A STUDY ON EXPLORING PEOPLE'S AFFINITY FOR SOLITUDE

A Dissertation

by

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ABSTRACT

This study sought to investigate solitude as a phenomenon. People's affinity for solitude and the antecedents of affinity for solitude were of crucial interest to the study because affinity for solitude has been considered a strong determinant of solitude behavior. Based on the review of existing solitude studies, major constructs believed to comprise an empirical model were theoretically and operationally defined: affinity for solitude, general attitudes toward solitude, subjective norms, perceived control, extraversion, intended solitude behavior, and actual solitude behavior. The relationships among latent factors were hypothesized for empirical tests.

A questionnaire was designed to measure the above constructs. Several items were based on previous studies although several items were developed by the investigator. A total of 395 college students, 162 male and 233 female students completed an online survey in exchange for extra credit. Preliminary analysis indicated the internal consistency of the battery of measurement scales used in this study were highly reliable; the measurement test also provided empirical evidence of the construct validity of the developed measures.

A test of the hypothesized model of people's affinity for solitude revealed that there were well-defined path relationships between latent factors with a good fit between the measures and the sample data. Findings revealed that general attitudes toward solitude and subjective norms positively contributed to affinity for solitude; while extraversion negatively influenced affinity for solitude. Affinity for solitude effectively

predicted intended solitude behavior and actual solitude behavior. Additionally, the study found that subjective norms and general attitudes toward solitude also significantly predicted intended solitude behavior.

A model of people's affinity for solitude and solitude behavior allowed us to analytically view the latent social and cognitive factors that significantly inform people's affinity for solitude and their solitude behavior. This study is valuable in two ways. First, theoretical and empirical approaches derived from this current study suggest ways of conceptualizing solitude attitudes and behavior. Second, study findings account for the antecedents and consequences of affinity for solitude.

Theoretical relations and several implications associated with college students and recreation management were presented. Additionally, the limitations of the study followed by suggestions for improvements and possible directions for future research were discussed.

I sincerely dedicate this dissertation to my parents…

…from your devoted daughter

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CHAPTER I

INTRODUCTION

Solitude is an experience that ranges from the sublime to the mundane. For some individuals, solitude is to be avoided at all costs; other individuals revel in solitude and make time for it. Despite considerable evidence that solitude is a compelling motivational force in people's lives, people's *affinity* for solitude has been generally ignored by leisure researchers. This investigation examines the ways in which people's affinity for solitude is reflected in their attitudes and behavioral choice.

Solitude as a Phenomenon

Solitude has been a powerful variable worthy of study by psychologists. Some psychologists have been concerned with solitude as state of a psychological maladjustment associated with a sense of loneliness (Davies, 1996; Ernst, & Cacioppo, 1999; Killeen, 1998). However, because of its philosophical and spiritual qualities (Barbour, 2004; Conti, 2007; Koch, 1990; Powys, 1974; Stein, 2009), much of the extant literature notes that solitude, or occasionally spending time alone, contributes to people's psychological well-being and other positive outcomes, including creativity and freedom of expression (Buchholz, 1997; Burke, 1991; Cramner & Lake, 1998; Knafo, 2012; Kull, 2009; Leary, Herbst, & McCrary, 2003; McCutcheon, Aruguete, Scott, & Von Waldner, 2004; Morgan, 1986; Storr, 1988; Wise, 1991).

Many scholars have maintained the view that solitude is associated with positive outcomes. Strictly speaking, however, solitude is a neutral state of being alone which can be experienced either positively or negatively by the individual. Research by Larson

and Csikszentmihalyi (1978, 1980), indicated that there are two opposing views of spending time alone. The first view holds that time spent alone is valuable because of its constructive rewards, such as relaxation, creative insight, and spirituality. The other view is that time alone leads to poor psychological adaptation, such as loneliness. Research by Long and Averill (2003) supported Larson and Csikszentmihalyi's contention that solitude has both negative and positive qualities. While the positive experience of solitude might enhance human life, negative solitude experiences lead to a distressing sense of loneliness and potentially poor psychosocial adjustment.

While Larson, Csikszentmihalyi, and Graef (1980, 1982) argued that solitude can enhance individual growth and creativity, in earlier studies, Larson and Csikszentmihalyi (1978, 1980) argued that spending *too much* time alone could contribute to alienation and psychosocial dysfunction associated with loneliness and depression for all age-groups. More recently, More, Long, and Averill (2003) found that some societies negatively sanction solitude, as maintaining distance from others is regarded as a hindrance to forming relationships and a maintaining a cohesive community. Additionally, although the experience of solitude may have been viewed as time for personal growth and reflection, according to Buchholz (1997), time alone is sometimes used culturally as a punishment for children. In this context, time alone is an undesirable and distressful involuntary state which might lead to negative effects on human life.

While numerous studies from a psychological viewpoint have provided understanding of solitude (e.g., Burger, 1995; Goossens, Lasgaard, Luyckx, Vanhalst, Mathias, & Masy, 2009; Nicole, 2005; Quinodoz, 1996), they have covered only a

limited area in terms of an individual's inner solitude experience. Therefore, we still have a meager explanation and understanding of why people become involved in solitude behavior and how it factors into our daily lives.

Beyond psychological considerations, scholars have become aware that solitude is as likely related to socially constructed behavior and experience. Long and Averill (2003) found solitude to be "a vital social phenomenon" (p. 21). Similarly, Diekema (1992) considered the state of being alone a "relational and sociological concept" which has been categorized into three distinctive dimensions: other-imposed aloneness, such as isolation; mutually constructed aloneness, such as privacy and time spent alone; and self-imposed aloneness, such as escapism. Each of these forms implies a distinct relationship between an individual and a community. The phenomenon of solitude thus has to be considered in the societal contexts to explore thoroughly its multifaceted and complex mechanism.

Since individuals have begun using technological devices (e.g., computers, iPads, tweeting, and texting on cell-phones), the boundaries between social and private areas have been rapidly collapsing. Technology allows us to continually interact with others even while remaining physically alone. Thus, the distinction between time and space spent alone and with others has blurred (Buchholz, 1997). That is, the use of technology is an attempt to simultaneously meet the needs for solitude and connectedness. Therefore, even though people choose to be alone, they can be described as being on a *continuum of connectedness* somewhere between *total solitude* (connected only with oneself), *minimal solitude* (being present with others but not fully engaged such as

sitting in a coffee shop by oneself), and *partial solitude* (being alone but somehow engaged including virtual connectedness such as emailing or talking over the phone).

In highly developed countries where electronic technology is pervasive, the meaning of solitude might be changed as the need to be connected is increasingly taken for granted. Buchholz (1997) pointed out that the use of electronic gadgets hinders an individual's capacity for inner focus or the beneficial inspiration commonly associated with *quality* time alone. Prior to this, Kubey (1984, 1986) also pointed out that, technological devices, particularly television, served as a distraction for those individuals who found the experience of solitude to be uncomfortable. He examined individual television use in everyday life using the experience sampling method, and, according to the results, those adults who were heavy TV users also reported experiencing low moods during solitude.

Simultaneously, many people may not know how to spend time alone constructively. Davies (1996) emphasized the importance of teaching people skills to effectively be alone. He argued that current global culture, such as the technologically advanced first world, is focusing on developing social networks and so people are adapted to be connected to others in order to feel they are part of society. For some, being alone is synonymous with feeling unpopular, friendless, and unaccepted. Thus, negative perceptions associated with solitude might cause people to become averse toward being alone. Within this *cultural bias*, the lack of ability to be alone makes comprehending and achieving positive time alone problematic (Buchholz, 1997; Senechal, 2011).

To summarize, human beings are continually engaged in an adjustment process to counterbalance being alone versus being with others. Therefore, solitude includes a wide range of multifaceted and complicated experiences in the ecology of daily life. In this present study, I identify solitude as a *state of being alone* by isolating oneself from any *reciprocal interaction*. That is, solitude itself is considered a neutral state of being alone but it might bring different consequences. Meanings and functions of solitude are formed and changed according to individuals and their diverse social environments.

People's Affinity for Solitude

Individuals' pursuit of solitude might involve different factors according to the variability in the expression of solitude preferences. This present study notes that some individuals consistently demonstrate an affinity for solitude in everyday lives. Burger's study (1995) provided important data with regard to evaluating people's *preference for solitude*. To measure an individual's preference for solitude, he developed the Preference for Solitude Scale (PSS) and conducted various empirical studies using the PSS. Burger laid the groundwork for studies on solitude as a phenomenon and his work inspired me to develop and conduct this study.

Drawing on a series of studies, Burger investigated the relationship between the preference for solitude and various constructs, including social anxiety. He found that although social anxiety may have been a primary reason for solitude in some individuals, for others an affinity for solitude was based on other reasons. This demonstrates that some people choose solitude because it is beneficial for their psychological well-being, while others choose solitude out of a fear of social interactions. According to Burger,

study participants with both a high and a low preference for solitude spent the majority of their free time with others. However, those people with a higher preference for solitude do spend more time in solitude and enjoy this time more than participants with a low preference for solitude.

Burger (1995) also discussed that the causes and experiences of solitude would differ based on each individual and his or her social situations. For example, some individuals frequently seek opportunities to be alone and enjoy spending time by themselves, but other people may rarely demonstrate the affinity for solitude. Leary et al. (2003) examined whether an individual's tendency to seek solitude was a predisposed personality trait or a temporary motivation to be disconnected from any interaction with others. Findings suggested that both factors predicted how often a person chose to experience solitude as well as their enjoyment of it. Stated differently, people might seek solitude either because they were positively predisposed to be alone or because they were overburdened with everyday life. In this respect, it is important to understand the dynamic balance between predisposed attributes and situational or socio-cultural circumstances under which people choose to be alone.

Burger's work (1995) enriched our awareness of solitude by initiating a systematic way to measure people's preference for solitude and by examining its relationships with other variables. However, there remain several issues from his studies that guide and inform different approaches for this dissertation. For example, Burger developed PSS based on its psychological adjustment which considered personality traits the main factors influencing preference for solitude. However, as Burger discussed, there

exist diverse influential factors that affect people's affinity for solitude. Second, his studies did not present how the concept of the preference for solitude can uniquely be an independent variable. For example, he did not clarify the distinction between solitude and privacy, a close relative of solitude. Thus, Burger's PSS might overlap with other potential measures of solitude (e.g., Pedersen's Privacy Questionnaire).

Also, Burger provided insufficient information on how the preference for solitude manifests in our everyday lives. Because our daily lives are situated within multiple social realities, people may not only differ in their affinity for solitude, they may also accomplish solitude in their daily activities in a myriad of ways. That is, there exist differences in broader meanings of solitude and so people's attitude and behavioral choice would differ by each individual. As a result, people may display different levels of affinity for solitude and create opportunities for solitude in different manners. It is necessary to investigate the attitudinal-behavioral entities of people's affinity for solitude in terms of how people perceive and conceive solitude. If, we could predict the antecedent-consequential aspects of affinity for solitude more precisely, we would be able to better understand the processes that govern our daily experiences of solitude.

Purpose of the Study

The purpose of this study was to investigate antecedent factors that influence college students' affinity for solitude, and the ways in which their affinity for solitude impact intended solitude behavior and actual solitude behavior. In this regard, the current study develops an empirical model of people's affinity for solitude to examine the relationships between various contributing factors, affinity for solitude, and

behavioral choices regarding solitude. The following research questions provide a framework for this study:

(1) How can people's affinity for solitude be measured?

(2) What are the antecedents of affinity for solitude?

(3) How effectively does affinity for solitude predict intended solitude behavior and actual solitude behavior?

These research questions are explored in the following chapters which consist of a comprehensive literature review (Chapter II), measurement development (Chapter VI), methods (Chapter IV), results (Chapter V), and discussion and conclusions (Chapter VI).

Significance of the Study

Notwithstanding many attempts to analyze solitude systematically, we still do not have a quality measure to accurately quantify and delineate the diverse aspects of solitude. It was expected here that development of a quantifiable measure would provide a comprehensive assessment which captures a dynamic mechanism of solitude. Understanding one of the most important human basic needs, *seeking solitude*, this investigation will lay groundwork for research on people's life satisfaction and psychological well-being in highly structured and industrialized modern societies. A measure of this type could be widely administered by different professionals across domains and disciplines. Also, findings of this study will be broadly used in psychotherapy and counseling direction for college students, the management of public places, such as parks and urban and wilderness areas, as well as people's psychological well-being from a long-term perspective.

Specifically, I initiated this study with the argument that many people may not *know* how to spend time alone constructively. This study will provide better insights into how we can *cultivate* and *optimize* positive solitude experiences in human life. College students are targeted because they are in a transition period from adolescence to adulthood. That is, they are at the end of the adolescence continuum, so comradeship within their own social world might still significantly affect their behavioral choices; however, they are also at the beginning of adulthood with increased independence, individuality, freedom, and flexibility in their lives. Therefore, people in this particular period of their life may easily encounter conflict between the learned meaning of solitude and their actual experience which may not meet their conceptualized meaning of solitude. Findings of this study will help us in the construction of *therapeutic directions for college students* so that they can develop their capacity for inner focus and the beneficial inspiration commonly associated with *quality* time alone that can bring one to maturity. Understanding their attitudes and behaviors related to solitude will allow us to better guide and counsel them by providing adaptive strategies which, successfully used, make solitude salutary even under difficult conditions.

I find another potential impact of this study to be on people's *quality of recreational experience*. Both participating in leisure and seeking solitude can contribute to an individual's well-being, in terms of *maximizing freedom of choice*. In this respect, professionals in particular contexts, such as the leisure and tourism fields, can then refer to these specific areas in the solitude assessment scale for more detailed assessment in order to apply our understanding to the improvement of leisure and recreational

opportunities. Findings of this study will allow managers of recreational resources to determine what groups have a need for solitude and how to facilitate the positive solitude experiences. It is suggested here that industry and recreational managers will be well-informed about the preferred leisure environments and will be *better equipped* to serve the needs of those who seek solitude.

CHAPTER II

LITERATURE REVIEW

This chapter begins with an overall discussion of literature and research on solitude that have helped to advance the main thesis of this current study. In this chapter, I address the general historical background of research on solitude, how scholars have viewed solitude, and why it matters. I then focus on the empirical research that forms the foundation of this study.

Historical Background: How Have People Viewed Solitude?

Solitude is a multifaceted state. Researchers have suggested various ways to identify solitude. Wisne (1978), for example, delineated five psychological dimensions which construct solitude. Burns (1985) summarized these five different dimensions of solitude as follows: "the inner searching process which was characterized by concentration and illumination," "the process of immersing oneself in the mystery of life through selected communication with nature," "the aspect of deepening inner experience through solemn group participation," "the dimension of embracing death and the dark aspects of life," "the experiencing of unrest and uneasiness in solitude" (p. 26). This summary shows that solitude can affect a wide range of one's consciousness.

Admittedly, it is difficult to define solitude. Because solitude is strongly related to an individual's *subjective* experience, it has been considered intangible and abstract. Studies on solitude have described its importance and explained that there are many aspects to this concept, such as individual differences toward solitude and positive versus negative experiences of solitude. The meaning of solitude can also change

according to the context of an individual's social and cultural resources. For example, in western cultures, solitude has been understood in the basic principle of democracy as a respect for individual privacy. In other cultures, solitude has been considered as a means for those living as hermits to reach religious spirituality. The term solitude has also been confused with other related concepts, such as privacy, isolation, or seclusion (Burns, 1985). In order to achieve a better understanding of solitude, what follows is a discussion on the meaning of solitude and its association with related concepts.

Galanaki (2004), for example, attempted to distinguish among three related terms: aloneness, loneliness, and solitude. Galanaki identified aloneness as an objective state of having no one around, and more specifically, a state of physical and communicative isolation. Loneliness is a painful state that may or may not emerge from the state of being alone. Loneliness is experienced in a subjective emotional state; an individual may experience loneliness even when physically not alone. On the other hand, Galanaki defined solitude as a state of *voluntary aloneness* during which personal development and creative activity may occur. Thus, the *objective state of being alone,* which is a necessary condition of solitude, may result in a sense of loneliness or of constructive time spent alone.

According to Rokach (1990, 1998), solitude is a more *optimistic sense* of being alone. Solitude appears when people want to be alone for positive reasons, for example, to reflect where they stand or to find themselves. Fromm (1941) suggested solitude is necessary for the personal growth and development in order to be a mature individual. Rokach (1990, 1998) considered solitude as a positive and self-fulfilling concept and

suggested people could perceive solitude as a recharging and calming experience and useful even in coping with a sense of loneliness. Rokach stated, "…solitude, unlike loneliness, is often referred to as a positive, pleasant experience that is conducive to replenishing one's energy and resources, and that affords one the time and space to reflect, be creative, or just enjoy rest" (Rokach, 1990, p. 42).

Many studies have considered solitude as a psychological state. Hollenhorst and Jones (2001) identified solitude as a *psychological detachment from society* in order to cultivate the inner world and experience self-discovery, self-actualization, value, wholeness, and a better awareness of one's deepest feelings and desires. Long and Averill (2003) conceptualized solitude as "a state of relative social disengagement" and " a state of reduced social inhibition and increased freedom to select one's mental or physical activities" (p. 37). More, Long, and Averill (2003) regarded solitude as a *positive psychological state*, as opposed to the loneliness experience, which they considered a negative state.

The review of relevant studies about solitude suggests that solitude is popularly viewed as escape or complete isolation from other people as well as social structures and environments (Hammitt, 1982). Further, as electronic devices have increased constant connectivity between individuals, scholars realize that the meaning of solitude becomes more complex. Larson (1990) identified solitude as "not the physical separation from people, but the cybernetic separation, the severance of immediate exchange of information and affect" (p. 157). He added that solitude was an objective state of being alone, defined by *communicative disconnection* from others. Similar to Larson's

definition, Burger (1995) stated that solitude referred to an "absence of social interaction" (p. 86). That is, solitude primarily involves physical withdrawal (e.g., having coffee alone), but an individual may also be experiencing solitude in a crowd (e.g., having coffee alone in a busy cafeteria).

Larson's Human Development Perspective

Larson and his colleagues' research provided a slightly different approach to the study of solitude. According to Larson (1990), people spend increasing amounts of time by themselves from childhood to old age. Of course, the degree to which people enjoy solitude varies. Some individuals can survive solitude, but some have less tolerance toward being alone.

Within the human developmental perspective, Larson and his colleagues attempted to explain how solitary experiences varied by *age*. Using the experience sampling method (ESM) and time diaries, Larson and his colleagues investigated how people of *different ages* reported their experiences throughout the day, particularly time alone (Larson, 1979; Larson & Csikszentmihalyi, 1978, 1980; Larson et al., 1980, 1982; Larson, Zuzanek, & Mannell, 1985). The research by Larson and his colleagues shows that an individual's experience of solitude can be primarily related to their current developmental stage. The following is a summary of their research on how people experience solitude from childhood to old age. Here I will discuss college students as a desired population for the current research, and provide limitations of human developmental approaches to solitude research.

Solitude in Childhood

According to Larson (1990), in the particular group of fifth and sixth graders, spending time alone on a daily basis was associated with low levels of positive affect. Findings demonstrated that solitude was rarely a constructive experience in childhood and there was little conscious sense of the value of time spent separated from others. Although Rubin (1982) hypothesized that learning how to cope with loneliness in childhood might develop an important capacity which is useful in life, solitude in childhood usually produces isolation and anxiety. While the trait of introversion makes solitude beneficial for some individuals, this study showed that solitude was not a valuable experience for most children

Solitude in Adolescence

In this developmental context, adolescents become aware of new personal and social identities that make solitude either meaningful or painful. Some adolescents begin to understand being alone is an opportunity to protect their privacy. Larson and Csikszentimihalyi (1978, 1980) described solitude as a conscious and deliberate use of time spent alone for adolescents. In the adolescence period, individuals might begin to recognize a *need* for time alone and use it for reflection, self-regulation, and independence from others. While adolescents may have an opportunity to consolidate personal individuation and identity through being alone, too much time alone continues to be related to poor adjustment (Larson, 1999).

Solitude in Adulthood

In this period of time, human development is more related to the matter of a person's maturation; hence adults might begin to exercise control over spending time alone. According to Larson (1990), adults feel less unhappiness when alone than adolescents. For adults, while the amount of time alone was largely related to life situational factors which are related to one's roles, it was negatively associated with poorer adjustment. In adulthood, therefore, the value of solitude is determined by how the individual adjusts to the time alone both when the activities are associated with and separate from their roles and life situations.

Solitude in Old Age

For the elderly, psychological and social disengagement of personal role obligations (e.g., retirement or loss of a beloved one) occur. Larson et al. (1985) found that the elderly spent more time alone and were more comfortable being alone than younger people. However, it has been debated whether these processes are positively related to optimal adjustment because social interactions, such as spending time with family and friends, is highly related to subjective well-being in old age. Larson et al. (1985) discussed that there was *little* evidence of a positive association between solitude and overall well-being in old age. While there was a difference between how married and unmarried elderly adjusted to time alone, as with other age groups, too much time alone appeared to be related to poorer adjustment in old age.

College Students in the Context of Developmental Stages

In the context of developmental stages, college students are an interesting target population because they are in a transition period from adolescence to adulthood. The college population in general is expected to value solitary pursuits more than adolescents do. However, because they are at the end of the adolescence continuum, comradeship and peer pressure within their own social world might significantly impact their behavioral choices. At the same time, individuals in this particular life stage often separate from family members and home environments for the first time (Burke, 1991). During college, students realize independence and individuality by experiencing increased freedom. Burke explained that some college students are fully ready to enact the separation from their earlier world, but others may not engage in this drastic transition. The latter may suffer from incomplete independence or a lack of capacity for productive solitude. In this respect, the population of college students may easily encounter conflict between their intellectual understanding of solitude and their actual solitude behavior.

According to Csikszentmihalyi and Larson (1984), there exists much variability in solitude experiences among college students—their solitude experience is impacted by various factors such as socioeconomic status, cultural recourses, intelligence level, and family experiences. For example, they noted that middle class families are more likely to support and encourage the habits of introspection and independent activities, thereby sanctioning solitude. Such individuals tend to experience more positive affect when alone and tend to develop an ability to make use of solitude with greater frequency

than those who from lower socioeconomic backgrounds. Csikszentmihalyi and Larson's work suggests that college students are likely to vary markedly in their attitudes and experience of solitude.

Limitation of Developmental Approach on Solitude Research

Regardless of the different life stages, causes of solitude have been explained by an individual's dispositional traits and various situational circumstances. Leary et al. (2003) found that people chose solitude because not only were they positively predisposed to be alone but they were also overburdened and tired of an overly social life. It is likely that all humans are affected by complex social structures and situational factors. It is important to understand the relationship between predisposed attributes and situational-social circumstances under which people seek solitude. Some may argue that these factors are a part of a human developmental continuum because certain life stages largely inform people's different situations. However, daily life is complex regardless of age, so research on solitude must be discussed beyond the developmental context.

Benefits of Solitude: Why Solitude Matters

Although this study was not designed to explore either the specific benefits of solitude or the relationship between solitude and people's psychological well-being, it is important to note that a review of the literature indicates that solitude positively contributes to people's well-being (e.g., Quinodoz, 1996; Senechal, 2011; Suedfeld, 1982; Vest, 1987; Winnicott, 1958). As advanced technology and constant electronic connectivity have reduced individuals' opportunities for solitude, several scholars have come to regard time spent alone as a positive experience highly associated with life

satisfaction and well-being, either temporarily or as a way of life (Burke, 1991; Burger, 1995; Cramner & Lake, 1998; Kull, 2009; Leary et al., 2003; McCutcheon et al., 2004; Nicole, 2005; Wise, 1991).

Morgan (1986) described solitude as an important feature which leads to various benefits, such as self-awareness, self-acceptance, choice, authenticity, and integration. Solitude functions as an authentic part of the human psyche, so it brings an individual to various levels of awareness of the reciprocity between self and the outer social world (Morgan, 1986). Burger (1995) also argued that a high preference for solitude was related to positive psychological well-being. Using the Preference for Solitude Scale, he found that spending time alone allowed for valuable self-reflection, creative insights, and a restoration period between social encounters.

More et al. (2003) argued that solitude could facilitate creativity, spirituality, and intimacy. Hollenhorst and Jones (2001) also mentioned that solitude was pursued in order to cultivate the inner world and experience self-discovery, self-actualization, value, wholeness, and a better awareness of one's deepest feelings and desires. Laing and Crouch (2009) explored different roles and the influences of isolation and solitude among frontier travelers, people who prefer to travel to remote places. Laing and Crouch (2009) found that frontier travelers had special *needs toward isolation and solitude*. Travelers described solitude experiences in frontier areas as spiritual experiences. As stated, various psychological benefits (e.g., opportunities for reflection) were identified as positive outcomes of frontier travelers' solitude experiences. They called these

benefits freedom, authenticity of experience, spirituality, opportunities for reflection, challenge, and self-actualization.

Similarly, Coble, Selin, and Erickson (2003) investigated various psychological experiences of solo hikers. Engaging in strong solitary leisure pursuits, freedom of choice, autonomy, and personal control were identified as important dimensions of solo hikers' experiences. A number of participants in Coble et al.'s study reported psychological benefits of hiking *alone* and considered the solo experience as a deeply relaxing and peaceful moment that gave them time to reflect on their lives and provided personal renewal and spiritual revitalization. In short, solitude is argued to provide the potential to improve physical health as well as spiritual growth.

As stated, many researchers emphasized that solitude experiences encourage one's *creativity* (Buchholz, 1997; Knafo, 2012; Long & Averill, 2003; Nicole, 2005; Storr, 1988). According to Storr (1988), for example, creativity through solitude can contribute to life satisfaction. While Long and Averill (2003) stated that solitude was a necessity for a creative performance, Leone and Zahourek (1974) considered solitude a creative force of life that was deliberately desired and pursued. Leone and Zahourek further argued that solitude experience could be used as a *therapeutic process*. According to Buchholz and Helbraun (1999), beneficial use of time spent alone can provide an opportunity for effective self-regulation. Stated differently, solitude is a strategy for exercising control over one's environment and feeling in touch with one's authentic experience. Through self-regulation and reflection on oneself, an individual's interaction and behaviors are more likely to be functional and fulfilling. Thus, solitude

experience is essential in order to increase the capacity to self-regulate effectively and generate creative outcomes.

Ironically, some solitude studies found that a feeling of *intimacy* was one significant benefit of solitude. Some may argue that an individual who is more comfortable with being alone would have passive or negative relationships with others. However, Constantine (1981) found that people who reported more a depressed affect when alone also reported feeling a more depressed affect when in company of others. According to Davies (1996), solitude presents an opportunity to strengthen and extend relationships with self *and others*. Davies emphasized that solitude and relationships with others are interdependent states, both of which are a vital part of human nature. Spending time alone occasionally allows individuals to appreciate affiliation and dependency. That is, solitude, in addition to making intrapersonal well-being, will positively affect interpersonal relationships.

Empirical Studies: Limitations of Existing Instruments

Although numerous scholarly works have formed the basis of theoretical and philosophical insights on solitude, none of these studies have provided empirical research that examines the antecedents of people's affinity for solitude and how affinity for solitude influences solitude behavior. In this current study, I narrow my research focus to the ways in which people's affinity for solitude is expressed in everyday life. In order to systematically investigate people's affinity for solitude and the antecedents and consequences of the affinity for solitude, in the rest of this chapter, I have focused my

investigation on relevant *empirical* studies to determine the applicability of these studies to the current project.

A seminal investigation of people's affinity for solitude is Burger's (1995) Preference for Solitude Scale, which assesses people's desire for solitude. A related scale is Pedersen's (1979, 1982, 1996) Privacy Questionnaire, which looks at different dimensions of solitude. Hammitt's (1982) study of wilderness solitude provides insight into people's desire for solitude in remote settings, and Long and his colleagues (2000, 2003, 2007) conducted a study to scrutinize people's different experiences of solitude.

Individual Differences in the Preference for Solitude

Burger (1995) argued that people differ in their preference for solitude along a continuum from a high preference to a low preference. To investigate how people differ in the preference for solitude, he developed the Preference for Solitude Scale (PSS). He *operationalized* preference for solitude as scores based on a total of 12 items with forced choice responses. For example, item 1 offered respondents the choice between the preference for being alone (e.g., "I enjoy being by myself") *versus* the preference for being with others (e.g., "I enjoy being around people"). Items were given a score of *one* if a person indicated a preference for solitude or *zero* if he or she voiced a preference for being with others. After adding up all 12 items' scores, high scores indicate a high preference for solitude and low scores reflected an aversion to solitude.

Burger (1995) conducted various experiments to investigate how the preference for solitude was related to personality variables and behavioral measures. Burger found that, for some individuals, social anxiety was not a main correlate of solitude

preferences. Stated differently, some people chose to be alone because it was consistent with their psychological well-being, whereas other people chose solitude because of a fear of social interactions. Drawing on a series of studies, he showed that PSS scores effectively predicted an inner-directed dimension of solitude. Burger's (1995) study provided a systematic method for measuring people's preference for solitude and provided evidence for the reliability and validity of the Preference for Solitude Scale.

However, there are several limitations to Burger's (1995) study. Most importantly, it is questionable whether the PSS truly captures people's preference for solitude. Most of the items Burger used focused on people's intended behavior (e.g., "One feature I look for in a job is the opportunity to spend time by myself"). Although behavioral intention probably reflects people's preference for solitude, preference and behavioral intention should be distinguished because people's preference may not always be represented by specific behaviors (Lee, 1977).

Second, even though the PSS represents preference for solitude along a high to low continuum, people's preferences are highly fluid and vary across a variety of situations. Indeed, human beings need both solitude *and* sociality. Stated different, people may have high preferences for both solitude and sociality. Burger's studies also showed that subjects in his study spent the majority of their free time with other people regardless of their preference for solitude. Burger's PSS seemed to ignore the view that people have preferences for both solitude and sociality by providing the participants with mutually exclusive scale choices. Therefore, Burger's PSS was unsuccessful to solely

measure people's preference for solitude. In this regard, I propose an alternative method for measuring people's affinity for solitude using Likert-type questionnaire items.

Third, Burger (1995) made a clear statement of his intentions when he focused on people's preference for solitude, effectively excising from his studies a discussion about motives or reasons for a preference for being alone. Burger considered the scale's underlying factor structure to reflect individuals' preference for solitude. However, I argue that Burger's operationalization of preference for solitude was oversimplified. His PSS includes aspects of solitude that go beyond simply preference for solitude. For example, Cramer and Lake (1998) addressed this issue and pointed out that the PSS was not unidimensional. Cramer and Lake found that Burger's (1995) PSS could be distributed across three dimensions: "need for solitude," "enjoyment of solitude," and "productivity during solitude" (p. 197).

Cramer and Lake (1995) examined the relationships between the subscales of solitude—need for solitude, enjoyment of solitude, and productivity during solitude—and other variables, such as loneliness, self-concealment, self-esteem, and social anxiety. Results of the examination showed that solitude had differential relations to loneliness, self-concealment, self-esteem, and social anxiety. For example, while need for solitude and enjoyment of solitude variables were related to increasing loneliness, productivity during solitude was related to increased self-esteem and decreased loneliness.

Cramer and Lake's (1998) findings suggest people's preference for solitude is more complex than what Burger initially thought. Some people may prefer being alone because of its benefits, such as completing a task. In contrast, others may prefer being

alone because they enjoy peace and quiet that accompanies solitude. Another possible explanation is that these dimensions of preference for solitude may indicate antecedent relationships of how people experience solitude. All of this suggests that dimensions of solitude may not co-vary.

Fourth, only a few researchers have applied the PSS to studies of solitude and little effort has been made to further evaluate the PSS. Cramer and Lake's (1998) evaluation of Burger's (1995) PSS supported the claim the PSS appeared to be adequately reliable, internally consistent, and stable. Cramer and Lake (1998) examined the relationships among three subscales of solitude—need for solitude, enjoyment of solitude, and productivity of solitude—and other psychometric properties, such as loneliness, self-concealment, self-esteem, and social anxiety. Results showed that each dimension of solitude varied in its relationship to loneliness, self-concealment, self-esteem, and social anxiety. For example, while the need for solitude and enjoyment of solitude were related to increasing loneliness, productivity during solitude was related to increased self-esteem and decreased loneliness.

Finally, there is little indication that Burger's PSS is quantitatively applicable to different populations. Solitude cannot be adequately explored narrowly. The construct of solitude includes a wide range of multifaceted and complex dimensions which will vary according to the complexity of individual, cultural, and social factors. However, Burger's (1995) studies were drawn from a small segment of the population (American college students) and he focused exclusively on psychological perspectives. In other

words, Burger developed the PSS based on its psychological emphasis within a single culture which considered personality traits as main factors of the preference for solitude.

In sum, Burger's (1995) work provided a fundamental description of people's preference for solitude. However, there are many problems with the scale he developed. Of primary importance the scale does not accurately capture the meaning of solitude preference because the scale items focus too much on behavior. I consider affinity for solitude—a major theme of this current study—a positive attitude toward solitude. In this respect, this current study attempted to propose an alternative way to measure people's affinity for solitude instead of simply appropriating Burger's PSS. This is discussed further in the chapter that follows.

Privacy, a Distinctive Construct from Solitude

Solitude has a close cousin: privacy. Oland (1978) describes privacy as physical seclusion, freedom from interruption of thought, and absence of uninvited physical closeness. He argues that privacy leads a person to experience fantasy, creative thought, and positive self-evaluation without the distraction of external stimuli. In the literature, researchers have used *privacy* interchangeably with solitude as a similar or overlapping term. For example, Westin (1967) regarded those terms as being synonymous. According to Westin (1967), solitude and privacy refer to the state in which one's physical or psychological space is maintained separately from other people. He defined privacy as a temporary and voluntary withdrawal of an individual by physical or psychological means that serves four functions: "personal autonomy, emotional release, self-evaluation, and limited and protected communication" (p. 33). Westin (1967)

considered solitude one category of privacy along with intimacy, anonymity, and reserve.

Based on Westin's conceptualization of privacy, Marshall and Pedersen developed independent privacy-related measures (Marshall, 1972, 1974; Pedersen, 1979, 1982). Marshall developed the Privacy Preference Scale (PPS), whereas Pedersen presented the Privacy Questionnaire. They hypothesized that privacy is not a single characteristic. Both instruments obtained six factorial structures of privacy. Marshall's preference for privacy factors identified noninvolvement with neighbors, seclusion of the home, solitude, privacy with intimates, anonymity, and reserve. Pedersen's privacy dimensions were labeled reserve, isolation, solitary, intimacy with family, intimacy with friends, and anonymity.

According to the factor analytic studies, both instruments developed by Pedersen (1979) and Marshall (1972) demonstrated that privacy is not a single characteristic. Findings of their studies demonstrated that a majority of the privacy factors were confirmatory of Westin's (1967) conceptualization of privacy. However, the function of privacy was determined to be much more complex than the four functions identified by Westin (1967). Also, the privacy categories proposed by Pedersen and the six dimensions of preference for privacy determined by Marshall appeared to be similar in terms of the terminology used. Pedersen (1996) conducted a factorial comparison of these two instruments and found that there was little similarity between the scales of the two measurements. Pedersen added that the Privacy Questionnaire was more stable in replication than Marshall's PPS.

It is not surprising to discover that solitude is highly interrelated with privacy. Burger (1995) considered solitude as synonymous with privacy even though he attempted to invent independent instruments to measure solitude on his own. To date, nobody has systematically examined or clarified the relationship between solitude and privacy. Conceptually, it is the question of which came first, the chicken or the egg? According to Marshall's (1972) dimensions of preference for privacy, solitude is the equivalent of privacy; however, some may argue that solitude is an antecedent state which contributes to a sense of privacy. During solitude, people may experience privacy because they keep themselves apart from the observation of others which enable them to maintain personal autonomy and diminish socially obligated roles (Proshansky, Ittelson, & Rivlin, 1972). To resolve the ambiguous (or recursive) relationship between solitude and privacy, solitude and privacy in this study are treated as separate phenomena. I examined the nature of their relationship as a part of the dissertation.

Solitude, a Dimension of the Wilderness Experience

Many American philosophers and naturalists, such as Thoreau (1854, 2004), felt solitude and nature were integrally connected. When people desire solitude, they unsurprisingly want to feel *closer to nature*. The concept of solitude thus has been considered to be central to the research of the wilderness experience. Researchers have found a strong association between solitude and a natural environment setting (Kaplan, 1977, 1984; Killeen, 1998). That is, some visitors to remote wilderness areas may desire solitude and expect an undisturbed natural environment; wilderness environments are considered an appropriate setting to satisfy people's need for solitude.

Since the passage of the Wilderness Act in 1964, studies have been conducted that examined the relationship between wilderness experience and solitude (Borrie, & Roggenbuck, 2001; Hammitt, 1982; Hammit & Brown, 1984; Hollenhorst, Frank, & Watson, 1994; Vest, 1987). Findings suggested a strong correlation between a desire for solitude and a preference for natural environments. These studies revealed that users of the wilderness area seek this particular setting by valuing opportunities for solitude or privacy.

Research by Hammitt and his colleagues furthered our understanding of wilderness solitude. Their research on solitude and privacy in the wilderness context grew from Westin's (1967) theory on privacy. Defining wilderness solitude as "a form of privacy in a specific environmental setting where individuals experience an acceptable degree of control and choice over the type and amount of information they must process" (Hammitt, 1982, p. 492), Hammitt maintained the view that wilderness solitude contributed to the psychological benefits of wilderness users. In order to identify the benefits of wilderness solitude, he developed a survey instrument to discover the dimensions of the wilderness experience.

Although Hammitt's (1982) initial items of the survey were appropriated from Westin's conceptualization, he further attempted to develop the items to represent diverse aspects of wilderness solitude (e.g., "When backpacking, a small, intimate group experience, isolated from all other groups is most important for me"). Using factor analysis, he categorized four hierarchical dimensions of wilderness solitude: natural environment (physical surroundings to accomplish wilderness solitude); cognitive

freedom (a freedom to control actions and interaction with others); intimacy (a feeling afforded by a small group of chosen people, such as friends or family); and individualism (an escape from social expectations and obligations in everyday lives and observation from others). The four dimensions of wilderness solitude ascribed by Hammitt's study correspond to the six types of privacy that Pedersen (1979) uncovered using his Privacy Questionnaire.

By applying the theory of privacy to their research, Hammitt and his colleagues (e.g., Hammitt & Brown, 1984; Hammitt & Rutlin, 1995; Shafer & Hammitt, 1995) continued to develop the concept of wilderness solitude. Hammitt and Brown (1984), for example, examined the functions of privacy in the wilderness environment setting, using Westin's theoretical model of privacy. Instead of the four privacy functions proposed by Westin (1967), their study identified five different functions of wilderness privacy: "emotional release," "personal autonomy," "reflective though," "limited communication (personal distance)," and "limited communication (intimacy)." Among five factors of wilderness privacy, "emotional release" and "resting the mind from anxiety and mental fatigue" were most important among wilderness users. All the findings in literature supported the view that opportunity for solitude is integral to wilderness experiences.

Including wilderness experience, most outdoor activities are *nature-based* and so managers of these resources have been interested in the matter of *crowding* to satisfy their visitors while simultaneously protecting natural resources. This concern might be connected with seeking solitude. Indeed, studies of outdoor activities consider solitude an important dimension of recreational experience and satisfaction (Twight, Smith, &

Wissinger, 1981). Stewart and Carpenter (1989), for example, found a positive association between setting attributes and solitude fulfillment among Grand Canyon visitors such as hikers and backpackers. According to Stewart and Carpenter, recreationists who were looking for solitude chose an environment where they could enjoy and satisfy this desire. They further discussed that the degree to which solitude is achieved in a given environmental setting would vary according to the specific type and purpose of a recreationist.

A review of wilderness literature has reinforced the contention that people's affinity for solitude is highly related to nature environments. This insight has led me to postulate affinity for solitude is shaped, in part, by people's preferences for natural environments. Today, however, there may be a *less* straightforward equivalence between people's affinity for solitude and wilderness experience. In many industrialized societies, people are unable to access solitude in natural environments. For example, in a big city, there are many possible constraints on people's closeness to nature such as distance, time limits, and restrictions on resources. Nevertheless, nature remains a facilitator for the solitude experience and is an important component of people's idea of what solitude is. Accordingly, the natural environment setting, its association to people's affinity for solitude, and how this relationship affects differences in human behavior should be investigated.

An Examination of Solitude Experiences

To date, there has been no specific and reliable instrument to measure individuals' solitude experience. However, some scholars have attempted to assess

people's experiences of solitude. For example, Long and his colleagues considered solitude as a multifaceted and complicated experience and conducted several studies on solitude experiences (Long, 2000; Long, & Averill, 2003; Long, More, & Averill, 2007; Long, Seburn, Averill, & More, 2003; More et al., 2003). Their research supported the previous contention (e.g., Larson, & Csikszentmihalyi, 1978, 1980) that solitude has negative and positive connotations. Long and his colleagues further hypothesized that there were nine different types of solitude experiences. Specifically, they examined 320 undergraduate students' perceptions of solitude based on dominant feelings, activities, and outcomes of solitude episodes.

Their findings corresponded to the work by Constantine (1981) who examined attitudes and beliefs toward spending time alone among undergraduate students; the result demonstrated that solitude was perceived either as a positive or a negative experience. Positive experiences of solitude included peaceful mind, quietness, and freedom; negative experiences of solitude included boredom, anxiety, and loneliness. Long and his colleagues (2000, 003) identified seven types of solitude experiences thought to be positive, and two types of solitude experiences thought to be negative. Positive episodes of solitude were again categorized into inner-directed solitude and outer-directed solitude. Inner-directed solitude is characterized as a sense of individualism; outer-directed solitude is connected with the outside, such as relationships with other people and religious belief. Negative episodes of solitude were considered as a loneliness experience.

Suggesting different dimensions of solitude experience, their studies presented a comprehensive understanding of how individuals experience solitude. However, definitive explanations on the cause and effect of solitude—which factors lead individuals to spend time alone and how they relate to the differing types of experiences when alone—were not provided. Moreover, to assess individuals' solitude experience, they measured nine types of solitude. Although these nine types of solitude were abstracted from previous studies on solitude, most of them can be also considered consequences of solitude experience (e.g., creativity, self-discovery, and inner peace). Therefore, it can be questionable whether these measures sufficiently captured people' distinctive solitude experiences.

Summary

A number of empirical examinations within four different contexts—people's preference for solitude, the nature of the relationship between solitude and privacy, wilderness solitude, and the solitude experience—were reviewed, and their theoretical and empirical insights serve as the starting point of the current dissertation research. Although previous works contributed to the literature on solitude research, their measures were quite limited in terms of the breadth of the construct of solitude. By discussing their limitations and their applicability to the current study, I justified the decision to develop an alternative way to measure people's affinity for solitude, antecedents of affinity for solitude, and intended solitude behavior, which is described in the following chapter.

CHAPTER III

MEASUREMENT DEVELOPMENT

This chapter describes (1) the theoretical framework that forms a basis of measurement development; (2) the measurement constructs; and (3) conceptualized structural model of the measures.

Theoretical Framework

This current study was initiated not only to systematically assess solitude as a phenomenon but also to logically frame an inclusive and comprehensive theoretical model of people's affinity for solitude. A number of the most salient themes of solitude, such as affinity for solitude, and many important if more subtle themes, have become apparent through the review of literature. In order to develop the model of affinity for solitude, I considered affinity for solitude an inherently constructed attitudinal attribute that might affect intended solitude behavior and actual solitude behavior. To support the relationship that affinity for solitude informs solitude behavior, existing attitude-behavior literature was derived (e.g., Ajzen, 1991; Boninger, Krosnick, & Berent, 1995; Ajzen & Fishbein, 1980).

According to Ajzen and Fishbein (2008), attitude refers to one's either positive or negative evaluations or responses toward certain objects that reflect his or her beliefs associated with that object. Behavior is an observable action or performance by the individual, such as social norms and habits. They argued that a person's attitude is an important factor that influences behaviors. This led me to postulate that a certain level of affinity for solitude is a strong predictor of people's solitude behavior in their everyday

lives. For example, some people who have a high affinity for solitude (e.g., "solitude is important to me") tend to strive for solitude in their everyday activities (e.g., "I structure my day so that I always have some time to myself"); other people who have a low affinity for solitude will avoid being situated in solitude. In this respect, the attitude-behavior structure provided me a basis for developing a conceptual framework for examining the consequences of solitude affinity.

Beyond the investigation of the relationship between affinity for solitude and solitude behavior, the antecedents of affinity for solitude were another major interest of the current study. As stated, it was easy to imagine how attitudes toward solitude affect behavioral intentions and solitude behavior. However, we still have little information of what contributes people's affinity for solitude. To explore the antecedents of people's affinity for solitude, the initial framework—the presentation of the relationship between affinity for solitude and solitude behavior—had to be expanded by blending additional themes from the solitude literature.

A number of potential factors were theorized to examine the antecedents of affinity for solitude such as general attitudes toward solitude, subjective norms, perceived control, and extraversion. I placed those factors ahead of the affinity for solitude-solitude behavior formation, so the factors displayed denoted the antecedents of the affinity for solitude. The theoretical framework was thus formed as follows (see figure 3-1), representing the sequential understanding of the antecedents of affinity for solitude, affinity for solitude, and intended solitude behavior and solitude behavior.

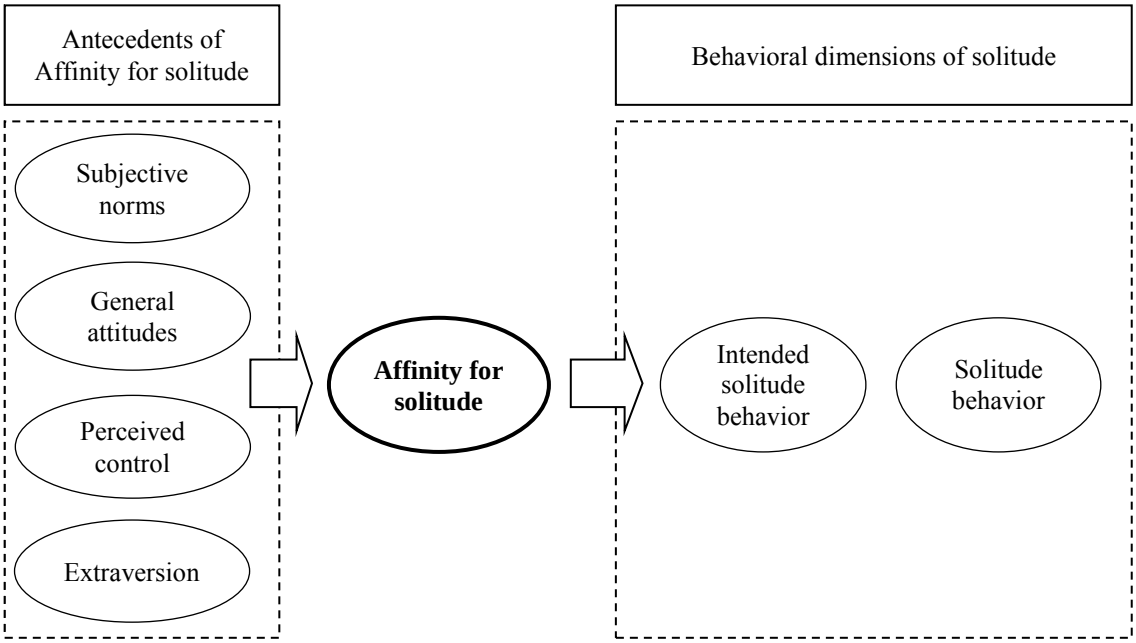


Figure 3-1 Theoretical framework of the measure of affinity for solitude

In sum, I considered people's affinity for solitude an important variable that impacts solitude behavior. Therefore, the relationship between affinity for solitude and solitude behavior became a starting place to outline the theoretical framework of people's affinity for solitude. Then, the initial framework was expanded in order to explore the multifaceted antecedents of the affinity for solitude. The following describes the individual factors which comprise the theoretical model of the current study.

Content Development of Measurement

Solitude measurement should demonstrate an ordering of how people pass through the different processes, presentations, and outcomes of solitude. Further, the content of the assessment should also be sufficiently specific to accurately measure proposed construct variables, according to appropriate theoretical insights and evidence

in the literature. All these considerations will become the criteria of a reliable and valid instrument. The measurement consists of (1) the measure of affinity for solitude; (2) antecedent factors of affinity for solitude, such as general attitudes toward solitude, subjective norms, perceived control, and extraversion, that impact affinity for solitude; and (3) behavioral dimensions such as intended solitude behavior and actual solitude behavior.

Affinity for Solitude

In this current study, a person's affinity for solitude was a key variable formed by various factors. The measure of affinity for solitude was also considered a significant determinant of people's intended solitude behavior and actual behavioral choice. Based on Burger's (1995) conceptualization of preference for solitude, affinity for solitude was referred to as *people's interest in being alone* or *a greater preference for being alone over being with others*. That is, the affinity for solitude reflects people's interest and inclination to be alone.

In this regard, people's demonstrated affinity for solitude is akin to *enduring involvement*, which has been fruitfully developed in the social psychology literature. According to early investigations, involvement refers to an individual's formed ego-attitudes that represent the individual's values, goals, standards, or norms (Sherif & Cantril, 1947; Sherif, Kelly, Rogers, Sarup, & Titler, 1973; Sherif, Sherif, & Nebergall, 1965). I believe the affinity for solitude functions as a cognitive connectedness between the self and intentions to be alone. That is, when an individual has placed a high value on solitude, the positively constructed attitude toward solitude—called affinity for

solitude—continues to develop in ways that inform a person's behavioral choices. Therefore, people's affinity for solitude is a direct expression of *enduring involvement* reflected in the degree to which an individual is devoted to an associated activity.

Antecedent Factors of Affinity for Solitude

A person's affinity for solitude is shaped by an individual's social environment and situational conditions. Based on multidisciplinary studies on solitude, I propose four underlying—social and cognitive—factors that might inform people's affinity for solitude: (1) attitudes toward solitude, (2) subjective norms, (3) perceived control, and (4) extraversion. The following delineates these antecendent factors of affinity for solitude.

General attitudes toward solitude. People's demonstrated affinity for solitude might be affected by how they *habitually* respond to their everyday preferences. I theorized a construct of general attitudes toward solitude which reflect a person's accumulated experiences. I propose four underlying *general attitudinal facets* which are likely to be associated with people's affinity for solitude: preference for physical distance, tendency toward psychosocial disengagement, preference for personal privacy, and preference for closeness to nature. These underlying general attitudinal facets of solitude provide a better understanding of *antecedent processes of people's attachment to solitude*.

The four constituted general meanings of solitude people have (physical distance, psychosocial disengagement, privacy, and closeness to nature) appear to inform their involvement in solitude. As a result, involved individuals may tend to present often and

more inclined to engage in particular behavioral intention than their less involved counterparts. According to Breckler (1984), for the same category of attitude, each participant may present similar response patterns along the cognitive, affective, and behavioral dimensions of the general attitude. That is to say, people who have a similar level of affinity for solitude may report similar response patterns across the general attitudinal facets, reflecting their affinity for solitude. I define the categories of general attitudes in the following way:

First, people often tend to isolate themselves to maintain a certain *physical distance* from other people and certain physical surroundings for many different reasons. While there is no specific physical distance that a person indicates, there might be socially and culturally defined and expected distances by individuals.

Second, it is generally expected that solitude occurs when an individual avoids *reciprocal interactions* in order to maintain distance from any interpersonal or physical surroundings. Because of advanced technological devices, people can continually interact with others even while remaining physically isolated (Buchholz, 1997). Given that the distinction between time and space spent alone and with others has blurred, physical separation is a necessary condition of solitude (Galanaki, 2004) but not a sufficient condition of solitude. On the other hand, people may disconnect themselves from any reciprocal interaction even though they are not physically alone (e.g., having coffee alone in a busy cafeteria). Therefore, psychosocial disengagement seems to highly depend on a person's cognitive dimension.

Third, there are people who have such a strong sense of privacy that they avoid exposing their personal issues or themselves to other people. They may give priority to their *private time and space* so as to purposely isolate themselves from observation or interruption by others. Proshansky et al. (1972) found that during solitude individuals might seek privacy because they desire to keep themselves from the observation of others which enables them to maintain their personal autonomy and to diminish social obligations. Therefore, people who have a high sense of privacy are more likely to seek opportunities for solitude in their everyday lives.

Finally, approaching natural environments is highly correlated with seeking a solitude experience (Borrie, & Roggenbuck, 2001; Hollenhorst et al., 1994; Lee, 1977; Twight et al., 1981). When people feel closer to nature, they are more likely to pursue solitude (Kaplan, 1977, 1984; Killeen, 1998). At the same time, natural environments, as an appropriate condition to satisfy an affinity for solitude, can facilitate the solitude experience in human life (Hammitt, 1982; Hammit & Brown, 1984; Hollenhorst et al., 1994). That is, people who are involved in solitude are more likely to tend to explore a natural environment and to feel a sense of nature in their solitude. Therefore, a sense of nature was considered an important aspect for those who have a strong affinity for solitude.

Each proposed general attitude is helpful to explain individuals' affinity for solitude. That is to say, people's affinity for solitude is shaped by general attitudes toward solitude. Underlying general attitudes toward social interaction, nature, and privacy may also contribute to different level of affinity for solitude (e.g., high or low

level of affinity for solitude). There are different ways to account for varying levels of affinity for solitude. For example, some people may display all of the general attitudes toward solitude but other people may show stronger intention in disengaging reciprocal interaction than others. At that point, it is assumed that people who tend to exhibit highly positive attitudes toward privacy, volitional state, closeness to nature, and social disengagement are more likely to exhibit a high level of affinity for solitude than others who consider maintaining a private time and place the most important matter in their lives only.

People's affinity for solitude, which is moderated by general attitudes, leads to actual observable behaviors. Specifically, people's different attitudes, whether specific or general, and behavioral intention toward solitude are directly associated with experience of solitude. For example, people who have a high level of affinity for solitude, regarding social disengagement as being the most important, will disconnect themselves from their communicative relations, such as cell-phone and e-mail. People who regard physical isolation and personal privacy as being the most important, will prefer reading books or working without being disturbed in personal room. The outcomes of these behaviors (e.g., positive or negative or mixed evaluation of a person) then influence and reshape —either strengthen or diminish—the general and specific attitudes toward solitude over time.

Subjective norms. *Subjective norms* refer to the perceptions of others' approval or disapproval of an act. Human beings are constantly affected by various social factors, in particular, *relationships with other people*. Since spending time alone is to be

disconnected from interactions with other people, how other people regard time alone can significantly impact one's solitude behavior. For example, people in a collectivistic society consider themselves as members of an interdependent family, religious group, nation, or collective unit, and as a result, they tend to emphasize the community and their need to be connected to others (Hui, 1988; Hui & Triandis, 1986; Hui, Triandis, & Yee, 1991; Kim, 1994; Trafimow, Triandis, & Goto, 1991; Triandis, 1994). A person's private space and time might be easily *infringed* upon by others' expectations because of their obligations to society or social norms. For those who are raised and influenced by a collectivistic-oriented culture, seeking solitude might be synonymous with being companionless, selfish, and even against the cohesion of the group or society. That is, even though an individual has a desire to be alone, he or she might find *less opportunity* for solitude if his or her significant others think that he or she should not do that. In this respect, subjective norms might mediate people's behavioral choices either positively or negatively.

Perceived control. Perceived control is another important factor which facilitates a person's actual performance of a behavior. *Perceived control* refers to appraisals of a person's *ability* to perform a given act. According to Ajzen (1988), people recognize the ease or difficulty of performing a given behavior and come to determine whether that ease or difficulty is controllable. Therefore, perceived control is an internal capacity of individuals to consciously make an investment in independence and personal freedom regarding certain behaviors. An individual with a high level of perceived control might strive to be independent from others as well as to be moral and

responsible for his or her actions, valuing more intrinsically motivated work and preferring quality time spent alone. This insight leads me to posit that an individual with a higher level of perceived control in consciousness may achieve more productive and positive feelings than others with lower levels of perceived control when alone.

I postulate that people's perceived control positively contributes to the relationship between the affinity for solitude and attitude and behavioral intention. For example, a positive attitude toward a specific solitude behavior can be hindered by various constraints, such as a sense of family obligation, so that an individual may fail to practice such solitude behavior. However, people with strong perceived control will be more likely to make time for solitude. It is thus necessary to measure perceived control to determine if an individual's volitional state facilitates the relationship between attitude and behavior.

Beyond the fact that perceived control is an important factor in attitude-behavior theory, a number of solitude studies have similarly indicated a strong relationship between solitude and autonomy. According to Westin (1967), solitude could only be achieved when the individual *freely chose* to remain physically separated from others. That is, solitude enables an individual to maintain personal autonomy and reduce socially obligated roles. Galanaki (2004) considered solitude to be a state of *voluntary aloneness* during which personal development and creative activity may occur. The reason that solitude can be readily differentiated from other terms, such as privacy, aloneness, or loneliness, is that it involves the *freedom of choice* to be alone.

This feature is important in that solitude tends to yield one of two different experiential consequences—either positive or negative experiences—depending on the extent to which the solitude was freely chosen. Csikszentmihalyi (1978), for example, mentioned that different states of solitude were conceived according to the motivation to spend time alone, which is whether *intrinsically* motivated or not. Nicole (2005) suggested that self-determined motivation leads to positive experience during solitude so emphasized the role of self-determination factor. A study reported by Chua and Koestner (2008) provided a possible explanation on why people experienced solitude in different ways. Chua and Koestner found a positive relationship between solitude and well-being moderated by autonomy. Autonomous behaviors refer to an individual is given a volitional and self-determined will to behave (Chua & Koestner, 2008). Their result supports that autonomy positively affects an individual's social behavior and well-being. In other words, being in a volitional state positively affects an individual's solitary behavior and it leads to constructive outcomes of solitude.

Similarly, Long and Averill (2003) argued that when solitude is a "state of intrinsically pursued being alone" (p. 22), it could offer various psychological benefits, such as the value of inner peace. However, being in solitude under pressure and having little autonomy can *diminish* a positive experience of solitude. While a negative episode of solitude can lead to a distressing sense of loneliness and potentially poor psychosocial adaptation, the positive experience of solitude might enhance human life (Ernst & Cacioppo, 1999). All of this accounts for the different outcomes of solitude why some

people may truly enjoy and cherish solitude; meanwhile, others may experience misery when they are in solitude.

Extraversion. Extraversion is another factor that might affect the formation of affinity for solitude and solitude behavior. According to personality theory (Costa & McCrae, 1992), extraversion refers to one's predominant tendency or interest on the external object and so extraverted type of individuals tend to enjoy human interactions and so to be involved in large social gatherings and activities.

Along these lines, most studies of solitude drawn from psychological perspectives have shown that different aspects of solitude are related to an individual's particular type of personality (e.g., Burger, 1995; Leary et al., 2003). For example, Nicole (2005) found that the motivation of solitude was highly linked to introversion. An introverted person prefers being alone because of his or her shyness and anxiety of social interaction with others, whereas an individual with an extraverted type of personality is more likely to find opportunities to interact with others. The examination of a personality variable associated with people's affinity for solitude is a necessity (1) to determine whether findings of this study fit in previous literature which considered personality trait a major cause of solitude behavior, and (2) to determine if there exist more effective variables to predict solitude behavior beyond personality traits.

Outcomes of Affinity for Solitude

Intended solitude behavior. People's positive attitudes toward solitude may inform their intention toward solitude behavior. According to the attitude-behavior literature, behavioral intention refers to an immediate antecedent to an individual's

readiness which leads to a given behavior. It is assumed that the more positive attitudes toward solitude behavior, the more likely are people to demonstrate durable intended solitude behavior. Examination of people's intended solitude behavior indicates how attitude can be represented in actual behavioral decisions.

Solitude behavior. Actual solitude behavior is a final outcome of affinity for solitude. People who often demonstrate a high level of affinity for solitude may attempt to integrate this need for solitude into their everyday behavior. As the meaning of solitude and the affinity for solitude differ across individuals, people's experiences of solitude vary. For example, some people might get involved more frequently in a particular environmental setting such as natural surroundings when seeking solitude. On the other hand, other people might seek solitude time to improve their productivity in work. In this respect, I included solitude experience measure, regarding a wide range of experiences such as frequency, activity, feeling, and surroundings what people were subjected to.

Because of the limitation of the information gathered, this current study employed past solitude behavior as a substitute for future outcome. Some may argue that assessing present mindset in predicting past behavior is unsound. However, our everyday life is habit-forming. That is, people's past behaviors allude to their behavioral choices in the near future. For example, if an individual sought solitude regularly last week, it is easy to imagine that the individual will follow a similar pattern in seeking solitude in the next week. Therefore, assessing recent solitude behavior provides an opportunity to predict for what solitude behavior people would demonstrate in the near future.

Development of a Battery of Measurement Items

The semantic notion of a construct is socially and culturally defined. A number of items from previous studies and items developed by the researcher were adapted to measure each construct in this study. The purpose of using a number of items to measure a given construct is to ensure consistency of responses to support the semantic validity of the construct itself. The constructs subjective norms, perceived control, extraversion, and intention toward solitude behavior were fully appropriated from existing studies validated over time by published results in previous studies. Based on the level of validity found for each construct appropriated, I assumed that the constructs used in this study continue to be valid. Regarding item validity, I began with a strong confidence that the extent to which the content of the items was consistent with each construct actually reflected the theoretical meaning of the concept.

The unique aspect of the current study lies in the approach toward defining and validating the constructs of affinity for solitude and general attitudes toward solitude. Although I proposed the constructs of affinity for solitude and general attitudes toward solitude based on previous literature, I addressed possible arguments that the validity of those constructs might be weak due to a lack of extant data to support the validity of the two constructs. Therefore, I carefully defined both affinity for solitude and general attitudes toward solitude to ensure that those constructs reflect different semantic nuances—general attitudes toward solitude represent broad meanings of solitude and affinity for solitude is straightforward expressions of preference for solitude. I developed a set of measured items to accurately reflect the meaning of these concepts as defined by

the researcher. I also noted that the validity of these constructs should be quantitatively supported by the achieved convergent validity and discriminant validity through statistical analyses (refer to the Chapter V).

A Formulation of Affinity for Solitude Model

I conceptualized the latent factors of the study: people's attitudes toward solitude, intended solitude behavior, and different factors which affect people's affinity for solitude. Figure 3-2 shows the hypothesized relationships between the latent factors. According to the sequential relationships represented in the proposed model, a number of hypotheses were addressed to be tested as follows:

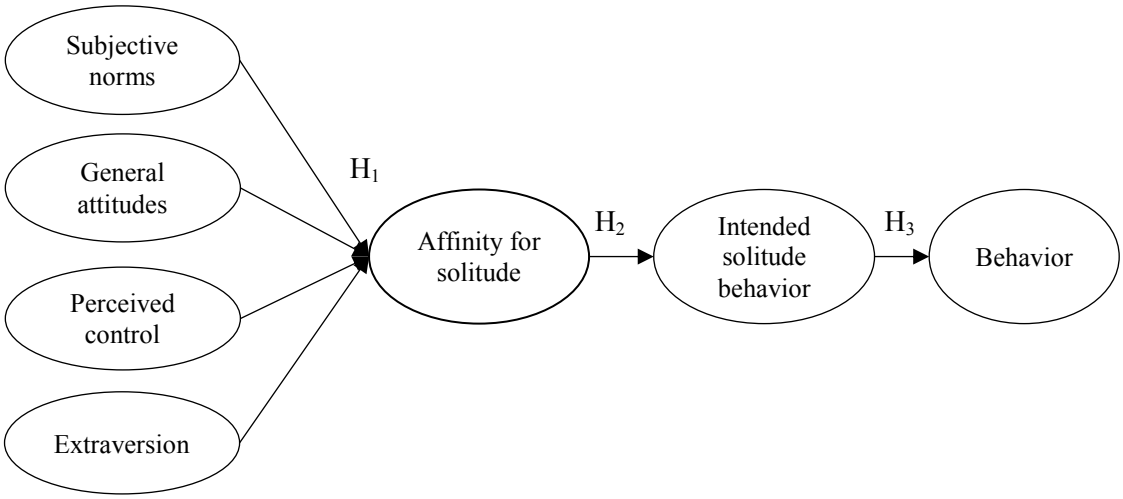


Figure 3-2 Hypothesized structural relationships between constructs to understand how the affinity for solitude is shaped and how the affinity for solitude influence intended solitude behavior and solitude behavior

$H_{1\text{-}1}$: General attitudes toward solitude positively affect affinity for solitude.

$H_{1\text{-}2}$: Subjective norms are positively related to affinity for solitude.

$H_{1\text{-}3}$: Extraversion negatively affects affinity for solitude.

$H_{1\text{-}4}$: Perceived control positively influences affinity for solitude.

H_2: Affinity for solitude contributes to intended solitude behavior.

H_3: Intended solitude behavior leads to actual solitude behavior.

Summary

To summarize, I fomulated three major constructs of solitude: (1) affinity for solitude; (2) antecedent factors (general attitudes toward solitude, subjective norm, perceived control, and extraversion); and (3) behavioral dimensions (intended solitude behavior and actual solitude behavior). A number of items from previous studies and items developed by researcher in this study were appropriated to measure each construct. Also, hypothesized relationships between developed constructs were presented. To accurately represent each construct, a number of scholars were asked to review the initial questionnaire. Measured items were modified and strenthened based on suggestions, critiques, and statistical considerations.

CHAPTER IV

METHODS

This chapter describes the overall methods of this study, which are: (1) the research design; (2) the subject selection; (3) data collection procedures; (4) measurement constructs; and (5) data analysis.

Research Design

A study was conducted at three different universities in the United States between March and April 2012. The purpose of this study was to better understand the relationship between people's affinity for solitude and their attitudes and behavioral intentions regarding solitude. This study expected results is to serve as a foundational study for future research on the topic of solitude by providing empirical evidence of hypothesized relationships between variables interested. For this study, a non-experimental survey design was used (Sproull, 2003) by utilizing a self-administered online survey.

Participants (subject selection)

This study used a convenience sampling method. According to Sproull (2003), a convenience sample is "a nonrandom sampling method in which the researcher uses some convenient group or individuals as the sample" (p. 119). A convenience sampling method offers several advantages that increase time-effectiveness with lower costs and easy access to the desired population. In addition, this convenience sampling method helped to control for interactive effects of age, socioeconomic status, and culture.

A sample of approximately 400 college students, attending Texas A&M University, North Carolina State University, and East Carolina University, was recruited. A total of 395 college students, 162 male and 233 female students completed the online survey in exchange for class credit.

Data Collection Procedures

A self-administered questionnaire and a consent form were constructed using online survey software (Qualtrics Survey Software). The Institution Review Board (IRB) for human subjects in research at Texas A&M University reviewed the proposal of this dissertation research and provided an approval for this study. Holding the approved consent form and questionnaire, I contacted a number of instructors at the universities in the United States. After the explanation of the purposes of this study and research plan, six instructors at three different universities, including Texas A&M University, consented to administer the questionnaire and distribute it to students in their classes.

In the case of Texas A & M University, I visited each of the classes and recruited students; instructors then sent out the URL for the survey to their students via email. At the other universities, instructors were provided an information sheet that included the overall descriptions of the study and the way to approach the online questionnaires. Each instructor was asked to send out the URL for the survey to their students via email. Data was mainly collected during the semester, between March and April 2012.

Constructs and Measurement

A questionnaire was designed to measure multidimensional attitude toward solitude and behavior regarding solitude. The attitudes (affinity for solitude and general

attitudes toward solitude), three contributing different factors (subjective norms, perceived control, and personality trait), and intended solitude behavior, were measured using a Likert scale, employing seven response choices ranging from 1 "strongly disagree" to 7 "strongly agree." To examine people's solitude behavior, however, I employed multiple-option ("check all that apply") questions in which respondents could choose among a wide range of statements reflecting different types of solitude experiences.

Affinity for Solitude

A total of 5 items, borrowed and appropriated from Burger's Preference for Solitude Scale (Burger, 1995), was used in random order to measure people's affinity for solitude (e.g., "I often have a strong desire to get away by myself").

General Attitudes toward Solitude

Four underlying dimensions of general attitudes toward solitude were assessed: preference for physical distance, tendency toward psychosocial disengagement, preference for personal privacy, and preference for closeness to natural environment.

Preference for physical distance. I used a total of 3 items in random order to measure people's preference for physical remoteness from others (e.g., "I seek for place that I can be all alone such as personal room and apartment").

Tendency toward psychosocial disengagement. I used a total of 5 items in random order to measure people's tendency toward psychosocial disengagement (e.g., "When I want to be alone, I like to stay away from the telephone, email, and/or television").

Preference for personal privacy. I used a total of 8 items in random order to measure people's preference for personal privacy (e.g., "I would like to have a private retreat which no one would enter without asking me"). The items were appropriated from Pedersen's (1979, 1996, 1999) Privacy Questionnaire.

Preference for closeness to nature. I used a total of 5 items in random order to measure people's preference for closeness to nature (e.g., "I like being in a completely natural environment").

Subjective Norms

To measure the subjective norms relating to solitude behavior, a total of 8 items (e.g., **"**Most people who are important to me understand when I ask people with whom I live to give me space so I can be by myself") was developed using the guidelines provided by Ajzen and Fishbein (1980).

Perceived Control

I used a total of 5 items in random order to measure the construct of a sense of autonomy (e.g., "I feel free to act and use my time as I see fit"). The items were appropriated from Nicole's study (2005), which investigated self-determined motivation for solitude.

Extraversion

A total of 12 items were appropriated from Eysenck Personality Questionnaire (Eysenck, & Eysenck, 1975; Eysench, 1976) in random order were used to measure the construct of extraversion (e.g., "I do not work very well in a messy or noisy environment").

Intended Solitude Behavior

I used a total of 8 items in random order to measure people's intended solitude behavior (e.g., "I try to structure my day so that I always have some time to myself").

Solitude Behavior

To assess people's solitude behavior, four different questions from Long's study (2000) were employed. Each question consisted of a number of statements reflecting different forms of solitude involvement for the last 30 days based on multiple-choice options. Examples of questions and items are (1) past solitude behavioral frequency (e.g., "About two or three times a week"); (2) surroundings (e.g., "It was a beautiful or awe-inspiring place"); (3) feelings (e.g., "I felt increased intimacy or connection with another"); and (4) engaged activity (e.g., "I spent it spiritual-like practice"). Items of each question are ranked according to the number of respondents who reported that a statement applied to them.

Demographic Information

In the questionnaire, I included a request for demographic and personal information which were considered to be significant to people's affinity for solitude, and their attitude and behavioral intentions. Respondents were asked their born year (age), gender, ethnicity, relationship status, and living condition (Refer to Appendix A). Each item was used to control for confounding variables in the statistical analysis.

Data Analysis

Throughout the procedures of the data analysis, I used the Statistical Package for the Social Sciences (SPSS 16.0) and SPSS Amos 18.

Data Preparation

After importing the recorded data into SPSS, I scanned any irregularities among the observed data and corrected them in the raw data set. Missing data, incorrect responses, and any unexpected findings were identified to prepare the data before applying any statistical methods (Sproull, 2003). Cases or variables with addressed missing data were deleted that possibly impact the coefficients and interpretation of the variable (Mertler & Vannatta, 2005). I tested univariate outliers in order to ensure normality and analyzed scatter plots to determine linearity.

Descriptive Analysis

Descriptive analysis also served as a basis of data preparation to gain a better understanding of the data structure. The mean and standard deviation of items of variables are reported. The results of the descriptive statistics are presented in a table format in the chapter follows.

Examination of Reliability

To ensure scale reliability, a test of composite reliability was performed (Bagozzi & Yi, 1988). Cronbach's (1951) coefficient alpha value was calculated and reported for each of the measuring constructs to determine the *internal consistency* with which different items of instrument adequately measure the underlying same construct (Pedhazur & Schmelkin, 1991). Cronbach's alpha, with an acceptable value of .60 or

above was used. Also, by investigating the items with significantly lower corrected item-total correlation value were to be deleted in order to increase the reliability of the scale.

Examination of Validity

An instrument had to be designed to measure and function that had a single underlying characteristic (Wilson, 2008). Confirmatory factor analysis (CFA) was carried out using Amos 18 software to test the measurement validity to determine whether each set of items adequately measured the theoretical latent factors. The goodness of fit of the measurement model was assessed by the chi-square test (Bentler & Chou, 1987) and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980). The Comparative Fit Index (CFI; Bentler, 1990), Normed Fit Index (NFI; Bentler, 1990), and Akaike Information Criterion (AIC; Akaike, 1974) were also reported. Also, the statistical significance of the *t*-values of each indicator was investigated for convergent validity (Anderson & Gerbing, 1988).

Tests of Hyphotheszed Structual Model

To exmaine theoretically proposed relationships between latent factors, this study took advantage of structural equation modeling (SEM) with an understanding of the structural formative processes involved in solitude. Structural equation modeling was used to provide a comprehensive understanding of the relationships between study variables. Confirmatory factor analysis and structural equation model analysis were performed to evaluate the measurement model and hypothesized structural model by providing the goodness-of-fit indices (e.g., Satorra-Bentler χ^2, RMSEA, CFI, NFI, and ACI).

The structural parameter estimates for the model and statistically significant standardized estimates of path coefficients among latent factors were examined. The results led me (1) to determine if people's affinity for solitude was a predictor of intended solitude behavior and actual solitude behaivor—I hypothesized that affinity for solitude had the greatest effect on intended solitude behavior and actual solitud behaiovr—and (2) to examine whether general attitues toward solitude, subjective norms, percieved control, and extraversion significantly impacted affinity for solitude and intended solitude behavior. Based on the results, the final structural model was indicated in the chapter that follows.

CHAPTER V

RESULTS

The current research project focuses on antecedents and behavioral outcomes of people's affinity for solitude. An empirical study was conducted using an online survey at three different universities in the United States. A total of 395 college students—305 (77%) from Texas A&M University, and 90 (23%) from North Carolina State University and East Carolina University—completed the questionnaire. This chapter provides a description of the demographic characteristics of the college students in the sample and a summary of the statistical results realized in the study.

An Overview of the Sample

Demographic characteristics of respondents are summarized in Table 5-1. Forty-one percent (162) were male and 59% (233) were female. Because solely college students were recruited, the sample as a whole was relatively young; of the total respondents (n = 395), the youngest age was 19, the oldest was 59; the majority of the students were in their early 20s (Mean = 22.1, Median = 22.0, *SD* = 3.48). Over half (57%) of those surveyed were single (not in a relationship) and 36% of respondents reported they were single but in a relationship.

The vast majority of respondents (87%) reported they were White. Among respondents, 12 % considered themselves Hispanic or Latino. Of the respondents, 85% reported living with others, including roommates and family members. In contrast, 12% of respondents reported they lived alone.

TABLE 5-1
Demographic Characteristics of the Sample

	Respondents	
	N	%
Gender		
Male	162	40.8
Female	233	59.2
Age		
19 or less	22	5.9
20-23	303	81.9
24-26	33	8.9
27-29	4	1.1
30 or above	8	2.3
Relationship Status		
Single (not in a relationship)	227	57.5
Single (in a relationship)	145	36.7
Married	8	2.0
Divorced or separated	4	1.0
Other	11	2.8
Level of Education		
Year in college		
1	30	7.7
2	80	20.5
3	129	33.0
4	116	29.7
5 or above	36	9.2
Race/Ethnicity		
American Indian or Alaska Native	1	.3
White	340	87.0
Asian	9	2.3
African American or Black	18	4.6
Native Hawaiian or other Pacific Islander	3	.8
Other	20	5.1
Hispanic or Latino?		
Yes	47	12.0
No	346	88.0
Living conditions		
Alone	47	12.0
With others (e.g., roommate)	293	74.6
With an intimate partner (e.g., fiancé)	22	5.6
With family members (e.g., parents, siblings)	17	4.3
Other	14	3.6

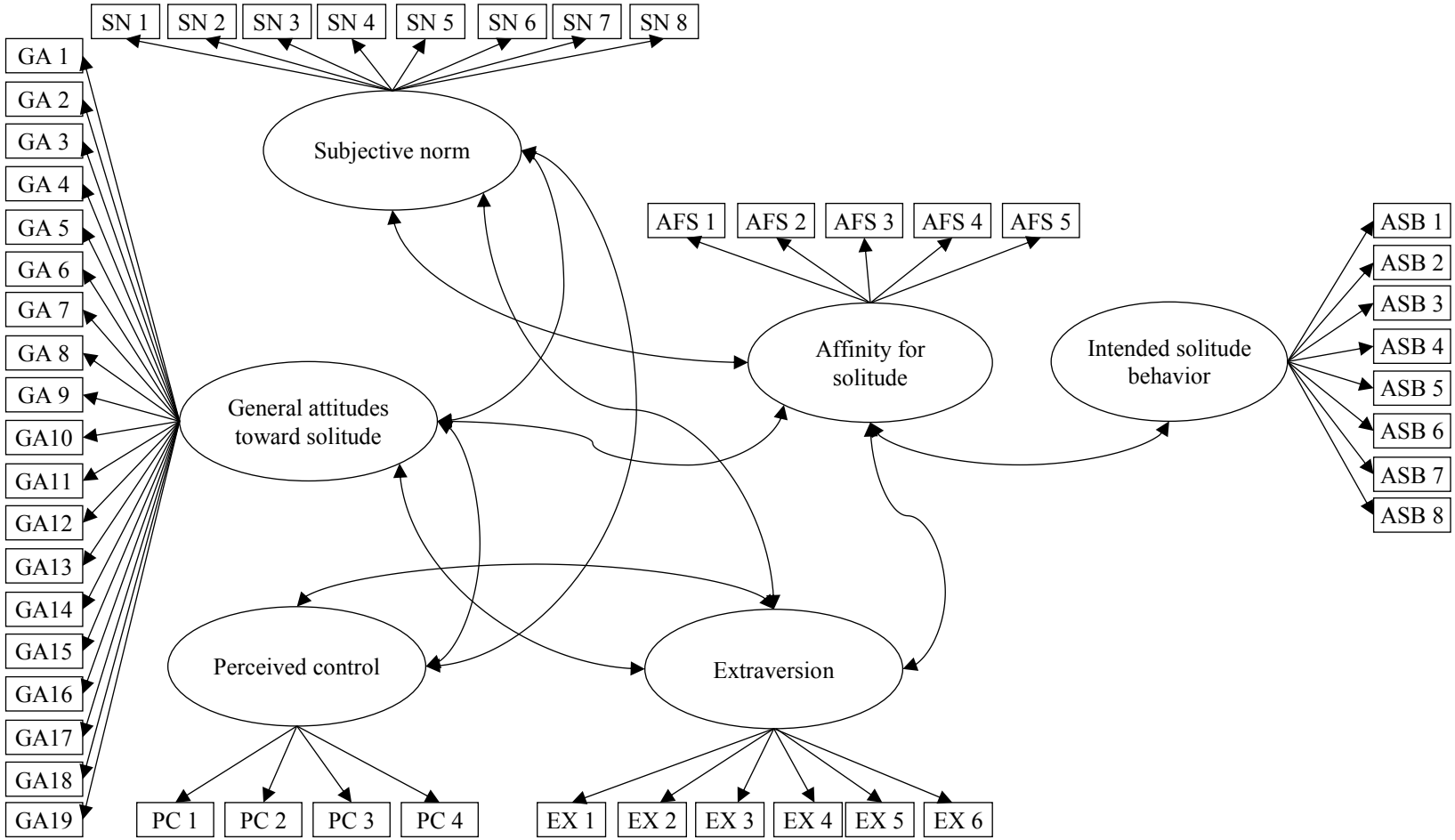
Data Preparation

To handle missing data, a listwise deletion method was used. Univariate outliers were detected by computing z-scores in the distribution (Mertler & Vannatta, 2005). Because this present project was found to be affected by large sample sizes (>100), I used the acceptable cutoff range of 4.0 to - 4.0. Scatter plots were examined in order to confirm the linearity of the sample data (Hair, Black, Babin, Anderson, & Tatham, 2006). Kolmogorov-Smirnov (K-S) normality test was used to assess the distribution of the sample data used in this study (see Appendix B). According to the results, no normality issues were identified with the sample data.

A Test of Construct Validity and Reliability

To test the internal consistency of the measurement scales used, reliability coefficients (Cronbach's alpha) were calculated using SPSS 20.0. High correlation among items will generate a high alpha score, thus indicating a high degree of reliability. Simultaneously, I carried out confirmatory factor analysis (CFA) using Amos 18 software to test the measurement validity to determine whether each set of items adequately measured the theoretical latent factors. Figure 5-1 presents the initial measurement model, including six latent constructs and measured variables.

The goodness of fit of the measurement model was assessed by the chi-square test (Bentler & Chou, 1987) and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980). The RMSEA value is well below the .05 - .08 maximum, suggested as a cut-off for accepting the model fit.



Note: Measured variables are shown as a box with labels corresponding to those shown in the solitude questionnaire. Latent constructs are an oval. One-headed connectors indicate a causal path from a construct to an indicator (measured) variable. Each measured variable has an error term, but the error terms are not shown in the figure. Two-headed connections indicate covariance between constructs. In CFA, all connectors between construct are two-headed covariances/correlations.

Figure 5-1 Graphical display of six latent factors and measured variables

The Comparative Fit Index (CFI; Bentler, 1990), Normed Fit Index (NFI; Bentler, 1990), and Akaike Information Criterion (AIC; Akaike, 1974) were also reported. CFI and NFI value of .95 or higher indicate good fit with data; the smaller the AIC value, the better the model fit. Following the results of the analyses, the initial measurement model was modified to develop the best test of the hypothetically proposed model.

A Measure of Affinity for Solitude

The initial measurement of affinity for solitude, consisting of one 5-item factor, indicated that the internal consistency of the measure was satisfactory. Cronbach's alpha for the affinity for solitude measure scores in this sample was .80.

Results from CFA revealed that the initial measure of affinity for solitude had a good fit to the data ($\chi^2 = 3.268$, $df = 2$). Also, the measure of affinity for solitude achieved excellent fit indices: CFI = .993, NFI = .996, RMSEA = .040, and AIC = 29.268. The results led me to conclude that the initial measurement of affinity for solitude had a reasonable fit with the data. Table 5-2 depicts the summary of the results for the initial measure of affinity for solitude.

TABLE 5-2
Initial Measure of Affinity for Solitude

Variable symbols	Measured variables	*Mean* (SD)	Cronbach's α	Corrected item-total correlation	Cronbach's Alpha if Item Deleted	*t*-value	SMC
			0.799				
AFS 1	I enjoy being by myself.	5.24 (1.40)		0.633	.741	16.444	.564
AFS 2	Time spent alone is important to me.	5.57 (1.17)		0.682	.733	18.418	.665
AFS 3	I often have a strong desire to get away by myself.	4.84 (1.51)		0.743	.700	18.719	.681
AFS 4*	Time spent with other people is often boring and uninteresting.	2.13 (1.19)		0.241	.846	4.612	.060
AFS 5	There are many times when I just have to get away and be by myself.	5.07 (1.52)		0.631	.742	14.618	473

Goodness-of-Fit-Indices: $\chi^2 = 3.268$, $df = 2$, CFI = .993, NFI = .996, RMSEA = .040, AIC = 29.268
* Item was deleted from the initial measurement.

However, one item (AFS 4) had relatively low reliability as seen in Table 5-2. That is, the item did not contribute to the goodness of the measurement assessment. Moreover, compared to the other items, it focuses more on people's affinity for interaction. Therefore, this item was removed from the initial measure of affinity for solitude in order to improve the internal reliability of the measured scales.

A Measure of General Attitudes toward Solitude

The measure of general attitudes toward solitude consisted of four underlying general attitudinal facets of solitude: preference for physical distance, tendency toward psychosocial disengagement, preference for personal privacy, and preference for closeness to nature. A total of 19 items were used to measure a single dimension of general attitudes toward solitude: preference for physical distance (6 items), tendency toward psychosocial disengagement (5 items), preference for personal privacy (3 items), and preference for closeness to nature (5 items).

According to the results, the initial measurement of general attitudes toward solitude revealed that most of the items presented satisfactory internal consistency. Cronbach's alpha for the general attitudes toward solitude measure was .88.

According to the results of CFA, the initial measurement of general attitudes toward solitude, consisting of one 19-item factor, had a significant chi-square, $\chi^2 = 1178.322$, $df = 152$, so the null hypothesis—that the measure of general attitudes toward solitude had a good fit to the data—was rejected. Also, the initial measure of general attitudes toward solitude indicated extremely poor fit indices: CFI = .516, NFI = .496, RMSEA =.165, and AIC = 1854.322. Table 5-3 depicts the summary of the results for the initial measure of general attitudes toward solitude.

Accordingly, I decided to modify the initial measure of general attitudes toward solitude to improve the construct validity of the measure. Using 19 items to assess a single factor risked lessening construct validity. Regardless of the satisfactory level of internal consistency of the test items, I noticed that a number of items (e.g., GA 4, GA 10, GA 12, GA 14) had relatively low reliability; those items were removed from the initial measure of general attitudes toward solitude.

I also removed items GA 15 – 19 that represented the preference for natural environments, as those items had relatively low reliability and SMC. Also, the results of CFA indicated that those items, regarding the preference for natural environment, were somehow cross-loaded with other measured variables. Preference for natural environments was considered a significant attitudinal aspect of solitude because of its helpfulness to account for people's affinity for solitude—well-built theoretical associations between natural environment and solitude were found in the literature (e.g., Hammitt, 1982; Hammit & Brown, 1984). However, the preference for natural environments might not inform people's attitude toward solitude in their everyday life. It could be that people act on their preference for natural environments on special occasions (e.g., weekends and vacations). This contention is discussed further in the chapter that follows. To improve the solidity of the measurement, the following items were removed from the initial measurement model: "I like being alone in a completely natural environment" (GA 15); "I like tranquil and peaceful environments" (GA 16); "I like an environment free of man-made noises" (GA 17); "I like beautiful or awe-inspiring places" (GA 18); and "I like place where there is wind, water, trees, or animals around (GA 19)."

TABLE 5-3
Initial Measure of General Attitudes toward Solitude

Variable symbols	Measured variables	*Mean* (SD)	Cronbach's α	Corrected item-total correlation	Cronbach's Alpha if Item Deleted	*t*-value	SMC
			0.879				
GA 1	I would like to live in a secluded house out of sight of other people.	3.26 (1.79)		.534	.872	11.545	.315
GA 2	I would like to have a private retreat which no one would enter without asking me.	3.63 (1.72)		.565	.870	12.365	.353
GA 3	I dislike talking about personal matters to a friend in a crowded place where other people can overhear us.	4.24 (1.70)		.524	.872	11.639	.319
GA 4*	Even members of a family need to get away from each other now and then.	5.52 (1.21)		.395	.876	8.121	.170
GA 5	I like to go to secluded places when I want to talk to an intimate friend.	4.99 (1.40)		.501	.873	10.720	.278
GA 6	I need to limit my attention to only a few chosen people.	3.85 (1.62)		.568	.870	13.158	.390
GA 7	I like places where there are only people around I do not know.	2.75 (1.49)		.609	.869	6.729	.120
GA 8	I like places where I am free from observation of other people.	3.99 (1.53)		.654	.867	12.751	.371
GA 9	I dislike having a long conversation with someone I have just met.	3.05 (1.61)		.602	.869	8.559	.187
GA 10*	I like to keep my distance from my friends.	2.35 (1.41)		.315	.879	10.864	.284
GA 11	When I want to be alone, I like to stay always from the telephone, email, and/or television.	3.41 (1.76)		.560	.871	8.125	.170
GA 12*	I like places where I can be all alone.	4.56 (1.47)		.374	.877	14.301	.444
GA 13	I prefer being alone, instead of being in a crowd.	3.62 (1.56)		.493	.873	16.432	.545
GA 14*	I like, as much as possible, staying away from crowds.	3.40 (1.59)		.396	.877	14.648	.460
GA 15*	I like being alone in a completely natural environment.	5.10 (1.44)		.559	.871	11.617	.318
GA 16*	I like tranquil and peaceful environments.	5.70 (1.18)		.492	.873	9.729	.235
GA 17*	I like an environment free of man-made noises	5.27 (1.15)		.486	.873	9.636	.231
GA 18*	I like beautiful or awe-inspiring places.	6.07 (1.10)		.368	.877	6.831	.124
GA 19*	I like place where there is wind, water, trees, or animals around.	5.93 (1.25)		.360	.877	6.767	.122

Goodness-of-Fit-Indices: $\chi^2 = 1178.322$, $df = 152$, CFI = .516, NFI = .496, RMSEA =.165, AIC = 1854.322

* Items were deleted from the initial measurement.

A Measure of Intended Solitude Behavior

The measure of intended solitude behavior consisted of eight items. As shown in Table 5-4, Cronbach's alpha value for the intended solitude behavior measure scores in the sample was .86 and all scale items were significant (t-value ranging from 12.076 to 15.877). Table 5-4 depicts the summary of the results for the initial measure of intended solitude behavior.

TABLE 5-4
Initial Measure of Intended Solitude Behavior

Variable symbols	Measured variables	*Mean* (SD)	Cronbach's α	Corrected item-total correlation	Cronbach's Alpha if Item Deleted	*t*-value	SMC
			0.858				
ASB 1	I will structure my day so that I always have time to myself.	4.70 (1.49)		.544	.848	12.076	.349
ASB 2*	I will choose activities that allow me to be by myself.	4.51 (1.53)		.637	.837	14.683	.474
ASB 3	I will go on vacation to places where there are few people around.	3.75 (1.54)		.624	.839	14.319	.457
ASB 4*	I will travel to places to get away from people.	3.94 (1.57)		.641	.837	15.080	.494
ASB 5	After work or school, I will avoid technology (even email or cell-phone) so I can be alone.	3.44 (1.71)		.518	.852	11.346	.314
ASB 6	I will ask people with whom I live to give me space so I can be by myself.	4.00 (1.58)		.574	.845	12.845	.385
ASB 7	I will visit places to be alone.	4.38 (1.56)		.664	.834	15.877	.533
ASB 8*	I will take breaks to get away from other people.	4.92 (1.43)		.632	.838	14.996	.490

Goodness-of-Fit-Indices: $\chi^2 = 260.115$, $df = 20$, CFI = .812, NFI = .801, RMSEA = .175, AIC =292.115
* Items were deleted from the initial measurement model.

However, the eight-item, single factor measurement of intended solitude behavior had a significant chi-square and poor fit indices: $\chi^2 = 260.115$, $df = 20$, CFI = .812, NFI = .801, RMSEA = .175, and AIC =292.115. All these findings suggested that

the initial measure of intended solitude behavior should be modified. I carefully reviewed the covariance between items as well as the correlated residuals and found that at least three items were highly cross-loaded with other measured variables (e.g., ASB 2, ASB 4, and ASB 8). Those items were removed from the initial measure of intended solitude behavior in order to improve the construct validity and measurement fit with data.

A Measure of Subjective Norms

All scale items used to measure subjective norms displayed acceptable reliability coefficients (Cronbach's alpha =.88). However, the initial measurement of subjective norms, consisting of one 8-item factor, had a significant chi-square and poor fit indices: $\chi^2 = 262.607$, $df = 20$, CFI = .831, NFI = .820, RMSEA = .175, and AIC =294.607. Therefore, I decided to modify the initial measure of subjective norms. By reviewing the covariance between items and correlated residuals, I found that two items were highly cross-loaded with other items; removing those two items did not significantly impact the meaningfulness of the construct. Thus, I considered removing two items from the initial measure. These items were as follows: "Most people who are important to me think it is good that I choose activities that allow me to be by myself" (SN 2) and "Most people who are important to me understand that I travel to places to get away from people (SN 4)." Table 5-5 depicts the summary of the results for the initial measure of subjective norms.

TABLE 5-5
Initial Measure of Subjective Norms

Variable symbols	Measured variables	*Mean* (SD)	Cronbach's α	Corrected item-total correlation	Cronbach's Alpha if Item Deleted	*t*-value	SMC
	Most people who are important to me…		0.875				
SN 1	think that having time to myself is important to me.	4.92 (1.35)		.585	.865	13.288	.401
SN 2*	think it is good that I choose activities that allow me to be by myself.	4.55 (1.36)		.638	.860	14.589	.463
SN 3	think it is good that I go on vacation to places where there are few people around.	4.01 (1.40)		.643	.859	14.880	.477
SN 4*	understand that I travel to places to get away from people.	3.87 (1.56)		.659	.857	15.459	.505
SN 5	understand that I avoid technology (even email or cell-phone) so I can be alone after work.	3.79 (1.67)		.589	.866	13.478	.410
SN 6	understand when I ask people with whom I live to give me space so I can be by myself.	4.41 (1.48)		.635	.860	14.614	.464
SN 7	consider visiting places to be alone important to me.	4.17 (1.43)		.724	.850	17.605	.608
SN 8	let me take breaks to get away from other people.	4.65 (1.44)		.617	.862	14.354	.452

Goodness-of-Fit-Indices: $\chi^2 = 262.607$, $df = 20$, CFI = .831, NFI = .820, RMSEA = .175, AIC =294.607
* Items were deleted from the initial measurement.

A Measure of Perceived Control

Cronbach's alpha value for the initial measurement of perceived control was .78, which indicating that the test is reliable and all items were significant (t-value ranging from 11.522 to 17.393). Table 5-6 depicts the summary of the results for the initial measure of perceived control.

According to the results of CFA, the initial measure of perceived control, consisting of one 4-item factor, had non-significant chi-square and excellent fit indices: $\chi^2 = 1.501$, $df = 1$, CFI = .999, NFI = .997, RMSEA = .0365, and AIC =19.501.

Therefore, the initial measurement of perceived control was retained without any modification for hypothesized model test.

TABLE 5-6
Initial Measure of Perceived Control

Variable symbols	Measured variables	*Mean* (SD)	Cronbach's α	Corrected item-total correlation	Cronbach's Alpha if Item Deleted	*t*-value	SMC
			.783				
PC 1	I am free to control my thoughts, regardless of whether I am with a small group or by myself.	5.17 (1.41)		.520	.765	12.886	.412
PC 2	I am free to choose when and to what extent I have to speak and interact with others	5.16 (1.31)		.690	.680	17.393	.684
PC 3	I feel free to act and use my time as I see fit.	5.28 (1.33)		.652	.698	15.045	.535
PC 4	I have control over the pressures and tensions of everyday life.	4.74 (1.48)		.511	.772	11.522	342

Goodness-of-Fit-Indices: $\chi^2 = 1.501$, $df = 1$, CFI = .999, NFI = .997, RMSEA = .0365, and AIC =19.501

A Measure of Extraversion

To assess extraversion, a total of six items were used. Cronbach's alpha value for the initial measurement of extraversion was .73. Although most of the items revealed a good reliability, two items (e.g., EX 2 and EX 5) had relatively low reliability.

According to the results of CFA, the initial measurement of extraversion, consisting of one 6-item factor, had a significant chi-square and poor fit indices: $\chi^2 = 53.436$, $df = 9$, CFI = .917, NFI = .903, RMSEA = .112, and AIC =77.436. Accordingly, the initial measure of extraversion was modified by removing EX 2 ("I find it hard to keep a secret; I feel I just have to talk to someone about it") and EX 5 ("I rarely make plans for future activities, or if I do make such plans, I rarely follow through"). Table 5-7 depicts the summary of the results for the initial measure of extraversion.

TABLE 5-7
Initial Measure of Extraversion

Variable symbols	Measured variables	*Mean* (SD)	Cronbach's α	Corrected item-total correlation	Cronbach's Alpha if Item Deleted	*t*-value	SMC
			.730				
EX 1	When engaged in conversations, I am usually the party that does most of the talking.	4.37 (1.54)		.580	.660	15.742	.572
EX 2*	I find it hard to keep a secret; I feel I just have to talk to someone about it.	3.44 (1.73)		.377	.719	6.666	.130
EX 3	I am expressive and let people know how I feel at any given moment.	4.30 (1.67)		.602	.649	15.148	.537
EX 4	I strike up a conversation with a stranger easily.	4.56 (1.75)		.566	.659	15.392	.552
EX 5*	I rarely make plans for future activities, or if I do make such plans, I rarely follow through.	3.02 (1.66)		.249	.753	4.158	.053
EX 6	Whenever I have a question, I want to ask someone for a quick answer.	4.81 (1.42)		.446	.698	10.006	.270

Goodness-of-Fit-Indices: $\chi^2 = 53.436$, $df = 9$, CFI = .917, NFI = .903, RMSEA = .112, AIC =77.436
* Items were deleted from the initial measurement model.

Summary of the Modified Measurement

According to the test results, the internal consistency of the measurement scales used in this study were highly reliable; the initial measurement, however, had a poor fit with the data overall. To provide empirical evidence of construct validity of the measures, the initial measurement model was modified by removing the measured variables or by treating covariance between error terms. Also, a careful review of each measured variable was performed in order not to ruin or change the original theoretical meaningfulness of the latent factors.

With the modified measurement model, I recomputed the reliability coefficients and re-tested construct validity to determine if the alternative measurements fit with the

data. According to the results, the internal consistency of the alternative measures in the study sample was satisfactory. The results indicated that the modified measures were significantly improved in terms of the construct validity and measurement fit with the sample data. Therefore, the modified measurement was used for the hypothesized model test. Table 5-8 depicts the summary of the modified measurement fit with the data.

TABLE 5-8
Summary of the Goodness-of-Fit Indices of the Modified Measurement

Modified Measure	Cronbach's α	*Goodness-of-Fit Indices*					
		χ^2	*df*	CFI	NFI	RMSEA	AIC
Affinity for solitude	.846	3.268	2	.993	.996	.040	29.268
General attitudes toward solitude	.818	33.909	27	.993	.968	.025	89.903
Subjective norms	.834	5.21	6	1.000	.994	.000	35.210
Perceived control	.783	1.501	1	.999	.997	.036	19.501
Extraversion	.781	1.255	2	1.000	.997	.000	17.255
Intended solitude behavior	.766	9.175	5	.990	.979	.046	29.175

In addition, although each latent factor was constructed independently, a number of significant correlations between factors were identified. Table 5-9 contains the summary of the correlations between factors. There was a significant positive correlation between scores on the affinity for solitude measure and those on the general attitudes toward solitude, r (395) = .43, p = .000, between scores on the affinity for solitude measure and those on the subjective norms measure, r (395) = .51, p = .000, between scores on the affinity for solitude measure and those on the intended solitude behavior

measure, r (395) = .54, p = .000, and between scores on the affinity for solitude measure and those on the behavior measure, r (395) = .21, p = .000.

There was a significant positive correlation between scores on the measure of the general attitude toward solitude and those on the subjective norms, r (395) = .50, p = .000**,** between scores on the measure of the general attitude toward solitude and those on the behavioral intentions, r (395) = .53, p = .000**,** and between scores on the measure of the general attitude toward solitude and those on the behavior measure, r (395) = .11, p = .034.

The subjective norms measure was positively correlated with the scores on the perceived control measure, r (395) = .15, p = .002, extraversion, r (395) = .23, p = .000, with the intended solitude behavior measure, r (395) = .74, p = .000, and the behavior, r (395) = .22, p = .000.

A significant positive correlation was identified between scores on the perceived control measure and those on the extraversion measure, r (395) = .34, p = .000, and between scores on the perceived control measure and those on the intended solitude behavior measure, r (395) = .11, p = .026.

The extraversion measure indicated a positive correlations with the scores on the intended solitude behavior measure, r (395) = .14, p = .007. There was a significant positive correlations between scores on the measure of the intended solitude behavior and those on the behavior, r (395) = .22, p = .000.

TABLE 5-9
Correlations among Latent Factors[a]

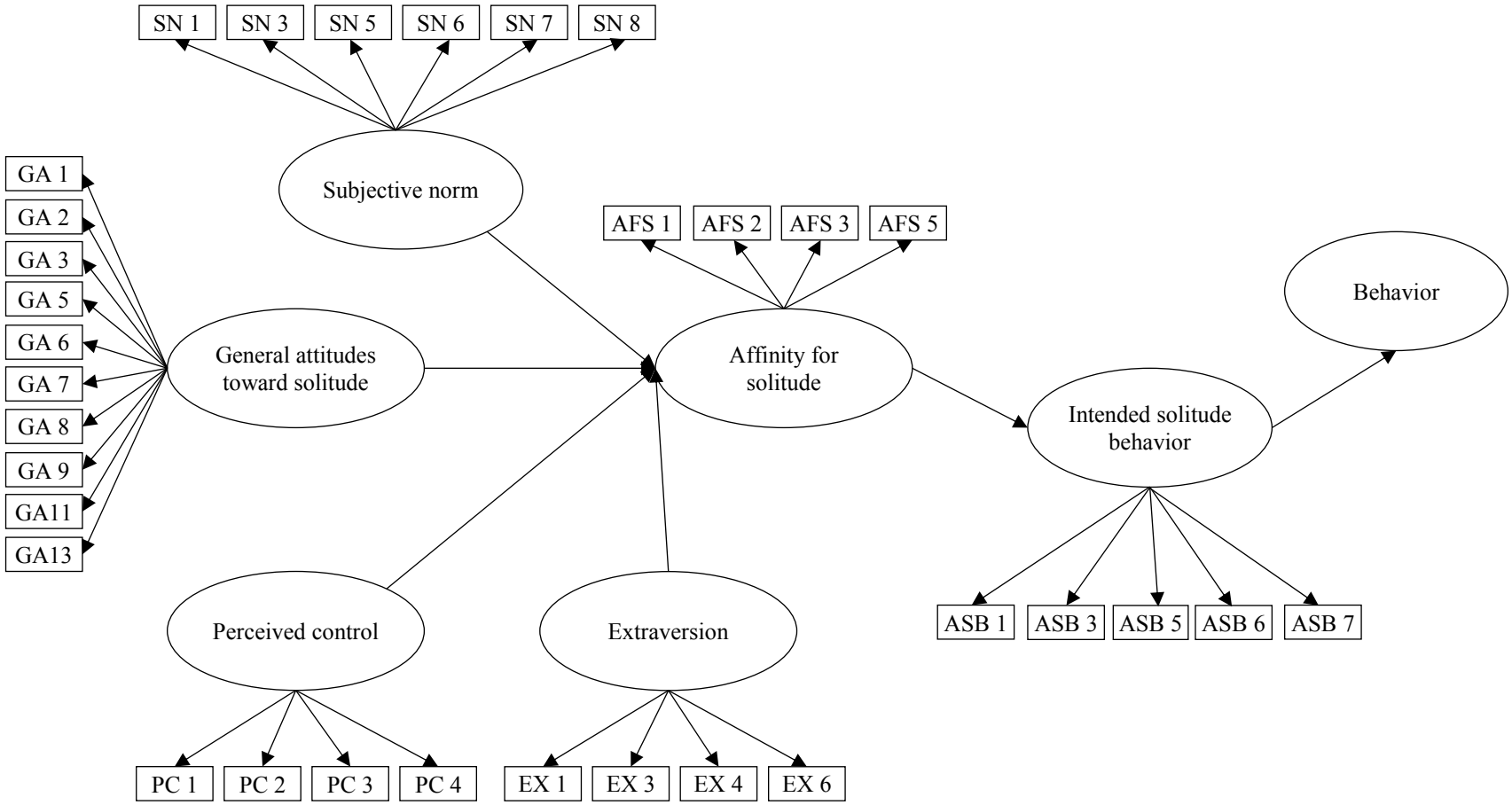
	Affinity for solitude	General attitudes toward solitude	Subjective norms	Perceived control	Extra-version	Intended solitude behavior	Solitude behavior
Affinity for solitude	-						
General attitudes toward solitude	.432**	-					
Subjective norms	.505**	.494**	-				
Perceived control	.037	.045	.153**	-			
Extra-version	-.031	-.012	.226**	.337**	-		
Intended solitude behavior	.535**	.528**	.737**	.112*	.137**	-	
Solitude behavior	.207**	.107*	.219**	.010	-.090	.216**	-

[a] *Pearson correlation with 2-tailed*
Note: *** p < .01, * p <.05*

A Test of the Hypothesized Structural Model

The purpose of the current study was to develop a theoretical model of people's affinity for solitude as well as to develop a battery of scales to measure solitude phenomenon. I had hypothesized that general attitudes toward solitude, subjective norms, perceived control, and extraversion would positively contribute to affinity for solitude which results in intended solitude behavior. The modified measurement scales, with a satisfactory level of the measurement fit with the sample data, provided me with an opportunity to test the proposed model.

In order to test the addressed hypothesized structural model, I used a technique of structural equation modeling (SEM). This analysis was followed by an examination of the relationships between the measures of six latent variables (affinity for solitude, general attitudes toward solitude, subjective norms, perceived control, extraversion, and intended solitude behavior), and one proxy variable (past solitude behavior). Figure 5-2 summarizes the initial hypothesized model. The initial hypothesized model included no covariance between the measured variables. The initial structural model did not include direct effects of general attitudes toward solitude, subjective norms, perceived control, extraversion on intended solitude behavior and past behavior, or direct effect of affinity for solitude on past behavior.



Note: Each measured variable has an error term, but the error terms are not shown in the figure.

Figure 5-2 Hypothesized structural model with the refined measurement variable

The initial structural model was tested in Amos 18. As seen in Table 5-10, the goodness-of-fit indices for the initial model indicated a poor fit to the sample data: χ^2 = 205.533, *df* = 13, CFI =.730, NFI = .720, RMSEA = .194, and AIC = 235.533.

Therefore, a series of modification steps were carried out to provide better fit of the model with the sample data. Due to the strong theoretical foundation of each latent factor, no latent factor and the measured variables were removed from the initial model. Rather, I included additional direct paths according to the results of the regression coefficients estimation. Several significant paths were identified between general attitudes toward solitude and intended solitude behavior, subjective norms and intended solitude behavior, and affinity for solitude and past behavior. These added direct paths were included to find out whether affinity for solitude and intended solitude behavior worked as fully *or* partially mediating factors among those relationships. Also, I treated covariance between the subjective norms and the general attitudes toward solitude, perceived control, and extraversion, and I treated covariance between perceived control and extraversion.

By modifying the initial model, the goodness-of-fit-indices of the model were significantly improved: χ^2 = 11.771, *df* = 9, CFI = .996, NFI = .984, RMSEA = .028, and AIC = 49.771. All these findings suggested that the modified hypothesized model had a good fit with the data. Table 5-10 provides the summary of the model test.

TABLE 5-10
Improvement in Goodness-of-Fit-Indices of the Hypothesized Model-1

Model	χ^2	*df*	CFI	NFI	RMSEA	AIC
Initial model	205.533	13	.730	.720	.194	235.533
Alternative model	**11.771**	**9**	**.996**	**.984**	**.028**	**49.771**

Table 5-11 provides the summary of the statistically significant standardized estimates of path coefficients in the modified model. As seen in Table 5-11, the measures of general attitudes toward solitude, subjective norms, and extraversion were significant predictors of affinity for solitude, while the perceived control measure did not account for additional variance in affinity for solitude. Also, general attitudes toward solitude and subjective norms were predictive of intended solitude behavior; path coefficients between perceived control and intended solitude behavior and those between extraversion and intended solitude behavior were not statistically significant. Affinity for solitude was found to have significant path coefficients towards intended solitude behavior toward past behavior. Affinity for solitude and intended solitude behavior accounted for additional variance at a very low r-squared value of .06. It might appear questionable as to how well the model predicted the future outcomes of solitude behavior. Nonetheless, given the significant path coefficients between affinity for solitude and intended solitude behavior and past behavior as future outcome, the model still can predict future behavior. This is discussed further in the chapter that follows.

TABLE 5-11
Summary of the Statistically Significant Standardized Estimates of Path Coefficients

	Affinity for solitude β (t-value)	Intended solitude behavior β (t-value)	Solitude Behavior β (t-value)
General attitudes toward solitude	.221*** (4.558)	.174*** (4.615)	*ns*
Subjective norms	.424*** (8.491)	.561*** (14.218)	*ns*
Perceived control	*ns*	*ns*	*ns*
Extraversion	-.124** (-2.850)	*ns*	*ns*
Affinity for solitude	-	.177*** (4.655)	.128* (2.214)
Intended solitude behavior	-	-	.148* (2.554)
R^2	.31	.60	.06

Note: *** $p < .001$, ** $p < .01$, * $p < .05$

One of the primary interests of this study was the estimation and interpretation of the indirect effects between constructs in order to examine the causal process represented in a structural model that involves mediating factors. Table 5-12 summarizes the indirect and total effects between latent factors.

It was demonstrated that indirect effects of general attitudes toward solitude on past behavior through the affinity for solitude and intended solitude behavior were statistically significant. The indirect effect, through affinity for solitude is computed as the product of the path coefficient from general attitudes toward solitude to affinity for solitude (.22), the path coefficient from affinity for solitude to behavior intentions (.18), and the path coefficient from intended solitude behavior to past behavior (.15). The

indirect effect of subjective norms on past behavior through affinity for solitude and behavioral intentions, which was computed as the product of the path coefficient from subjective norms to affinity for solitude (.42), the path coefficient from affinity for solitude to behavior intentions (.18), and the path coefficient from intended solitude behavior to past behavior (.15), was significant. Also, the indirect effect of extraversion on past behavior through affinity for solitude and intended solitude behavior was significant. However, the indirect effect of perceived control on past behavior through affinity for solitude and intended solitude behavior was *not* significant.

The total standardized effect for general attitudes toward solitude on past behavior was .05. The total standardized effect for subjective norms on past behavior was .14 and the total standardized effect for extraversion on past behavior was -.01. Overall, general attitudes toward solitude significantly influenced intended solitude behavior toward behavior via affinity for solitude. The measure of affinity for solitude played a role in mediating the relationship between subjective norms and intended solitude behavior toward past behavior, and the relationship between extraversion and intended solitude behavior toward past behavior.

The results led me to examine the proposed hypotheses in the study. The hypotheses that general attitudes toward solitude positively affected affinity for solitude, that subjective norms were positively related to affinity for solitude, and that extraversion negatively influenced affinity for solitude were all supported. However, the hypothesis that perceived control positively influenced affinity for solitude was rejected. The hypothesis that affinity for solitude contributed to intended solitude behavior toward

behavior was supported. The hypothesis that intended solitude behavior contributed to past behavior was also supported. Three additional hypotheses, that affinity for solitude positively related with past behavior, that general attitudes toward solitude affected intended solitude behavior, and that subjective norms contributed to intended solitude behavior were supported.

TABLE 5-12
Summary of the Standardized Indirect and Total Effects

				Hypotheses test	
Path	Indirect	Total	*SE*	C.R.	Results
GA → AFS → ISB → SB	.026		.009	2.88**	Supported
SN → AFS → ISB → SB	.049		.014	3.50**	Supported
PC → AFS → ISB → SB	.001		.006	0.17	
EX → AFS → ISB → SB	-.014		.006	-2.33**	Supported
GA → ISB → SB	.038		.012	3.17**	Supported
SN → ISB → SB	.122		.031	3.94**	Supported
PC → ISB → SB	.002		.003	0.67	
EX → ISB → SB	-.002		.002	-1.00	
AFS → ISB → SB	.038		.013	2.92**	Supported
GA → SB		.046	.013	3.54**	Supported
SN → SB		.138	.033	4.18**	Supported
PC → SB		.001	.002	.50	
EX → SB		-.005	.002	-2.50*	Supported

Keys: GA = general attitudes toward solitude; AFS = affinity for solitude; SB = solitude behavior; ISB = intended solitude behavior; SN = subjective norms; PC = perceived control; EX = extraversion

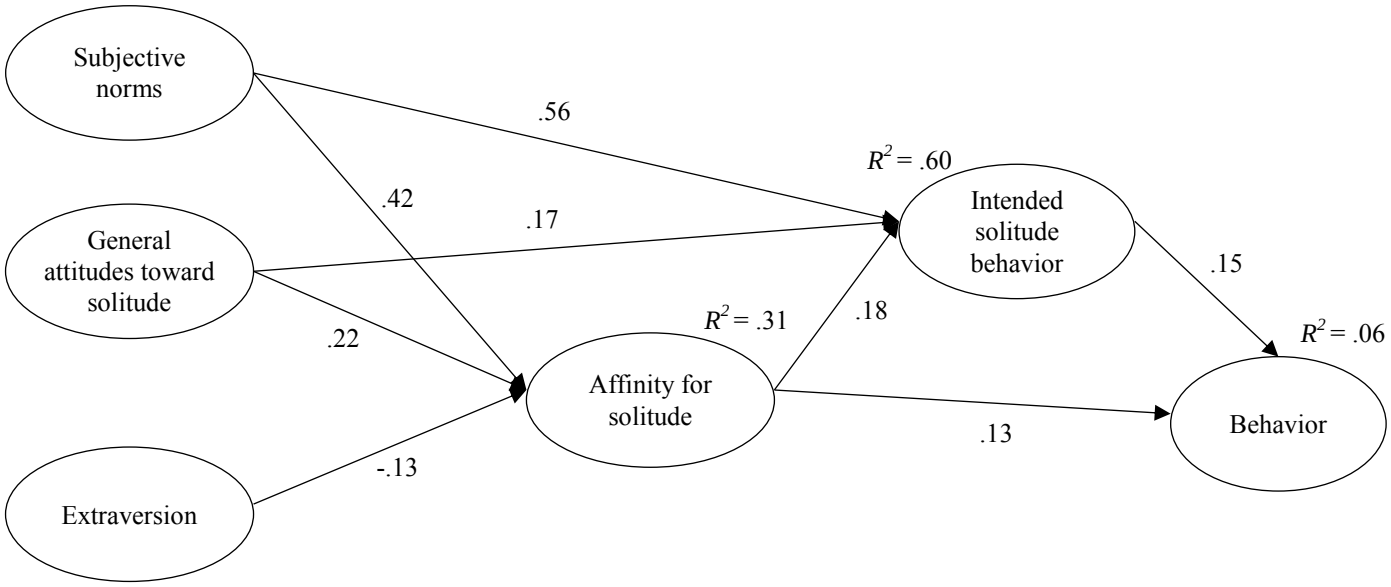
Note: ** $p < .01$, * $p < .05$

Final Structural Model

Although the modified model presented a good fit with the data, for parsimony, I re-specified the final model. Figure 5-3 contains the final structural model, consisting of the measures of general attitudes toward solitude, affinity for solitude, subjective norms, extraversion, intended solitude behavior, and past behavior. The measure of perceived control was removed because it indicated non-significant effects on affinity for solitude, intended solitude behavior, and past behavior. I had hypothesized that people's affinity for solitude would differ according to the level of the people's perceived control. However, the perceived control measure might work as a mediating factor which facilitates solitude behavior, rather than a predictor of the affinity for solitude. This will be further discussed in the chapter that follows. The refined final structural model presented even better model fit with the data: $\chi^2 = 4.566$, $df = 4$, CFI = .999, NFI = .993, RMSEA = .019, and AIC = 38.566. All these findings suggested that the final model had a good fit with the data. Table 5-13 provides the summary of the model test.

TABLE 5-13
Improvement in Goodness-of-Fit-Indices of the Hypothesized Model -2

Model	χ^2	*Df*	CFI	NFI	RMSEA	AIC
Initial model	205.533	13	.730	.720	.194	235.533
Alternative model	11.771	9	.996	.984	.028	49.771
Final structural model	**4.566**	**4**	**.999**	**.993**	**.019**	**38.566**



Note: Each construct has measured variables with error terms, but measured variables and error terms are not shown in the figure. One-headed connectors indicate a causal path among latent factors and two-headed connections indicate covariance between factors.

Figure 5-3 A final structural model that represents the relationships between general attitudes toward solitude, affinity for solitude, subjective norms, extraversion, intended solitude behavior, and behavior

Summary

The results of CFA and measures of the fit indices indicated that the initial hypothesized model did not fit with the sample data and that not all hypothesized relationships were statistically significant. Therefore, an alternative model was developed. In the refined model, there were well-defined path relationships with a good fit of between the measures and the sample data. Regardless of the theoretical associations revealed in the literature, however, one latent factor, perceived control, was removed from the final structural model; the final model included the measures of general attitudes toward solitude, subjective norms, affinity for solitude, extraversion, intended solitude behavior, and solitude behavior. An examination of the indirect effects revealed that general attitudes toward solitude and subjective norms positively contributed to the affinity for solitude which resulted in intended solitude behavior toward solitude behavior; while extraversion negatively influenced affinity for solitude. Other significant relationships were identified between general attitudes toward solitude and intended solitude behavior, between subjective norms and intended solitude behavior, and between affinity for solitude and solitude behavior.

CHAPTER VI

DISCUSSION AND CONCLUSION

The purpose of this study was to investigate the antecedents and consequences of affinity for solitude. Many solitude studies have explored solitude phenomena, but there have been no attempts to develop a model explaining how people's affinity for solitude is shaped and how the affinity for solitude leads to solitude behavior. A model of people's affinity for solitude and solitude behavior will allow us to systematically view the latent social and cognitive factors that significantly inform people's attitudes toward solitude and their solitude behavior.

Prior to this study, it was first necessary to develop a reliable and stable measurement that provides a comprehensive assessment of people's affinity for solitude and the various factors related to the affinity for solitude. I constructed attitudinal-behavioral entities of solitude preferences which were based on theoretical insights in the literature. The internal consistency of the battery of measurement scales used in this study was highly reliable; the measurement test also provided empirical evidence of the construct validity of the developed measures. A test of the hypothesized model of people's affinity for solitude revealed that there were well-defined path relationships between latent factors with a good fit between the measures and the sample data. That is, the final structural model convincingly accounted for the solitude phenomenon in terms of the antecedent-consequential aspects of affinity for solitude (refer to the figure 5-3 in previous chapter).

This chapter summarizes key findings derived from the results of the study and discusses the significance of the results. I discuss the theoretical relations, practical implications, and limitations of the study followed by suggestions for improvements and possible directions for future research. This chapter closes with a few thoughts about the significance of the solitude experience.

Major Findings

This study was designed to explore the following research questions:

(1) How can people's affinity for solitude be measured?

(2) What are the antecedents of affinity for solitude?

(3) How effectively does affinity for solitude predict intended solitude behavior and actual solitude behavior?

General Attitudes toward Solitude and Affinity for Solitude

People's affinity for solitude and the factors that are predictive of the affinity for solitude were of crucial interest to the study because affinity for solitude has been considered a strong determinant of solitude behavior. Regarding the question of how people's affinity for solitude can be measured, I theorized a construct of general attitudes toward solitude and then hypothesized that the construct of general attitudes toward solitude would affect people's affinity for solitude. The measure of general attitudes toward solitude was represented by underlying attitudinal attributes such as preference for physical distance, respect for a sense of privacy, feeling closeness to nature, and psychosocial disengagement.

I found that preference for privacy, tendency toward physical distance from other people, and preference for social disengagement positively contributed to the formation of the affinity for solitude. This finding suggests that different influential factors form the affinity for solitude, which complements the previously addressed contention that solitude is *not* a unidimensional feature (Cramer & Lake, 1998). This result also provided some evidence toward resolving the somewhat ambiguous relationship between solitude and privacy. Although Burger (1995) and some researchers considered solitude as synonymous with privacy, the results here indicated that preference for privacy is probably an antecedent of solitude affinity. That is, the more people want to maintain privacy, the more they are likely to seek solitude.

In the literature, positive associations were found between wilderness area (natural environment) and solitude (e.g., Hammitt, 1982; Hammit & Brown, 1984). I considered preference for natural environment to be an important attitudinal aspect of solitude. However, the hypothesized causal relationship between natural environment and affinity for solitude—that a preference for natural environment would lead to affinity for solitude—was weak. People might act on their preference for natural environment on special occasions, such as when they have vacation. Therefore, people's preference for natural environment might not fully manifest their affinity for solitude. It appears that the relationship between preference for natural environment and affinity for solitude should be explored as a different facet of the solitude phenomenon including future outcome resulting from affinity for solitude.

Subjective Norms and Extraversion and Affinity for Solitude

Beyond general attitudes toward solitude, I also hypothesized that people's affinity for solitude could be explained by internalized social norms and extraversion. The results revealed that subjective norms and extraversion were both significant determinants of people's affinity for solitude but in *different* ways: subjective norms positively contributed to affinity for solitude, intended solitude behavior and ultimately solitude behavior. Extraversion negatively influenced affinity for solitude.

The result—subjective norms positively contributed to affinity for solitude, intended solitude behavior and ultimately solitude behavior—supports my contention that the meaning of solitude is more likely to be socially constructed by people's understanding of social norms regarding solitude behavior. That is, subjective norms—the perceptions of others' approval or disapproval of solitude behavior—function either as a *social support* or *constraint* when people seek solitude. Findings suggest that people's affinity for solitude is probably affected by their internalized cultural values and social norms. Results support findings from cross-cultural studies, which indicate that people's attitudes and behavior are greatly affected by their cultural background (e.g., Chen, Brockner, & Katz, 1998; Gardner, Gabriel, & Lee, 1999; Oyserman, Coon, & Kemmelmeier, 2002).

Because solitude behavior can only occur when people reduce their actual interactions with others, how other people evaluate time alone can significantly affect one's attitidues toward solitude and solitude behavior. If an individual was born and raised in a society where people are accustomed to maintaining the individual's sense of

privacy, he or she might develop social norms in a way of respecting others' privacy as a fundamental principle of their lives. Research by Kaya and Weber (2003), for example, found that American college students had significantly higher needs for privacy in their residence hall rooms than Turkish students. Associated with Kaya and Weber's finding that Americans place importance on individualism, it is accepted that Americans, because of their predilection for individuality, may acknowledge others' need for privacy as well as their own need for privacy. In this regard, Kaya and Weber (2003) concluded that shared social norms significantly impact individuals' belief and attitudes. The findings of my study are consistent with Kaya and Weber's conclusions. It appears that society imposes norms for solitude behavior, which impacts people's affinity for solitude as well as intended solitude behavior.

Another finding of the study was that extraversion negatively influenced affinity for solitude. Solitude experiences have been mainly discussed in terms of a strong association with personality traits. For example, according to Burger (1995), his preference for solitude scale was negatively correlated with extraversion. Studies show that solitude behavior is more likely to occur when people have a tendency toward introversion (e.g., Long et al., 2003). In this regard, I hypothesized people's different personality characteristics would shape their affinity for solitude. The results of this study support the contention that the personality trait, extraversion, is a significant factor that informs affinity for solitude. That is, people who demonstrate a less extraverted type of personality evince a higher level of affinity for solitude, while people who demonstrate a more extraverted type of personality evince a lower level of affinity for

solitude. In this regard, the result derived from the current study supports and strengthens the existing literature.

One of the most important contributions of the current study was the finding that subjective norms and general attitudes toward solitude were the best predictors of affinity for solitude. In fact, these factors had stronger effects on people's affinity for solitude and solitude behavior than did extraversion. Recently, there have been attempts to view experiencing solitude as a socially constructed behavior as well as the consequence of predisposed personality (e.g., Long & Averill, 2003). However, until now, no empirical investigations have looked at these relationships. The findings of the current study thus provide strong evidence that solitude behavior, which is a function of complex societal contexts of meaning, requires more sophisticated examination of why people seek solitude. Leary et al. (2003) argued that an individual's tendency toward solitude was either a consequence of personality or a temporary motivation to be disconnected from any interaction with others. Results from this study suggest that people's solitude experience must be conceived as a function of different factors (e.g., cultural, economic, and social) beyond a range of personality traits.

Perceived Control and Affinity for Solitude

I hypothesized that people's affinity for solitude would differ according to level of their perceived control. General attitudes toward solitude, subjective norms, and extraversion accounted for affinity for solitude which led to intended solitude behavior. However, perceived control did not account for additional variance in affinity for solitude, intended solitude behavior, and actual behavior. This was an unexpected result

given the strong theoretical associations between sense of autonomy and solitude experience revealed in the literature (Westin, 1967; Galanaki, 2004; Long, 2000). Long (2000), for example, noted a volitional state can be a significant determinant of solitude experience by positively strengthening people's attitudes toward solitude.

I note that perceived control in this study was treated as an antecedent of solitude affinity. However, while perceived control may well be associated with affinity for solitude and actual solitude behavior, it appears it is strongly *mitigated* by subjective social norms. The finding that subjective norms turned out to have a stronger effect on solitude affinity than perceived control suggests that social norms supersede personal desires. Future research should examine the extent to which perceived control impacts affinity for solitude and actual solitude behavior.

Intended Solitude Behavior and Solitude Behavior

In this study, I hypothesized that affinity for solitude would have a strong total effect on intended solitude behavior. Burger's (1995) study found that those people with a higher preference for solitude do spend more time in solitude and enjoy this time more than participants with a low preference for solitude. My results revealed that the more people demonstrate an affinity for solitude, the more frequently they seek solitude in their daily life. For example, people with an affinity for solitude may visit places to be alone or structure their day so they can be by themselves. All these findings suggest that the measure of affinity for solitude is a solid variable that predicts people's intended solitude behavior and actual behavior.

The study also found that subjective norms and general attitudes toward solitude also significantly predicted intended solitude behavior. Subjective norms showed a stronger effect than the other factors in predicting intended solitude behavior in the regression estimate. Because I theorized general attitudes toward solitude and subjective norms as antecedents of affinity for solitude, I did not anticipate that general attitudes toward solitude and subjective norms would directly predicted intended solitude behavior. However, some studies show that solitude behaviors are significantly affected by an individual's life situation and social constraints (Larson et al., 1985; Larson, Carson, & Graef, 1982). That is, while affinity for solitude plays a role in mediating the relationships between general attitudes toward solitude and subjective norms and intended solitude behavior, general attitudes toward solitude and subjective norms appears to directly affect behavioral intentions. These additional findings suggest that we have much to learn about the solitude phenomena.

To sum up, the findings of this study help understanding the dynamic mechanisms underlying the solitude phenomenon. While previous studies have attempted to explore the multifaceted solitude experience (Burger, 1995; Constantine, 1981; Long, 2000; Long, & Averill, 2003; Long et al., 2007; More et al., 2003), findings of the current study provide a systematic and definitive explanation for the occurrence of solitude by identifying the different influential factors that inform the affinity for solitude and the ways in which affinity for solitude leads individuals to spend time alone. Furthermore, major findings of the study have theoretical and practical implications, which are discussed below.

Theoretical Implications: Developing a Formal Theory of Solitude

One major contribution of this current study is that it provides a strong empirical model of how affinity for solitude works in everyday life. To date, a few attempts have been made to explain solitude phenomena within existing theories. There are a number of studies conducted on solitude research in the context of loneliness (e.g., Killeen, 1998). However, since I considered solitude as distinct from loneliness, loneliness theories carried limited applicability to the solitude-focused research. Larson and his colleagues investigated people's solitude experience from the perspective of human development—the basic assumption being that people's solitude experience will differ according to age. Although considering human developmental stages is somewhat useful in explaining the ecology of human life, even a survey of the same age group includes too many variables to account for the solitude phenomenon precisely (Csikszentmihalyi & Larson, 1984). Another possible theoretical approach to the investigation of the solitude phenomenon was generated by Chua and Koestner (2008), who employed self-determination theory to examine how people's autonomy moderates the relationship between solitude and well-being. Their study, however, was narrow in its focus, and their findings did not provide any possible antecedents for the solitude experience.

I initiated the current study to develop a comprehensive and generalized description of people's affinity for solitude. As an initial phase of constructing a theory of affinity for solitude, I carefully reviewed the conceptual contributions of existing solitude studies, and, based on the literature, I identified factors that would possibly comprise a theoretical model. These factors were conceptually and operationally

defined, and the relationships among variables were hypothesized for empirical tests. Theoretical and empirical approaches derived from this current study provide an opportunity to better understand the solitude phenomena. In this respect, this current study is valuable in two ways: (1) the study suggests ways of conceptualizing solitude attitudes and behavior, and (2) the findings of this study account for the antecedents and consequences of the affinity for solitude.

Based on the results of an initial test of the proposed hypotheses and theoretical model, the propositions and hypotheses can be revised more precisely. In this regard, future studies should be conducted to advance the proposed solitude framework by elaborating on the sample, variables, and further statistical analyses.

Practical Implications

This dissertation research focused on making theoretical contributions to contemporary human dimension research. Therefore, the findings from the study were not expected to provide specific practical outcomes that have direct impacts on our daily lives. Nonetheless, there are several possible implications in areas such as college student service and recreation and park management.

College Student Service

The current study employed a sample of the college students who were attending three different universities in the United States. Findings of the study provide some implications for balanced curriculum development and counseling for college students.

One major finding of the study was that people's preferred behavioral choices differ according to their affinity for solitude. This indicates that colleges and universities

should provide opportunities for sociability and solitude. Regardless of the variability of the affinity for solitude, however, college students tend to live very social lives in a high-density environment such as halls of residence. College students also are a distinctive generation represented by computer culture with the increasing connectedness that smartphones and other advanced mobile devices offer (Burke, 1991). In the enormous culture of social networking, such as Facebook and Twitter, many students believe that every minute should be spent doing something or being connected to others either physically or virtually. Therefore, college students may not actually know how to realize productive solitude in their everyday lives.

I argue that colleges and universities must pay more attention to the goodness of solitude in order to reduce this over-connectedness. Colleges and universities may guide and counsel their students by suggesting adaptive strategies to successfully cope with solitude even under difficult conditions. For example, colleges and universities can offer direction in social media control and seminars that provide practical skills in helping students experience solitude in a positive manner. Along these lines, colleges and universities may actively create various opportunities by way of programming the extra-curricular activities for students, such as training in meditation techniques and visiting wilderness area with a small group, to educate the students about how to survive solitude positively.

According to Arum and Roksa (2011), taking time for reflective solitude is as important as the school activities themselves. Arum and Roksa (2011), in their recently published book, *Academically Adrift: Limited learning on college campuses*, the authors

discuss how college students spend their time and how it related to the academic success, extra-curricular activities and study habits. The authors mentioned that students who study by themselves are more likely to retain knowledge successfully than those who work in groups. They also argued that colleges and universities need to make campus environments supportive for students so that they can find places for reflection out of the classroom. That is, colleges and universities may provide suitable facilities, such as meditation room residence halls, for those who express a high level of affinity for solitude.

Reincorporation of solitude into academic experience is a challenge which is on a par with global culture shift. However, through extra-curricular activities and psychotherapy directions, college students can be taught how to manage their time alone *vis-à-vis* face-to-face interactions with other people. This will lead them to develop their capacity for inner focus and improved learning habits, as well as the beneficial inspiration commonly associated with quality time alone that can contribute to intellectual and emotional maturity.

Recreation and Park Management

Results may also have managerial implications in the fields of parks, recreation, and tourism. Consistent with past research (Burger, 1995), findings of the study indicated that affinity for solitude impacts solitude behavior. This finding indicates that affinity for solitude is a motivational force of our daily activities such as reading for pleasure, jogging, gardening, traveling, and visiting local parks (Barefoot, Strickland, & Housch, 1981).

In this respect, the variability of affinity for solitude can be used extensively as a segmentation strategy in recreational programming. Would-be participants may include non-solitude seeker (sociality seeker), solitude seeker, and intensive solitary seekers. The point is recreation providers and managers of recreational resources should focus on planning for solitary leisure as well as social leisure. Recreational managers may design diverse programs that guarantee solitude time for those who prefer quiet activities such as individualized leisure opportunities and small group activities (e.g., wilderness watching).

Results also have implications for people in the travel industry. A segment of the travel industry includes people who seek more independent and solitary travel. Such travelers (e.g., backpackers) may desire opportunities to feel free from social pressures and constraints. For those who want to be away from the company of others or crowds, travel agency and local tourist information center can create specialized tour guides that facilitate individualized and independent experiences. By providing appropriate environmental conditions and facilities for individualized participant and suggesting adaptive strategies to maximize the quality solitude, recreation providers and managers of recreational resources will be better equipped to serve individuals who seek solitude frequently.

Another potential implication pertains to the management of local parks. Local parks are easily accessible places for a recess after periods of work and stressful life events. While park managers must consider social uses of parks, such as athletic facilities, parks also provide opportunities to experience solitude (Long et al., 2003).

Regarding park management, the concern of public accessibility versus acceptable use limits in parks has extensively discussed to date (e.g., Manning, 2003). In this respect, linking the park management with the impacts of people's solitude affinity can provide managers impetus to manage park landscapes to provide opportunities for solitude and reflective thought.

According to Long et al. (2003), park planners may carefully use landscape-typed parks to minimize intrusion of other park users. However, safety concerns of solo visitors can be a chronic problem in parks and, ironically, public parks should be accessible enough for several people in a community. Therefore, park managers need to consider people's desire for solitude cautiously.

Limitations of the Study

Although this dissertation research was successful in contributing to the scientific and systematic investigation of solitude, there are several limitations derived from the study. I discuss those limitations, and provide some potential research directions that sprang from the results of this study.

The Lack of Generalizability

The major limitation derived from the study is the representativeness of the sample. Data for this study relied on the self-reporting of undergraduate participants which constituted a sample of convenience. Although this is common as to be normative within the previous psychological literature, the results from the undergraduate sample can be dissimilar to the general population. For example, undergraduates living in a

small college town can demonstrate their affinity for solitude differently from those living in a big city.

Also, the majority of participants reported they were White, so the results should not be utilized as normative data for all students, even though the information is useful for comparison. Therefore, it is necessary to be cautious in generalizing the findings of the study to the general population, either undergraduates or different population group such as different ethnic groups or adult populations. Clearly, there is a need for future research in more diverse samples for replication of the findings of the study.

Variability of Affinity for Solitude

This study was to examine the structural relationships between proposed latent constructs including affinity for solitude, general attitudes toward solitude, subjective norms, perceived control, extraversion, intended solitude behavior, and actual solitude behavior. During the course of assessing the significant and meaningful relationships among constructs, however, participants' demographic and personal information—birth year/age, gender, ethnicity, relationship status, and living situation—were disregarded. Therefore, we still do not know if the affinity for solitude and solitude behavior are shaped by the individuals' different personal or social situations.

Of the respondents, 88% reported living with others, including roommates and family members. That is, those individuals may not be guaranteed time and space for solitude compared to those who live alone, which may impact affinity for solitude. As the measure of subjective norms turned out to have a significant effect on affinity for solitude, living with others may or may not affect one's affinity for solitude and

behavioral choices. Therefore, beyond the different antecedent factors of affinity for solitude proposed in this current study, people's surroundings may be a significant determinant of solitude behaviors either by facilitating or diminishing the opportunities for solitude. Since this current study did not consider controlling for confounding variables, such as living condition and relationship status, in the statistical analysis, the effect of these variables needs to be incorporated into future research to accurately examine the variability in affinity for solitude and solitude behavior.

Alternative Dimensions and Applicability of the Solitude Model

Another limitation of the current study is that this study adhered to an empirical test of the seven-factor model. The data obtained from this study are valuable in suggesting many attitudinal and behavioral aspects of solitude—ways of conceptualizing and categorizing these attitudes toward solitude and solitude behavior have been suggested. However, there still exist alternative conceptualizations for identifying latent factors to further investigate the solitude phenomenon. For example, in order to maintain the simplicity of the current study, the measures of preference for natural environment and perceived control were disregarded because they statistically did not fit the initially proposed model. However, those variables were conceptually meaningful regarding the solitude phenomenon. Therefore, future research should examine different sequential relationships between latent factors and measured variables for theoretical extensions and improvements in measurement quality.

Meager Understanding of Solitude Behavior

The present study does not provide expanded information regarding actual solitude behavior. This current study attempted to investigate how people's affinity for solitude related to observable behavioral choices by assessing the frequency of time spent alone. However, beyond frequency, people's solitude behavior can be very diverse in terms of the different types of activities and places. That is, people's actual behavior regarding solitude was not well-represented within the repertoire of developed measures of this study.

Further, according to past literature investigating the occurrence of solitude, solitude can be categorized into either a positive or negative episode (Constantine, 1981; Long, 2000). However, the current study did not measure further outcomes of solitude behavior so the data obtained from this study does not add any useful information as to whether one experience of solitude is of higher quality than another. It is suggested here that future research may target some of the actual solitude behavior people realize in their everyday life by continuing the development of new measures, and by examining the potential outcomes (positive or negative) from solitude behavior.

Recommendations for Future Research

It is apparent that additional research is needed not only to remedy the shortcomings of the current study but also to better understand the complexity of the solitude phenomenon. In light of the study findings, several directions for future research are summarized as follows:

(1) Future research needs for replication in more diverse samples.

The current study added a great deal to our understanding of the college students' solitude experience. To genuinely support and clarify our understanding of people's affinity for solitude, the findings of the current study must be shown to be replicable in different sample data such as college students in different universities or in other countries. The future study must be then extended to different age groups (e.g., Larson, 1990; Marcoen & Goossens, 1993), genders (e.g., Burke, 1997), and ethnicities to add replication to the current solitude literature.

(2) Future research needs to explore the cultural diversity of people's affinity for solitude.

The findings of this study revealed that subjective norms are the most important factor for predicting people's affinity for solitude and actual solitude behavior. That is, the meanings of solitude are greatly shaped by individual social situations that people encountered everyday life (Larson et al., 1985; Larson et al., 1982). In this regard, one clear suggestion for future study is established. The study of solitude could usefully be extended to include a broader range of cultural environments in order to understand how dynamic values of different cultures affect people's affinity for solitude and solitude experiences. For example, different cultural values that an individual has internalized, such as nationality (e.g., Asians versus Americans), family background (e.g., single child), residential area (e.g., rural area and city), and ideology (e.g., democracy) might inform one's understanding and experience of solitude differently.

Burger's studies, and many publications on solitude, have touched the phenomenon of solitude within psychological perspectives only. Moreover, most

publications were drawn from a small segment of the population in their studies of American society (e.g., Long & Averill, 2003). The most important thing to understand about American society is its devotion to individualism, as people consider solitude an important means of maintaining their sense of self (Hsu, 1981) . Therefore, the meanings of solitude may change according to the social and cultural resources that an individual encounters. Historically, for example, in western cultures, time and space for being alone has been understood in the context of the basic principles of democracy as a respect for a person's privacy. In other cultures, it has sometimes been considered as a means of reaching religious spirituality.

Although many studies, including this study, have touched on solitude as a phenomenon, I noticed that none have conducted research considering its cultural differences. If various cross-cultural studies were done, we could predict the antecedents of affinity for solitude more precisely, as well as understand the processes that govern our solitude experiences. A cross-cultural study will (1) delineate the diverse aspects of solitude and psychosocial characteristics across societies, (2) investigate inter-cultural influence on individuals' affinity for solitude, and (3) explore the ways in which cultural values determine the meanings and attitudes toward solitude. Also, a cross-cultural study will make meaningful theoretical contributions to the solitude literature by providing insight into the socio-cultural basis underlying people's affinity for solitude and solitude experience.

(3) Future research needs to expand our understanding of the impact of people's affinity for solitude on daily leisure activities/opportunities.

One possible future investigation that must be done lies in leisure studies. Understanding the dynamic factors that influence leisure choice is important to the delivery and management of recreational resources and creating appropriate leisure opportunities. The findings of this study indicated that people's affinity for solitude is a compelling motivational force in people's everyday lives. That is, people who often demonstrate a high level of affinity for solitude may attempt to integrate this need for solitude into their everyday activities (Burger, 1995). However, affinity for solitude has been generally overlooked by leisure researchers. Therefore, the field of leisure studies should recognize the importance of people's affinity for solitude, how an individual maintains his or her affinity for solitude in response to various personal and social conditions, and how people create opportunities for solitude in their everyday leisure activities.

Stewart and Carpenter (1989) discussed that the degree to which solitude is achieved in a given environmental setting would vary according to the specific type and preference for solitude of a recreationist. According to Spencer, Kelly, and Van Es (1992), certain groups of people may choose similar forms of leisure activity, but they may differ in the importance they place on solitary pursuits. However, we still have a meager understanding of solitary activities, where social connectedness is consciously avoided. Assessing the similarities and differences in people's affinity for solitude will provide important information regarding a range of recreational users and the application to more equitable allotment of recreational resources.

Future research may specifically investigate (1) how people coordinate their affinity for solitude with their daily *constraints,* and what *negotiation strategies* are evident in their recreational decisions, and (2) how environmental factors, such as available recreational resources, population density, and type of residences, impact affinity for solitude and subsequent leisure choices. Assessing how individuals coordinate the affinity for solitude in their leisure settings will make a significant contribution to understanding one distinctive dimension of leisure by providing insight into how solitude is related to leisure settings, as well as the quality of leisure experiences.

(4) Future research needs for more exploratory works to expand the deeper understanding of the meanings of solitude.

People undoubtedly have ample experience with the solitude of everyday life. However, we still lack awareness of how people create meanings of solitude in everyday life. It is suggested that future research needs include more exploratory works to investigate a deeper understanding of the meanings of solitude. That is, the idea that subjective norms most significantly impact affinity for solitude should be explored in individuals who are most articulate in expressing their view of solitude.

Our daily lives are situated within multiple social realities. Therefore, people may not only differ in their affinity for solitude, but also they accomplish solitude in a myriad of ways. In structured and industrialized societies, for example, people encounter numerous constraints to solitude. Aside from this, people's desires and needs are inter-subjectively constructed, and often must respond to the demands of others. Indeed,

people have to fulfill a wide range of obligations and expectations that make solitude problematic. These social orders produce and organize human behavior, which is produced by constant interactions between individuals and their social worlds.

Daily lives are characterized by transitions from being connected—working with others on a team project, participating in community activities, going to a party, talking to friends on a phone, and spending time with family members—to being disconnected—working alone in the office, jogging at the park, and driving back to an apartment. Computer culture and information technology have changed everyday life so that people can continually interact with others even while remaining physically isolated (Buchholz, 1997). Given that the distinction between time and space spent alone and with others has blurred, the social and cultural environment for accomplishing solitude is far different than it was just decades ago. Indeed, technology has made everyday life far more complex and interrelated.

In this respect, future studies may investigate how people actively create opportunities to meet their affinity for solitude within the complexities of social structures and demands in their everyday lives. The richness of the data will be achieved by extracting consensual descriptions of the actual mechanism of solitude under naturalistic observation. I expect future exploratory works to further the fundamental understanding of individual's intensive experience with solitude and explanation of people's constructed meanings and experiences of solitude that are developed as they interact with others within larger social structures.

Final Thoughts

Most contemporary societies seem to be more concerned with social connectedness than with fostering a tolerance for solitude. This pervasive cultural value either lessens people's affinity for solitude or at times motivates the solitary individual to seek and spend more time alone, which creates the perception of the individual being a *loner*. Therefore, many people may fight desperately to avoid being alone by involving themselves with the external world. The reality is that contemporary societies make it easy for people to connect with others through cell phones, computers, and highly advanced transportation systems. People may not have a substantial amount of time for quality solitude unless they make the effort to diligently seek opportunities for solitude.

Human beings need some down time from constant connectedness, whether it be short term or as a way of life. In this respect, I hope this current investigation of the affinity for solitude is meaningful for future researchers who will expand our understanding of the solitude as a phenomenon. Through future research endeavors on the complex issues presented in this current study, I anticipate a greater understanding that persevering in the pursuit of solitude can not only bring one to self-awareness and social tolerance, but can also dramatically change one's way of viewing the world.

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APPENDIX A

Exploring People's Attitude and Behavior Regarding Solitude

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TEXAS A&M UNIVERSITY

Howdy!
You have been invited to participate in a research study that serves as the basis of a doctoral dissertation at Texas A&M University. This study investigates (1) the ways in which college students' preference for solitude is reflected in their attitudes and behavior; and (2) factors that influence college students' preference for solitude. Your participation will further our understanding of solitude and its meaning in our everyday lives.

This study has been reviewed by the Institution Review Board (IRB) for human subjects in research through Texas A&M University. If you have questions or concerns about your rights as a study participant, please contact this organization at irb@tamu.edu or 979-458-4067. Alternatively, you can contact Sunwoo Lee (leesunwoo@neo.tamu.edu) if you have any questions about this study.

There are no right or wrong answers. I appreciate your thoughtful and honest responses. Thank you for your participation!

Sincerely,
Sunwoo Lee, Doctoral Student

Before starting the survey, you should know what 'solitude' means. It means ***being by yourself or doing something by yourself***.

This section helps us understand how you feel about solitude. On each line, two opposite terms are presented (e.g., bad and good). Make an x in the box that best describes how you feel about solitude.

For me, taking time for solitude is								
	extremely	quite	slightly	neither	slightly	quite	extremely	
bad	_____	_____	_____	_____	_____	_____	_____	good
foolish	_____	_____	_____	_____	_____	_____	_____	wise
harmful	_____	_____	_____	_____	_____	_____	_____	beneficial
worthless	_____	_____	_____	_____	_____	_____	_____	valuable
unattractive	_____	_____	_____	_____	_____	_____	_____	beautiful
unhealthy	_____	_____	_____	_____	_____	_____	_____	healthy
useless	_____	_____	_____	_____	_____	_____	_____	necessary
draining	_____	_____	_____	_____	_____	_____	_____	recharging
destructive	_____	_____	_____	_____	_____	_____	_____	productive
troubling	_____	_____	_____	_____	_____	_____	_____	peaceful
meaningless	_____	_____	_____	_____	_____	_____	_____	meaningful
depressing	_____	_____	_____	_____	_____	_____	_____	happy
not satisfying	_____	_____	_____	_____	_____	_____	_____	fulfilling
boring	_____	_____	_____	_____	_____	_____	_____	interesting

*Here we are interested in **your attitudes toward solitude**. For each statement below, circle one number that best describes your level of agreement.*

	Strongly disagree			Neutral			Strongly agree
1. I enjoy being by myself.	1	2	3	4	5	6	7
2. Time spent alone is important to me.	1	2	3	4	5	6	7
3. I often have a strong desire to get away by myself.	1	2	3	4	5	6	7
4. Time spent with other people is boring and uninteresting.	1	2	3	4	5	6	7
5. There are many times when I just have to get away and be by myself.	1	2	3	4	5	6	7

*Here we are interested in your **preferences for seeking solitude under various conditions**. For each statement below, check one number that best represents your opinion.*

	Strongly disagree			Neutral			Strongly agree
1. I would like to live in a secluded house out of sight of other people.	1	2	3	4	5	6	7
2. I would like to have a private retreat which no one would enter without asking me.	1	2	3	4	5	6	7
3. I dislike talking about personal matters to a friend in a crowded place where other people can overhear us.	1	2	3	4	5	6	7
4. Even members of a family need to get away from each other now and then.	1	2	3	4	5	6	7
5. I like to go to secluded places when I want to talk to an intimate friend.	1	2	3	4	5	6	7
6. I need to limit my attention to only a few chosen people.	1	2	3	4	5	6	7
7. I like places where I can be all alone.	1	2	3	4	5	6	7
8. I prefer being alone, instead of being in a crowd.	1	2	3	4	5	6	7
9. I like, as much as possible, staying away from crowds.	1	2	3	4	5	6	7
10. I like places where there are only people around you do not know.	1	2	3	4	5	6	7
11. I like places where I am free from observation of other people.	1	2	3	4	5	6	7
12. I dislike having a long conversation with someone I have just met.	1	2	3	4	5	6	7
13. I like to keep my distance from my friends.	1	2	3	4	5	6	7
14. When I want to be alone, I like to stay away from the telephone, email, and/or television.	1	2	3	4	5	6	7
15. I am free to control my thoughts, regardless of whether I am with a small group or by myself.	1	2	3	4	5	6	7
16. I am free to choose when and to what extent I have to speak and interact with others.	1	2	3	4	5	6	7
17. I feel free to act and use my time as I see fit.	1	2	3	4	5	6	7
18. I have control over the pressures and tensions of everyday life.	1	2	3	4	5	6	7
19. I like being alone in a completely natural environment.	1	2	3	4	5	6	7
20. I like tranquil and peaceful environments.	1	2	3	4	5	6	7
21. I like an environment free of man-made noises.	1	2	3	4	5	6	7
22. I like beautiful or awe-inspiring places.	1	2	3	4	5	6	7
23. I like places where there is wind, water, trees, or animals around.	1	2	3	4	5	6	7

*This section helps us understand **your views toward the specific solitude behaviors**. One each line, two opposite terms (bad and good) are presented. Make an x in the box that best describes your opinion.*

Structuring my day so that I always have some time to myself would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Choosing leisure activities that allow me to be by myself would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Going on vacation to places where there are few people around would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Traveling to places to get away from people would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Avoiding technology (even email or cell-phone) so I can be alone would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Asking people with whom I live to give me space so I can be by myself would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Visiting places on a daily basis (e.g. park) to be alone would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good
Taking breaks to get away from other people would be		
bad	____ : ____ : ____ : ____ : ____ : ____ : ____	good

*Here we are interested in your **intention toward spending time alone**, today, this week, this month, or this semester. For each statement below, circle one number that best describes your level of agreement.*

	Strongly disagree			Neutral			Strongly agree
1. I will structure my days so that I have time to myself.	1	2	3	4	5	6	7
2. I will choose activities that allow me to be by myself.	1	2	3	4	5	6	7
3. I will go on vacation to places where there are few people around.	1	2	3	4	5	6	7
4. I will travel to places to get away from people.	1	2	3	4	5	6	7
5. After work or school, I will avoid technology (even email or cell-phone) so I can be alone.	1	2	3	4	5	6	7
6. I will ask people with whom I live to give me space so I can be by myself.	1	2	3	4	5	6	7
7. I will visit places to be alone.	1	2	3	4	5	6	7
8. I will take breaks to get away from other people.	1	2	3	4	5	6	7

Here we are interested in ***how you think family and/or close friends*** **feel about your need** ***to spend time alone.*** *For each statement below, circle one number that best describes your level of agreement.*

	Strongly disagree			Neutral			Strongly agree
1. Most people who are important to me think that having time to myself is important to me.	1	2	3	4	5	6	7
2. Most people who are important to me think it is good that I choose activities that allow me to be by myself.	1	2	3	4	5	6	7
3. Most people who are important to me think it is good that I go on vacation to places where there are few people around.	1	2	3	4	5	6	7
4. Most people who are important to me understand that I travel to places to get away from people.	1	2	3	4	5	6	7
5. Most people who are important to me understand I avoid technology (even email or cell-phone) so I can be alone after work.	1	2	3	4	5	6	7
6. Most people who are important to me understand when I ask people with whom I live to give me space so I can be by myself.	1	2	3	4	5	6	7
7. Most people who are important to me consider visiting places to be alone important to me.	1	2	3	4	5	6	7
8. Most people who are important to me let me take breaks to get away from other people.	1	2	3	4	5	6	7

Here we are interested in ***your perception about yourself in a variety of situations.*** *For each statement below, circle one number that best describes your level of agreement.*

	Strongly disagree			Neutral			Strongly agree
1. When engaged in conversations, I am usually the party that does most of the talking.	1	2	3	4	5	6	7
2. I find it hard to keep a secret; I feel I just have to talk to someone about it.	1	2	3	4	5	6	7
3. I am expressive and let people know how I feel at any given moment.	1	2	3	4	5	6	7
4. I strike up a conversation with a stranger easily.	1	2	3	4	5	6	7
5. I rarely make plans for future activities, or if I do make such plans, I rarely follow through.	1	2	3	4	5	6	7
6. Whenever I have a question, I want to ask someone for a quick answer.	1	2	3	4	5	6	7

*Here we are interested in **your opinions about how you relate to other people**. For each statement below, circle one number that best describes your level of agreement.*

	Strongly disagree			Neutral			Strongly Agree
1. I often do "my own thing"	1	2	3	4	5	6	7
2. I enjoy being unique and different from others in many ways.	1	2	3	4	5	6	7
3. If a coworker gets a prize, I would feel proud.	1	2	3	4	5	6	7
4. One should live one's life independently of others.	1	2	3	4	5	6	7
5. If a relative were in financial difficulty, I would help within my means.	1	2	3	4	5	6	7
6. What happens to me is my own doing.	1	2	3	4	5	6	7
7. The well-being of my coworkers is important to me.	1	2	3	4	5	6	7
8. When I succeed, it is usually because of my abilities.	1	2	3	4	5	6	7
9. I like sharing little things with my neighbors.	1	2	3	4	5	6	7
10. It is important to maintain harmony within my group.	1	2	3	4	5	6	7
11. I am a unique individual.	1	2	3	4	5	6	7
12. My happiness depends very much on the happiness of those around me.	1	2	3	4	5	6	7
13. I prefer to be direct and forthright when discussing with people.	1	2	3	4	5	6	7
14. I feel good when I cooperate with others.	1	2	3	4	5	6	7
15. I like my privacy.	1	2	3	4	5	6	7
16. To me, pleasure is spending time with others.	1	2	3	4	5	6	7

	Strongly disagree			Neutral			Strongly agree
1. I feel comfortable using people's first name soon after I meet them, even when they are much older than I am.	1	2	3	4	5	6	7
2. I have respect for the authority figures with whom I interact.	1	2	3	4	5	6	7
3. I feel it is important for me to act as an independent person.	1	2	3	4	5	6	7
4. I will sacrifice my self-interest for the benefit of the group I am in.	1	2	3	4	5	6	7
5. I should take into consideration my parents' advice when making education/career plans.	1	2	3	4	5	6	7
6. I feel my fate is intertwined with the fate of those around me.	1	2	3	4	5	6	7
7. I prefer to be direct and forthright when dealing with people I've just met.	1	2	3	4	5	6	7
8. I feel good when I cooperate with others.	1	2	3	4	5	6	7
9. I am comfortable with being singled out for praise or rewards.	1	2	3	4	5	6	7
10. I often have the feeling that my relationships with others are more important than my own accomplishments.	1	2	3	4	5	6	7
11. Speaking up during a class (or a meeting) is not a problem for me.	1	2	3	4	5	6	7
12. My happiness depends upon the happiness of those around me.	1	2	3	4	5	6	7
13. I will stay in a group if they need me, even when I am not happy with the group.	1	2	3	4	5	6	7
14. I try to do what is best for me, regardless of how that might affect others.	1	2	3	4	5	6	7
15. Being able to take care of myself is a primary concern for me.	1	2	3	4	5	6	7
16. It is important to me to respect decisions made by the group.	1	2	3	4	5	6	7
17. My personal identity, independent of others, is very important to me.	1	2	3	4	5	6	7
18. It is important for me to maintain harmony within my group.	1	2	3	4	5	6	7
19. I act the same way at home that I do at school.	1	2	3	4	5	6	7

*Here, we are interested in your **solitude experiences.***

How many times during the ***last 30 days*** would you say that you had a solitude experience (including either positive or negative episodes) lasting at least an hour and no more than three days? (Check only one response)

- ☐ Not at all during the last 30 days
- ☐ 1 to 2 times during the last 30 days
- ☐ 3 to 5 times during the last 30 days
- ☐ 6 to 9 times during the last 30 days
- ☐ About once a week
- ☐ About two or three times a week
- ☐ About once a day
- ☐ More than once a day

Which of the following describes aspects of your ***surroundings*** that contributed to your solitude experience? **(CHECK ALL THAT APPLY)**

- ☐ It was a new or foreign place.
- ☐ It was a familiar place.
- ☐ It was a comfortable or relaxing place.
- ☐ I was free from responsibilities there.
- ☐ I felt constrained by my surroundings.
- ☐ It was a beautiful or awe-inspiring place.
- ☐ There was wind, water, tress, or animals around.
- ☐ It was a dull, boring place.
- ☐ It was a spiritual atmosphere (whether religious or non-religious).
- ☐ I was away from the telephone, email, and/or television.
- ☐ I was all alone.
- ☐ I was with people (or a person) who cared for me.
- ☐ There were only strangers (or a stranger) around.
- ☐ Music was playing.
- ☐ OTHER (please explain) _____

Which of the following describe your ***particular experience of solitude***? **(CHECK ALL THAT APPLY)**

- ☐ I felt free from social pressures (e.g., I could act however I wanted, did not have to worry about offending others, or did not have to answer to anyone).
- ☐ I missed the comfort or predictability of my normal routine.
- ☐ I felt increased intimacy or connection with another (whether or not that person was actually present).
- ☐ I felt like I was wasting time.
- ☐ I felt harmony (or unity) with nature or the world around me.
- ☐ I missed having someone with whom I could share my thoughts and feelings.
- ☐ I felt oppressed by the aloneness and/or the silence.
- ☐ I felt an increased ability to concentrate or focus.
- ☐ I felt a decreased ability to concentrate or focus.
- ☐ I felt a sense of adventure, like I was meeting a challenge.
- ☐ I felt a heightened sense of awareness, or experienced particularly vivid imagery.
- ☐ I felt small (or humble) within the grand scheme of things.
- ☐ There were only strangers (or a stranger) around.
- ☐ OTHER (please explain) _____

What did you ***DO*** during your period of solitude? **(CHECK ALL THAT APPLY)**

- ☐ I engaged in a spiritual-like practice (e.g., meditation, prayer, yoga).
- ☐ I contemplated personal issues or important decisions.
- ☐ I spent time coping with a loss or coming to terms with change.
- ☐ I daydreamed, fantasized, or let my mind wander.
- ☐ I thought about people or events from my past.
- ☐ I hoped or wished for things.
- ☐ I collected or organized my thoughts.
- ☐ I listened to music.
- ☐ I watched TV or movies.
- ☐ I worked or studied.
- ☐ I expressed myself creatively (by writing in a journal, drawing, playing music, etc.)
- ☐ OTHER (please explain) _____

This final section of the survey asks for information about you. Please answer the following questions about yourself. You may be assured that this information will be kept confidential and used for statistical purposes only.

Are you ☐ MALE ☐ FEMALE

In what year were you born? _____

Year in school (circle one): 1 2 3 4 5+

Please specify your race (Please choose one or more from the following racial groups):

- ☐ American Indian or Alaska Native
- ☐ White
- ☐ Asian
- ☐ African American or Black
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Unlisted: _____

Would you consider yourself Hispanic or Latino (Please check one):

- ☐ No
- ☐ Yes

Relationship Status:

- ☐ Single
- ☐ In a relationship
- ☐ Married
- ☐ Divorced/separated
- ☐ Other (specify): _____

Do you live:

- ☐ Alone
- ☐ With others (e.g., roommate)
- ☐ With an intimate partner
- ☐ With family members (e.g., parents or siblings)
- ☐ Other (specify): _____

Thanks for taking the time to provide your valuable responses on this study!!!

APPENDIX B

The Results of Kolmogorov-Smirnov Test

Items	Kolmogorov-Smirnov Statistic	df	Sig.
Affinity for solitude			
I enjoy being by myself.	.226	353	.000
Time spent alone is important to me.	.245	353	.000
I often have a strong desire to get away by myself.	.202	353	.000
Time spent with other people is often boring and uninteresting.	.295	353	.000
There are many times when I just have to get away and be by myself.	.207	353	.000
General attitudes toward solitude			
I would like to live in a secluded house out of sight of other people.	.202	353	.000
I would like to have a private retreat which no one would enter without asking me.	.136	353	.000
I dislike talking about personal matters to a friend in a crowded place where other people can overhear us.	.177	353	.000
Even members of a family need to get away from each other now and then.	.200	353	.000
I like to go to secluded places when I want to talk to an intimate friend.	.188	353	.000
I need to limit my attention to only a few chosen people.	.134	353	.000
I like places where I can be all alone.	.197	353	.000
I prefer being alone, instead of being in a crowd.	.159	353	.000
I like, as much as possible, staying away from crowds.	.168	353	.000
I like places where there are only people around I do not know.	.214	353	.000
I like places where I am free from observation of other people.	.151	353	.000
I dislike having a long conversation with someone I have just met.	.207	353	.000
I like to keep my distance from my friends.	.246	353	.000
When I want to be alone, I like to stay always from the telephone, email, and/or television.	.183	353	.000
I like being alone in a completely natural environment.	.165	353	.000
I like tranquil and peaceful environments.	.222	353	.000
I like an environment free of man-made noises.	.194	353	.000
I like beautiful or awe-inspiring places.	.257	353	.000
I like place where there is wind, water, trees, or animals around.	.231	353	.000
Perceived control			
I am free to control my thoughts, regardless of whether I am with a small group or by myself.	.202	353	.000
I am free to choose when and to what extent I have to speak and interact with others.	.201	353	.000
I feel free to act and use my time as I see fit.	.208	353	.000
I have control over the pressures and tensions of everyday life.	.200	353	.000

The Results of Kolmogorov-Smirnov Test

Items	Kolmogorov-Smirnov Statistic	df	Sig.
Subjective norms			
Most people who are important to me think that having time to myself is important to me.	.209	353	.000
Most people who are important to me think it is good that I choose activities that allow me to be by myself.	.168	353	.000
Most people who are important to me think it is good that I go on vacation to places where there are few people around.	.200	353	.000
Most people who are important to me understand that I travel to places to get away from people.	.164	353	.000
Most people who are important to me understand that I avoid technology (even email or cell-phone) so I can be alone after work.	.156	353	.000
Most people who are important to me understand when I ask people with whom I live to give me space so I can be by myself.	.176	353	.000
Most people who are important to me consider visiting places to be alone important to me.	.198	353	.000
Most people who are important to me let me take breaks to get away from other people.	.176	353	.000
Intended solitude behavior			
I will structure my day so that I always have time to myself.	.217	353	.000
I will choose activities that allow me to be by myself.	.178	353	.000
I will go on vacation to places where there are few people around.	.133	353	.000
I will travel to places to get away from people.	.161	353	.000
After work or school, I will avoid technology (even email or cell-phone) so I can be alone.	.178	353	.000
I will ask people with whom I live to give me space so I can be by myself.	.144	353	.000
I will visit places to be alone.	.198	353	.000
I will take breaks to get away from other people.	.234	353	.000
Extroversion			
When engaged in conversations, I am usually the party that does most of the talking.	.178	353	.000
I find it hard to keep a secret; I feel I just have to talk to someone about it.	.151	353	.000
I am expressive and let people know how I feel at any given moment.	.181	353	.000
I strike up a conversation with a stranger easily.	.180	353	.000
I rarely make plans for future activities, or if I do make such plans, I rarely follow through.	.197	353	.000
Whenever I have a question, I want to ask someone for a quick answer.	.181	353	.000

Note: Lilliefors Significance Correction.