

EXAMINING HIKIKOMORI: A MULTITHEROETICAL APPROACH

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DEDICATION

For everyone who encouraged passion, curiosity, and drive in me. I could not have done it without the little boosts I got along the way. This work is especially dedicated to my dog, Parmesan. He had no idea what the whole thing was about, but he kept me sane and connected.

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ABSTRACT

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Hikikomori is a mental health concern first identified in Japan that appears to be an increasingly global phenomenon. Researchers have attempted to address key points about hikikomori with mixed results. There is a lack of unified thought and conceptualization about hikikomori, as well as overarching treatment methods and strategies. With an increasing number of cases being identified around the world, it is prudent to develop more comprehensive and unified views and knowledge of hikikomori. Currently there is disagreement and many unanswered questions about hikikomori, including how to appropriately conceptualize, assess, and treat it. The present study explored the school of thought that hikikomori is an international phenomenon, whether any differences might exist between hikikomori across cultural or national groups, and whether hikikomori experience their isolation with emotional distress and somatic symptoms. Participants were asked to complete an assessment of hikikomori, a measure of emotional experiences, a somatic symptom questionnaire, and demographic questions. Results were analyzed using correlation, multiple regression, and *t*-test analyses. Findings indicated that there was a significant positive correlation between hikikomori symptoms and experiences of negative emotion, and also between hikikomori symptoms and introversion. There was also a significant difference between levels of hikikomori

symptoms across national groups. The relationship between hikikomori and other factors was also significant when controlling for introversion. These findings will aid in future conceptualization and treatment of hikikomori.

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CHAPTER I

INTRODUCTION

Hikikomori is a unique phenomenon found primarily in Japan, characterized by social withdrawal. The term was coined shortly before the turn of the millennium by Dr. Tamaki Saito, a psychiatrist who sought to describe an increasingly common trend in Japanese youth (Saito & Angles, 2013). Much about hikikomori is still unknown and under some form of debate. Research on this topic spans several professional fields, and there is rarely any sort of uniformity or regarding how it is studied. Additionally, direct and primary source clinical research is somewhat scarce in present literature. Therefore, the need for further research and exploration is pressing.

Being characterized by often long-lasting social withdrawal among primarily teenage and adolescent boys, true prevalence and best practices of treatment are often not fully agreed upon. Some estimates place the number of youths suffering from hikikomori in Japan from around 550,000 to one million (Norris, Saito, & Angles, 2014; Tajan, Yukiko, & Pionnié-Dax, 2017). The increase in hikikomori in Japan may be exacerbated by the rise of technologies that work to increase social connections online and paradoxically alleviate feelings of isolation. Additionally, the population of Japan continues to age, and young people face increasingly difficult circumstances in professional and social settings (Furlong, 2008). Present research into hikikomori reveals inconsistencies and disagreement regarding the nature of the disorder, presence and features of potential international cases, links to other mental health disorders and other

research concepts, and best practices in assessment and treatment. All of these factors complicate researchers' abilities to demonstrate a unified framework for hikikomori and subsequently, clinicians' abilities to accurately conceptualize, assess, and treat it.

Hikikomori

Hikikomori is a term that is often used interchangeably as a way to refer to a behavior, a diagnosis, and individuals. The original usage was meant to reference the act of acute social isolation, lasting for more than 6 months and an average of 3 years (Norris et al., 2014). It most typically describes adolescent boys who suddenly isolate in their rooms and no longer engage in typical activities like education, work, or social obligations (Dziesinski, 2008). Often, this condition involves a delay in treatment due to social and family factors such as negative stigma or shame around sharing mental health concerns (Norris et al., 2014). This condition has largely been observed in Japan, having been coined there in 1999, though more recent research suggests cases may be present across the world (Dziesinski, 2008; Kato, Shinfuku, Sartorius, & Kanba, 2011; Teo & Gaw, 2010; Wong, Liu, Li, Kato, & Teo, 2017).

Emotional Symptoms and Isolation

Emotional components of isolation have been found in research, especially as a link between emotional experiences of anxiety and shyness and outcome indicators such as overall health (Cacioppo & Hawkley, 2003; Clark & Watson, 1994; Henderson, Zimbardo, & Carducci, 2010; Morris, Davis, & Hutchings, 1981). Emotional states and reactions may serve as a mechanism that plays a role in isolation, either as a cause or a protective factor (Cornwell & Waite, 2009). According to the multitheoretical

psychotherapy model (Brooks-Harris, 2007), emotional experiences of distress can affect how people experience mental health conditions. This model identifies that mental health concerns consist of cognitive, affective, and behavioral components. Hikikomori often occurs in cultures such as Japan where emotional expression is limited or regulated by strong social expectations (Alvarez & Tewari, 2015). This, combined with limitations in previous research and assessment of hikikomori that do not directly address emotions, warrants exploration of potential emotional components of isolation.

Somatic Symptoms

Somatic symptoms are any symptoms that involve bodily or physical pain or discomfort, especially when reported as a manifestation of mental health complaints (Kramer, Kwong, Lee, & Chung, 2002). These symptoms can be a part of several mental health diagnoses, such as depression or anxiety (American Psychiatric Association [APA], 2013). These symptoms are found to have no physical cause, and are likely to be rooted in a psychological disorder (Kocalevent, Hinz, & Brähler, 2013). Reporting of somatic symptoms is especially high in Asian and Asian American cultures, possibly as a consequence of mental health stigma and barriers to treatment (Desapriya & Nobutada, 2002; Kramer et al., 2002; Zhang, Snowden, & Sue, 1998). Past research and assessment of hikikomori have not addressed the possibility of somatic symptoms, despite some acknowledgement that Japanese mental health treatment often starts with a medical doctor ruling out physical health related causes (Norris et al., 2014).

The present study aimed to clarify and enhance previous research on hikikomori and propose new and alternative ways to conceptualize the disorder. The following

examination aimed to address questions in the literature, including the presence of hikikomori outside of Japan, need for refined assessment and diagnosis, and understanding of how the issue is experienced and thus what intervention may be most beneficial. Particular focus was placed on emotional and somatic experiences, which have limited research exposure relating to hikikomori but have significant potential to affect or explain how people experience hikikomori. Current literature was examined utilizing a multitheoretical lens grounded in Brooks-Harris's (2007) multitheoretical psychotherapy model (MTP).

Definition of Terms

For the present study, terms were operationally defined as follows:

- Hikikomori – A form of pathological social withdrawal or social isolation whose essential feature is physical isolation in one's home. The person must meet the following criteria: marked social isolation in one's home, duration of continuous social isolation for at least 6 months, and significant functional impairment or distress associated with the social isolation (Kato, Kanba, & Teo, 2019).
- Emotional Experiences – Emotional reactions to stimuli that involve emotions, such as fear, anxiety, unease, worry, joy, cheerful, and inspired. These reactions may be a part of mental health concerns or disorders. Emotional reactions could be positive or negative, relative to the stimuli or concern.
- Somatic Symptoms – Symptoms of mental health concerns that are experienced in the body. These may include experiences such as pain,

fatigue, and nausea. Often these symptoms are felt and reported instead of other mental health symptoms due to cultural or personal factors (Kramer et al., 2002).

- Multitheoretical Psychotherapy (MTP) – An approach to psychotherapy treatment that integrates cognitive, emotional, and behavioral experiences. This model seeks to contextualize clients using domains of thoughts, feelings, and actions while considering their unique cultural and relational components, and is especially used for conceptualizing treatment (Brooks-Harris, 2007).

Purpose of the Study

Prior research into hikikomori has focused on many causes, contributing factors, and theories (Hattori, 2006; Kato et al., 2011; Krieg & Dickie, 2013; Li & Wong, 2015a; Norris et al., 2014; Teo & Gaw, 2010). This research has been significant but incomplete. Gaps in present research must be addressed so that future research and treatment may be improved, with the goal of better helping those struggling with hikikomori. Research suggesting that hikikomori is not isolated to Japan and may be spreading around the world is concerning, given the lack of consensus on treatment and conceptualization (Frankova, 2017; Kato et al., 2011; Kato et al., 2012; Malagón-Amor, Córcoles-Martínez, Martín-López, & Pérez-Solà, 2015; Teo, 2013; Wong et al., 2017). Paired with present gaps in research, evidence-based treatment, or comprehensive and empirically validated assessment tools, clinicians could be faced with rising cases of an obscure mental health disorder with no guidance for best practices. Answering or clarifying prior research

findings would also assist in presenting a comprehensive base of knowledge, which could then be used to educate clinicians and other professionals as well as parents and families.

The present study addressed prior research and knowledge by examining potentially relevant domains present in hikikomori cases, therefore presenting a newer and more comprehensive conceptualization of hikikomori. This new model draws from the tenets of MPT (Brooks-Harris, 2007), which would propose a conceptualization of hikikomori that consists of cognitive, emotional, and behavioral aspects. As such, the current study proposed an assessment model for hikikomori that includes emotional and somatic domains in addition to those already utilized in the current assessment model (Teo et al., 2018). Assessing for somatic symptoms was relevant as Asian and Asian American individuals often experience mental health symptoms as physical symptoms (Kramer et al., 2002). This may be due to cultural ideas or stigma around mental health, or shame related to mental rather than physical ailments. The present research intended to obtain a diverse sample so as to examine potential differences between hikikomori and their experiences as well as support previous research about the cross-cultural existence of the condition.

CHAPTER II

REVIEW OF LITERATURE

Introduction

This study explored many facets of hikikomori. Scholarship on history and background, the impact of hikikomori, theories of research about hikikomori and related concepts such as introversion, current treatment models, and current assessment models were examined. This exploration was followed by a summary that shows how the present study will fill a current gap in literature and propose relevant research questions. A thorough review of the literature uncovered a significant limitation in the current hikikomori knowledgebase. Much of the early works related to hikikomori are theoretical works done by Drs. Tamaki Saito, Michael Dzenski, Noriyuki Sakamoto, Andy Furlong, and Yuichi Hattori and were based on personal and clinical experiences rather than empirical research. As a result, much of the early literature reviewed in this section still needs to be empirically substantiated. More recent literature has strong empirical basis, although contradictory or differing information is presented.

History and Background

Early Documentation in Japan

The term hikikomori came into usage around the late 1990s and is best described in the work of psychiatrist Dr. Saito. The origin of the actual word is up for debate. Saito describes hikikomori as a direct translation of the English term, social withdrawal (Norris et al., 2014). Other sources point to hikikomori being formed from two Japanese

words meaning pulling in (*Hikikomu*) and retiring (*Intai*; Hairston, 2010). In either case, the term was used primarily to describe cases of young men completely withdrawing from society (Norris et al., 2014).

Though hikikomori itself was only coined and described in 1998, related cases date back 4 decades in Japan (Norris et al., 2014). In the late 1970s there were several reported cases of what was termed *withdrawal neurosis*, and in the 1980s many cases of students refusing to attend school were documented (Teo & Gaw, 2010). These cases bear some resemblance to what is modernly called hikikomori. How much resemblance is uncertain, as these cases were not well researched after the fact (Teo & Gaw, 2010). The first high profile media attention of hikikomori came in the year 2000. Though the phenomenon was already documented, two high profile crimes brought the condition to the public eye. The perpetrators were reported to be hikikomori, with the most publicized event being a bus jacking (Saito & Angles, 2013). Media coverage heavily played the hikikomori angle, leading to stigma and public fear about the issue. It was relatively soon after these public incidents that the Japanese Ministry of Health, Labor, and Welfare became involved, recognizing the problem of hikikomori in an official sense (Hairston, 2010).

Early descriptions and cases of hikikomori came from Japan (Norris et al., 2014). Initial research and descriptions portrayed hikikomori as uniquely Japanese. It was theorized that hikikomori was a response by young people to changing social and cultural realities within the Japanese culture (Furlong, 2008). This theory was supported by social events in Japan, and at the time hikikomori was coined, young people faced

limited economic and employment opportunities, as well as a changing social landscape (Dziesinski, 2008). In this context, hikikomori was thought of as a response to being left out or unguided by society and culture, which explained the withdrawal from society at large (Furlong, 2008). Hikikomori has also been thought of as a response to societal pressures of role and time, as Japanese culture places emphasis on performing tasks and reaching milestones in line with expectations and peers (Kaneko, 2006).

Terminology

Hikikomori was originally used to refer to the actual act of social withdrawal among youth in Japan (Dzesnski, 2003). It was meant to give a name to the behavior, notto create a pathology. Over time, there has been a drift in terminology. Researchers and theorists use the term to describe a mental health concern that may or may not be culturebound, unique, and on the rise. Within the mental health community, hikikomori serves as a descriptor and diagnostic name (Teo & Gaw, 2010). The first formal definition camefrom the Japanese Ministry of Health, Labor, and Welfare, stating that hikikomori happened in the home, consisted of lack of interest in work or school, occurred for more than 6 months, and was not a symptom of or cause of another mental disorder (Saito & Angles, 2013). Clinically, a firm definition of hikikomori has been reached, but for manyyears researchers relied upon personal or operational definitions (Teo & Gaw, 2010). Although hikikomori was proposed for inclusion in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5; APA, 2013)*, it was not officially accepted, sosome modern research continues to use variable personal and operational definitions(Tajan, 2015).

Among Japanese culture and society, hikikomori as a term has drifted as well. Once used to describe the act of withdrawing, hikikomori has come to also be used to describe the youths who perform the behaviors (Saito & Angles, 2013). The word can, and has, been used as both verb and noun; this creates understandable confusion about diagnostic clarity. The proper term has also become a slang or shorthand for those with hikikomori traits. Being extremely introverted or isolated may be said to be *hiki*, or hikikomori-like. This is especially prevalent in modern pop culture in Japan, and shows the pervasiveness of media knowledge of hikikomori. In the present work the term was used interchangeably to refer to the act of withdrawing, diagnosis, and persons.

Typical Hikikomori Case Information

Typical onset conditions. Hikikomori typically presents in adolescents, so school is often one of the first areas in which problems are noticed. According to one survey performed in Japan, almost 70% of hikikomori cases begin with skipping school or truancy (Saito & Angles, 2013). The logic behind this finding is up for debate and high correlations could imply a sort of causal link. Saito himself refutes this, stating that though he has found an even higher incidence of skipping school among hikikomori patients, the link is likely not causal. His argument hinges upon the idea that skipping school can represent both a manifestation of hikikomori as well as a possible trigger (Saito & Angles, 2013). However, skipping school and onset interact, the youths tend to skip school before ceasing to be present altogether, retreating into their rooms at home and cutting off all other outside activities.

Typical age of onset for hikikomori is around 15.5 years (Norris et al., 2014). These adolescents are predominantly male, belonging to middle to upper-class families (Saito & Angles, 2013). Once social withdrawal begins, treatment or help seeking is typically delayed for some time. First born or oldest boys appear to be especially prone to hikikomori. Parental education level also appears to be correlated, with hikikomori more likely in families with highly educated parents. Regardless of demographics, the average span of the withdrawn state is around 3 years (Saito & Angles, 2013). Though isolation tends to define the issue, hikikomori do sometimes leave their rooms for specific needs as well as to interact or consume internet or other media (Kato et al., 2012).

Typical symptoms and course. As previously mentioned, the period of isolation for hikikomori is often in terms of years. This isolation may look different from case to case, but almost always consists of non-attendance at work/school, lack of social interaction and participation in family, and some sort of physical isolation, usually in one's room (Suwa & Suzuki, 2013). Other features and components of the disorder can vary depending on the credential and orientation of the expert asked. Saito described other features such as fear, thoughts of persecution, regression, and aggression as being common among hikikomori, to some extent (Saito & Angles, 2013).

Sleep disturbance, particularly impaired sleep (insomnia, hypersomnia) is a factor that is reported or suggested in significant amounts of research (Funakoshi & Miyamoto, 2015; Hairston, 2010; Ranieri, 2018; Takasu, Toichi, & Nakamura, 2011). Others more firmly describe a total reversal of wake and sleep cycles, which explains reports of hikikomori leaving the house at strange hours to accomplish necessary tasks

(Ranieri, 2018; Suwa & Suzuki, 2013). The presence and extent of sleep disturbance in hikikomori is contentious, research finds it is always present (Ranieri et al., 2015b), sometimes present (Ranieri & Luccherino, 2018; Takasu et al., 2011), or present in less than half of cases (Funakoshi & Miyamoto, 2015). Some research also suggests that alteration or reversal of sleep cycles may not be unique to hikikomori, but related to the act of isolation itself (Ranieri, 2018; Takasu et al., 2011). Disturbance in sleep as a potential symptom of hikikomori may be difficult to explore because of the potential for comorbidity and differential diagnosis. Sleep disturbances can be linked to many mental health disorders including depression, psychotic disorders, and anxiety disorders (APA, 2013). Research into hikikomori acknowledges this problem, endorsing the need to differentially diagnose sleep issues that are present and the need to further explore the circumstances in which sleep disturbance and hikikomori may be linked (Ranieri & Luccherino, 2018; Stip, Thibault, Beauchamp-Chatel, & Kisely, 2016).

There is some debate around how hikikomori relates to symptomology and diagnosis. The original definition discussed previously was not meant to create a diagnosis. Later research has linked hikikomori to several psychiatric diagnoses. In his work, Saito mentions obsessive-compulsive disorder as a possible link (Saito & Angles, 2013). Others suggest that hikikomori represents a modern variant of depression (Kato et al., 2012). Still others argue that hikikomori can be both primary and secondary, being both a chief concern and a related symptom for other problems like personality or developmental disorders (Suwa & Suzuki, 2013). Recent western research suggests that all or none of these ideas may be accurate, finding that hikikomori often can resemble

existing disorders, but notable specific cases are unable to be linked to existing disorders (Teo & Gaw, 2010).

Societal Perceptions of Hikikomori

Social stigma of hikikomori. Owing to stigma around mental health and cultural factors in Japan, hikikomori has traditionally been seen as a negative condition, associated with criminals and outcasts (Saito & Angles, 2013). Television specials have been made to increase awareness of the phenomenon, and exposure has ensured that it appears often in the cultural zeitgeist. Early in the life of the exposure, hikikomori became associated with a high-profile criminal incident, with the media portraying hikikomori as criminals waiting to happen (Saito & Angles, 2013). This association led to strong reinforcement of negative stigma about the issue and those who suffered from it. Indeed, hikikomori became associated with a sort of truancy or negative social status, on account of the outcast status associated with absence from normative social markers and milestones.

Popular culture and the heroic struggle of hikikomori. Looking at pop culture in Japan, hikikomori fits a strange niche, being both a cautionary tale and heroic struggle. The strong media coverage in Japan addresses the first half, aiming to raise awareness and help seeking behaviors. Due to these interventions, most people in Japan know of the issue, and the actual term hikikomori sometimes is used as a safe way to describe mental health concerns (Saito & Angles, 2013). The second component, hikikomori as a heroic struggle comes from artistic and recreational media. In some series or animation and comics, well-liked characters suffer from, or proudly proclaim,

hikikomori as an identity, which plays off social awareness and stereotypes. In particular this gets at a Japanese subculture called *Otaku*, which primarily consist of *obsessive* fans of comics and animation who often are seen as fringe societal groups (Hairston, 2010).

Negative stigma still exists, but over time has shifted slightly. A more common thread in modern pop culture has been to paint hikikomori as almost comedic, at worst a personal deficiency, and at best a mild annoyance or quirk (Hairston, 2010; Heinze & Thomas, 2014). This can be seen in series like *Welcome to the NHK*, in which the primary character is hikikomori. The series functions as a dark comedy, where the main character is financially dependent on his parents while spouting conspiracy theories and blaming society for his lot in life (Hairston, 2010). His behaviors are often played for laughs, and despite his flaws, he gets the girl in the end and ostensibly goes on to live a normal life. More recent trends in pop culture have somewhat vindicated hikikomori.

Increasingly, main characters are said to have hikikomori or similar characteristics, and these characters are viewed positively. The comedy element is still present, as these characters are typically hapless, socially inept, and often masters of gaming or other socially fringe skills. Hikikomori has also become linked with another social phenomenon in Japan called NEET, standing for Not in Employment, Education, or Training (Uchida & Norasakkunkit, 2015). To some extent, NEET describes the struggle of the hikikomori, in that they are inherently out of those social arenas described. Several shows and franchises have come to include NEET subculture and characters, often serving as a criticism of modern Japanese culture. Some research has linked hikikomori and NEET into one continuum, arguing that these tendencies reflect

psychological tendencies present in the fringes of Japanese society (Uchida & Norasakkunkit, 2015). For the purposes of this study, no differentiation between the two is officially being made.

Although the cultural presence of hikikomori has been mixed, the trends so far seem to be positive. Although stigma and humor at their expense persists, stories tend to be more sympathetic than in the past. It could be argued that more sympathetic portrayals soften hikikomori in the public eye and lead to better outcomes. Certainly, there are more positive role models to be seen, which increases awareness. This awareness is desperately needed, as hikikomori is inherently isolating and often invisible. More could be done, but the trend away from criminality and toward sympathy is positive.

Conceptual Frameworks of Hikikomori Unique Illness or Cultural Expression

Similar to the argument of whether hikikomori is culturally bound, hikikomori faces a strong dichotomy between those who believe it to be a unique pathology and those who believe it represents a novel or culturally bound expression of some other, more common, problem. Those who believe hikikomori is unique typically point to the factors that do not correspond easily to other disorders, largely the prolonged withdrawal and unique factors involved. Others who believe that hikikomori is unique only in expression typically link it to more common disorders, arguing that the withdrawal behaviors represent something unique to Japan, while the root causes are a more universal diagnosis (Teo & Gaw, 2010; K. Watabe et al., 2008). Further exploration is

needed to clarify diagnostic features of hikikomori, as well as its relationship to other mental health diagnoses.

Hikikomori as a Culturally Bound Phenomenon

Originally, hikikomori was conceptualized as an occurrence or disorder uniquely bound to Japanese culture. The first and only cases were identified there, and it was thought that it represented a unique reaction to cultural and social factors within Japan (Norasakkunkit & Uchida, 2014). More recently, questions have arisen about how bound hikikomori is to Japan, with cases beginning to appear in other nations. Surveys of health and mental health professionals across the world have indicated that hikikomori-like symptomology are not uncommon (Kato et al., 2012). Significant support still exists for a culturally bound interpretation, due to the fact that most cases and research come from Japan.

The case for culturally bound hikikomori begins with the coining of the terminology and historical cases. All of the early cases were in Japan, and there was simply no other documentation outside Japan for many years. This alone suggests a degree of binding. Further, hikikomori was thought to be in response to changing cultural and societal factors in Japan (Dziesinski, 2003). Around the time of the first knowledge of the problem, Japan experienced what was called a “lost generation,” youths coming of age in tough economic circumstances and extreme social change. It was felt by many that Japan had failed these young people, and that the young in turn rebelled against society (Norasakkunkit & Uchida, 2014). Amongst these circumstances the first hikikomori cases were found, and the link was made.

Another component of the culturally bound hypothesis is that hikikomori at its core represents pathology that openly opposes cultural norms in Japan (Rosenthal & Zimmerman, 2012). More than a response to societal circumstances, the idea states that only in Japan could the disorder occur. Japanese culture, which strongly emphasizes duty, responsibility to family, strong social connection, creates a circumstance where failing to comply is deeply atypical, bordering on pathological (Norasakkunkit & Uchida, 2014).

Hikikomori are thus viewed as failed youth, to be treated with shame. By withdrawing from school, social life, and everything else, the youth stand opposed to norms, which parents enable due to stigma and related factors (Rosenthal & Zimmerman, 2012). Yet another component is that the enabling of hikikomori withdrawal is uniquely Japanese. After all, hikikomori would not be able to live comfortably in normal circumstances, having severed all forms of connection and support. Typically, families support their children financially, allowing their exile to continue (Saito & Angles, 2013). There is typically a shame or stigma component to this parental choice, owing to a background of shame around mental health issues within the culture. Thus, the argument is that the youth withdraw due to some failure to conform to societal standards, and parents enable them to do so. Specificity of cause with regard to culture may extend to treatment, where cultural considerations could be needed to ensure best outcomes (Dziesinski, 2008).

Cases around the world. Despite the arguments against hikikomori as a worldwide phenomenon, some cases have been identified in other countries. Notably

these cases have occurred in Oman, Spain, France, Hong Kong, and the United States, both western and non-western cultures (Ovejero, Caro-Cañizares, De León-Martínez, & Baca-García, 2014; Ranieri et al., 2015a; Sakamoto, Martin, Kumano, Kuboki, & Al-Adawi, 2005; Teo, 2013; Wong et al., 2015). Several of these cases have since had follow-ups and other research performed that indicate the incidents were not isolated (Malagón-Amor et al., 2018; Teo, Fetters et al., 2015). The amount of cases has been very limited, but their existence points to the idea that something other than culture binds hikikomori. It is possible that these cases have other factors at hand, but they serve as evidence for researchers arguing that hikikomori is more common and widespread than once thought.

In order to better understand the argument for global hikikomori, at least one major international survey has been attempted. A multinational research team surveyed psychiatrists in nine countries, including Japan, Korea, Australia, and the USA, among others (Kato et al., 2012). This was performed in hopes of ascertaining whether hikikomori would be familiar to professionals in nations outside of Japan. The professionals were sent case vignettes of hikikomori clients, and an almost equal number of responses came from Japan compared to the other eight countries (Kato et al., 2012). The results were surprising and supported the idea that hikikomori has become or has always been an international issue.

Respondents from each country indicated that hikikomori was seen in their locations, especially in more urbanized areas (Kato et al., 2012). The urban component may display some possible link between technology and hikikomori, but was not at issue

in the study. Professionals surveyed displayed wide variability in their recommendations to treat hikikomori, but the relative uniformity of their other experiences indicates a strong argument for expanding the international knowledge base of hikikomori (Kato et al., 2012). Another important component of this research was that countries surveyed included both western and eastern cultures, which offers evidence that hikikomori is not culture bound.

Some proponents of culturally bound hikikomori have actually been able to use international cases to broaden their argument. One such example comes from a case that occurred in Oman, in southern Arabia. The case had all the essential hikikomori features, being nearly indistinguishable from a Japanese case (Sakamoto et al., 2005). One link drawn by researchers was that Oman and Japan both share some distinct cultural traits, and are typically thought of as eastern or collectivist. Researchers theorized that the two societies shared a similar social environment that reinforced hikikomori behaviors more than other cultures would have (Sakamoto et al., 2005). This thought was used to argue that hikikomori may be culturally reactive, if not totally culturally bound. Also contributing to this idea were cases found in Hong Kong and Korea, both eastern and collectivist cultures (Suwa & Suzuki, 2013; Wong et al., 2015).

Prior research focused on the fact that almost no cases had been observed outside of Japan, though this has since been refuted by many new studies and reports (Frankova, 2017; Kato et al., 2011; Ovejero et al., 2014; Ranieri et al., 2015; Sakamoto et al., 2005; Tajan, 2015; Wong et al., 2017). For several years after the case in Oman, no significant western cases were reported. In more modern times, cases have begun to spring up in the

west, with some compelling research into them as well. One case report from the United States described a client suffering from a mood disorder who isolated in hikikomori fashion during prolonged depressive episodes (Teo, 2013). This was the first reported case in the Americas. The next year, a case of hikikomori was reported in Spain, with a client who had been isolated for 4 years (Ovejero et. al, 2014). This was the second case reported in Spain, and offered further evidence that hikikomori was not culture bound at all.

A follow up to the cases in Spain was performed to examine possible hikikomori in the country. By checking logs of patients referred for social isolation, researchers found 164 possible cases of hikikomori (Malagón-Amor et al., 2015). Researchers asserted that these cases proved the existence of hikikomori in Spain as well as a need for further research and treatment. These cases greatly paralleled cases described in Saito's earlier work, with an average isolation period of three years and primarily male patients (Malagón-Amor et al., 2015). Combined with previously discussed research identifying prevalence across the world, these findings would seem to suggest that hikikomori at the very least is developing into an international concern.

Hikikomori as a New Psychological Disorder or a Symptom of an Existing Disorder

With hikikomori, the main point of agreement is that the extreme social isolation is always present, and is often the primary concern for treatment. Time in self-exile tends to compound upon itself with inertia and is harder to break as time goes on. Consensus often ends there. Some believe that hikikomori can be both a primary and secondary feature of diagnosis, at once a disorder and a symptom (Suwa & Suzuki,

2013). Others believe that hikikomori is wholly unique, or at least represents a culturally unique version of an existing single disorder (Teo & Gaw, 2010). An original definition of hikikomori by a Japanese governmental agency stressed that the term was not a disorder, but that it described the actual act of withdrawal, lasting for 6 months or more (Dziesinski, 2003). This sounds like an operational definition and creates further problems.

Another definitional problem is in how professionals view or categorize hikikomori. Researchers have proposed the idea that there may be two types of hikikomori, which differ significantly from one another. These are called primary (without obvious mental disorders occurring) and secondary (with potential additional disorders; Li & Wong, 2015b; Suwa & Suzuki, 2013). This distinction is sometimes used to explain vast differences between hikikomori cases, such as explaining why some cases (primary) might be less responsive to treatment than others (Nishida, Kikuchi, Fukuda, & Kato, 2016). This distinction has mixed following among professionals, some endorse and incorporate it into their research to explain differences (Frankova, 2019), while others seek to determine whether or not the distinction even exists (Teo, Stufflebam et al., 2015). Research into the distinction suggests that at least some hikikomori report a primary type, but this finding could be due to many factors, such as lack of report of other symptoms or potential culturally bound factors (Teo, Stufflebam et al., 2015).

Inconsistencies in the Definition

Taken at face value, the original operational definition seems to indicate that hikikomori is the act of isolation and does not represent a sort of pathology. The definition explicitly states that no illness, mental or otherwise, corresponds to hikikomori (Saito & Angles, 2013). This is problematic. No avenues for treatment or care are to be gleaned from this definition. Research on the subject tends to have differing thoughts on whether isolation is the illness or if it shows a symptomatic response to something deeper (Suwa & Suzuki, 2013).

Those most likely to link hikikomori to other disorders tend to argue that isolation serves as a symptom of another problem (Teo & Gaw, 2010). No matter the disorder in mind, it would seem logical that if linked, hikikomori is not just the isolation component. The opposite argument would view the isolation as the unique root cause, closer to a more traditional approach. Researchers often hold one stance or another, and no unified exploration across fields and theories has been performed. The present research aims to present a more unified view of hikikomori and how people experience it.

Links to Other Illnesses

Links between hikikomori and other pathologies tend to focus along predictable domains such as disorders that contain or promote social isolation and withdrawal. These typically include depression, anxiety, and dissociative disorders (Hattori, 2006; Kondo et al., 2013). It should be noted that proponents of hikikomori as a culturally bound expression often disagree as to what disorder hikikomori actually corresponds

(Teo & Gaw, 2010). This issue has led to several theories, with comparatively little research for each. To date, a truly exhaustive study has not been completed examining all of the potential links against one another. The closest work that has been done indicated that about a third of hikikomori could be diagnosed with schizophrenia, mood disorders, or anxiety disorders, while others met criteria for developmental disorders (Kondo et. al, 2013).

Major depressive disorder. Depression is often the most easily linked disorder to hikikomori. Though isolation and withdrawal itself is not a required symptom for a depression diagnosis (APA, 2013), it is often a state that accompanies severe depression. Indeed, when asked to describe hikikomori symptoms and cases, professionals often call it severe depression (Kato et al., 2012). In some research hikikomori is either called or linked to a concept of modern or modern type depression, referring to the occurrence of hikikomori around the advent of the internet and potential links to internet addiction (Kato et al., 2016; Stip et al., 2016; Suwa & Hara, 2007; Tajan, 2015; Watabe et al., 2015). Links to depression often hinge upon present but not openly endorsed depressive symptoms, where the withdrawal and dysfunction represents an extreme reaction to anhedonia or depressed mood (Teo, 2012). This link is reinforced by other culturally unique expressions of depression (Marsella, 2003). It is not uncommon for some cultural groups to deny anhedonia, depressed mood, and suicidality, yet still display depressive symptoms (APA, 2013). These expressions often respond to common, slightly modified depression treatments (Teo, 2012).

Treatment response information fits nicely with hikikomori both in and out of Japan. Within Japanese culture, negative emotions and failure are not commonly discussed issues, which may explain the onset of symptoms. In this case, the child would withdraw in response to an untenable circumstance or situation. Documented cases have typically responded to depression treatments such as psychopharmacology and talk therapy. Reasons for this success could be variable, but it remains an important point of data. Additionally, when framed as severe depression of a unique type, professionals in other parts of the world endorse seeing hikikomori, which may indicate that nomenclature is a significant barrier (Kato et al., 2011).

Outside of Japan, depression is the most often cited link, as previously mentioned (Malagón-Amor et al., 2015; Tajan, 2015; Teo, 2013). Research is disparate on this topic, one study found that a hikikomori population had an over 50 % incidence of Major Depressive Disorder diagnosis (Nagata et al., 2013). Another study performed outside of Japan suggested that around 7% of hikikomori had been diagnosed with depression, suggesting potential comorbidity as well (Frankova, 2017). Hikikomori assessed for other mental health disorders most commonly received depression diagnoses in a Japanese study (Katsuki et al., 2019). These results are somewhat supported by previous research in Japan and the United States, finding that hikikomori had a high incidence of disorders that were depressive in nature (Teo, Stufflebam et al., 2015). This is somewhat complicated by research that categorizes comorbidity by disorder type, rather than *DSM* diagnosis (Malagón-Amor et al., 2018).

Anxiety related disorders. Much as the link between depression and hikikomori might seem obvious to some experts, so too does the link between anxiety related disorders, most specifically agoraphobia and social anxiety disorder (APA, 2013). In this case, anxiety may help in explaining the root of the withdrawal and the factors that perpetuate it (Nagata et al., 2013). Links with agoraphobia would explain the need to be shut in one's room, seeking safety from a terrifying outside world. Some hikikomori endorse social anxiety related causes as well (Nagata et al., 2013). Research has linked panic disorder in mothers with increased prevalence of hikikomori in their children, suggesting a deeper link with anxiety related disorders (Umeda & Kawakami, 2012).

Despite links, some issues remain, as with depression. Through the lens of agoraphobia, isolation makes sense as a response to fear of a threatening world. Even in exile, a significant amount of hikikomori actually venture into the outside world, though typically at non-threatening times with few others around. If agoraphobia was the strong cause, these youths would be largely incapable of these outings or they would endure them with great distress (APA, 2013). Compounding this problem, hikikomori often do not endorse feeling inherently threatened by the world at large (Norris et al., 2014).

Hikikomori prefer their rooms to outside endeavors. Social anxiety has similar issues. Though the logic for a social anxiety diagnosis would make sense, often hikikomori do not endorse specific social fears. They may avoid social interaction and judgement where possible, but the onset of symptoms is not always accompanied by specific events of social trauma. The withdrawal can be seen as a reaction meant to sever all social connections, and often does, but prior struggles are not always evident.

Also, hikikomori are not inherently fearful or shut down by social interaction, or at least do not endorse feeling so (Saito & Angles, 2013). Research performed on the link in a treatment sample of social anxiety disorder found comorbidity rates of around 20%, and lowered response to treatment among this group (Nagata et al., 2013). This study suggested that comorbidity may be a serious issue, but also did not postulate an innate sameness between the two disorders. Another study found only a single case where social anxiety disorder and hikikomori were linked, a less than 5% incidence of comorbidity (Katsuki et al., 2019). These research findings are further complicated by a study finding that ARD comorbidity existed in Japanese and American populations, with rates varying depending on specific diagnosis, as high as 27% for social anxiety disorder (Teo, Stufflebam et al., 2015). This finding may support a subsequent finding that suggested ARD comorbidity was around 22% in a Spanish sample (Malagón-Amor et al., 2018).

Despite challenges, some traditional treatments address largely social and anxiety-related issues. The most extreme cases often involve group homes where the youths are gradually led to socialize with other residents and taught social skills (Dziesinski, 2008). These interventions largely boil down to exposure and getting the buy-in of the patient, motivating them to engage with small groups, then later society. These approaches may in fact work, but the reason for their effectiveness is less clear. Being employed exclusively in Japan, these techniques may reflect cultural norms or prescriptions, rather than correct diagnosis and conceptualization (Dziesinski, 2008). It

could be that as a drastic step, these settings break the isolation, which is enough to force a change in the patient.

Dissociative disorders. Links between dissociative disorders may not be as clear as with other disorders. Pure symptomology could be argued to suggest that isolation and withdrawal comes as a response to an untenable reality, or possible negative consequences of dissociative symptoms. It is important to note that hikikomori rarely endorse symptoms like delusions or hallucinations (Saito & Angles, 2013).

Theorists behind the link tend to view hikikomori as related to a fugue state or dissociative identity disorder. The main thought here is that the withdrawal is caused by a dissociative episode, which makes dealing with reality unbearable on an ongoing basis (Hattori, 2006). Thus, isolation controls reality to a very small self-imposed space. This idea fits with some other conceptual models of hikikomori which link the disorder to strict cultural norms of time and space management (Kaneko, 2006). This theory is somewhat incompatible with modern diagnostic criteria, where fugue state occurs in episodes, usually lasting less than 3 years (APA, 2013).

The dissociation theory is largely based upon conversations with hikikomori, who have endorsed feelings similar to those endorsed by individuals in dissociative states. The most compelling evidence turned out to be multiple reports of feeling the patient had more than oneself, and that their *other* self, who was socially compliant and successful, had one day broken down (Hattori, 2006). Without that self, the hikikomori reported having no way to manage life, and thus, they withdrew. It was thought that this

reported pattern was supported by incidences of trauma, usually as young children being forced to conform.

Modern research has both complicated and vindicated hypothesized links between hikikomori and dissociative disorders. Some studies have found no link between the two or have not searched for such a link in relevant situations (Nagata et al., 2013; Teo, Stufflebam et al., 2015). Other research suggests the link could be as low as 5% (Katsukiet al., 2019). One modern study found that dissociative disorders had the highest comorbidity or links to hikikomori, as high as 37% (Malagón-Amor et al., 2018). These disparities emphasize possible links between dissociative disorder, but uncover many more questions as to the nature of that link.

Links to Introversion and Other Concepts

Many aspects of hikikomori appear related to concepts such as introversion, shyness, and solitude. For example, Hikikomori's self-isolation and avoidance of human contact are behaviors seen in introversion. While not all hikikomori report explicitly wanting to avoid contact with others, some may have begun isolating in whole or in part due to problematic social interactions (Saito & Angles, 2013).

Introversion is placed on a continuum of personality traits counter to extraversion. Introversion typically refers to the internal focus on one's emotional wellness and source of stimulation (Saklofske, Eysenck, Eysenck, Stelmack, & Revelle, 2012). Carl Jung was among the first to use the term, using it to refer to the tendency towards inward orientation in life, as opposed to external focus (Saklofske et al., 2012). Originally the trait was thought to represent the opposite of extraversion, dividing

people into inwardly focused introverts and outwardly focused extraverts. This conceptualization is still used today to measure personality traits (Ypofanti et al., 2015). Later theory has conceptualized introversion and extraversion as differences in how stimulated and responsive people are to their surroundings (Saklofske et al., 2012).

The concept of introversion has been linked to many factors that may impact hikikomori or be adjacent to hikikomori experiences. Introversion has been thought to be related to shyness or desire for solitude, which are both often thought of in relation to hikikomori (Briggs, 1988; Coplan & Bowker, 2013). These links may appear obvious, a shy introvert who enjoys solitude would likely enjoy isolation from the world. This idea fits better with some conceptualizations of hikikomori (depression, anxiety) than others (Kato et al., 2019; Nagata et al., 2013; Teo, 2013; Umeda & Kawakami, 2012).

Other relationships between introversion and hikikomori may be seen in activities like internet usage. Hikikomori has risen in prominence and prevalence with increased internet accessibility, so relationships between introversion and internet usage may be relevant (Kato et al., 2012). Research has found that some types of internet usage (e.g., gaming, watching movies) are predictive of higher rates of introversion, and lower overall rates of happiness and social support (Mitchell, Lebow, Uribe, Grathouse, & Shoger, 2011). It has also been found that introversion, like hikikomori, is related to compulsive internet usage, such as internet addiction (McIntyre, Wiener, & Saliba, 2015; Stip et al., 2016).

Links between hikikomori and introversion may also be present in the symptoms and hypothesized conceptualizations researchers have proposed. Introversion has been

found to be higher among depressed persons than in an average sample, which may relate to depression-like symptoms of hikikomori such as avoiding social interaction and rarely leaving a single room (Jylha, Melartin, Rytala, & Isometsä, 2009; Kato et al., 2019; Kato et al., 2011; Li, Li, Wong, & Cao, 2017; Teo, 2013). Another possible link is to sleep disruption. Individual differences in introversion and extraversion have been found to be related to sleep deprivation vulnerability, where introverts were less susceptible to some adverse effects of lack of sleep (Killgore, Richards, Killgore, Kamimori, & Balkin, 2007). Hikikomori have also been documented to have sleep symptoms or have been theorized to have sleep issues (Hairston, 2010; Ranieri, 2018; Ranieri & Luccherino, 2018; Stip et al., 2016).

Shyness is another concept that appears to have links to hikikomori and their symptoms. The research-based definitions of shyness point to a multifaceted understanding, where shyness can be an emotional state, personality trait, or a physical experience (Henderson et al., 2010). This concept also links to introversion; shyness has been found to correlate with both introversion and neuroticism, suggesting that shyness can be placed on a continuum of related ideas (Briggs, 1988). Within research, shyness can be used to describe fearful emotional states as well as tendency toward discomfort and self-critical experiences in social situations (Henderson et al., 2010).

These definitions of shyness seem to match with some aspects of hikikomori, especially the social isolation. This link could be seen through reports of hikikomori having trouble relating to others, or lack of interest in doing so (Hattori, 2006).

Hikikomori also have been found to have higher rates of shyness as a personality trait, alongside having higher rates of ambivalent attachment and social rejection (Krieg & Dickie, 2013). These findings may indicate that shyness has a role in hikikomori research, especially with regard to identifying who may develop symptoms.

Prevalence and Awareness

Prevalence Rates

Several studies and investigations place the rate of hikikomori inside Japan at a stable level, indicating that Saito's initial guesses could be correct. Saito infamously postulated that as many as one million hikikomori existed within Japan, but more conservatively stated a 1% prevalence within the population (Saito & Angles, 2013). Another more recent face-to-face study performed in a relatively large community found a prevalence rate of slightly above one percent, supporting Saito's earlier data (Takeshima et al., 2010). A recent study by a government agency in Japan placed the reported hikikomori numbers at around 550,000, which may complicate or contradict prior findings (Tajan et al., 2017). This research suggested that hikikomori is prevalent in Japan, though no firm data exists for other countries. Additionally, this research study found that hikikomori were six times more likely to be diagnosed with a mood disorder (Tajan et al., 2017).

Stigma and Resistance to Help Seeking

Japanese attitudes towards mental health and tendencies in help seeking are important contextual factors for understanding hikikomori. Compared to other, more westernized nations, Japanese culture shows significant differences in negative attitudes

toward some types of mental illnesses (Griffiths et al., 2006). Complications also arise from attitudes in Japan that deem mental health as something very private and not addressed by those outside the home (Desapriya & Nobutada, 2002). This stigma has changed over time, and has been shown to be responsive to education efforts, but it remains significant, especially for certain types of mental disorders (Ando, Yamaguchi, Aoki, & Thornicroft, 2013).

Another component of help seeking behavior involves tendency toward somatization. Asian and Asian American populations have the tendency to express mental health complaints as physical health complaints, leading to situations where medical doctors find no root physical cause for symptoms (Kramer et al., 2002; Zhang et al., 1998). This tendency may vary across cultural groups, but has some bearing on how or where hikikomori and their families seek help. Combined with mental health stigma, it may seem more acceptable to seek the help of a doctor for a physical complaint, rather than for a mental health issue like hikikomori.

Isolation as a barrier to help seeking. The nature of life experiences as a hikikomori are also a barrier to treatment. If nothing is done to end the isolation of the hikikomori, it can become a stable state that is hard to escape from. Often hikikomori will not refer themselves for treatment or reach out for help, leaving the true number of those suffering unknown (Norris et al., 2014). Despite this, public awareness has grown, leading to some positive gains in understanding of the disorder and how to help (Horiguchi, 2011). The act of isolation can often be self-sustaining, with hikikomori only leaving their rooms under special circumstances, such as acquiring necessary life

suppliers participating in inherently social activities related to their interests, such as gaming (Kato et al., 2017; Norris et al., 2014).

Current Treatment Models

Treatment for hikikomori is something of a work in progress, especially given its recency. The lack of consensus of treatment may also be a reflection of greater confusion in research and clinical application of hikikomori. Regardless, treatment tends to be subject to individual or group whims, evidence-based practice is almost non-existent (Li & Wong, 2015a). More common or traditional interventions do exist, but are not proven to be best practice. The issue of treatment may be reflective of the tendency for clinicians to work from their own definitions of hikikomori (Teo & Gaw, 2010). Research has been performed to remedy these issues, but so far has only yielded lenses from which to view treatment and smaller-scale examples of good practice (Katsuki et al., 2019; Wong et al., 2019). The little research aimed at treatment methods suggests that no single method is wholly effective, which may explain some variety in treatment and outcomes, as well as showing the need for combined approaches (Ranieri et al., 2015b).

Early Family Intervention and Family Therapy

Some ideas for early treatment revolve around the parents and potential of whole family treatments. As parents are often the ones who enable the isolation to continue, interventions are aimed at getting early help and resources for parents. Parents are encouraged to communicate with their child that they are seeking help, and offer to include the child in the therapy sessions (Saito & Angles, 2013). This is not always

successful, but usually serves to send the message to the child that help is available, beingsought, and that their exile is being taken seriously. Some of the logic around family models is derived from research linking attachment to hikikomori. This research found hikikomori to have higher occurrence of ambivalent attachment styles, which is characterized by suspicion and distrust of others due to early neglect or abuse by primary caregivers (Krieg & Dickie, 2013). Krieg and Dickie's (2013) research points to increased sensitivity to rejection in individuals with hikikomori that might be addressed by healing possible attachment wounds in the parent-child relationship.

Outpatient Psychotherapy

Treatment guidelines were proposed for hikikomori by the Japanese government, although individual therapy of any type is not specifically mentioned (Saito, 2010).

Outpatient psychotherapy has particularly seen usage in countries where this treatment modality is common and accessible (Malagón-Amor et al., 2015; Sakamoto et al., 2005; Teo, 2013). Research in these areas has found outpatient psychotherapy to be effective, especially when combined with medication therapy. Efficacy of this treatment independent of medication or in other groups is currently in need of further research.

This treatment has some limitations for usage in Japan, as psychological help and therapy often have stigma associated with them (Ando et al., 2013).

Hikikomori treatment often includes outpatient psychotherapy much like diagnoses of depression or anxiety would warrant traditional one-on-one psychotherapy. cognitive behavioral therapy has been used to treat hikikomori, with particular focus on exposure, sensitivity to social relationships, and behavioral avoidance (Nagata et al.,

2013). Other psychotherapy modalities have focused on attachment, aiming to restore secure attachment of hikikomori, though research differs on to what or to whom the attachment bond should be centered (Hattori, 2006; Krieg & Dickie, 2013). For some individuals, attachment wounds may trigger hikikomori. This hypothesis has been supported by clinical cases of hikikomori presenting with loss of secure attachment to family and showing an inability to trust or relate to others (Hattori, 2006). Hikikomori may also have higher incidence of ambivalent attachment and rejection from family or social groups (Krieg & Dickie, 2013). Psychoanalytic approaches have also been utilized, focusing on how hikikomori choose to withdraw and where the root of that choice originates (Ranieri, 2018).

Available psychotherapeutic treatments appear to vary across national and cultural lines, which creates a complicated web of potential treatments (Wong et al., 2019). Psychotherapy treatment in Japan might involve significant amounts of psychoeducation or other culturally sensitive adaptations (Iwakabe & Enns, 2015). Treatment for hikikomori may often be conducted in clinics or with assessment tools intended for other diagnoses, suggesting that usage of many different but not specifically empirically validated models may be at least somewhat effective (Cerniglia et al., 2017; Wong et al., 2019). Other psychotherapy techniques for treating hikikomori include animal assisted therapy, motivational interviewing, art therapy, and even intentional incorporation of games and social apps (Cerniglia et al., 2017; Kato et al., 2017; Wong et al., 2019).

Previous Treatment Models

One early treatment model for hikikomori involves removal of the youth from their surroundings and entry into a group home setting. This removal is not always by choice. The group home setting typically consists of other hikikomori at various levels of functioning (Dziesinski, 2008). Within the home, hikikomori are encouraged to engage with their peers in a prosocial way. This is done by making group interaction appear desirable and incentivizing participation. Failure to engage with group norms is discouraged (Dziesinski, 2008).

Over time, this creates and internalizes a routine of scripts, which can eventually be used to navigate the outside world. This treatment was once common but has over time been modified as newer treatments have been used. Despite modification, some forms of this treatment still exist, and are endorsed partially in governmental treatment guidelines in Japan (Saito, 2010). Some in the area of sociology feel that this treatment uses gendered resocialization in order to effect change (Dziesinski, 2008), being that hikikomori are mostly male, and success in this program means being able to adapt to one's middle class male role in society. Another explanation could be that routine and structure themselves create social scripts and problem-solving lead to better outcomes.

Current Assessment Models

Assessment of hikikomori has historically been complicated by several factors. For many years, there was no official clinical definition and there continues to be disagreement of what constitutes the condition and how to study it (Hattori, 2006; Kato et al., 2011; Takeshima et al., 2010; Teo et al., 2018; Teo, Fetters et al., 2015; Teo &

Gaw, 2010). In recent years, progress has been made in assessment, despite these challenges. Usage of more broad tools of assessment, such as the Rorschach and self-report personality measures have been used to enhance research (Katsuki et al., 2019). A clinical definition has been proposed for inclusion into the *DSM-5* and further expanded into an operational definition and assessment tool (Teo et al., 2018; Teo & Gaw, 2010). These research advances have added significantly to the ability of hikikomori to be measured. Despite progress, current models do not account for important factors, such as tendency for many populations impacted by hikikomori to report somatic symptoms, and the potential importance of emotional measures (Brooks-Harris, 2007; Kramer et al., 2002).

The main measure available at this time to assess hikikomori is the Hikikomori Questionnaire (HQ-25; Teo et al., 2018). The HQ-25 is a self-report scale that consists of 25 Likert scale questions. Development of the measure was meant to address diagnostic questions while being easy and straightforward to use. The measure was given to both a clinical and non-clinical Japanese population, and participants with obvious extenuating circumstances surrounding the cause of their social isolation (such as pregnancy) were excluded from diagnosis (Teo et al., 2018). The norming populations included 399 individuals from both clinical and community populations with a mean age of 32 years. More than half were men, and 30.3% lived independently (Teo et al., 2018). Due to this limitation, usefulness in other potential hikikomori populations is not known. This becomes especially important with recent research finding cases in many other countries such as the United States, Ukraine, and China

(Frankova, 2017; Teo, 2013; Wong et al., 2017). Populations across national and cultural lines may have significant differences in presentation of hikikomori symptoms, which may necessitate different approaches to treatment and assessment. These include potential for cases outside of Japan, tendency of somatic complaints to be reported instead of mental health symptoms in Asian and Asian American populations, and multitheoretical approaches to treatment and assessment.

The tendency of Asian individuals to display somatic symptoms may complicate assessment of hikikomori. Asian and Asian American populations may report physical health complaints more often than mental health complaints, often expressing the former in place of the latter (Kramer et al., 2002; Zhang et al., 1998). Asking directly about mental health concerns might not be an effective method for identifying mental illness, if an individual's focus is on avoiding mental complaints and focusing on physical ones. Unfortunately, this is a domain that the HQ-25 does not account for.

Emotional experiences of Asian populations may also complicate assessment of hikikomori. Expression of emotion openly is often frowned upon or discouraged in traditional Asian cultures (Alvarez & Tewari, 2015; Kramer et al., 2002). This aversion to share emotional experiences may complicate diagnosis or change how some disorders are presented to clinicians (Marsella, 2003). Lack of willingness to share emotional experiences may also complicate assessment, which may limit present usage of the HQ-25. The HQ-25 contains a factor based around emotional support, which contains items meant to indicate whether the respondent feels they have an emotional support system (Teo et al., 2018). This is undoubtedly useful but does not necessarily capture the

emotional feeling that hikikomori elicits. It is possible that asking directly about emotional experiences would receive limited or no responses, but research suggests that such responses may be useful (Brooks-Harris, 2007).

Some recent research into psychological treatment has suggested that a broader conceptualization model of mental health complaints related to hikikomori might be useful. The MTP proposes that mental health problems can be separated into cognitive, emotional, and behavioral components (Brooks-Harris, 2007). These separate factors help to clarify how people experience mental health conditions differently. Understanding how persons experience these three domains also help guide treatment, by providing the clinician a roadmap for treatment interventions that address the domain(s) most relevant to the client's experiences (Brooks-Harris, 2007). The present model endorses a multitheoretical approach, where mental health problems consist of three parts: cognitive, emotional, and behavioral (Brooks-Harris, 2007). The HQ-25 may address some of these domains already, but it may be useful to examine missing components, such as emotional experiences and somatic complaints.

Purpose of the Study

Hikikomori is a clinical issue that has become clearer over time, yet remains unclear in present research. This lack of clarity is in part due to a limited consensus regarding its etiology and conceptualization. These complications are important to resolve due to the potential for cases around the world and lack of treatment or knowledge. Current knowledge of hikikomori tends to draw from many different research ideas and lacks unification and integration. There is a need to supplement

present knowledge and models of treatment and assessment with new approaches that unify and enhance them. Present research leaves significant questions about the place of emotionality in hikikomori experiences and treatment, especially in light of cases traditionally occurring in cultures that frown upon open emotional expression. Literature also does not address the potential for somatic symptoms, which are commonly expressed by Asian and Asian American cultures experiencing mental health concerns. Finally, there are many questions regarding the nature of international cases of hikikomori. These questions include prevalence of cases in different nations, and whether cases are always uniform across groups. Relationships to western concepts such as introversion are also questioned, as many hikikomori traits appear similar to introvert behavior.

The HQ-25 represents a significant step in assessment and diagnostic criteria for hikikomori. This is especially true due to its ability to differentiate clinical and non-clinical populations and transparent factors that help lead to diagnosis (Teo et al., 2018). The diagnostic and differentiation ability of this measure leads to its usage in the present research. The present research adds components that address other areas of literature that the HQ-25 presently does not cover.

Research Questions

The current study addressed the following research questions:

1. In persons experiencing hikikomori, is there a relationship between individuals who endorse hikikomori symptoms and endorsement of specific emotional experiences (e.g., joy, fear, etc.)?

2. Is there a relationship between individuals who endorse hikikomori symptoms and those who experience somatic symptoms?
3. Among persons who endorse hikikomori symptoms, are there significant differences between the experiences of hikikomori across national groups?
4. Are experiences of Hikikomori and introversion related?
5. Are hikikomori and introversion unique concepts?

Assessment of Social Isolation

Hypotheses

There were five hypotheses for this study:

1. There will be a positive correlation between the measure of emotional experiences (PANAS-X) and symptoms of hikikomori (HQ-25).
2. Somatic symptoms (SSAP) will be significantly positively correlated with levels of hikikomori symptoms (HQ-25).
3. Hikikomori experiences (HQ-25) will differ significantly between national groups in the current sample.
4. The experiences of Hikikomori (HQ-25) and levels of introversion (IPIP-FFM) will be significantly positively correlated.
5. The relationship between hikikomori and other variables will be significant after controlling for introversion.

CHAPTER III

METHODOLOGY

Method

Participants

The overall sample consisted of diverse groups of college students (in age, cultural/ethnic groups, etc.), and a racially diverse population of non-students. Participants were removed from the analysis if it appeared that they provided duplicate responses (i.e., took the study multiple times) or completed the measures in a way that indicated inaccuracy or lack of authentic participation (i.e., selected all one answer). No data was totally excluded based on these criteria. Three hundred and twenty-nine participants started the Psychdata survey, though only 263 (79.93%) produced usable data. Of this number, some produced usable data for at least one survey, but had incomplete demographic data, which accounts for data that adds up to less than 263 in demographic reporting. Participants completed sections of the surveys at different rates, resulting in partially completed data for 197 (74.9%) participants. Data from those completed surveys were retained, even if more than one survey was not completed.

Surveys that were partially completed were excluded from analysis (Schlomer, Bauman, & Card, 2010). The pattern of responses indicated that participants generally experienced attrition during the middle surveys (i.e., Level-2 Somatic Symptom Adult Patient [SSAP] and Positive and Negative Affect Schedule Expanded [PANAS-X]). Of the total number of participants who started the survey, 263 (79.93%) participants

completed the HQ-25, 215 (65.34%) participants completed the Somatic measure, 197 (59.87%) completed the PANAS-X, and 230 (69.90%) completed the International Personality Item Pool – Five Factor Model (IPIP-FMM). Those who began the surveys completed it in full at a rate of $n = 197$ (59.87%). Participants' age spanned from 18–74 years old ($M = 28.15$, $SD = 11.15$). Regarding gender identity, 88 identified as male (32.8%), 158 identified as female (60.1%), 5 identified as transgender (1.9%), 9 identified as gender fluid (3.42%), and 4 identified as other (1.5%). Ethnicities represented by participants were as follows: 39 (14.8%) Latinx/Hispanic/Latin American, 39 (14.8%) Asian/Asian American/South Asian, 21 (8%) Black/African/Caribbean American, 8 (3%) Indigenous people/Native American/Pacific Islander, and 156 (59.69%) White/European American. Of the total number of participants, 44 (16.73%) specified their Asian/Asian American/South Asian ethnicity; 13 (4.9%) identified as Chinese/Chinese American, 9 as Indian/Indian American (3.40%), 4 as Filipino/Filipino American (1.50%), 5 as

Vietnamese/Vietnamese American (1.9%), 2 as Korean/Korean American (.80%), 2 as Japanese/Japanese American (.8%), and 9 identified as Other Asian/Asian American (3.4%). This total, 44, may indicate that some biracial or multiracial participants chose to identify as one choice over another, as it does not match the overall Asian/Asian American/South Asian total of 39. All demographic information can be found in Table 1, with an expanded version in Appendix H.

Table 1

Correlation Matrix for Hikikomori Questionnaire-25 (HQ25) and Study Variables

		HQ25Total
Hikikomori Questionnaire 25	Pearson Correlation	1
	Sig. (2-tailed)	
	<i>N</i>	263
Somatic Symptoms	Pearson Correlation	.069
	Sig. (2-tailed)	.326
	<i>N</i>	204
Extraversion	Pearson Correlation	-.718**
	Sig. (2-tailed)	.000
	<i>N</i>	216
Basic Negative Emotion	Pearson Correlation	.361**
	Sig. (2-tailed)	.000
	<i>N</i>	212
Basic Positive Emotion	Pearson Correlation	-.265**
	Sig. (2-tailed)	.000
	<i>N</i>	219

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

The participants in the study were evenly split in their employment status, 128 (48.7%) were employed while 134 (51%) were unemployed. In terms of country of birth, 158 (60.1%) were from the United States while 105 (39.9%) reported being born internationally. Most participants identified their relationship status as single ($n = 186$; 70.7%), 38 (14.4%) identified as married, 28 (10.6%) identified as committed/partnered, 7 (2.7%) identified as divorced/separated, and 4 (1.5%) identified as other. Levels of education varied, 51 (19.4%) completed high school, 98 (37.3%) completed some college, 64 (24.3%) completed/were enrolled in an undergraduate degree, 33 (12.5%) completed/were enrolled in a graduate degree, 5 (1.9%) completed/were enrolled in technical/professional school, and 11 (4.2%) indicated other.

Participant reports of their time spent online or gaming ranged from 0–120 hours per week. Those reporting spending under 10 hours online or gaming accounted for 82 (33.1%) of responses, 10–20 hours spent was 52 (20.7%), 20–30 hours spent was 28 (11.1%) and 30 Plus hours spent accounted for 88 (35.1%). Most participants indicated that they belonged to either zero or one social group (n = 180; 69.8%), while 78 (30.2%) indicated they belonged to more than one. Reports of hours spent alone ranged from 0–168 per week, 77 (29.5%) indicated spending 1–25 hours alone per week, 60 (22.2%) indicated spending 25–50 hours alone per week, 1 (27.2%) indicated spending 50–100 hours per week, and 55 (21.1%) indicated they spent more than 100 hours per week alone.

Data was also gathered for generational immigration status and were defined as follows: first generation (immigrated themselves), second generation (parents immigrated), third generation (grandparents immigrated), and fourth generation plus (great grandparents or earlier generations immigrated). Twenty-five (18.8%) participants were first generation, 35 (26.3%) participants were second generation, 18 (13.5%) were third generation, and 55 (41.4%) indicated they were fourth generation plus. Participants reported living in their current country of residence for a range of less than 1 year to 5 plus years. Reports by participants indicated 1 (.4%) lived in their current country for less than a year, 15 (5.7%) reported 1–4 years in current country, and 246 (93.9%) indicated they had lived in their current country for 5 or more years.

Participants were asked to self-identify their social class from categories of poor, working, middle, professional middle, and upper/elite class. Those who identified as poor

accounted for 25 (18.8%) of the sample, working class was 84 (26.3%), middle class was 83 (31.7%), professional middle was 59 (22.5%), and upper/elite class participants accounted for 5 (1.9%) of the sample.

Measures

Participants accessed surveys online through PsychData, an online survey host. Interaction with all parts of the study occurred online, with participants indicating interest in, giving informed consent, and completing the surveys online. Surveys participants were first asked to complete HQ-25 (see Appendix A), second the PANAS-X (see Appendix B), third the SSAP (see Appendix C), fourth the IPIP-FFM (see Appendix D), and lastly the demographic form (see Appendix E).

HQ-25. In this study, the HQ-25 was used to assess potential hikikomori in participants. Participants completed the HQ-25 based upon their current life experiences. This measure contains 25-items that assess hikikomori using three factors: Socialization, isolation, and emotional support (Teo et al., 2018). The scale uses 5-point Likert scale items, with responses of four indicating participant *strongly agrees* with a question and one indicating the participant *strongly disagrees* with the question. Items include statements such as “I spend most of my time alone” (Teo et al., 2018). Scores could range from 0 to 100, with a higher score indicating more severe hikikomori. The average score on the HQ-25 in the sample used to develop the instrument was 41.49 with a cut-off score of 42 indicative of a positive preliminary screen for hikikomori (Teo et al., 2018).

Psychometric properties of the HQ-25 based on the sample in Japan used to develop it indicate adequate internal reliability, test-retest reliability, and convergent validity (Teo et al., 2018). This measure's administration was modified to instruct participants to answer questions consistent with a time in which they felt isolated. This modification is necessary due to the limited ability to capture currently isolated participants.

PANAS-X. This study used the PANAS-X to assess emotional experiences. This scale focuses on how respondents endorse positive and negative emotional states (Clark & Watson, 1994). This measure was selected to address the potential emotional components that could be present in hikikomori but not assessed by the HQ-25. The measure contains 60-items that focus on emotional feelings occurring within the last week (Clark & Watson, 1994). These items are separated into negative and positive affect scales as well as scales for basic positive and negative emotions, and other affective states (Clark & Watson, 1994).

The scale uses Likert scale items on a 5 point range, with a response of 1 indicating an emotion is *very slightly* or *not at all indicative* of how the respondent has felt and 5 indicating the question is *extremely indicative* of the respondent. An example item is "sad," meaning that they felt sad within the past week (Clark & Watson, 1994). Scores range from 0–300, with higher scores indicating multiple strong emotional feelings. Psychometric properties of the PANAS-X have been found to be good, with internal consistency at an average of .87 depending on administration instructions, and content validity between .95 and .91 when compared to similar measures (Clark &

Watson, 1994). This measure's administration was modified to instruct participants to answer questions consistent with a time in which they felt isolated. This modification is necessary due to the limited ability to capture currently isolated participants.

SSAP. In this study, the SSAP (Kocalevent et al., 2013) was used to assess potential somatic symptoms in participants. This measure was adapted from the Patient Health Questionnaire Physical Symptoms. Participants completed the SSAP based upon their current life experiences. This measure contains 15-items that assess somatic symptoms (Kocalevent et al., 2013). The scale uses a 3 point Likert scale, with responses of 2 indicating participant was *bothered a lot* by a symptom and 0 indicating the participant was *not bothered at all* by the symptom. Items include symptoms such as headaches and chest pain (Kocalevent et al., 2013). Scores could range from 0 to 30, with a higher score indicating more severe somatic symptoms. Cut off scores for severity were, placed at 5, 10, and 15 to represent mild, moderate, and severe symptoms respectively (Kocalevent et al., 2013). Psychometric properties of the SSAP with good reliability (Cronbach's $\alpha = .79$) and convergent validity of .52. This measure's administration was modified to instruct participants to answer questions consistent with a time in which they felt isolated. This modification is necessary due to the limited ability to capture currently isolated participants.

IPIP-FFM. In this study, the IPIP FFM was used to assess introversion. This measure was adapted from the work of Goldberg on the Big Five personality factor model. This measure contains 50 items that assess each of the five factors in the model (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, or

Intellect/Imagination), 10 items each. Items are scored 1–5, with a score of 1 indicating that the statement is very inaccurate of the subject and a 5 indicating that the statement is very accurate (Donnellan, Oswald, Baird, & Lucas, 2006). The maximum score is a 250, with the minimum being 50. Psychometric properties for this measure vary, internal consistency has been shown at .88 and external validity has been shown at .65, depending on the scale and measure used (Donnellan et al., 2006; Lim & Ployhart, 2006; Ypofanti et al., 2015).

Demographic questionnaire. Participants were asked to provide basic demographic information including age, gender, sexual orientation, and race/ethnicity.

Procedure

Ethical considerations for this study were reviewed by the Texas Woman's University Institutional Review Board. Participants were recruited using an online research recruitment website as well as social media websites (e.g., Facebook, Reddit). Participants were recruited from online social media groups and participated without compensation. Groups recruited were tracked for potential differences between them. Particular attention in online recruitment was made to gathering a diverse ethnic/racial sample. All recruitment and study materials were in English.

Data was collected using PsychData, an online survey host. Participants were asked to complete scale items consistent with a time that they have felt isolated, whether that time was in the present or the past.

Analysis

Descriptive statistics (means, frequencies, standard deviations, ranges) was calculated for all demographic variables. These analyses allow assessment of responses among the groups of participants present in the study. These groups were divided into two national groups, *United States* and *Other*, for analysis.

Correlation

Pearson's R correlation analysis was used to analyze Hypotheses One through Four. This analysis was used to assess the relationship between emotional experiences (PANAS-X) and hikikomori symptoms (HQ-25). It was used to assess the relationship between somatic symptoms (SSAP) and hikikomori symptoms (HQ-25). Correlation will also be used to assess in the relationship between hikikomori symptoms (HQ-25) and introversion (IPIP-FFM).

Multiple Regression

Multiple linear regression was used to analyze Hypothesis Five. All data was checked for fit with assumptions needed for a regression analysis. This analysis was used to test if emotional distress and somatic symptoms significantly predict levels of hikikomori differently than just introversion does. Emotional, somatic, and introversion data was entered into a single multiple regression model, to test whether all are distinct predictors of hikikomori.

CHAPTER IV

RESULTS

Hypothesis One

The first hypothesis predicted that there would be a positive correlation between measure of emotional experience (PANAS-X) and symptoms of hikikomori (HQ-25). For this hypothesis, it was specifically thought that hikikomori symptoms would be related to negative emotional experiences (e.g., guilt, fear, hostility). Results of the Pearson correlation indicated that there was a significant positive correlation between hikikomori symptoms and experiences of basic negative emotions (BNE) on the PANAS-X, $r(212) = .36, p < .001$ (see Table 2). Additionally, the correlation between the emotions of guilt, $r(226) = .39, p < .001$ and hostility, $r(228) = .30, p < .001$ was higher than fear, $r(226) = .23, p < .001$, possibly indicating that hikikomori experience some negative emotions at greater rates than others.

Table 2

Correlation Matrix for Hikikomori Questionnaire-25 (HQ25) and Study Variables

		HQ25Total
Hikikomori Questionnaire 25	Pearson Correlation	1
	Sig. (2-tailed)	
	<i>N</i>	263
Somatic Symptoms	Pearson Correlation	.069
	Sig. (2-tailed)	.326
	<i>N</i>	204
Extraversion	Pearson Correlation	-.718**
	Sig. (2-tailed)	.000
	<i>N</i>	216
Basic Negative Emotion	Pearson Correlation	.361**
	Sig. (2-tailed)	.000

	<i>N</i>	212
Basic Positive Emotion	Pearson Correlation	-.265**
	Sig. (2-tailed)	.000
	<i>N</i>	219

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

Additionally, there was a significant negative correlation between hikikomori symptoms (HQ-25) and experiences of basic positive emotions (BPE), consisting of joviality, self-assurance, and attentiveness. Results of the Pearson correlation indicated this significant negative correlation, $r(219) = -.26, p < .001$ (see Table 2).

Hypothesis Two

The second hypothesis predicted that there would be a positive correlation between somatic symptoms (SSAP) and hikikomori symptoms (HQ-25). Results of the Pearson correlation indicated that there was no significant relationship between somatic symptoms and hikikomori symptoms. See table one.

Hypothesis Three

The third hypothesis predicted that experiences of hikikomori would differ significantly between national groups. Results of the independent sample *t*-tests indicated that there were significant differences in hikikomori symptoms between participants from the United States and other countries, $t(261) = -2.01, p = .045$. (see Table 3).

Table 3

Examination of Means between United States and International Populations

	United States		International		<i>t</i> (40)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
HQ-25 Total	49.56	21.28	55.09	22.50	-2.018	.045*

* $p < .05$. US *N* = 158 International *N* = 105

Hypothesis Four

The fourth hypothesis predicted that experiences of hikikomori (HQ-25) and levels of introversion (IPIP-FFM) would be significantly positively correlated. Results of the Pearson correlation indicated that there was a significant positive relationship between hikikomori symptoms and introversion (or a negative relationship with extraversion, as introversion is portrayed as the opposite of extraversion) $r(216) = .71, p < .001$ (see Table 2).

Hypothesis Five

The fifth hypothesis predicted that relationships between hikikomori and other factors would be significant even after controlling for introversion. Results of the multiple linear regressions showed a significant effect between hikikomori symptoms, basic negative emotions, basic negative emotions, and introversion. The individual predictors were examined, and indicated that BNE, $t = 3.90, p < .001$ and BPE, $t = -2.18, p < .001$ were significant predictors in the model. They were also significant when controlling for introversion (see Tables 4 and 5).

Table 4

Model Summary Controlling for Introversion Basic Negative Emotion

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.376 ^a	.141	.137	20.82445
2	.743 ^b	.552	.547	15.08176

a. Predictors: (Constant), Extraversion

b. Predictors: (Constant), Extraversion, Basic Negative Emotion Panas

Table 5

Model Summary Controlling for Introversion Basic Positive Emotion

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	.290 ^a	.084	.079	21.37432
2	.727 ^b	.528	.524	15.37703

a. Predictors: (Constant), Extraversion

b. Predictors: (Constant), Extraversion, Basic Positive Emotion Panas

Exploratory Analysis

The present study generated data that fell outside of the proposed research questions but may provide some context to the previously stated findings. Some of the findings presented below relate to the links between hikikomori symptoms and demographic variables, which may offer insight into the lives of hikikomori. Other data support the potential links between hikikomori and additional personality factors. Data that explores other specific emotional states is also presented.

When examining demographic factors related to hikikomori, it was found that hours spent online or playing video games, hours spent alone, and social organization membership had meaningful correlations with hikikomori symptoms. Results of the Pearson correlation analysis indicated there was a significant positive correlation between hikikomori symptoms (HQ-25) and hours spent online, $r(251) = .33, p < .001$. There was also a significant positive correlation between hikikomori symptoms (HQ-25) and hours spent alone, $r(261) = .54, p < .001$. Hikikomori symptoms (HQ-25) were also found to significantly negatively correlate with social group membership numbers, $r(258) = -.37, p < .001$.

To examine links between hikikomori and personality factors, a measure for the Big Five (extraversion/introversion, agreeableness, conscientiousness, emotional stability, and intellect/imagination) was used, though only introversion/extraversion was of research interest. Significant relationships between hikikomori and all Big Five factors except intellect/imagination were found. Results of the Pearson correlation indicated a significant negative relationship between hikikomori symptoms (HQ-25) and agreeableness, $r(216) = -.44, p < .001$. A similar significant negative relationship was found between hikikomori (HQ-25) and conscientiousness $r(216) = -.32, p < .001$.

Another significant negative relationship was found between hikikomori (HQ-25) and emotional stability $r(218) = -.34, p < .001$. Data gathered from the PANAS-X contained subscales for emotions not included in either basic positive or negative emotion scales, called other affective states (i.e., surprise, shyness, serenity, and fatigue). Hikikomori symptoms were found to be correlated significantly with shyness, $r(239) = .37, p < .001$ and fatigue, $r(238) = .13, p = .05$.

The present sample included participants across the spectrum of gender identity, though these identity factors were not part of the proposed analyses. For subjects identifying as men, there was a significant relationship between hikikomori symptoms and negative emotions $r(68) = .41, p < .001$, as well as introversion $r(71) = .86, p < .001$. For women participants, there was a significant relationship between hikikomori symptoms and negative emotions $r(129) = .36, p < .001$, and introversion $r(131) = .60, p < .001$. For transgender participants, there was a significant relationship between hikikomori symptoms and negative emotions, despite a very low sample size $r(4) = .98, p$

= .04. For gender fluid subjects, there was a significant relationship between hikikomori symptoms and introversion despite a low sample size $r(8) = .82, p = .012$. There were no significant correlations for subjects who identified as other, likely due to having the lowest sample size ($N = 4$). These findings, especially the differences between strength of relationships across identities may constitute a compelling future direction in looking at how hikikomori symptoms are experienced.

Differences between international samples constituted one hypothesis of the study, but the nature of the difference in samples was not part of the study. Subjects who identified as being from the United States showed significant relationships between hikikomori symptoms and somatic symptoms $r(128) = .21, p = .015$, negative emotions $r(129) = .34, p < .001$, and introversion $r(131) = .67, p < .001$. This finding indicated that American participants had a significant relationship between somatic symptoms and hikikomori symptoms, supporting hypothesis two in only this population. Participants who identified as being born internationally showed significant relationships between hikikomori symptoms, negative emotions $r(83) = .38, p < .001$, and introversion $r(85) = .77, p < .001$. The nature of the differences between these samples would be a significant future direction, especially in ability to assess hikikomori symptoms.

CHAPTER V

DISCUSSION

Summary of the Findings

The primary purpose of the study was to explore hikikomori symptoms and their relationships with other participant experiences. Experiences of emotion, somatic symptoms, and introversion were examined. Support was found for all hypotheses, with the exception of Hypothesis Two.

Hikikomori was positively correlated with experiences of negative emotion, particularly guilt and hostility. These findings may indicate that hikikomori experience negative emotions strongly around their symptoms or lifestyle, which may support previous conceptualizations of hikikomori relating to depression, where hikikomori may feel sad or engage in self judgement (Kato et al., 2016; Kato et al., 2019; Souilem, Mrad, Brahim, Hannachi, & Mechri, 2019). That guilt is more strongly correlated than other negative emotions generally suggests that the feelings may suggest that guilt has particular resonance for hikikomori. These data may also suggest that hikikomori harbor strong internalized and externalized negative feelings. This paints a picture for conceptualization and treatment, where hikikomori have strong self-loathing while also strongly dislike or push others away. This may account for some of the presentation of hikikomori symptoms (i.e., preferring to be alone, refusing to engage with others), and support previous theories that support hikikomori having negative self-judgment. such as

theories that conceptualize hikikomori as depression, psychosis, and internet addiction (Hattori, 2006; Husu & Välimäki, 2017; Kato et al., 2019; Souilem et al., 2019).

Introversion and hikikomori were also strongly positively correlated. This may indicate that hikikomori are more strongly predisposed toward the personality trait of introversion, or that hikikomori is some sort of extension of introversion. This link is novel in hikikomori research and may be useful in understanding and treating the issue. It may be that introverts are more likely to cope with life stressors by isolating, compared to extroverts. Links between personality traits and hikikomori may be an area of future research.

The data found also suggest that introversion and hikikomori are distinct but related constructs. This finding is important due to the easily perceived similarities between the concepts. That they are distinct shows their potential relationship, but also the differences that may be found and explored. Introversion may well be a significant factor in explaining variance in hikikomori symptoms and experiences, in tandem with other factors. This may also indicate that factors beyond personality affect hikikomori. This finding may aid in treatment and conceptualization, where knowing the level of introversion of a hikikomori may provide intervention ideas and a starting place for future discussion in research.

There were also significant differences between U.S. participants and international participants in the number of hikikomori symptoms they endorsed. This finding especially indicates that hikikomori experiences in the US may be less severe or consist of lesser or different symptoms than those in other areas of the world. These

results shed light on the ways in which hikikomori might be similar or different across the world. Previous usage of the HQ-25 in a Japanese population produced a mean score of 41.49 ($SD = 22.32$) out of 100 (Teo et al., 2018). The current sample produced a mean score of 49.56 ($SD = 21.28$) for United States population and mean of 55.09 ($SD = 22.50$) for international subjects. These scores indicate an overall higher endorsement of symptoms than the original Japanese population, and higher than the suggested clinical diagnostic score of 42 (Teo et al., 2018). These results may be partially explained by the fact that data collection occurred during the Covid-19 pandemic, many participants were in self-imposed or government mandated isolation from others during this time. This combined with disconnection from important social relationships or spaces could have led to increased endorsement of symptoms, but ultimately the present study cannot fully explain the differences.

In current research, the qualities of hikikomori in different populations are not well explored, as the presence of non-Japanese cases is itself a debated topic (Kato et al., 2012; Malagón-Amor et al., 2015; Wong et al., 2015). Further research may shed light onto this finding; it would be useful to examine hikikomori in many different national and ethnic groups and see if present results hold. It would be useful to treatment and conceptualization to understand any potential differences, as differing groups of hikikomori may have different needs or root causes or experiences. Currently most studies that consider populations outside of Japan do so in a theoretical or conceptual way, or cover a small handful of cases (Ovejero et al., 2014; F. Ranieri et al., 2015a;

Sakamoto et al., 2005; Teo, 2013; Wong et al., 2015). Some evidence suggests that cases are seen with no differences in prevalence across international lines (Kato et al., 2012).

These results suggest that hikikomori experience significant emotional symptoms alongside more traditional hikikomori symptoms. These emotional experiences may especially be negative, self-critical, or hostile, and may be directed at themselves or others. Hikikomori are also less likely to experience strong positive emotions, such as self-assurance or joviality. This finding may support links to depression, as that condition may often involve loss of joy and other positive emotions (APA, 2013). These data along with other findings of the study also suggest that hikikomori may be self-critical and have their day-to-day emotional experiences largely dominated by negative emotions and low mood. This may help explain why some depression treatments have been documented to be useful for hikikomori (Kato et al., 2019; Souilem et al., 2019; Teo, 2013).

Hikikomori symptoms are also strongly related to levels of introversion, such that introversion was the strongest linked factor to hikikomori symptoms in the data. Hikikomori in the US also appear to report fewer symptoms of hikikomori compared to international participants. These findings together help present a more thorough picture of how some hikikomori experience their isolation.

Summary of Exploratory Findings

Given the literature on hikikomori, some of the current findings are self-evident, such as hikikomori spending more time alone. The negative relationship to social group membership may also seem logical based upon the presentation of hikikomori, but membership in groups may also serve as a protective factor of some sort, where those in

many and strong social groups tend to be those who do not become isolated. Data regarding time spent online support past research and theoretical links to internet usage being important in the development and lifestyle of hikikomori.

Data from the PANAS-X and SSAP revealed valuable insights about hikikomori. Findings of the link between shyness and hikikomori make sense, as shyness may be thought to be similar to introversion, which was examined in the study. The link to fatigue is less clear, given that somatic symptoms were not found to be significantly correlated with hikikomori in this study. Research on types of fatigue in hikikomori is scarce; however, there exist findings and theories that suggest hikikomori experience relationship fatigue (Furlong, 2008; Yong & Nomura, 2019). Additionally, physical symptoms such as pain or fatigue have been linked to social isolation and hikikomori (Kato et al., 2019). Present findings may indicate that hikikomori experience fatigue, but no or few other somatic symptoms. The measure used in this study for somatic symptoms was not highly sensitive to fatigue specifically, which may have impacted the results. A measure that specifically assesses fatigue may have provided clarity on how fatigue and somatic symptoms are linked, if at all.

Usage of the IPIP-FFM provided some data for discussion that was outside of the scope of stated research questions and hypotheses. This data elaborates on the potential relationship between hikikomori and personality. The current findings point to a possible personality profile of hikikomori. Given the correlations, hikikomori may be less agreeable, which supports findings from hypothesis one. As a whole, this indicates that hikikomori might be less agreeable, less careful and organized, and more likely to be

emotionally sensitive or more sensitive to stress, in addition to being more introverted. These findings may warrant further examination and may be useful in creating a sort of prototypical hikikomori personality profile.

Limitations

Timing of data collection for this study was a complicating factor in this project. Data collection took place partially during the worldwide COVID-19 pandemic, during which a significant portion of the world was under mandatory or voluntary quarantine. Undoubtedly some participants were affected by this crisis, which impacted their responses. It is possible that the isolation during this time had some impact on the symptoms of hikikomori being studied.

Time frame was also a factor in how participants reported their experiences. Participants were asked to respond to the surveys consistent with how they felt when isolated, even if that experience was not current. Though some participants likely answered in relation to current isolation experiences, some likely reported past experiences, which may have been less accurate. Some participants were likely in isolation due to mandatory stay at home or quarantine measures, which may have contributed to stress. Exaggerated responses are possible, either from current stress of isolation, or from misremembered experiences. The participants' identities may also have been a factor. Participants in this study were largely White Americans, despite efforts to sample a more diverse population. It is possible that this population experiences or responds to questions about symptoms differently than a more diverse sample might. Additionally, the sample was unable to capture Asian and Asian-American participants,

especially Japanese participants, in large enough numbers to examine their experiences of hikikomori. This might have impacted the results due to the original design and norming of the HQ-25 being on a Japanese population.

The surveys used also presented some limitations. Only the HQ-25 was originally designed to capture hikikomori symptoms, all others were utilized for best fit and ease of access in capturing their respective constructs or areas. Additionally, the surveys used had differing instructions, which asked participants to identify items of interest in differing time windows. Participants were asked to answer each survey consistent with a time when they felt social isolation, whether that time was present or past. The somatic symptom questionnaire was also limited, as it had a single question covering fatigue, a symptom that was found in the current study to be related to hikikomori. So, while many participants might have experienced fatigue, their denial of other somatic symptoms resulted in low scores on the somatic scale.

Age of participants was also a limitation; only adults were surveyed. This was done due to informed consent concerns and complications of surveying minors remotely. The age of onset for hikikomori symptoms can be significantly earlier than 18 years old, so it is possible significant experiences were missed due to this limitation. Participants may have answered surveys in reflection of these earlier experiences, but no participant would have been this age during participation.

Future Directions

The current findings bring up some intriguing future directions for study of hikikomori. The significance and strength of the relationship between introversion and

hikikomori symptoms may be of particular interest to examine. Current data cannot explain the nature of the relationship, further study may be able to do this as well as address applications of this data. Links between other big five personality factors have interesting implications as well. There may be something like a prototypical profile of a hikikomori from a personality standpoint. If this were the case, it might be useful as a diagnostic, treatment, or prevention tool.

Present data indicated a significant relationship between BNE and BPE, in opposite directions. Future research and development of hikikomori might be focused on adding emotional components to screening of hikikomori, as well as theory. Such future endeavors might be able to focus on specific emotional experiences and how their relationships to hikikomori symptoms manifest, if they are not actual symptoms of hikikomori already. Current assessment, treatment, and theoretical models fail to address affective experiences in hikikomori individuals. Further, research on how best to integrate emotion-focused treatment for hikikomori may be useful as well,

Significant differences were found between the levels of hikikomori among populations from the United States and other countries. Future research could clarify this relationship, as well as examine the possible differences in hikikomori experiences among national and ethnic groups. If hikikomori does differ across groups, more research would be necessary to explore, quantify, and incorporate the meanings of the differences.

The findings in this study around fatigue may be a useful starting point for further research. Hikikomori appeared to endorse experiencing fatigue as an emotion, or feel emotional fatigue, but this fatigue did not translate to total somatic symptoms. This

finding potentially complicates previous associations of fatigue and hikikomori and could be researched more specifically.

Implications for Theory, Practice, and Research

Based on the results presented, it is suggested that the emotional experiences of hikikomori may be significant and a construct that warrants further exploration. The current study's findings offer evidence that exploration of clients' emotionality may also be a useful focal point of treatment. Negative emotional experiences such as guilt and hostility appear to be especially significant, as well as the absence or blunted experience of positive emotions. Current assessment models of hikikomori examined (i.e., HQ-25) do not significantly address emotional experiences or symptoms, which may be a further area to explore. The current somatic symptom survey was limited in how it examined fatigue, future research might use a different, more fatigue sensitive instrument to examine somatic symptoms.

Therapeutic work with hikikomori might be served by focusing on the processing and understanding of experiences such as guilt, given that these feelings might complicate, exacerbate, or partially originate isolation. Understanding of the meaning and significance of guilt and other negatively experienced emotions might be useful in breaking cycle of isolation. Behavioral interventions may also be similarly useful, focusing on engaging hikikomori in prosocial behaviors and creating reinforcement for more useful coping.

Hikikomori also appears to have a strong significant relationship with introversion, which may warrant further exploration in theory and research. If the

strength of the relationship in the current data holds, it may be that hikikomori symptoms may have an unexplored predictive relationship with levels of introversion. Examination of just what the relationship between the two variables entails may be extremely useful in identifying those at risk of hikikomori or those most likely to experience more severe symptoms. The relationship between hikikomori symptoms and introversion may be useful for treatment as well as creating an understanding of how internally oriented the hikikomori is and to what level they prefer being alone and self-directed. There also appears to be a difference in the levels of hikikomori symptoms experienced by participants from the United States versus those from other countries.

This may mean that those in the United States experience fewer hikikomori symptoms but could also suggest that those in different national groups experience different symptoms in different ways. This may reflect differences in what symptoms are experienced by different populations, as the original instrument (HQ-25) was created for a Japanese population. These findings may be a useful starting point to examine what, if any, differences exist among national, cultural, and ethnic groups in terms of hikikomori. It is possible that cultural differences (individualistic vs collectivistic) account for some difference between populations. It is also possible that cultural dynamics within some countries led to differing responses, such as American focus on the value of work and the higher likelihood of being independent from family.

Conclusions

This study was conducted to further the understanding of hikikomori experiences. Results supported that hikikomori was significantly related to both positive and negative

emotional experiences, introversion, and that symptom severity differed across national samples. Findings supported the idea that current hikikomori research and instruments of study may miss key elements of individual experiences. Additionally, the data support need for further examination of hikikomori theoretical explanations, research trends, and treatment modalities. The current findings contribute to previous literature on hikikomori theory, assessment, and treatment. Findings also contribute to a multitheoretical model of hikikomori being potentially valid and useful in conceptualizing, assessing, and treating hikikomori.

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APPENDIX A

Hikikomori Questionnaire 25

Over the last six months, how accurately do the following statements describe you?

		Strongly Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Strongly Agree
1	I stay away from other people.	0	1	2	3	4
2	I spend most of my time at home.	0	1	2	3	4
3	There really isn't anyone with whom I can discuss matters of importance.	0	1	2	3	4
4†	I love meeting new people.	0	1	2	3	4
5	I shut myself in my room.	0	1	2	3	4
6	People bother me.	0	1	2	3	4
7†	There are people in my life who try to understand me.	0	1	2	3	4
8	I feel uncomfortable around other people.	0	1	2	3	4
9	I spend most of my time alone.	0	1	2	3	4
10†	I can share my personal thoughts with several people.	0	1	2	3	4
11	I don't like to be seen by others.	0	1	2	3	4
12	I rarely meet people in-person.	0	1	2	3	4
13	It is hard for me to join in on groups.	0	1	2	3	4
14	There are few people I can discuss important issues with.	0	1	2	3	4
15†	I enjoy being in social situations.	0	1	2	3	4
16	I do not live by society's rules and values.	0	1	2	3	4
17	There really isn't anyone very significant in my life.	0	1	2	3	4
18	I avoid talking with other people.	0	1	2	3	4
19	I have little contact with other people	0	1	2	3	4

	talking, writing, and so on.					
20	I much prefer to be alone than with others.	0	1	2	3	4
21 [†]	I have someone I can trust with my problems.	0	1	2	3	4
22	I rarely spend time alone.	0	1	2	3	4
23	I don't enjoy social interactions.	0	1	2	3	4
24	I spend very little time interacting with other people.	0	1	2	3	4
25 [†]	I strongly prefer to be around other people.	0	1	2	3	4

Note. The HQ-25 has a theoretical score range of 0–100.

^{a†} Item was reverse-scored.

APPENDIX B

Positive and Negative Affect Scale-Expanded Form

PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way *right now*. Use the following scale to record your answers:

		Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely
1.	cheerful	0	1	2	3	4
2.	disgusted	0	1	2	3	4
3.	attentive	0	1	2	3	4
4.	bashful	0	1	2	3	4
5.	sluggish	0	1	2	3	4
6.	daring	0	1	2	3	4
7.	surprised	0	1	2	3	4
8.	strong	0	1	2	3	4
9.	scornful	0	1	2	3	4
10.	relaxed	0	1	2	3	4
11.	irritable	0	1	2	3	4
12.	delighted	0	1	2	3	4
13.	inspired	0	1	2	3	4
14.	fearless	0	1	2	3	4
15.	disgusted with self	0	1	2	3	4
16.	sad	0	1	2	3	4
17.	calm	0	1	2	3	4
18.	afraid	0	1	2	3	4
19.	tired	0	1	2	3	4
20.	amazed	0	1	2	3	4
21.	shaky	0	1	2	3	4
22.	happy	0	1	2	3	4
23.	timid	0	1	2	3	4
24.	alone	0	1	2	3	4
25.	alert	0	1	2	3	4
26.	upset	0	1	2	3	4
27.	angry	0	1	2	3	4
28.	bold	0	1	2	3	4
29.	blue	0	1	2	3	4
30.	shy	0	1	2	3	4
31.	active	0	1	2	3	4

32.	guilty	0	1	2	3	4
33.	joyful	0	1	2	3	4
34.	nervous	0	1	2	3	4
35.	lonely	0	1	2	3	4
36.	sleepy	0	1	2	3	4
37.	excited	0	1	2	3	4
38.	hostile	0	1	2	3	4
39.	proud	0	1	2	3	4
40.	jittery	0	1	2	3	4
41.	lively	0	1	2	3	4
42.	ashamed	0	1	2	3	4
43.	at ease	0	1	2	3	4
44.	scared	0	1	2	3	4
45.	drowsy	0	1	2	3	4
46.	angry at self	0	1	2	3	4
47.	enthusiastic	0	1	2	3	4
48.	downhearted	0	1	2	3	4
49.	sheepish	0	1	2	3	4
50.	distressed	0	1	2	3	4
51.	blameworthy	0	1	2	3	4
52.	determined	0	1	2	3	4
53.	frightened	0	1	2	3	4
54.	astonished	0	1	2	3	4
55.	interested	0	1	2	3	4
56.	loathing	0	1	2	3	4
57.	confident	0	1	2	3	4
58.	energetic	0	1	2	3	4
59.	concentrating	0	1	2	3	4
60.	dissatisfiedwith self	0	1	2	3	4

APPENDIX C

Level -2 Somatic Symptom-Adult *patient*

Instructions: The questions below ask about these feelings in more detail and especially how often you (the individual receiving care) have been bothered by a list of symptoms during a time when you were isolated. Please respond to each item by marking (x) one box per row.

During the past 7 days, how much have you been bothered by any of the following problems?		Item Score		
		Not bothered at all (0)	Bothered a little (1)	Bothered a lot (2)
1.	Stomach pain	0	1	2
2.	Back pain	0	1	2
3.	Pain in your arms, legs, or joints (knees, hips, etc.)	0	1	2
4.	Menstrual cramps or other problems with your periods <i>WOMEN ONLY</i>	0	1	2
5.	Headaches	0	1	2
6.	Chest pain	0	1	2
7.	Dizziness	0	1	2
8.	Fainting spells	0	1	2
9.	Feeling your heart pound or race	0	1	2
10.	Shortness of breath	0	1	2
11.	Pain or problems during sexual intercourse	0	1	2
12.	Constipation, loose bowels, or diarrhea	0	1	2
13.	Nausea, gas, or indigestion	0	1	2
14.	Feeling tired or having low energy	0	1	2
15.	Trouble sleeping	0	1	2

Total/Partial Raw Score:

Prorated Total Raw Score: (if 1-3 items left unanswered)

APPENDIX D

International Personality Item Pool-Five Factor Model

Describe yourself as you generally are now, not as you wish to be in the future.

Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age. So that you can describe yourself in an honest manner, your responses will be kept in absolute confidence. Indicate for each statement whether it is 1. Very Inaccurate, 2. Moderately Inaccurate, 3. Neither Accurate Nor Inaccurate, 4. Moderately Accurate, or 5. Very Accurate as a description of you.

		Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate	
1.	Am the life of the party.	0	1	2	3	4	(1+)
2.	Feel little concern for others.	0	1	2	3	4	(2-)
3.	Am always prepared.	0	1	2	3	4	(3+)
4.	Get stressed out easily.	0	1	2	3	4	(4-)
5.	Have a rich vocabulary.	0	1	2	3	4	(5+)
6.	Don't talk a lot.	0	1	2	3	4	(1-)
7.	Am interested in people.	0	1	2	3	4	(2+)
8.	Leave my belongings around.	0	1	2	3	4	(3-)
9.	Am relaxed most of the time.	0	1	2	3	4	(4+)
10.	Have difficulty understanding abstract ideas.	0	1	2	3	4	(5-)
11.	Feel comfortable around people.	0	1	2	3	4	(1+)
12.	Insult people.	0	1	2	3	4	(2-)
13.	Pay attention to details.	0	1	2	3	4	(3+)
14.	Worry about things.	0	1	2	3	4	(4-)
15.	Have a vivid imagination.	0	1	2	3	4	(5+)

16.	Keep in the background.	0	1	2	3	4	(1-)
17.	Sympathize with others' feelings.	0	1	2	3	4	(2+)
18.	Make a mess of things.	0	1	2	3	4	(3-)
19.	Seldom feel blue.	0	1	2	3	4	(4+)
20.	Am not interested in abstract ideas.	0	1	2	3	4	(5-)
21.	Start conversations.	0	1	2	3	4	(1+)
22.	Am not interested in other people's problems.	0	1	2	3	4	(2-)
23.	Get chores done right away.	0	1	2	3	4	(3+)
24.	Am easily disturbed.	0	1	2	3	4	(4-)
25.	Have excellent ideas.	0	1	2	3	4	(5+)
26.	Have little to say.	0	1	2	3	4	(1-)
27.	Have a soft heart.	0	1	2	3	4	(2+)
28.	Often forget to put things back in their proper place.	0	1	2	3	4	(3-)
29.	Get upset easily.	0	1	2	3	4	(4-)
30.	Do not have a good imagination.	0	1	2	3	4	(5-)
31.	Talk to a lot of different people at parties.	0	1	2	3	4	(1+)
32.	Am not really interested in others.	0	1	2	3	4	(2-)
33.	Like order.	0	1	2	3	4	(3+)
34.	Change my mood a lot.	0	1	2	3	4	(4-)
35.	Am quick to understand things.	0	1	2	3	4	(5+)
36.	Don't like to draw attention to myself.	0	1	2	3	4	(1-)
37.	Take time out for others.	0	1	2	3	4	(2+)

38.	Shirk my duties.	0	1	2	3	4	(3-)
39.	Have frequent mood swings.	0	1	2	3	4	(4-)
40.	Use difficult words.	0	1	2	3	4	(5+)
41.	Don't mind being the center of attention.	0	1	2	3	4	(1+)
42.	Feel others' emotions.	0	1	2	3	4	(2+)
43.	Follow a schedule.	0	1	2	3	4	(3+)
44.	Get irritated easily.	0	1	2	3	4	(4-)
45.	Spend time reflecting on things.	0	1	2	3	4	(5+)
46.	Am quiet around strangers.	0	1	2	3	4	(1-)
47.	Make people feel at ease.	0	1	2	3	4	(2+)
48.	Am exacting in my work.	0	1	2	3	4	(3+)
49.	Often feel blue.	0	1	2	3	4	(4-)
50.	Am full of ideas.	0	1	2	3	4	(5+)

APPENDIX E

Demographic Questionnaire

Demographic Information

Age: _____

Location of recruitment: _____ Online ____ In-person

Ethnicity: (Check all that apply)

Latinx/Hispanic/Latin American

Asian/Asian American/South Asian

Black/African American/Caribbean American

Indigenous people/Native-American/Pacific Islander

White/European American

Self-identify

If you selected Asian/Asian American, which applies most closely to you?

Chinese/Chinese American

Indian/Indian American

Filipino/Filipino American

Vietnamese/Vietnamese American

Korean/Korean American

Japanese/Japanese American

Other Asian/Asian American _____

Gender:

Man

Woman

APPENDIX F
Recruitment Letter

Greetings and Salutations!

You are being invited to participate in a research study for William Nation's dissertation at Texas Woman's University. The purpose of the current study is to examine experiences of social isolation and hikikomori. The research is intended to gather information about how people experience isolation and hikikomori. Completion of the survey takes approximately 30 to 45 minutes. You are only permitted to participate once in the current study.

Eligibility requirements for participants include:

- (a) Must be at least 18 years old.

Participation in this study is voluntary and participants may withdraw from the study at any time without penalty. This study has been approved by the Texas Woman's University Institutional Review Board. Please click on the following link to view the informed consent document and to participate in the study:

LINK

There is a potential risk of loss of confidentiality in all email, downloading, and Internet transactions. Thank you in advance for your time. Your information will contribute to the researcher's body of research on the topic of hikikomori.

Best Wishes,
William Nation

APPENDIX G

Informed Consent

TEXAS WOMAN’S UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

Title: Examining Hikikomori: A Multitheoretical Approach

Investigator and Advisors: William Nation...

..... wnation@twu.edu

u

Claudia Porras Pyland, PhD (Advisor)... cporras@twu.edu

Explanation and Purpose of the Research

You are being asked to participate in a study by William Nation completed under the supervision of Claudia Porras Pyland, Ph.D. at Texas Woman’s University. This study consists of four online questionnaires, three short vignettes and subsequent questions. The purpose of this study is to examine experiences of asocial isolation and hikikomori.

Description of Procedures

As a participant in this study you will be asked to spend approximately 20 minutes to 430minutes of your time on a series of questions. You will first be directed to read and sign a consent form and fill out a short demographic survey. You will then be directed to the study. Once you have completed the survey you will be directed to a new page where you will be debriefed about the research intentions. In order to be a participant in this study, you must be at least 18 years of age or older.

Potential Risks

There is a possible risk involving loss of confidentiality. Confidentiality will be protected to the extent that is allowed by law. There is a potential risk of loss of confidentiality in all email, downloading, and Internet transactions. Researchers will not know the names of the individuals participating in the study. All sign up information and

data will be deleted at the completion of the study. The results of each study may be presented in either conferences and/or scientific publications, without any identifying information.

There is also the possible risk of fatigue. You may take breaks as needed. Another possible risk includes loss of time. The researchers will work to prevent any possible concerns or problems that could arise during this study. You should let the researchers know at once if there is a problem and they will assist you accordingly. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

Your participation is completely voluntary in this study, and you may stop at any time without consequences. Your participation in this research will contribute to a larger body of research on hikikomori.

Questions Regarding the Study

If you have any questions about the research study you should ask the researchers. If you have any questions about your right as a participant you may contact the Texas Woman's University Office of Research and Sponsored Programs at 940-898-3378 or via e-mail at IRB@twu.edu

- I agree to participate
- I do not agree to participate

APPENDIX H

Expanded Correlation Matrix

Table 6

Correlation Matrix for Hikikomori Questionnaire-25 (HQ25) and Study Variables Expanded

Correlations		HQ25Total	SomaTotal	ExtraTotal	FearPan as	HostilityPa nas	GuiltPan as	SadnessP anas	ShyPan as	FatiguePa nas	SerenityPa nas	SurpriseP anas	Agreeable ness	Conscient	EmoStabl e	Intlmag	Joviality
HQ25Total	Pearson Correlation	1	.069	-.718**	.235**	.306**	.395**	.307**	.370**	.135	-.113	-.044	-.440**	-.325**	-.343**	-.033	-.282**
	Sig. (2-tailed)		.326	.000	.000	.000	.000	.000	.000	.038	.080	.503	.000	.000	.000	.626	.000
	N	263	204	216	226	228	226	243	239	238	241	232	216	216	218	220	225
SomaTotal	Pearson Correlation	.069	1	.037	.438**	.350**	.370**	.356**	.212**	.498**	-.234**	.139	.167**	-.035	-.269**	.056	-.090
	Sig. (2-tailed)	.326		.625	.000	.000	.000	.000	.003	.000	.001	.055	.027	.639	.000	.446	.219
	N	204	215	179	184	189	189	201	197	197	199	191	177	180	180	185	187
ExtraTotal	Pearson Correlation	-.718**	.037	1	-.183*	-.189*	-.289**	-.234**	-.359**	-.080	.057	.037	.354**	.261**	.293**	.167	.232**
	Sig. (2-tailed)	.000	.625		.006	.004	.000	.000	.000	.235	.394	.581	.000	.000	.000	.012	.001
	N	216	179	230	221	225	222	230	226	224	230	227	219	221	221	226	221
FearPan as	Pearson Correlation	.235**	.438**	-.183*	1	.573**	.633**	.504**	.529**	.427**	-.343**	.273**	-.016	-.201*	-.405**	-.048	-.090
	Sig. (2-tailed)	.000	.000	.006		.000	.000	.000	.000	.000	.000	.000	.813	.003	.000	.476	.170
	N	226	184	221	240	234	232	240	235	233	239	238	221	221	221	227	233
HostilityPa nas	Pearson Correlation	.306**	.350**	-.189*	.573**	1	.645**	.668**	.452**	.477**	-.372**	.154	-.189*	-.214*	-.473**	.033	-.188*
	Sig. (2-tailed)	.000	.000	.004	.000		.000	.000	.000	.000	.000	.017	.005	.001	.000	.615	.004
	N	228	189	225	234	244	236	244	239	238	242	242	224	226	227	230	235
GuiltPan as	Pearson Correlation	.395**	.370**	-.289**	.633**	.645**	1	.742**	.579**	.503**	-.407**	.074	-.047	-.349**	-.543**	-.143	-.336**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.253	.489	.000	.000	.031	.000
	N	225	189	222	232	236	242	242	237	235	240	240	220	222	222	227	234
SadnessPa nas	Pearson Correlation	.307**	.356**	-.234**	.594**	.668**	.742**	1	.535**	.541**	-.508**	-.019	.030	-.243**	-.509**	-.005	-.426**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000	.000	.771	.650	.000	.000	.945	.000
	N	243	201	230	240	244	242	259	254	252	257	248	229	231	231	235	241
ShyPan as	Pearson Correlation	.370**	.212	-.359**	.529**	.452**	.579**	.535**	1	.301*	-.142	.174	-.016	-.272**	-.339**	-.087	-.105
	Sig. (2-tailed)	.000	.003	.000	.000	.000	.000	.000		.000	.024	.007	.808	.000	.000	.189	.108
	N	239	197	226	235	239	237	254	254	248	252	243	225	227	227	230	237
FatiguePa nas	Pearson Correlation	.135	.498**	-.080	.427**	.477**	.503**	.541**	.301**	1	-.206**	.023	.124	-.137*	-.355**	.052	-.234**
	Sig. (2-tailed)	.038	.000	.235	.000	.000	.000	.000	.000		.001	.723	.065	.040	.000	.433	.000
	N	238	197	224	233	238	235	252	248	252	250	241	222	225	227	228	235
SerenityPa nas	Pearson Correlation	-.113	-.234**	.057	-.343**	-.372**	-.407**	-.508**	-.142	-.206**	1	.158	-.096	.082	.377**	.073	.523**
	Sig. (2-tailed)	.080	.001	.394	.000	.000	.000	.000	.024	.001		.013	.148	.213	.000	.265	.000
	N	241	199	230	239	242	240	257	252	250	257	246	228	230	230	234	239
SurpriseP anas	Pearson Correlation	-.044	.139	.037	.273**	.154	.074	-.019	.174	.023	.158	1	-.073	-.018	.071	-.005	.617**
	Sig. (2-tailed)	.503	.055	.581	.000	.017	.253	.771	.007	.723	.013		.277	.783	.285	.939	.000
	N	232	191	227	236	242	240	248	243	241	246	246	226	228	228	232	239
Agreeablen ess	Pearson Correlation	-.440**	.167**	.354**	-.016	-.189**	-.047	.030	-.016	.124	-.096	-.073	1	.265**	.039	.228**	.013
	Sig. (2-tailed)	.000	.027	.000	.813	.005	.489	.650	.808	.065	.148	.277		.000	.561	.001	.850
	N	216	177	219	221	224	220	229	225	222	228	226	229	220	221	225	220
Conscient	Pearson Correlation	-.325**	-.035	.261**	-.201*	-.214*	-.349**	-.243**	-.272**	-.137	.082	-.018	.265**	1	.217**	.268**	.168*
	Sig. (2-tailed)	.000	.639	.000	.003	.001	.000	.000	.000	.040	.213	.783	.000		.001	.000	.012
	N	216	180	221	221	226	222	231	227	225	230	228	220	231	223	226	222
EmoStabl e	Pearson Correlation	-.343**	-.269**	.293**	-.405**	-.473**	-.543**	-.509**	-.339**	-.355**	.377**	.071	.039	.217**	1	.041	.315**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.285	.561	.001		.540	.000
	N	218	180	221	221	227	222	231	227	227	230	228	221	223	231	225	222
Intlmag	Pearson Correlation	-.033	.056	.167**	-.048	.033	-.143*	-.005	-.087	.052	.073	-.005	.228**	.268**	.041	1	.057
	Sig. (2-tailed)	.626	.446	.012	.476	.615	.031	.945	.189	.433	.265	.939	.001	.000	.540		.392
	N	220	185	226	227	230	227	235	230	228	234	232	225	226	225	235	226
Joviality	Pearson Correlation	-.282**	-.090	.232**	-.090	-.188**	-.336**	-.426**	-.105	-.234**	.523**	.617**	.013	.168*	.315**	.057	1
	Sig. (2-tailed)	.000	.219	.001	.170	.004	.000	.000	.108	.000	.000	.000	.850	.012	.000	.392	
	N	225	187	221	233	235	234	241	237	235	239	239	220	222	222	226	241

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

* . Correlation is significant at the 0.05 level (2-tailed).