-being (Ryff, 1989). As mentioned above, virtual identity reconstruction was positively associated with an individual‘s autonomy and self-acceptance. Identity reconstruction makes people feel autonomous and provides more feelings of freedom when interacting with

others. People are happy and satisfied with the characteristics that they present through their reconstructed virtual identity, which results in a greater extent of self-acceptance. People with a higher level of self-acceptance tend to evaluate themselves positively (Ryff, 1989). Hence, the positive experience they obtain through their reconstructed virtual identity leads to their overall satisfaction online. This finding was in line with the existing study which found a positive relationship between satisfaction and well-being (Chiu et al., 2013)

CHAPTER 8: CONCLUSION

The current study adopted the sequential exploratory design. First, a qualitative study was conducted, which found that the true self should be involved as a part of an individual‘s identity and self-guide in both the online and offline worlds (answering RQ1, results presented in Chapter 5). In addition, the qualitative study uncovered four reasons that motivate people to express more of the true self in the online world through inductive content analysis (answering RQ2, results presented in Chapter 5). After that, a quantitative study was employed on the basis of the qualitative study to test the advanced self-discrepancy theory. The quantitative study found that the expression of the self had significant influences on psychological well-being (answering RQ3, results presented in Chapter 6), while psychological well-being was positively associated with overall satisfaction (answering RQ4, results presented in Chapter 6).

Bargh et al. (2002) suggested that the true self actually exists psychologically, but is not fully expressed in social life. Owing to the aforementioned four motivations (namely, anonymity, less restraints, online-offline dissociation, and online listeners), most people agree that the Internet provides a more open and freer environment for self-expression, especially for the negative true self. The expression of negative personalities, minds, beliefs, and consciousness is one of the most significant distinctions for the true self expression in the physical world and in the online world. The current study found that the true self was an important part of an individual‘s identity and self-guide. The positive true self overlaps with the ought self and the ideal self when people (re)constructing their self-guide and identity in both the online and offline world. The negative true self is hidden to avoid conflictions with social norms and expectations in the physical world. When in the anonymous online environment, the

negative true self hidden in the physical world will be discharged due to the release of social norms and laws.

In order to make the traditional self-discrepancy theory more comprehensive, the qualitative study (study one) incorporated the true self into the theory as the fourth domain of the self, proposing an advanced self-discrepancy theory. When reconstructing identity and self-guide in the cyberspace, the self-discrepancy between an individual's virtual identity and self-guide will be reduced by expressing more of the true self (especially the negative true self) and involving the customized ought self and ideal self based on his or her own ideas. As a consequence, people will be more motivated and satisfied in the anonymous environment (Higgins, 1987, 1989). Meanwhile, expressing more of the true self online also fulfills the three intrinsic needs proposed in the self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2002), making people more motivated online.

8.1 Contributions

This research contributes to both literature and practice in the following ways. In study one, the true self is regarded as a two-dimension concept (i.e., the positive true self and the negative true self) to investigate the expression of the true self in both the physical and online world. To the best of my knowledge, this is the first time that the true self is delved into from two different perspectives, which may facilitate the research about human behaviors in the cyberspace (such as Internet frauds and cybercrimes).

Most importantly, the current study advances the traditional self-discrepancy theory by incorporating the true self as an important aspect of an individual's identity and self-guide. The results suggest that, as the self-guide, the positive true self overlaps with the ought self and the ideal self, and can be expressed in both the online and offline world; whereas the negative true self, which conflicts with social norms and expectations, is

not suitable for being expressed in the physical world. The proposed two dimensions of the true self in this study can help to better explain why the true self is not taken into account by the traditional self-discrepancy theory in the physical world.

Additionally, study one suggests that expressing the true self online is a self-determined behavior where there are four reasons that motivate people to express more of the true self in the anonymous environment. Individuals‘ needs for competence, relatedness, and autonomy are fulfilled when they behave according to their true self online. This also supports the inclusion of the true self in the advanced self-discrepancy theory in the cyberspace.

Study two also has several theoretical contributions. First, from the perspective of identity reconstruction and psychological well-being, study two proposes a research model to investigate the manner in which online identity reconstruction influences people‘s satisfaction in an anonymous environment by affecting individuals‘ fulfillment of autonomy and self-acceptance. The results suggested that online identity reconstruction is significantly associated with an individual‘s psychological well-being. In addition, the results of study two also found a positive relationship between one‘s psychological well-being and overall satisfaction in the anonymous environment. These findings shed lights on the role of online identity reconstruction and provide deeper insights into satisfaction from the perspective of psychological well-being. Apart from this, it is the first time that the advanced self-discrepancy theory is adopted to explore users‘ satisfaction toward an anonymous online environment. The findings of study two have also validated that the advanced self-discrepancy theory is suitable to explore identity reconstruction in the anonymous online environment. Moreover, study two has introduced some new constructs (such as the ought self, the ideal self, and the negative

true self) into the research on psychological well-being, which uncovers new directions to improve people‘s psychological status.

The findings of the current study also have some practical implications. Based on the results of study one, the online service providers are advised to implement features that support virtual identity reconstruction, so that individuals can express more of the true self with reconstructed identities. For example, they can try to reduce the unnecessary rules and limitations (such as word limit of posts) on the online platforms to provide users with more freedom to express their true self. However, if the service provider aims to build a positive and harmonious environment, some monitoring mechanisms (such as sensitive words detection and control) should be implemented at the same time. Otherwise, some people may express their negative true self excessively, such as spreading a lot of information about violence. Hence, it is important to balance the freedom in the expression of the negative true self online and the atmosphere on the platforms.

The findings of study two also have some implications for practice. According to the positive relationships between virtual identity reconstruction and an individual‘s psychological well-being found in this study, the service providers can try to develop more functions over which users have control and can disclose the various aspects of the self in the way they desire. For example, to help users to better express their ideal self, practitioners can design more customized features in profiles and cover pages. To reduce the constraints of the ought self and promote the expression of the true self, service providers should try to build a free and open online environment by increasing the anonymity level of users, such as allow anonymous posts. Moreover, the results have also suggested that psychological well-being can enhance user satisfaction. Therefore, it is important for service providers to develop some features to improve

users‘ autonomy and self-acceptance. For example, designing a ―memory feed” feature that summarizes what was happening on the same day in the previous year may enhance the self-acceptance of users. By comparing the past and the present, users can thus see their shortcomings in the past and the improvements they have made up to now, thereby, increasing their self-acceptance level. What is more, the practitioners can update the terms and conditions to give users more freedom when interacting with others to increase their autonomy.

8.2 Limitations and future research

Despite the fact that the present research has various contributions to both literature and practice, it should be evaluated with some limitations. With respect to study one, similar to other qualitative studies, the research is conducted in a given context. The participants of this study were recruited from interest-based social network communities. Future research could be conducted in other contexts to replicate the results, such as involving online forums. Additionally, Anderson‘s personality trait list includes 555 adjectives. In order to reduce the complexity of the interview, study one only selected 30 personality trait adjectives from the list to explore whether the true self is a part of people‘s identity and self-guide in the cyberspace. More personality trait adjectives can be used in future research. Aside from this reality, the excessive expression of the negative true self may have negative influences on other Internet users (such as cybercrimes) (Jones & Choo, 2014). Future research could hence be conducted to explore the associations between the expression of the negative true self online and cybercrimes. For study two, it was a cross-sectional study. The research data were collected during a certain period, preventing the study from investigating whether people‘s autonomy, self-acceptance, or satisfaction change over time. Hence, longitudinal studies could be conducted in the future to explore whether these dependent variables develop and change over time. In addition, longitudinal studies can also try to

investigate the role of personality traits in online identity reconstruction, given that personality traits are significantly associated with the expression of the true self online (Marriott & Buchanan, 2014; Tosun, 2012). Being that the respondents in study one and study two were Chinese QQ members, the cultural background should be taken into consideration when generalizing the research findings. Therefore, future research might be conducted on other social network platforms or in other cultures to replicate this study.

REFERENCES

Aamodt, A. M. (1991). Ethnography and epistemology: generating nursing knowledge. In J. M. Morse (Ed.), *Qualitative nursing research: A contemporary dialogue* (pp. 40–53). Newburry Park, CA: Sage Publications.

Abdinnour-Helm, S. F., Chaparro, B. S., & Farmer, S. M. (2005). Using the end-user computing satisfaction (EUCS) instrument to measure satisfaction with a web site. *Decision Sciences*, *36*(2), 341–364.

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties*, *4*(2), 330–333.

Adams, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived usefulness, ease of use, and usage of information technology: A replication. *MIS Quarterly*, *16*(2), 227–247.

Adler, P. A., & Adler, P. (1994). Observational techniques. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 377–392). Thousand Oaks, CA: Sage Publications.

Ahuja, M. K., Galletta, D. F., & Carley, K. M. (2003). Individual Centrality and Performance in Virtual R&D Groups: An Empirical Study. *Management Science*, *49*(1), 21–38. https://doi.org/10.1287/mnsc.49.1.21.12756

Ajzen, I., & Fishbein, M. (1969). The prediction of behavioral intentions in a choice situation. *Journal of Experimental Social Psychology*, *5*(4), 400–416.

Al-Debei, M. M., Jalal, D., & Al-Lozi, E. (2013). Measuring web portals success: a respecification and validation of the DeLone and McLean information systems success model. *International Journal of Business Information Systems*, *14*(1), 96–133.

Allport, G. W. (1961). *Pattern and growth in personality.* Oxford, UK: Holt, Rinehart & Winston.

AL-Sabawy, A. Y. (2013). *Measuring e-learning systems success* (PhD Thesis). University of Southern Queensland.

Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior*, *26*(6), 1289–1295. https://doi.org/10.1016/j.chb.2010.03.018

Amichai-Hamburger, Y., Wainapel, G., & Fox, S. (2002). –On the Internet No One Knows I'm an Introvert": Extroversion, Neuroticism, and Internet Interaction. *CyberPsychology & Behavior*, *5*(2), 125–128.

Anastasi, A., & Urbina, S. (1997). *Psychological Testing* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Anderson, N. H. (1968). Likableness ratings of 555 personality-trait words. *Journal of Personality and Social Psychology*, *9*(3), 272–279.

Andrews, F. M. (1991). Stability and change in levels and structure of subjective well-being: USA 1972 and 1988. *Social Indicators Research*, *25*(1), 1–30.

Andrews, F. M., & McKennell, A. C. (1980). Measures of self-reported well-being: Their affective, cognitive, and other components. *Social Indicators Research*, *8*(2), 127–155.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: The development and measurement of perceptual indicators* (Vol. 10). New York, NY: Plenum Press.

Au, N., Ngai, E. W., & Cheng, T. E. (2002). A critical review of end-user information system satisfaction research and a new research framework. *Omega*, *30*(6), 451–478.

Bailenson, J. N., & Beall, A. C. (2006). Transformed social interaction: Exploring the digital plasticity of avatars. In R. Schroeder & A.-S. Axelsson (Eds.), *Avatars at work and play* (pp. 1–16). Dordrecht, Netherlands: Springer.

Bailey, J. E., & Pearson, S. W. (1983). Development of a tool for measuring and analyzing computer user satisfaction. *Management Science*, *29*(5), 530–545.

Ballantine, J., Bonner, M., Levy, M., Martin, A., & others. (1996). The 3-D model of information systems success: the search for the dependent variable continues. *Information Resources Management Journal*, *9*(4), 5–5.

Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology Studies*, *2*(2), 285–309.

Bargh, J. A., & McKenna, K. Y. A. (2004). The Internet and Social Life. *Annual Review of Psychology*, *55*(1), 573–590.

Bargh, J. A., McKenna, K. Y. A., & Fitzsimons, G. M. (2002). Can You See the Real Me? Activation and Expression of the ―True Self" on the Internet. *Journal of Social Issues*, *58*(1), 33–48.

Baroudi, J. J., Olson, M. H., & Ives, B. (1986). An empirical study of the impact of user involvement on system usage and information satisfaction. *Communications of the ACM*, *29*(3), 232–238.

Baroudi, J. J., & Orlikowski, W. J. (1988). A short-form measure of user information satisfaction: a psychometric evaluation and notes on use. *Journal of Management Information Systems*, *4*(4), 44–59.

Baumeister, R. F. (1998). The self. In D. T. Gilbert, S. T. Fiske, & G. Lindzey, *The Handbook of social psychology* (4th ed., pp. 680–740). New York: McGraw-Hill.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529.

Baym, N. K. (2015). *Personal connections in the digital age*. Malden, MA: Polity Press.

Becker, H., & Geer, B. (1957). Participant Observation and Interviewing: A Comparison. *Human Organization*, *16*(3), 28–32. https://doi.org/10.17730/humo.16.3.k687822132323013

Bennett, S., Woods, T., Liyanage, W. M., & Smith, D. L. (1991). A simplified general method for cluster-sample surveys of health in developing countries. *World Health Statistics Quarterly. Rapport Trimestriel de Statistiques Sanitaires Mondiales*, *44*(3), 98–106.

Benson, D. H. (1983). A field study of end user computing: findings and issues. *MIS Quarterly*, *7*(4), 35–45.

Bernal-Ruiz, C., Rosa-Alcázar, A. I., González-Calatayud, V., & Rosa-Alcázar, E. (2017). Is there a relationship between problematic Internet use and responses of social anxiety, obsessive-compulsive and psychological well-being among adolescents? *Anales de Psicología*, *33*(2), 269–276.

Birren, J. E., & Renner, V. J. (1992). Concepts and Issues in Mental Health and Aging. In *Handbook of Mental Health and Aging* (Second Edition, pp. 3–26). Cambridge, MA: Academic Press.

Bizman, A., Yinon, Y., & Krotman, S. (2001). Group-Based Emotional Distress: An Extension of Self-Discrepancy Theory. *Personality and Social Psychology Bulletin*, *27*(10), 1291–1300.

Blinka, L., & Smahel, D. (2009). Fourteen is fourteen and a girl is a girl: Validating the identity of adolescent bloggers. *Cyberpsychology & Behavior*, *12*(6), 735–739.

Bonner, M. (1995). DeLone and McLean's Model for Judging Information Systems Success-a retrospective application in manufacturing. *Proceedings of the European Conference on IT Investment Evaluation*, *13*, 90–92. Henley-on-Thames, UK.

Bowlby, J. (1969). *Attachment, Vol. 1 of Attachment and loss*. New York, NY: Basic Books.

Boyd, D. M. (2010). Social network sites as networked publics: Affordances, dynamics, and implications. In *A networked self* (pp. 47–66). Abingdon-on-Thames, UK: Routledge.

Boyd, D. M., Chang, M., & Goodman, E. (2004). Representations of digital identity. *CSCW 2004 Workshop*, *6*, 34. Chicago, IL.

Bradburn, N. M. (1969). *The structure of psychological well-being.* Oxford, UK: Aldine.

Brancheau, J. C., Janz, B. D., & Wetherbe, J. C. (1996). Key issues in information systems management: 1994-95 SIM Delphi results. *MIS Quarterly*, *20*(2), 225–242.

Bryant, F. B., & Veroff, J. (1982). The structure of psychological well-being: A sociohistorical analysis. *Journal of Personality and Social Psychology*, *43*(4), 653–653.

Bryant, J. A., Sanders-Jackson, A., & Smallwood, A. M. K. (2006). IMing, text messaging, and adolescent social networks. *Journal of Computer-Mediated Communication*, *11*(2), 577–592.

Bryman, A. (2007). Barriers to Integrating Quantitative and Qualitative Research. *Journal of Mixed Methods Research*, *1*(1), 8–22. https://doi.org/10.1177/2345678906290531

Buhler, C. (1935). The curve of life as studied in biographies. *Journal of Applied Psychology*, *19*(4), 405–405.

Burnard, P. (1991). A method of analysing interview transcripts in qualitative research. *Nurse Education Today*, *11*(6), 461–466.

Burnard, P. (1996). Teaching the analysis of textual data: an experiential approach. *Nurse Education Today*, *16*(4), 278–281.

Cahyani, N. D. W., Martini, B., & Choo, K.-K. R. (2016). Using Multimedia Presentations to Enhance the Judiciary's Technical Understanding of Digital Forensic Concepts: An Indonesian Case Study. *2016 49th Hawaii International Conference on System Sciences (HICSS)*, 5617–5626. https://doi.org/10.1109/HICSS.2016.695

Cahyani, N. D. W., Martini, B., & Choo, K.-K. R. (2017). Effectiveness of multimedia presentations in improving understanding of technical terminologies and concepts: a pilot study. *Australian Journal of Forensic Sciences*, *49*(1), 106–122. https://doi.org/10.1080/00450618.2015.1128968

Calvert, S. L. (1999). *Identity on the Internet*. Presented at the In Annenberg public policy center conference on the internet and the family, Washington, D.C.

Cambridge English Dictionary. (2018). ―identity" Definition in the Cambridge English Dictionary. Retrieved September 14, 2018, from https://dictionary.cambridge.org/us/dictionary/english/identity

Campbell, A. (1981). *The sense of well-being in America: Recent patterns and trends*. New York, NY: McGraw-Hill Book Company.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York, NY: Russell Sage Foundation.

Caplan, S., Williams, D., & Yee, N. (2009). Problematic Internet use and psychosocial well-being among MMO players. *Computers in Human Behavior*, *25*(6), 1312–1319.

Cardak, M. (2013). Psychological well-being and Internet addiction among university students. *Turkish Online Journal of Educational Technology-TOJET*, *12*(3), 134–141.

Carson, S. H., & Langer, E. J. (2006). Mindfulness and self-acceptance. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, *24*(1), 29–43. https://doi.org/10.1007/s10942-006-0022-5

Carver, C. S., Lawrence, J. W., & Scheier, M. F. (1999). Self-discrepancies and affect: Incorporating the role of feared selves. *Personality and Social Psychology Bulletin*, *25*(7), 783–792.

Casale, S., Lecchi, S., & Fioravanti, G. (2015). The association between psychological well-being and problematic use of Internet communicative services among young people. *The Journal of Psychology*, *149*(5), 480–497.

Catanzaro, M. (1988). Using qualitative analytical techniques. In N. F. Woods & M. Catanzaro (Eds.), *Nursing research: Theory and practice* (pp. 437–456). Saint Paul, MN: Mosby.

Cavanagh, S. (1997). Content analysis: concepts, methods and applications. *Nurse Researcher*, *4*(3), 5–13.

Ceyhan, A. A., & Ceyhan, E. (2011). Investigation of university students‘ self-acceptance and learned resourcefulness: a longitudinal study. *Higher Education*, *61*(6), 649–661. https://doi.org/10.1007/s10734-010-9354-2

Chang, Y. P., & Zhu, D. H. (2012). The role of perceived social capital and flow experience in building users‘ continuance intention to social networking sites in China. *Computers in Human Behavior*, *28*(3), 995–1001. https://doi.org/10.1016/j.chb.2012.01.001

Charmaz, K. (1996). Grounded Theory. In J. A. Smith, R. Harre, & L. Van Langenhove (Eds.), *Rethinking methods in psychology* (pp. 27–49). London: Sage Publications.

Chen, Y., & Persson, A. (2002). Internet use among young and older adults: Relation to psychological well-being. *Educational Gerontology*, *28*(9), 731–744.

Cheng, S.-T., & Chan, A. C. M. (2005). Measuring psychological well-being in the Chinese. *Personality and Individual Differences*, *38*(6), 1307–1316. https://doi.org/10.1016/j.paid.2004.08.013

Cheung, C. M. K., Chiu, P.-Y., & Lee, M. K. O. (2011). Online social networks: Why do students use facebook? *Computers in Human Behavior*, *27*(4), 1337–1343.

Cheung, C. M. K., & Lee, M. K. O. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems*, *49*(1), 24–30.

Chin, C. P.-Y., Choo, K.-K. R., & Evans, N. (2015). Enterprise Social Networks: A Successful Implementation within a Telecommunication Company. *AMCIS 2015*

Proceedings. Retrieved from http://aisel.aisnet.org/amcis2015/SocialComputing/GeneralPresentations/4

Chin, C. P.-Y., Evans, N., & Choo, K.-K. R. (2015). Exploring Factors Influencing the Use of Enterprise Social Networks in Multinational Professional Service Firms. *Journal of Organizational Computing and Electronic Commerce*, *25*(3), 289–315. https://doi.org/10.1080/10919392.2015.1058118

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern Methods for Business Research* (pp. 295–336). New York: Psychology Press.

Chin, W. W., & Todd, P. A. (1995). On the Use, Usefulness, and Ease of Use of Structural Equation Modeling in MIS Research: A Note of Caution. *MIS Quarterly*, *19*(2), 237–246. https://doi.org/10.2307/249690

Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, *84*(1), 97–110. https://doi.org/10.1037/0022-3514.84.1.97

Chiu, C.-M., Cheng, H.-L., Huang, H.-Y., & Chen, C.-F. (2013). Exploring individuals' subjective well-being and loyalty towards social network sites from the perspective of network externalities: The Facebook case. *International Journal of Information Management*, *33*(3), 539–552. https://doi.org/10.1016/j.ijinfomgt.2013.01.007

Choi, T. R., & Sung, Y. (2018a). Instagram versus Snapchat: Self-expression and privacy concern on social media. *TEL EMATICS AND INFORMATICS*, *35*(8), 2289–2298. https://doi.org/10.1016/j.tele.2018.09.009

Choi, T. R., & Sung, Y. (2018b). Instagram versus Snapchat: Self-expression and privacy concern on social media. *TEL EMATICS AND INFORMATICS*, *35*(8), 2289–2298. https://doi.org/10.1016/j.tele.2018.09.009

Choo, K.-K. R. (2011). The cyber threat landscape: Challenges and future research directions. *Computers & Security*, *30*(8), 719–731. https://doi.org/10.1016/j.cose.2011.08.004

Choo, K.-K. R. (2014). A Conceptual Interdisciplinary Plug-and-Play Cyber Security Framework. In H. Kaur & X. Tao (Eds.), *ICTs and the Millennium Development Goals* (pp. 81–99). https://doi.org/10.1007/978-1-4899-7439-6_6

Choy, W. C. W., & Moneta, G. B. (2002). The Interplay of Autonomy and Relatedness in Hong Kong Chinese Single Mothers. *Psychology of Women Quarterly*, *26*(3), 186–199. https://doi.org/10.1111/1471-6402.t01-1-00002

Christopherson, K. M. (2007). The positive and negative implications of anonymity in Internet social interactions: "On the Internet, Nobody Knows You're a Dog." *Computers in Human Behavior*, *23*(6), 3038–3056.

Clarke, P. J., Marshall, V. W., Ryff, C. D., & Wheaton, B. (2001). Measuring Psychological Well-Being in the Canadian Study of Health and Aging. *International Psychogeriatrics*, *13*(S1), 79–90. https://doi.org/10.1017/S1041610202008013

Clifton, K. J., & Handy, S. L. (2003). Qualitative Methods in Travel Behaviour Research. In *Transport Survey Quality and Innovation* (Vols. 1–0, pp. 283–302). https://doi.org/10.1108/9781786359551-016

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, *38*(5), 300–314.

Cobb, S. (1979). Social support and health through the life course. In *Aging from Birth to death: Interdisciplinary perspectives* (pp. 93–106). Boulder, CO: Westview Press.

Conrath, D. W., & Mignen, O. P. (1990). What is being done to measure user satisfaction with EDP/MIS. *Information & Management*, *19*(1), 7–19.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, *13*(1), 3–21. https://doi.org/10.1007/BF00988593

Correa, T., Hinsley, A. W., & de Zúñiga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, *26*(2), 247–253. https://doi.org/10.1016/j.chb.2009.09.003

Coughlan, P., & Coghlan, D. (2002). Action research for operations management. *International Journal of Operations & Production Management*, *22*(2), 220–240. https://doi.org/10.1108/01443570210417515

Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches*. Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd ed.). Thousand Oaks, CA: SAGE Publications.

Creswell, J. W., & Plano Clark, V. L. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage Publications.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and Conducting Mixed Methods Research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of Mixed Methods in Social & Behavioral Research* (pp. 209–240). Thousand Oaks, CA: Sage Publications.

Cristobal, E., Flavián, C., & Guinaliu, M. (2007). Perceived e-service quality (PeSQ) Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality: An International Journal*, *17*(3), 317–340.

Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm* (Vol. 2). Retrieved from https://books.google.com/books?hl=en&lr=&id=qqZ_FDFoDcMC&oi=fnd&pg=PA60&dq=Cyert+and+March+(1963)&ots=9V4NSjEt7M&sig=OmpYqUHoVD-hOCFQ7v4DDmzZo1M

Darke, P., Shanks, G., & Broadbent, M. (1998). Successfully completing case study research: combining rigour, relevance and pragmatism. *Information SystemsJournal*, *8*(4), 273–289. https://doi.org/10.1046/j.1365-2575.1998.00040.x

Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (PhD Thesis). Massachusetts Institute of Technology.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, *35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Debrosse, R., Rossignac-Milon, M., & Taylor, D. M. (2018). When ―who we are" and ―who I desire to be" appear disconnected: Introducing collective/personal self-discrepancies and investigating their relations with minority students' psychological health. *European Journal of Social Psychology*, *48*(3), 255–268. https://doi.org/10.1002/ejsp.2320

deCharms, R. (1968). *Personal causation*. New York: Academic Press.

Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: the self-determination theory perspective. *Journal of Personality*, *62*(1), 119–142.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, *53*(6), 1024–1037. https://doi.org/10.1037/0022-3514.53.6.1024

Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation* (pp. 237–288). London: University of Nebraska Press.

Deci, E. L., & Ryan, R. M. (1995). Human autonomy: The basis for true self-esteem. In M. Kernis (Ed.), *Efficacy, agency, and self-esteem* (pp. 31–49). New York: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The ―What" and ―Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–268.

Deci, E., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum.

DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, *3*(1), 60–95.

Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of Management Information Systems*, *19*(4), 9–30.

Denollet, J. (2005). DS14: Standard Assessment of Negative Affectivity, Social Inhibition, and Type D Personality. *Psychosomatic Medicine*, *67*(1), 89–97. https://doi.org/10.1097/01.psy.0000149256.81953.49

Denzin, N. K., & Lincoln, Y. S. (1995). Review of handbook of qualitative research. *Canadian Journal on Aging*, *14*(4), 796–799.

Derlega, V., & Chaikin, A. L. (1977). Privacy and Self-Disclosure in Social Relationships. *Journal of Social Issues*, *33*(3), 102–115. https://doi.org/10.1111/j.1540-4560.1977.tb01885.x

Dickson, G. W., Leitheiser, R. L., Wetherbe, J. C., & Nechis, M. (1984). Key information systems issues for the 1980‘s. *MIS Quarterly*, *8*(3), 135–159.

Diencr, E., Sandvik, E., & Pavot, W. (1991). Happiness is the frequency, not the intensity, of positive versus negative affect. In *Subjective Well-Being: An Interdisciplinary Perspective* (pp. 119–139). Oxford, UK: Pergamon Press.

Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*(3), 542–542.

Diener, E., & Larsen, R. J. (1993). The experience of emotional well-being. In *Handbook of emotions* (In M. Lewis & J. M. Haviland (Eds.), pp. 405–415). New York, NY: Guilford Press.

Diener, E., Larsen, R. J., Levine, S., & Emmons, R. A. (1985). Intensity and frequency: dimensions underlying positive and negative affect. *Journal of Personality and Social Psychology*, *48*(5), 1253–1253.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*(2), 276–276.

Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task–technology fit constructs. *Information & Management*, *36*(1), 9–21.

Dogan, T. (2006). Üniversite öğrencilerinin iyilik halinin incelenmesi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *30*(30), 120–129.

Doll, W. J., & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. *MIS Quarterly*, *12*(2), 259–274.

Doll, W. J., & Xia, W. (1997). Confirmatory factor analysis of the end-user computing satisfaction instrument: A replication. *Journal of Organizational and End User Computing (JOEUC)*, *9*(2), 24–31.

Donath, J. S. (2002). Identity and deception in the virtual community. In *Communities in cyberspace* (pp. 37–68). Abingdon-on-Thames, UK: Routledge.

Dong, T.-P., Cheng, N.-C., & Wu, Y.-C. J. (2014). A study of the social networking website service in digital content industries: The Facebook case in Taiwan. *Computers in Human Behavior*, *30*, 708–714. https://doi.org/10.1016/j.chb.2013.07.037

Doody, O., & Noonan, M. (2013). *Preparing and conducting interviews to collect data*. https://doi.org/10.7748/nr2013.05.20.5.28.e327

Doring, N. (2002). Personal home pages on the Web: A review of research. *Journal of Computer-Mediated Communication*, *7*(3), JCMC737.

Dornyei, Z. (2007). *Research methods in applied linguistics*. New York, NY: Oxford University Press.

Drury, D. H., & Farhoomand, A. F. (1998). A Hierarchical Structural Model Of Information Systems Success. *INFOR: Information Systems and Operational Research*, *36*(1–2), 25–40. https://doi.org/10.1080/03155986.1998.11732341

Durkheim, E. (1951). *Suicide: A study in sociology (JA Spaulding & G. Simpson, trans.)*. Glencoe, IL: Free Press.

Ellison, N. B., Heino, R., & Gibbs, J. (2006). Managing Impressions Online: Self-Presentation Processes in the Online Dating Environment. *Journal of Computer-Mediated Communication*, *11*(2), 415–441. https://doi.org/10.1111/j.1083-6101.2006.00020.x

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107–115.

Erikson, E. H. (1959). *Identity and the Life Cycle*. New York, NY: International Universities Press.

Erwin, B. A., Turk, C. L., Heimberg, R. G., Fresco, D. M., & Hantula, D. A. (2004). The Internet: home to a severe population of individuals with social anxiety disorder? *Journal of Anxiety Disorders*, *18*(5), 629–646.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4.

Evans, L. M., & Petty, R. E. (2003). Self-Guide Framing and Persuasion: Responsibly Increasing Message Processing to Ideal Levels. *Personality and Social Psychology Bulletin*, *29*(3), 313–324.

Faris, R. E. (1934). Cultural Isolation and the Schizophrenic Personality. *American Journal of Sociology*, *40*, 155–164.

Farris, P. W., Bendle, N., Pfeifer, P., & Reibstein, D. (2010). *Marketing metrics: The definitive guide to measuring marketing performance*. Retrieved from https://books.google.com/books?hl=en&lr=&id=7Ptw4nBoGmkC&oi=fnd&pg=PR7&dq=Marketing+Metrics:+The+Definitive+Guide+to+Measuring+Marketing+Performance.&ots=28vf_TfcZx&sig=gu02riCJeNzqEOUPulrmVinUZcU

Flick, U. (2014). *An Introduction to Qualitative Research*. SAGE.

Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, *12*(2), 219–245. https://doi.org/10.1177/1077800405284363

Fogel, J., & Nehmad, E. (2009). Internet social network communities: Risk taking, trust, and privacy concerns. *Computers in Human Behavior*, *25*(1), 153–160.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.2307/3151312

Foss, C., & Ellefsen, B. (2002). The value of combining qualitative and quantitative approaches in nursing research by means of method triangulation. *Journal of Advanced Nursing*, *40*(2), 242–248. https://doi.org/10.1046/j.1365-2648.2002.02366.x

Frost, M. H., Reeve, B. B., Liepa, A. M., Stauffer, J. W., & Hays, R. D. (2007). What Is Sufficient Evidence for the Reliability and Validity of Patient-Reported Outcome Measures? *Value in Health*, *10*(s2), S94–S105. https://doi.org/10.1111/j.1524-4733.2007.00272.x

Gabriel, D. (2013, March 17). Inductive and deductive approaches to research | | Dr Deborah Gabriel. Retrieved September 9, 2018, from http://deborahgabriel.com/2013/03/17/inductive-and-deductive-approaches-to-research/

Gajdosik, R. L., & Bohannon, R. W. (1987). Clinical Measurement of Range of MotionReview of Goniometry Emphasizing Reliability and Validity. *Physical Therapy*, *67*(12), 1867–1872. https://doi.org/10.1093/ptj/67.12.1867

Gallagher, C. A. (1974). Perceptions of the value of a management information system. *Academy of Management Journal*, *17*(1), 46–55.

Gee, J. P. (2000). Identity as an Analytic Lens for Research in Education. *Review of Research in Education*, *25*(1), 99–125.

Geer, J. G. (1988). What Do Open-Ended Questions Measure? *Public Opinion Quarterly*, *52*(3), 365–367.

Gelderman, M. (1998). The relation between user satisfaction, usage of information systems and performance. *Information & Management*, *34*(1), 11–18.

Gibbs, J. L., Ellison, N. B., & Heino, R. D. (2006). Self-Presentation in Online Personals The Role of Anticipated Future Interaction, Self-Disclosure, and

Perceived Success in Internet Dating. *Communication Research*, *33*(2), 152–177.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Stanford, CA: Stanford University Press.

Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, *204*(6), 291–295. https://doi.org/10.1038/bdj.2008.192

Ginzberg, M. J. (1978). Behavioral Science—Finding an Adequate Measure of OR/MS Effectiveness. *Interfaces*, *8*(4), 59–62. https://doi.org/10.1287/inte.8.4.59

Goffman, E. (1959). *The Presentation of Self in Everyday Life* (1 edition). Garden City, NY: Doubleday anchor books.

Gold, R. L. (1958). Roles in Sociological Field Observations. *Social Forces*, *36*(3), 217–223. https://doi.org/10.2307/2573808

Gollwitzer, P. M. (1986). Striving for Specific Identities: The Social Reality of Self-Symbolizing. In R. F. Baumeister (Ed.), *Public Self and Private Self* (pp. 143–159). https://doi.org/10.1007/978-1-4613-9564-5_7

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, *24*(2), 105–112.

Green, D. P., Goldman, S. L., & Salovey, P. (1993). Measurement error masks bipolarity in affect ratings. *Journal of Personality and Social Psychology*, *64*(6), 1029.

Gross, E. F., Juvonen, J., & Gable, S. L. (2002). Internet use and well-being in adolescence. *Journal of Social Issues*, *58*(1), 75–90.

Gülnar, B., & Kazaz, M. (2017). The Relationship Between Anxiety as Indicator of Psychological Well Being And Internet Usage: A Survey Among Turkish University Students. In *Communication & Media Researches* (pp. 241–249). Warsaw, Poland: E-BWN.

Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital*, *5*(2), 282–293.

GWI. (2016). GlobalWebIndex‘s quarterly report on the latest trends in social networking. Retrieved October 16, 2016, from http://insight.globalwebindex.net/social

Hacking, I. (1983). *Representing and intervening: Introductory topics in the philosophy of natural science* (Vol. 5). Cambridge Univ Press.

Hacking, I. (1986). Making up people. In Thomas C. Heller, Morton Sosna, David E. Wellbery, Arnold I. Davidson, Ann Swidler, & Ian Watt (Eds.), *Reconstructing individualism : autonomy, individuality, and the self in Western thought* (pp. 222–236). Stanford, California: Stanford University Press.

Hance, M. A., Blackhart, G., & Dew, M. (2018). Free to be me: The relationship between the true self, rejection sensitivity, and use of online dating sites. *JOURNAL OF SOCIAL PSYCHOLOGY*, *158*(4), 421–429. https://doi.org/10.1080/00224545.2017.1389684

Hare, R. D. (1991). *The Hare psychopathy checklist-revised: Manual*. Toronto: Multi-Health Systems.

Harter, S. (1999). *The construction of the self: A developmental perspective.* Retrieved from http://psycnet.apa.org/psycinfo/1999-02441-000

Harter, S. (2002). Authenticity. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 382–394). New York, NY, US: Oxford University Press.

Hayles, N. K. (1993). Virtual Bodies and Flickering Signifiers. *October*, *66*, 69–91. https://doi.org/10.2307/778755

Headey, B., Kelley, J., & Wearing, A. (1993). Dimensions of mental health: life satisfaction, positive affect, anxiety and depression. *Social Indicators Research*, *29*(1), 63–82.

Hendrickson, A. R., Massey, P. D., & Cronan, T. P. (1993). On the test-retest reliability of perceived usefulness and perceived ease of use scales. *MIS Quarterly*, *17*(2), 227–230.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*(3), 319–340.

Higgins, E. T. (1989). Self-Discrepancy Theory: What Patterns of Self-Beliefs Cause People to Suffer? In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 22, pp. 93–136). Cambridge, MA: Academic Press.

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, *52*(12), 1280–1300. https://doi.org/10.1037/0003-066X.52.12.1280

Higgins, E. T. (1998). Promotion and Prevention: Regulatory Focus as A Motivational Principle. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 30, pp. 1–46). Cambridge, MA: Academic Press.

Higgins, E. T., Strauman, T., & Klein, R. (1986). Standards and the process of self-evaluation: Multiple affects from multiple stages. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 23–63). New York, NY: Guilford Press.

Hollenbaugh, E. E., & Everett, M. K. (2013). The Effects of Anonymity on Self-Disclosure in Blogs: An Application of the Online Disinhibition Effect. *Journal of Computer-Mediated Communication*, *18*(3), 283–302.

Holloway, I., & Wheeler, S. (2010). *Qualitative Research in Nursing and Healthcare* (3rd ed.). Oxford: Wiley-Blackwell.

House, J. S. (1981). *Work stress and social support*. Reading, MA: Addison-Wesley.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288.

Hu, C., Zhao, L., & Huang, J. (2014). Exploring online identity re-construction in social network communities: A qualitative study. *PACIS 2014 Proceedings*, 36.

Hu, C., Zhao, L., & Huang, J. (2015). Achieving self-congruency? Examining why individuals reconstruct their virtual identity in communities of interest established within social network platforms. *Computers in Human Behavior*, *50*, 465–475. https://doi.org/10.1016/j.chb.2015.04.027

Huang, C. (2010). Internet use and psychological well-being: A meta-analysis. *Cyberpsychology, Behavior, and Social Networking*, *13*(3), 241–249.

Huang, J., Kumar, S., & Hu, C. (2017). Gender differences in motivations for identity reconstruction on social network sites. *International Journal of Human–Computer Interaction*, *34*(7), 591–602. https://doi.org/10.1080/10447318.2017.1383061

Huffaker, D. A., & Calvert, S. L. (2005). Gender, identity, and language use in teenage blogs. *Journal of Computer-Mediated Communication*, *10*(2), 1–21.

Igbaria, M., & Nachman, S. A. (1990). Correlates of user satisfaction with end user computing: an exploratory study. *Information & Management*, *19*(2), 73–82.

Imgraben, J., Engelbrecht, A., & Choo, K.-K. R. (2014). Always connected, but are smart mobile users getting more security savvy? A survey of smart mobile device users. *Behaviour & Information Technology*, *33*(12), 1347–1360. https://doi.org/10.1080/0144929X.2014.934286

Immelman, A. (2008). The Political Personality of U.S. President Barack Obama. *Psychology Faculty Publications*. Retrieved from http://digitalcommons.csbsju.edu/psychology_pubs/25

Internet Live Stats. (2018). Internet Live Stats - Internet Usage & Social Media Statistics. Retrieved September 1, 2018, from http://www.internetlivestats.com/

Internet World Stats. (2018). World Internet Users Statistics and 2018 World Population Stats. Retrieved September 5, 2018, from Internet World Stats website: https://www.internetworldstats.com/stats.htm

Ives, B., & Olson, M. H. (1984). User involvement and MIS success: A review of research. *Management Science*, *30*(5), 586–603.

Ives, B., Olson, M. H., & Baroudi, J. J. (1983). The measurement of user information satisfaction. *Communications of the ACM*, *26*(10), 785–793.

Jacobson, D. (1999). Impression formation in cyberspace: Online expectations and offline experiences in text-based virtual communities. *Journal of Computer-Mediated Communication*, *5*(1), 1–26.

Jahoda, M. (1958). *Joint commission on mental health and illness monograph series: Vol. 1. Current concepts of positive mental health.* New York, NY: Basic Books.

Jaishankar, k. (2008). Space Transition Theory of cyber crimes. In F. Schmallager & M. Pittaro (Eds.), *Crimes of the Internet* (pp. 283–301). New Jersey: Prentice Hall.

Järvinen, P. (2008). Mapping research questions to research methods. *IFIP 20th World Computer Congress, TC 8, Information Systems*, 29–41. Milano, Italy: Springer.

Jenkins, A. M., & Ricketts, J. A. (1979). *Development of an instrument to measure user information satisfaction with management information systems*. Unpublished working paper, Indiana University, Bloomington, IN.

Johnson, B. K., & Ranzini, G. (2018). Click here to look clever: Self-presentation via selective sharing of music and film on social media. *COMPUTERS IN HUMAN BEHAVIOR*, *82*, 148–158. https://doi.org/10.1016/j.chb.2018.01.008

Johnson, R. A., & Bhattacharyya, G. K. (2010). *Statistics: Principles and Methods* (6th ed.). New Jersey: John Wiley & Sons.

Jones, D., & Choo, K.-K. R. (2014). Should there be a new body of law for cyber space? *ECIS 2014 Proceedings*. Retrieved from http://aisel.aisnet.org/ecis2014/proceedings/track11/4

Jung, C. G. (1933). *Modem man in search of a soul (W. S. Dell & C. F. Baynes, Trans.)*. New York, NY: Harcourt, Brace, & World.

Jung, Y., Pawlowski, S. D., & Kim, H.-W. (2017). Exploring associations between young adults' facebook use and psychological well-being: A goal hierarchy approach. *International Journal of Information Management*, *37*(1), 1391–1404.

Kafka, G. J., & Kozma, A. (2002). The Construct Validity of Ryff's Scales of Psychological Well-Being (SPWB) and their Relationship to Measures of Subjective Well-Being. *Social Indicators Research*, *57*(2), 171–190. https://doi.org/10.1023/A:1014451725204

Kawulich, B. B. (2005). Participant Observation as a Data Collection Method. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, *6*(2). Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/466

Kelley, S. (1983). *Interpreting Elections*. Princeton University Press.

Keyes, C. L., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology*, *82*(6), 1007–1022.

Kiang, M. Y., Raghu, T. S., & Shang, K. H.-M. (2000). Marketing on the Internet—who can benefit from an online marketing approach? *Decision Support Systems*, *27*(4), 383–393.

Kim, H.-W., Zheng, J. R., & Gupta, S. (2011). Examining knowledge contribution from the perspective of an online identity in blogging communities. *Computers in Human Behavior*, *27*(5), 1760–1770. https://doi.org/10.1016/j.chb.2011.03.003

Kim, J., LaRose, R., & Peng, W. (2009). Loneliness as the cause and the effect of problematic Internet use: The relationship between Internet use and psychological well-being. *CyberPsychology & Behavior*, *12*(4), 451–455.

Kim, S., & Stoel, L. (2004). Apparel retailers: website quality dimensions and satisfaction. *Journal of Retailing and Consumer Services*, *11*(2), 109–117. https://doi.org/10.1016/S0969-6989(03)00010-9

King, J. L., & Schrems, E. L. (1978). Cost-benefit analysis in information systems development and operation. *ACM Computing Surveys (CSUR)*, *10*(1), 19–34.

King, W. R., & Epstein, B. J. (1983). Assessing information system value: An experimental study. *Decision Sciences*, *14*(1), 34–45.

Kitchenham, B., & Pfleeger, S. L. (2002). Principles of survey research: part 5: populations and samples. *ACM SIGSOFT Software Engineering Notes*, *27*(5), 17–20.

Kitzinger, J. (1995). Qualitative research. Introducing focus groups. *British Medical Journal*, *311*(7000), 299–302.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, *58*(1), 49–74.

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, *53*(9), 1017.

La Rocco, J. M., & Jones, A. P. (1978). Co-worker and leader support as moderators of stress-strain relationships in work situations. *Journal of Applied Psychology*, *63*(5), 629.

Lai, C. M., Mak, K. K., Watanabe, H., Jeong, J., Kim, D., Bahar, N., … Cheng, C. (2015). The mediating role of Internet addiction in depression, social anxiety, and psychosocial well-being among adolescents in six Asian countries: a structural equation modelling approach. *Public Health*, *129*(9), 1224–1236.

Lai, J.-Y. (2006). Assessment of employees‘ perceptions of service quality and satisfaction with e-business. *International Journal of Human-Computer Studies*, *64*(9), 926–938.

Lapidot-Lefler, N., & Barak, A. (2012). Effects of anonymity, invisibility, and lack of eye-contact on toxic online disinhibition. *Computers in Human Behavior*, *28*(2), 434–443. https://doi.org/10.1016/j.chb.2011.10.014

Lapidot-Lefler, N., & Barak, A. (2015). The benign online disinhibition effect: Could situational factors induce self-disclosure and prosocial behaviors? *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *9*. Retrieved from http://www.cyberpsychology.eu/view.php?cisloclanku=2015063001&article=1

Larcker, D. F., & Lessig, V. P. (1980). Perceived Usefulness of Information: A Psychometric Examination*. *Decision Sciences*, *11*(1), 121–134. https://doi.org/10.1111/j.1540-5915.1980.tb01130.x

Lauri, S., & Kyngäs, H. (2005). *Developing Nursing Theories*. Vantaa, Finland: Dark Oy.

Laurier, E. (2010). Participant observation. In N. Clifford, S. French, & G. Valentine (Eds.), *Key Methods in Geography* (2nd ed., pp. 116–130). London: Sage Publications.

Lee, Y., Kozar, K. A., & Larsen, K. R. (2003). The technology acceptance model: Past, present, and future. *Communications of the Association for Information Systems*, *12*(1), 1–31.

Leininger, M. M. (1985). Ethnography and ethnonursing: Models and modes of qualitative data analysis. In M. M. Leininger (Ed.), *Qualitative research methods in nursing* (pp. 33–72). New York, NY: Grune & Stratton.

Leung, L. (2011). Loneliness, social support, and preference for online social interaction: the mediating effects of identity experimentation online among children and adolescents. *Chinese Journal of Communication*, *4*(4), 381–399.

Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, *68*(1), 151–158.

Lewis, S. J., & Russell, A. J. (2011). Being embedded: A way forward for ethnographic research. *Ethnography*, *12*(3), 398–416. https://doi.org/10.1177/1466138110393786

Liao, C., Chen, J.-L., & Yen, D. C. (2007). Theory of planning behavior (TPB) and customer satisfaction in the continued use of e-service: An integrated model. *Computers in Human Behavior*, *23*(6), 2804–2822.

Liebowitz, J. (1999). Information systems: Success or failure? *Journal of Computer Information Systems*, *40*(1), 17–26.

Lin, N., Ensel, W. M., Simeone, R. S., & Kuo, W. (1979). Social support, stressful life events, and illness: A model and an empirical test. *Journal of Health and Social Behavior*, *20*(2), 108–119.

Lin, T.-C., & Chen, C.-J. (2012). Validating the satisfaction and continuance intention of e-learning systems: Combining TAM and IS success models. *International Journal of Distance Education Technologies (IJDET)*, *10*(1), 44–54.

Lin, X., Featherman, M., & Sarker, S. (2017). Understanding factors affecting users' social networking site continuance: A gender difference perspective. *Information & Management*, *54*(3), 383–395. https://doi.org/10.1016/j.im.2016.09.004

Liu, V., & Khalifa, M. (2003). Determinants of satisfaction at different adoption stages of Internet-based services. *Journal of the Association for Information Systems*, *4*(5), 206–232.

Livingstone, S. (2008). Taking risky opportunities in youthful content creation: teenagers' use of social networking sites for intimacy, privacy and self-expression. *New Media & Society*, *10*(3), 393–411.

Longman Dictionary. (2018). identity | meaning of identity in Longman Dictionary of Contemporary English | LDOCE. Retrieved September 14, 2018, from https://www.ldoceonline.com/dictionary/identity

MacLeod, K. (1999). The online identity: How MUDs shape fantasy into reality. *Recuperado En Junio*, *18*, 1–18.

Mahmood, M. A., Burn, J. M., Gemoets, L. A., & Jacquez, C. (2000). Variables affecting information technology end-user satisfaction: a meta-analysis of the empirical literature. *International Journal of Human-Computer Studies*, *52*(4), 751–771.

Malli, M., Said, N., & Fadlallah, A. (2017). A New Model for Rating Users' Profiles in Online Social Networks. *Computer and Information Science*, *10*(2), 39–39.

Manning, P., & Ray, G. (1993). Shyness, Self-Confidence, and Social Interaction. *Social Psychology Quarterly*, *56*(3), 178–192.

Markus, H. R., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*(9), 954–969.

Marriott, T. C., & Buchanan, T. (2014). The true self online: Personality correlates of preference for self-expression online, and observer ratings of personality online and offline. *Computers in Human Behavior*, *32*, 171–177.

Marshall, C., & Rossman, G. (1989). *Designing qualitative research*. Newburry Park, CA: Sage Publications.

Martin, P. Y., & Turner, B. A. (1986). Grounded Theory and Organizational Research. *The Journal of Applied Behavioral Science*, *22*(2), 141–157. https://doi.org/10.1177/002188638602200207

Martini, B., & Choo, K.-K. R. (2014). Building the next generation of cyber security professionals. *ECIS 2014 Proceedings*. Retrieved from http://aisel.aisnet.org/ecis2014/proceedings/track14/3

Marwick, A. (2013). Online identity. *Companion to New Media Dynamics. Blackwell Companions to Cultural Studies. Malden, MA*. Retrieved from http://www.academia.edu/download/46731995/Identity_Chapter_amarwick_2013.pdf

Maslow, A. H. (2013). *Toward a psychology of being*. New York, NY: Simon & Schuster.

Mason, J. (2002). *Qualitative researching*. Newburry Park, California: SAGE Publications.

McCain, G. C. (1988). Content analysis: a method for studying clinical nursing problems. *Applied Nursing Research: ANR*, *1*(3), 146–147.

McCrae, R. R., & John, O. P. (1992). An Introduction to the Five-Factor Model and Its Applications. *Journal of Personality*, *60*(2), 175–215. https://doi.org/10.1111/j.1467-6494.1992.tb00970.x

McHaney, R., & Cronan, T. P. (1998). Computer Simulation Success: On the Use of the End-User Computing Satisfaction Instrument: A Comment. *Decision Sciences*, *29*(2), 525–535. https://doi.org/10.1111/j.1540-5915.1998.tb01589.x

McHaney, R., & Cronan, T. P. (2000). Toward an empirical understanding of computer simulation implementation success. *Information & Management*, *37*(3), 135–151.

McHaney, R., Hightower, R., & White, D. (1999). EUCS test–retest reliability in representational model decision support systems. *Information & Management*, *36*(2), 109–119.

McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology*, *74*(1), 192–210.

McKenna, K. Y. A. (2007). Through the Internet looking glass: Expressing and validating the true self. In A. Joinson, K. Y. A. McKenna, T. Postmes, & U.-D. Reips (Eds.), *The Oxford handbook of internet psychology* (pp. 205–221). Oxford, UK: Oxford University Press.

McKenna, K. Y. A., & Bargh, J. A. (1998). Coming out in the age of the Internet: Identity ―demarginalization" through virtual group participation. *Journal of Personality and Social Psychology*, *75*(3), 681–694.

McKenna, K. Y. A., & Bargh, J. A. (2000). Plan 9 From Cyberspace: The Implications of the Internet for Personality and Social Psychology. *Personality and Social Psychology Review*, *4*(1), 57–75. https://doi.org/10.1207/S15327957PSPR0401_6

McKenna, K. Y. A., Buffardi, L. E., & Seidman, G. (2005). Self-presentation to friends and strangers online. In K. Renner, A. Schutz, & F. Machilek (Eds.), *Internet and personality* (pp. 176–189). Boston, MA: Hogrefe & Huber Publishers.

McKenna, K. Y. A., Green, A. S., & Gleason, M. E. J. (2002). Relationship Formation on the Internet: What's the Big Attraction? *Journal of Social Issues*, *58*(1), 9–31.

McKinney, V., Yoon, K., & Zahedi, F. ―Mariam." (2002). The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach. *Information Systems Research*, *13*(3), 296–315. https://doi.org/10.1287/isre.13.3.296.76

McNamara, N., & Kirakowski, J. (2011). Measuring user-satisfaction with electronic consumer products: The Consumer Products Questionnaire. *International Journal of Human-Computer Studies*, *69*(6), 375–386.

Mead, G. H. (1934). *Mind, Self, and Society*. Chicago, IL: University of Chicago Press.

Mei, S., Yau, Y. H., Chai, J., Guo, J., & Potenza, M. N. (2016). Problematic Internet use, well-being, self-esteem and self-control: Data from a high-school survey in China. *Addictive Behaviors*, *61*, 74–79.

Melone, N. P. (1990). A Theoretical Assessment of the User-Satisfaction Construct in Information Systems Research. *Management Science*, *36*(1), 76–91. https://doi.org/10.1287/mnsc.36.1.76

Michikyan, M., Dennis, J., & Subrahmanyam, K. (2015). Can You Guess Who I Am? Real, Ideal, and False Self-Presentation on Facebook Among Emerging Adults. *Emerging Adulthood*, *3*(1), 55–64. https://doi.org/10.1177/2167696814532442

Millen, D. R., & Patterson, J. F. (2003). Identity disclosure and the creation of social capital. *CHI'03 Extended Abstracts on Human Factors in Computing Systems*, 720–721. Ft. Lauderdale, FL: ACM.

Mitchell, R. E., Billings, A. G., & Moos, R. H. (1982). Social support and well-being: Implications for prevention programs. *Journal of Primary Prevention*, *3*(2), 77–98.

Moore, K., & McElroy, J. C. (2012). The influence of personality on Facebook usage, wall postings, and regret. *Computers in Human Behavior*, *28*(1), 267–274.

Morgan, D. L. (1998). Practical Strategies for Combining Qualitative and Quantitative Methods: Applications to Health Research. *Qualitative Health Research*, *8*(3), 362–376. https://doi.org/10.1177/104973239800800307

Morgan, D. L., & Spanish, M. T. (1984). Focus groups: A new tool for qualitative research. *Qualitative Sociology*, *7*(3), 253–270. https://doi.org/10.1007/BF00987314

Morrison, K. (2015). 91% of Retail Brands Use Two or More Social Media Channels. Retrieved January 10, 2017, from http://adweek.it/1GvmNsk

Muijs, D. (2010). *Doing quantitative research in education with SPSS.* (2nd ed.). Retrieved from https://eprints.soton.ac.uk/165853/

Muylle, S., Moenaert, R., & Despontin, M. (2004). The conceptualization and empirical validation of web site user satisfaction. *Information & Management*, *41*(5), 543–560.

Myers, J. E., Sweeney, T. J., & Witmer, J. M. (2000). The wheel of wellness counseling for wellness: A holistic model for treatment planning. *Journal of Counseling & Development*, *78*(3), 251–266.

Nabi, R. L., Prestin, A., & So, J. (2013). Facebook Friends with (Health) Benefits? Exploring Social Network Site Use and Perceptions of Social Support, Stress, and Well-Being. *Cyberpsychology, Behavior, and Social Networking*, *16*(10), 721–727. https://doi.org/10.1089/cyber.2012.0521

NetCraft and Internet Live Stats. (2018, April 5). Total number of Websites. Retrieved April 5, 2018, from http://www.internetlivestats.com/total-number-of-websites/

Neugarten, B. L. (1973). Personality change in late life: A developmental perspective. In *The psychology of adult development and aging* (C. Eisdorfer & M. P. Lawton (Eds.), pp. 311–335). Washington, D.C.: American Psychological Association.

Neumann, S., & Segev, E. (1980). EVALUATE YOUR INFORMATION-SYSTEM. *Journal of Systems Management*, *31*(3), 34–41.

Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through Self-Regulation: The Effects of Autonomous and Controlled Motivation on Happiness and Vitality. *Journal of Experimental Social Psychology*, *35*(3), 266–284. https://doi.org/10.1006/jesp.1999.1382

Nolan, R. L., & Seward, H. (1974). Measuring user satisfaction to evaluate information systems. In *Managing the data resource function* (R. L. Nolan (Ed.), pp. 253–275). Los Angeles, CA: West Publishing Co.

Nunnally, J. C. (1978a). *Psychometric methods*. New York, NY: McGraw-Hill Book Company.

Nunnally, J. C. (1978b). *Psychometric theory*. New York, NY, USA: McGraw-Hill.

Ong, C.-S., & Lin, M. Y.-C. (2016). Is being satisfied enough? Well-being and IT post-adoption behavior: An empirical study of Facebook. *Information Development*, *32*(4), 1042–1054.

Padgett, D. K. (2016). *Qualitative methods in social work research* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Papacharissi, Z. (2002). The Presentation of Self in Virtual Life: Characteristics of Personal Home Pages. *Journalism & Mass Communication Quarterly*, *79*(3), 643–660.

Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Pawlowski, A. (2014, June 12). Obama: I'm a ―fun dad who teeters on the edge of being embarrassing." Retrieved from TODAY.com website: http://www.today.com/news/president-obama-im-fun-dad-who-teeters-edge-being-embarrassing-2D79790247

Penwarden, R. (2013). Comparing Closed-Ended and Open-Ended Questions. Retrieved from FluidSurveys website: http://fluidsurveys.com/university/comparing-closed-ended-and-open-ended-questions

Pfeil, U., Arjan, R., & Zaphiris, P. (2009). Age differences in online social networking–A study of user profiles and the social capital divide among teenagers and older users in MySpace. *Computers in Human Behavior*, *25*(3), 643–654.

Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service quality: a measure of information systems effectiveness. *MIS Quarterly*, *19*(2), 173–187.

Poerio, G. L., Totterdell, P., Emerson, L.-M., & Miles, E. (2015). Love is the triumph of the imagination: Daydreams about significant others are associated with increased happiness, love and connection. *Consciousness and Cognition*, *33*, 135–144.

Polit, D. F., & Beck, C. T. (2004). *Nursing research: Principles and methods*. Philadelphia, PA: Lippincott Williams & Wilkins.

Posey, C., Lowry, P. B., Roberts, T. L., & Ellis, T. S. (2010). Proposing the online community self-disclosure model: the case of working professionals in France and the U.K. who use online communities. *European Journal of Information Systems*, *19*(2), 181–195. https://doi.org/10.1057/ejis.2010.15

Powell, J. (2009). *33 Million People in the Room: How to Create, Influence, and Run a Successful Business with Social Networking*. New York, NY: Simon & Schuster.

Powers, R. F., & Dickson, G. W. (1973). MIS project management: myths, opinions, and reality. *California Management Review*, *15*(3), 147–156.

Raghunathan, B., & Raghunathan, T. S. (1994). Research Report—Adaptation of a Planning System Success Model to Information Systems Planning. *Information Systems Research*, *5*(3), 326–340.

Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. *Information Systems Research*, *13*(1), 50–69.

Rainer, R. K., & Watson, H. J. (1995). What does it take for successful executive information systems? *Decision Support Systems*, *14*(2), 147–156.

Rapoport, R. N. (1970). Three Dilemmas in Action Research: With Special Reference to the Tavistock Experience. *Human Relations*, *23*(6), 499–513. https://doi.org/10.1177/001872677002300601

Reinecke, L., Vorderer, P., & Knop, K. (2014). Entertainment 2.0? The Role of Intrinsic and Extrinsic Need Satisfaction for the Enjoyment of Facebook Use. *Journal of Communication*, *64*(3), 417–438. https://doi.org/10.1111/jcom.12099

RePass, D. E. (1971). Issue Salience and Party Choice. *American Political Science Review*, *65*(2), 389–400.

Rheingold, H. (1993). *The virtual community: Finding commection in a computerized world*. Boston, MA: Addison-Wesley Longman Publishing Co., Inc.

Robey, D. (1979). User Attitudes and Management Information System Use. *Academy of Management Journal*, *22*(3), 527–538. https://doi.org/10.2307/255742

Robins, K. (1995). Cyberspace and the World We Live in. *Body & Society*, *1*(3–4), 135–155. https://doi.org/10.1177/1357034X95001003008

Rocha, Á. (2012). Three-dimensional model for the global quality of a website. *International Journal of Business Information Systems*, *10*(4), 436–446.

Rogers, C. (1951). *Client-centered therapy*. Oxford, England: Houghton Mifflin.

Rogers, C. (1961). *On Becoming a Person: A Therapist's View of Psychotherapy*. Boston, MA: Hughton Mifflin Company.

Rook, K. S. (1984). The negative side of social interaction: impact on psychological well-being. *Journal of Personality and Social Psychology*, *46*(5), 1097–1108.

Rosenfeld, L. B. (1979). Self-disclosure avoidance: Why I am afraid to tell you who I am. *Communication Monographs*, *46*(1), 63–74. https://doi.org/10.1080/03637757909375991

Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, *25*(2), 578–586. https://doi.org/10.1016/j.chb.2008.12.024

Rubin, Z. (1975). Disclosing oneself to a stranger: Reciprocity and its limits. *Journal of Experimental Social Psychology*, *11*(3), 233–260.

Runeson, P., & Höst, M. (2009). Guidelines for conducting and reporting case study research in software engineering. *Empirical Software Engineering*, *14*(2), 131–164.

Rushinek, A., & Rushinek, S. F. (1986). What Makes Users Happy? *Commun. ACM*, *29*(7), 594–598. https://doi.org/10.1145/6138.6140

Ruyter, D. D., & Conroy, J. (2002). The Formation of Identity: The importance of ideals. *Oxford Review of Education*, *28*(4), 509–522. https://doi.org/10.1080/0305498022000013643

Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). New York: University Rochester Press.

Ryan, Richard M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, *43*(3), 450–461. https://doi.org/10.1037/0022-3514.43.3.450

Ryan, Richard M., & Deci, E. L. (2000a). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, *25*(1), 54–67.

Ryan, Richard M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78.

Ryan, Richard M., Deci, E. L., & Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Theoo' and methods* (pp. 618–655). New York: Wiley.

Ryan, Richard M., Rigby, C. S., & Przybylski, A. (2006). The Motivational Pull of Video Games: A Self-Determination Theory Approach. *Motivation and Emotion*, *30*(4), 344–360. https://doi.org/10.1007/s11031-006-9051-8

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Ryff, C. D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, *4*(4), 99–104.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719

Sandelowski, M. (1995). Qualitative analysis: What it is and how to begin. *Research in Nursing & Health*, *18*(4), 371–375.

Satchell, C., Shanks, G. G., Howard, S., & Murphy, J. (2006). Knowing me, knowing you: end user perceptions of identity management systems. *Proceedings of the 14th European Conference on Information System*, 795–806. Göteborg, Sweden.

Sauer, W. J., & Warland, R. (1982). Morale and life satisfaction. *Research Instruments in Social Gerontology*, *1*, 195–240.

Schau, H. J., & Gilly, M. C. (2003). We Are What We Post? Self-Presentation in Personal Web Space. *Journal of Consumer Research*, *30*(3), 385–404. https://doi.org/10.1086/378616

Schaubroeck, J., & Merritt, D. E. (1997). Divergent effects of job control on coping with work stressors: The key role of self-efficacy. *Academy of Management Journal*, *40*(3), 738–754.

Schouten, J. W. (1991). Selves in transition: Symbolic consumption in personal rites of passage and identity reconstruction. *Journal of Consumer Research*, *17*(4), 412–425.

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, *45*(3), 513.

Scott, C. R. (2004). Benefits and Drawbacks of Anonymous Online Communication: Legal Challenges and Communicative Recommendations. *Free Speech Yearbook*, *41*(1), 127–141. https://doi.org/10.1080/08997225.2004.10556309

Seddon, P. B. (1997). A Respecification and Extension of the DeLone and McLean Model of IS Success. *Information Systems Research*, *8*(3), 240–253. https://doi.org/10.1287/isre.8.3.240

Segars, A. H., & Grover, V. (1993). Re-examining perceived ease of use and usefulness: A confirmatory factor analysis. *MIS Quarterly*, *17*(4), 517–525.

Seidman, G. (2014). Expressing the "True Self" on Facebook. *Computers in Human Behavior*, *31*, 367–372.

Seligman, M. E. (2004). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York, NY: Simon & Schuster.

Selwyn, N. (2008). A Safe Haven for Misbehaving? An Investigation of Online Misbehavior Among University Students. *Social Science Computer Review*, *26*(4), 446–465. https://doi.org/10.1177/0894439307313515

Sharma, G., & Baoku, L. (2013). Customer satisfaction in Web 2.0 and information technology development. *Information Technology & People*, *26*(4), 347–367.

Shaw, L. H., & Gant, L. M. (2002). In defense of the Internet: The relationship between Internet communication and depression, loneliness, self-esteem, and perceived social support. *Cyberpsychology & Behavior*, *5*(2), 157–171.

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: the self-concordance model. *Journal of Personality and Social Psychology*, *76*(3), 482–497.

Shen, C.-X., Liu, R.-D., & Wang, D. (2013). Why are children attracted to the Internet? The role of need satisfaction perceived online and perceived in daily real life. *Computers in Human Behavior*, *29*(1), 185–192. https://doi.org/10.1016/j.chb.2012.08.004

Shepard, L. A. (1979). Self-acceptance: The Evaluative Component of the Self-concept Construct. *American Educational Research Journal*, *16*(2), 139–160. https://doi.org/10.3102/00028312016002139

Silverman, T. (1999). The internet and relational theory. *American Psychologist*, *54*(9), 780–781. http://dx.doi.org/10.1037/0003-066X.54.9.780

Soliman, K. S., Mao, E., & Frolick, M. N. (2000). Measuring user satisfaction with data warehouses: an exploratory study. *Information & Management*, *37*(3), 103–110.

Solomon, M. R. (1983). The role of products as social stimuli: A symbolic interactionism perspective. *Journal of Consumer Research*, *10*(3), 319–329.

Spradley, J. P. (1980). *Participant observation*. New York, NY: Holt, Rinehart and Winston.

Springer, K. W., & Hauser, R. M. (2006). An assessment of the construct validity of Ryff‘s Scales of Psychological Well-Being: Method, mode, and measurement effects. *Social Science Research*, *35*(4), 1080–1102. https://doi.org/10.1016/j.ssresearch.2005.07.004

Statista. (2018). • Statista - The Statistics Portal for Market Data, Market Research and Market Studies. Retrieved September 5, 2018, from https://www.statista.com/

Stone, A. R. (1996). *The war of desire and technology at the close of the mechanical age*. Retrieved from https://books.google.com/books?hl=en&lr=&id=QZwsxDlApNwC&oi=fnd&pg

=PR9&dq=the+war+of+desire+and+technology&ots=puKfEXK9XB&sig=6IOLsB6S2xJraxcaE6n6EyZPySU

Strauman, T. J. (1996). Stability within the self: A longitudinal study of the structural implications of self-discrepancy theory. *Journal of Personality and Social Psychology*, *71*(6), 1142–1153.

Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research* (Vol. 15). Newburry Park, California: SAGE Publications.

Stutzman, F. (2006). An evaluation of identity-sharing behavior in social network communities. *Journal of the International Digital Media and Arts Association*, *3*(1), 10–18.

Suler, J. (2004). The Online Disinhibition Effect. *CyberPsychology & Behavior*, *7*(3), 321–326.

Surbhi, S. (2016). Difference Between Stratified and Cluster Sampling. Retrieved April 28, 2018, from https://keydifferences.com/difference-between-stratified-and-cluster-sampling.html

Surratt, C. G. (1998). *Netlife: Internet citizens and their communities*. Hauppauge, NY: Nova Science Publishers, Inc.

Susman, G. I., & Evered, R. D. (1978). An Assessment of the Scientific Merits of Action Research. *Administrative Science Quarterly*, *23*(4), 582–603. https://doi.org/10.2307/2392581

Swanson, E. B. (1974). Management Information Systems: Appreciation and Involvement. *Management Science*, *21*(2), 178–188. https://doi.org/10.1287/mnsc.21.2.178

Swanson, E. B. (1982). Measuring user attitudes in MIS research: a review. *Omega*, *10*(2), 157–165. https://doi.org/10.1016/0305-0483(82)90050-0

Swanson, E. B. (1994). Information Systems Innovation Among Organizations. *Management Science*, *40*(9), 1069–1092. https://doi.org/10.1287/mnsc.40.9.1069

Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science*, *42*(1), 85–92.

Tamborini, R., Bowman, N. D., Eden, A., Grizzard, M., & Organ, A. (2010). Defining Media Enjoyment as the Satisfaction of Intrinsic Needs. *Journal of Communication*, *60*(4), 758–777. https://doi.org/10.1111/j.1460-2466.2010.01513.x

Tamborini, R., Grizzard, M., David Bowman, N., Reinecke, L., Lewis, R. J., & Eden, A. (2011). Media Enjoyment as Need Satisfaction: The Contribution of Hedonic and Nonhedonic Needs. *Journal of Communication*, *61*(6), 1025–1042. https://doi.org/10.1111/j.1460-2466.2011.01593.x

Tapscott, D. (2008). *Grown up digital: How the net generation is changing your world* (Vol. 200). New York, NY: McGraw-Hill.

Tashakkori, A., & Creswell, J. W. (2007). Editorial: the new era of mixed methods. *Journal of Mixed Methods Research*, *1*(1), 3–7.

Tashakkori, A., & Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Thousand Oaks, CA: Sage Publications.

Taylor, S., & Todd, P. (1995). Assessing IT usage: The role of prior experience. *MIS Quarterly*, *19*(4), 561–570.

Teddlie, C., & Yu, F. (2007). Mixed Methods Sampling: A Typology With Examples. *Journal of Mixed Methods Research*, *1*(1), 77–100. https://doi.org/10.1177/2345678906292430

Thurlow, C., Lengel, L., & Tomic, A. (2004). *Computer mediated communication*. Retrieved from https://books.google.com/books?hl=en&lr=&id=ED5Htazhr38C&oi=fnd&pg=PP2&dq=computer+mediated+communication&ots=xy6d9AAIiJ&sig=6zrMDZwbF1P73qxLkfLlf62s1TQ

Toma, C. L., & Hancock, J. T. (2013). Self-Affirmation Underlies Facebook Use. *Personality and Social Psychology Bulletin*, *39*(3), 321–331.

Torkzadeh, G., & Doll, W. J. (1991). Test-Retest Reliability of the End-User Computing Satisfaction Instrument. *Decision Sciences*, *22*(1), 26–37.

Torkzadeh, G., & Doll, W. J. (1994). The test-retest reliability of user involvement instruments. *Information & Management*, *26*(1), 21–31. https://doi.org/10.1016/0378-7206(94)90004-3

Tosun, L. P. (2012). Motives for Facebook use and expressing ―true self" on the Internet. *Computers in Human Behavior*, *28*(4), 1510–1517.

Tosun, L. P., & Lajunen, T. (2009). Why Do Young Adults Develop a Passion for Internet Activities? The Associations among Personality, Revealing "True Self" on the Internet, and Passion for the Internet. *CyberPsychology & Behavior*, *12*(4), 401–406.

Tosun, L. P., & Lajunen, T. (2010). Does Internet use reflect your personality? Relationship between Eysenck's personality dimensions and Internet use. *Computers in Human Behavior*, *26*(2), 162–167.

Trepper, C. (2000). *ECommerce Strategies*. Washington, D.C.: Microsoft Press.

Turkle, S. (1995). *Life on the Screen: Identity in the Age of the Internet*. New York, NY: Simon & Schuster.

Turner, J. A. (1982). *Firm Size, Performance and Computer Use*. 109–120. Ann Arbor, MI: University of Michigan.

Udris, R. (2014). Cyberbullying among high school students in Japan: Development and validation of the Online Disinhibition Scale. *Computers in Human Behavior*, *41*, 253–261. https://doi.org/10.1016/j.chb.2014.09.036

Urbach, N., Smolnik, S., & Riempp, G. (2010). An empirical investigation of employee portal success. *The Journal of Strategic Information Systems*, *19*(3), 184–206.

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend Networking Sites and Their Relationship to Adolescents' Well-Being and Social Self-Esteem. *CyberPsychology & Behavior*, *9*(5), 584–590. https://doi.org/10.1089/cpb.2006.9.584

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981–1002. https://doi.org/10.1348/096317909X481382

Van den Eijnden, R. J., Meerkerk, G.-J., Vermulst, A. A., Spijkerman, R., & Engels, R. C. (2008). Online communication, compulsive Internet use, and psychosocial well-being among adolescents: a longitudinal study. *Developmental Psychology*, *44*(3), 655–665.

Vasalou, A., Joinson, A. N., & Pitt, J. (2007). Constructing my online self: avatars that increase self-focused attention. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 445–448. San Jose, CA: ACM.

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, *39*(2), 273–315.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *46*(2), 186–204.

Ventegodt, S., Andersen, N. J., & Merrick, J. (2003). The Life Mission Theory V. Theory of the Anti-Self (the Shadow) or the Evil Side of Man. *The Scientific World Journal*, *3*, 1302–1313.

Verdegem, P., & Verleye, G. (2009). User-centered E-Government in practice: A comprehensive model for measuring user satisfaction. *Government Information Quarterly*, *26*(3), 487–497.

Veroff, J., Douvan, E. A. M., & Kulka, R. A. (1981). *The inner American: A self-portrait from 1957 to 1976*. New York, NY: Basic Books.

Vertinsky, I., Barth, R. T., & Mitchell, V. F. (1975). A study of OR/MS implementation as a social change process. In *Implementing operations research/management science* (R. L. Schultz & D. P. Slevin (Eds.), pp. 253–272). New York, NY: American Elsevier.

Walker, K. (2000). ~~–~~It's difficult to hide it": The presentation of self on Internet home pages. *Qualitative Sociology*, *23*(1), 99–120.

Wallenberg, M. (1998). *The decline of American political parties: 1952-1996*. Cambridge, MA: Harvard University Press.

Wan, T. B., & Wah, L. T. (1990). Validation of a user satisfaction instrument for office automation success. *Information & Management*, *18*(4), 203–208. https://doi.org/10.1016/0378-7206(90)90041-F

Wang, Y.-S., & Liao, Y.-W. (2008). Assessing eGovernment systems success: A validation of the DeLone and McLean model of information systems success. *Government Information Quarterly*, *25*(4), 717–733.

Wang, Y.-S., Tang, T.-I., & Tang, J. E. (2001). An instrument for measuring customer satisfaction toward web sites that market digital products and services. *J. Electron. Commerce Res.*, *2*(3), 89–102.

Wängqvist, M., & Frisén, A. (2016). Who am I Online? Understanding the Meaning of Online Contexts for Identity Development. *Adolescent Research Review*, *1*(2), 139–151. https://doi.org/10.1007/s40894-016-0025-0

Warr, P. (2011). *Work, happiness, and unhappiness*. London, UK: Psychology Press.

Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology*, *64*(4), 678–691.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063–1070.

Weber, L. (2009). *Marketing to the social web: How digital customer communities build your business*. Hoboken, NJ: John Wiley & Sons.

Weber, R. P. (1990). *Basic Content Analysis*. Newburry Park, California: SAGE Publications.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, *66*(5), 297–333.

Wikipedia. (2018). Social networking service. In *Wikipedia*. Retrieved from https://en.wikipedia.org/w/index.php?title=Social_networking_service&oldid=859463450

Wilkin, C. L. (2006). Evaluating the quality of delivered systems: a framework and instrument. *International Journal of Business Information Systems*, *2*(2), 127–148.

Williams, A. W., Ware Jr, J. E., & Donald, C. A. (1981). A model of mental health, life events, and social supports applicable to general populations. *Journal of Health and Social Behavior*, *22*(3), 324–336.

Wixom, B. H., & Todd, P. A. (2005). A Theoretical Integration of User Satisfaction and Technology Acceptance. *Information Systems Research*, *16*(1), 85–102. https://doi.org/10.1287/isre.1050.0042

Wold, H. (1982). Soft modeling: the basic design and some extensions. *Systems under Indirect Observation*, *2*, 343.

Woodward, K. (1997). *Identity and difference* (Vol. 3). Thousand Oaks, CA: Sage Publications.

Wu, J.-H., Tennyson, R. D., & Hsia, T.-L. (2010). A study of student satisfaction in a blended e-learning system environment. *Computers & Education*, *55*(1), 155–164.

Wylie, R. C. (1979). *The Self-concept: Theory and research on selected topics* (Vol. 2). USA: University of Nebraska Press.

Xiao, L., & Dasgupta, S. (2002). Measurement of user satisfaction with web-based information systems: an empirical study. *AMCIS 2002 Proceedings*, 159. Retrieved from http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1518&context=amcis2002

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Yoon, S. S., Katz, J., Brendel, K., & West, K. P. (1997). Efficiency of EPI cluster sampling for assessing diarrhoea and dysentery prevalence. *Bulletin of the World Health Organization*, *75*(5), 417–426.

Yoon, Y., Guimaraes, T., & O'Neal, Q. (1995). Exploring the factors associated with expert systems success. *MIS Quarterly*, 83–106.

Yurchisin, J., Watchravesringkan, K., & Mccabe, D. B. (2005). An Exploration of Identity Re-Creation in the Context of Internet Dating. *Social Behavior and Personality: An International Journal*, *33*(8), 735–750.

Zhang, Y., & Wildemuth, B. M. (2009). Qualitative Analysis of Content. In *Applications of Social Research Methods to Questions in Information and Library Science* (Wildemuth B, editor, Vol. 308, pp. 318–329). Westport, CT: Libraries Unlimited.

Zhao, C., & Jiang, G. (2011). Cultural Differences on Visual Self-presentation Through Social Networking Site Profile Images. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1129–1132. https://doi.org/10.1145/1978942.1979110

Zhao, L., & Lu, Y. (2012). Enhancing perceived interactivity through network externalities: An empirical study on micro-blogging service satisfaction and continuance intention. *Decision Support Systems*, *53*(4), 825–834. https://doi.org/10.1016/j.dss.2012.05.019

Zhao, S. (2006). Do Internet users have more social ties? A call for differentiated analyses of Internet use. *Journal of Computer-Mediated Communication*, *11*(3), 844–862.

Zhao, S., Grasmuck, S., & Martin, J. (2008). Identity construction on Facebook: Digital empowerment in anchored relationships. *Computers in Human Behavior*, *24*(5), 1816–1836.

Zmud, R. W. (1978). An Empirical Investigation of the Dimensionality of the Concept of Information *. *Decision Sciences*, *9*(2), 187–195. https://doi.org/10.1111/j.1540-5915.1978.tb01378.x

Zmud, R. W. (1979). Individual differences and MIS success: A review of the empirical literature. *Management Science*, *25*(10), 966–979.

Zviran, M. (1992). Evaluating user satisfaction in a hospital environment: an exploratory study. *Health Care Management Review*, *17*(3), 51–62.

Zviran, M., & Erlich, Z. (2003). Measuring IS user satisfaction: review and implications. *Communications of the Association for Information Systems*, *12*(5), 1–25.

Zviran, M., Pliskin, N., & Levin, R. (2005). Measuring User Satisfaction and Perceived Usefulness in the ERP Context. *Journal of Computer Information Systems*, *45*(3), 43–52. https://doi.org/10.1080/08874417.2005.11645842

LIST OF PUBLICATIONS AND PAPERS PRESENTED

Journal papers based on this thesis:

Hu, C., Kumar, S., Huang, J., & Ratnavelu, K. (2017). Disinhibition of negative true self for identity reconstructions in cyberspace: Advancing self-discrepancy theory for virtual setting. *PLOS ONE*, 12(4), e0175623. https://doi.org/10.1371/journal.pone.0175623 (On the basis of study one presented in Chapter 5)

Hu, C., Kumar, S., Huang, J., & Ratnavelu, K. The predictors of users' satisfaction in an anonymous environment: the role of the negative true self. *Behaviour information & technology*. (On the basis of study two presented in Chapter 6)

Conference paper based on this thesis:

Hu, C., Kumar, S., Huang, J., & Ratnavelu, K. (2018). How to Better Satisfy Online Users? A Quantitative Study of Identity Reconstruction Based on Advanced Self-discrepancy Theory. *The International Conference on Advances in Civil Engineering and Science Technology (ICACEST) 2018* (On the basis of study two presented in Chapter 6)