



REVIEW ARTICLE

Is Hikkomori Syndrome a 'Modern-day Depression'? A Nosological Perspective

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ABSTRACT

This short paper is the author's attempt to provide an investigative examination of a severe disorder of socially avoidant behavior observed over a period of at least six months or more. Known as Hikkomori Syndrome, the condition can cause serious distress and dysfunction to the sufferer and the explicit behavioral traits include the refusal to leave home or go outside, to go to school (if the sufferer is still studying) or to work (if s/he is a working adult), and withdrawal from peers as well as close family members leading to social isolation and limited social communication with others. However, Hikkomori Syndrome appears to be a biosocio-psychological disorder that overlaps and is co-morbid with other psychiatric disorders, particularly depression and generalized anxiety disorder. It is vital to examine the underlying conceptualization and consider if Hikkomori Syndrome is indeed a form of modern-day depression.

Keywords: Hikkomori, Social Withdrawal, Depression, Anxiety, Nosology

1. INTRODUCTION

Hikkomori syndrome (or simply called *Hikkomori* throughout this paper, except for sub-headings) is a complex, heterogeneous, and prevalent disorder. Research revealed a diversity in the conceptualization of this disorder, which poses a challenge in establishing a clear psychological nosology that is crucial in diagnostic agreement and communication among clinicians for evaluating psychiatric morbidity, treatment plan, and therapeutic outcomes (Jablensky & Kendell, 2002). Studies (e.g., Kato, Kanba, & Teo, 2019; Malagón-Amor et al., 2015; Tamaki & Angles, 2013) mostly examined the psychiatric profile of individuals with Hikkomori, and comorbidity with psychiatric diagnosis varies depending on study

methodology and sampling. The most common comorbid diagnoses include psychotic disorders, as well as mood and anxiety disorders, such as major depression and social phobia, and pervasive developmental disorders. As a result, Hikikomori is perceived as 'modern-day depression'. This short paper aims to examine the nosological concept of Hikikomori.

1.1 Hikikomori Syndrome: Symptomatic Level of Nosology

Hikikomori is considered a socio-psychological condition marked by a triad of traits: (1) spending most of the time at home; (2) persistent social withdrawal for more than 6 months; and (3) lack of interest or motivation in employment or going to school to the exclusion of psychiatric conditions such as schizophrenia, intellectual disability, and bipolar disorder as well as those who maintain personal relationships (e.g., friendships).

The main symptoms for the Social Withdrawal Syndrome (SWS) are associated with (1) feelings of shame, (2) low self-esteem, and (3) fear of rejection. Such social withdrawal is a major symptomatology of Hikikomori. Another condition similar to SWS is Anthropophobia, i.e., a strong fear of other people, which is aggravated by a state of withdrawal. However, it should not be construed or misdiagnosed as severe social withdrawal. There is yet another related syndrome is Social Phobia (SP) or Social Anxiety Disorder (SAD) which entails the following traits: (1) extreme shyness, (2) low self-esteem; and (3) self-isolation (Sottosanti, 2023). Then there is that condition of Avoidant Personality Disorder (APD) which has been postulated to that avoidant personality underpinning Hikikomori and its symptoms include the following: (1) avoiding work, social, or school activities for fear of criticism or disapproval, or feeling awkward in social situations, which may not so; (2) low self-esteem; and (3) self-isolation (Sottosanti, 2023).

Figure 1 shows an example of a symptomatic nosography of a case of an adolescent aged 13 years old with Hikikomori Syndrome. Every Hikikomori case has its own individual nosography due to differences in its five-level symptomatic nosology of the condition for each person (see Xie, 2023, for detail on nosology and nosography).

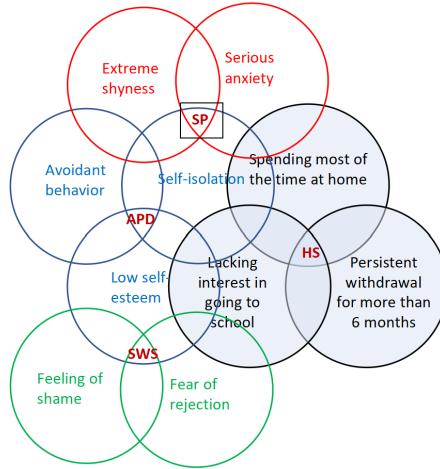


Figure 1. A Symptomatic Nosography of a Case with Hikikomori Syndrome

1.2 Typology of Hikikomori Syndrome

Suwa and Suziuki (2013), Li and Wong (2015), and Frankova (2019) have proposed a typology to advance the understanding of Hikikomori, mainly, the primary type versus secondary type of Hikikomori. The primary Hikikomori Syndrome has no clear psychiatric disorder, on the other hand, secondary Hikikomori Syndrome has social withdrawal traced to psychiatric disorders (Frankova, 2019). However, such classification is hypothetical and lacks empirical evidence for such delineation (Stip et al., 2016).

Presently research showed that the majority of Hikikomori are classified under secondary Hikikomori, which means they are also comorbid with other psychological disorders. However, such a classification is not well-defined and may differ across cultures. For instance, all issues of social concern or problems encompass those with or without psychiatric comorbidities. Borovoy (2008) postulated that Hikikomori results from a combination of social, medical and emotional issues.

Similarly, Kato et al. (2018) also proposed two subtypes of Hikikomori Syndrome: The first, subtype concerns those with the 'hardcore' type who demonstrated extreme social reclusion by not leaving their home nor interacting with parents or family members. The second subtype has to do with the 'soft' type and those with this subtype do go out and have some social interactions with others. A more recent third subtype of Hikikomori has to do with those stay separately from their family, and they comprise the majority of the cases (see Tajan, 2015, for detail).

2. ETIOLOGY OF HIKIKOMORI SYNDROME

Research (e.g., Chong & Chan, 2012; Kato, Shinfuku, & Tateno, 2020; Yong, R., & Nomura, 2019) have also indicated that stressful events such as academic pressure, illness, and interpersonal difficulties could trigger socially avoidant behaviors that lead to Hikikomori. Other studies noted that Hikikomori is correlated with internet addiction (Kato, Shinfuku, & Tateno, 2020), dysfunctional family settings (Hattori, 2006), or experienced trauma (Silić et al., 2019).

Another pertinent factor in the Hikikomori research is school dropout (see Young & Nomura, 2019, for detail). Particularly, school refusal or dropout and mental health issues are more common among early adolescents. School refusal is also identified as a possible trigger for Hikikomori, and there is an increase in the number of Hikikomori cases and school drop-out (Jones, 2006). Hence, it is common to come across Hikikomori young adults who have been socially withdrawn for over a decade (Sakai et al., 2011). The longer youth remains socially withdrawn, the harder for them to reintegrate back into society. Possible triggers of Hikikomori might include school absenteeism (termed as *futoukou*) or job insecurity. Both the numbers of Hikikomori and school refusals have been increasing as it becomes increasingly difficult to reintegrate into society the longer one remains socially withdrawn (Jones, 2006). As a result, it has become quite common to find a Hikikomori who has been withdrawn for over a decade (Sakai et al., 2011).

Moreover, Hikikomori is notable as a mental disorder in the early adulthood and it is associated with a range of long-term adverse outcomes in later adulthood, including emotional and physical health problems (Scott et al., 2016), relationship dysfunction (Kerr & Capaldi, 2011), and labor market marginalization (Niederkrotenthaler et al., 2014; Goldman-Mellor et al., 2014). The age of onset can range from 20 to 27 years, but prodromal symptoms often emerge during early adolescence (Kondo et al., 2013). Also, it appears that Hikikomori is more prone among adolescents (Kato, Kanba, & Teo, 2016) and more common among males than females (Yong, Fujita, Chau, & Sasaki, 2020).

2.1 Japanese Research on Hikikomori Syndrome

Japanese research (e.g., Guo, 2022; Tarumi & Kanba, 2005; Wong et al., 2019) had outlined how rapid socioeconomic changes would affect the lifestyle and psychosocial well-being of individuals. Typical melancholy has been referred to as common depression, which appears to have evolved with socio-cultural changes following economic growth (1960s-1980s), economic crisis and depression (1990s), and the complexity and challenges of modern society in 21st century (Tarumi, 2005; Tarumi & Kanba, 2005). In some instances, some Hikikomori may not experience a decline in quality of life, and negative behavioral and social consequences may come about from the implications of a reclusive lifestyle.

In Asian societies that value individual industrialism and structured routines, an erratic and conventional lifestyle is not socially acceptable, and may adversely impact youth's health (Wong et al., 2019). Beyond an individual's distress, such a lifestyle has adverse social impacts on families like family and marital conflicts, emotional distancing between family members, and loss of youth's income and family savings. At the social level, it encompasses reduced human capital and a negative impact on population growth. Hence, Hikikomori is theorized to be triggered or aggravated by stressful life events (see Nonaka & Sakai, 2021, for detail).

Hikikomori was initially thought to be a localized or culture-bound syndrome but research found it across cultures (Hamasaki et al., 2022). In the Japanese context, Hikikomori who have a fear of interpersonal relationships, particularly in face-to-face interactions are included in culture-bound syndrome. For example, *taijin kyofusho* is fear of offending others through awkward social interaction including eye-to-eye contact and blushing (Nakagami et al., 2017). Notably, there are variations in terms used to describe this phenomenon. For instance, in China, Hong Kong and Singapore, Hikikomoris are referred to as 'hidden youth', and in South Korea, 'socially withdrawn youth' (see Wong et al., 2019, for detail). The term 'NEET' (Not in Education, Employment, or Training) was first used in the United Kingdom to label young people not in employment, education, or training (Bynner & Parsons, 2002). Likewise, 'slacker', 'twixter', and 'adultolescent' describe young people in the United States who stay with their parents and do not develop independence (Staff, 2013). 'NEY' (Non-Engaged Youth) in Hong Kong refers to the non-engaged youth, and who are not gainfully employed and not pursuing education (Wong, 2012). In particular, this is salient in collectivistic Asian cultures that strongly emphasize communal and family ties. Hence, societal expectations and demands could be a potential risk factor for Hikikomori tendencies.

Literature in East Asian regions outlined similar findings and identified risk factors such as male gender, insecure attachment style, and psychiatric conditions (Clauss & Blackford, 2012; Krieg & Dickie, 2013; Saito, 2013). Conversely, other risk factors achieve less consensus. According to Wong et al. (2019), clinical studies of Hikikomori in Japan likewise demonstrated that the high educational status of families (i.e., fathers), is related to an increase in the risk of Hikikomori. A recent research study (see Hamasaki et al., 2022, for detail) indicated that lack of communication between parents and heavy internet usage were found to be significant predictors of Hikikomori severity. Hikikomori is thus referred to as 'modern-day depression' as young people could not adapt to the high-pressure work demand or school work as a result of economic impetus, leading to social withdrawal usually in the form of engrossment in video games, social media, and devices (Kato et al., 2011). Therefore, it would be appropriate to deem 'modern-day depression' as more of a socio-cultural concept than a clinical diagnostic categorization or label (Orsolini et al., 2022).

Major depression is commonly comorbid with Hikikomori (Teo et al., 2018). Similarly, in depression, these social withdrawal-like behaviors manifest with a depressed mood, lowered motivation, and lethargy. Indeed, depression and Hikikomori share many similar psychological symptoms, and in some instances, comorbid. While some literature outlines distinctions between Hikikomori and depression, others imply that it is a form of "modern-day depression."

In a nosological sense, depression is diagnosed when a specific combination of symptoms persists over a certain period and with a particular intensity (American Psychiatric Association/APA, 2013). According to the DSM-5 (APA, 2013), the DSM-5 has defined major depression as having five or more symptoms in two weeks (APA, 2013). These include irritability, lack of interest or pleasure, sleep issues, psychomotor agitation or retardation, sluggishness or low energy, a sense of inadequacy or inappropriate guilt, poor concentration, persistent thoughts of death, and suicidal ideation. The term *dysthymia* refers to a milder, persistent form of depressive disorder when depressive symptoms manifest for most days over at least one year (American Psychiatric Association, 2013). Such a blurred delineation could be traced to the co-morbidity with mood and anxiety disorders (Pozza et al., 2019).

Indeed, research (e.g., Coluccia et al., 2015; Teo, 2013; Teo et al., 2020) had noted that individuals with depression tend to exhibit Hikikomori such as social reclusion and social anxiety. Other research has shown that youths with Hikikomori tend to develop gaming or internet addiction as a coping mechanism (Saito, 2013). Another research established that the Hikikomori population tends to be comorbid with psychological disorders, such as depression, which result in social withdrawal (Lin, Koh, & Liew, 2022). Other Hikikomori populations had psychosis and anxiety as their common comorbid disorders (Malagón-Amor, Córcoles-Martínez, Martín-López, & Pérez-Solà, 2015). Some studies in Japan also showed that older Hikikomori individuals had anger and depression issues (NHK World–Japan, 2019). Hence, in some instances, Hikikomori-like behavior or responses seem to serve as a coping strategy to manage stress, which could be dysfunctional and then develop into a disorder or syndrome.

Developmentally, according to Krieg and Dickie (2013), some theories attempt to explain the Hikikomori. Insecure attachments (i.e., avoidant and ambivalent attachments) have been proposed to be associated with social withdrawal. In other words, inconsistent or lack of parental support and affection would influence youth to seclude themselves as they are unable to manage social expectations and peer pressure. Erikson's (1950) stages of psychosocial development propose that youth withdrawal behavior results from the youth's inability to meet the psychosocial developmental task. The intimacy vs isolation conflict is significant at the young adulthood stage between the ages of 20 and 39 years (Erikson, 1950). Hypothetically, a young adult who fails to achieve intimacy at the young adulthood stage would suffer from isolation and hence from youth social withdrawal (Teo et al., 2013). Research has also established support for the role of parental support in youth's psychological well-being and psychosocial development (see Krieg & Dickie, 2013, for detail). Besides poor interpersonal social support and social reclusion, it appears that socioeconomic factor contributes to this Hikikomori (Nonaka & Sakai, 2021). Other review studies (e.g., Kato et al., 2019; Krieg & Dickie, 2013; Muris & Ollendick, 2023) showed that Hikikomori may be an outcome of developmental difficulties such as insecure attachment. Particularly for families in middle to high socioeconomic status with high academic expectations from families, this over-protective parenting style tends to co-dependent behaviors, and attachment issues, which would influence them to be reclusive. Along the same vein, by creating strong social pressures, youth may appear to be coping with social expectations and duties but are already withdrawing psychologically and emotionally (Wong et al., 2019).

It is of significance to examine the nosology and co-morbidity of Hikikomori and other psychological conditions, particularly social anxiety disorders. Since youth social withdrawal behavior is a central feature of Hikikomori, so many mental health professionals tend to consider such acute social withdrawal as a manifestation of a range of psychological disorders included in the DSM-5 (APA, 2013): e.g., schizophrenia, post-traumatic stress disorder, social anxiety disorder, major depressive disorder, schizoid personality disorder, and avoidant personality disorder (Kato, et al., 2019). Similarly, severe social withdrawal appears to be a consistent and prominent factor for psychotic disorders, social anxiety disorder, depressive disorders, obsessive-compulsive disorder, and internet addiction. Instead, it has been suggested that social withdrawal is a consequence of the disorder(s). However, Teo and Gao (2010) suggested that a substantial subset of the clinical cases had substantial psychopathology that did not meet the criteria for any of the existing psychiatric disorders listed in the DSM-5.

Of importance, recent research (Kondo et al., 2013; Tateno et al., 2012) recognizes the comorbidity of Hikikomori with neurodevelopmental disorders, which also include intellectual developmental disorder. For instance, Hikikomori shows comorbidity with autism spectrum disorder (ASD), whose tendencies like lack of empathy can lead to social maladjustment and prone to bullying. Thus, it is suggested that severe social withdrawal behavior could be included as a new psychiatric disorder in a future edition of DSM despite its clinical overlap with other psychiatric disorders. While it is unclear whether it is Hikikomori that arises from other psychiatric disorders or if it is the cause of co-occurring psychiatric disorders, as observed that some disorders share Hikikomori-like characteristics including psychosis,

social anxiety disorder, avoidant personality disorder, depressive disorders, internet addiction, and post-traumatic stress disorder (Kato et al., 2012). Indeed, prominent risk factors for Hikikomori include psychiatric disorders, developmental disorders, substance-related or behavioral addictive disorders (e.g., Internet and gaming misuse), and poor psychosocial contexts (Lee et al., 2013). The strong interpersonal nuances of Hikikomori warrant the consideration of social anxiety. This is especially so since anxiety in social interactions may lead to Hikikomori and social anxiety disorder is found to be highly comorbid among Hikikomori youth (Teo et al., 2015). Such Hikikomori-like behaviors are also common manifestations during the depressive episode of bipolar disorder (Kato et al., 2019). Thus, Hikikomori-like symptoms are perceived as co-existing with perceived Hikikomori-like major psychiatric disorders listed in DSM-IV and the current DSM-5. Other Hikikomori cases fall in the gray zone as there is a lack of clear diagnostic criteria.

3. CONCLUDING REMARK

It appears that Hikikomori is a social and 'modern-day depression' as it is a product of an economic shift and technological advent. Against such a backdrop, youth experience distress in response to challenges imposed by school and work, and exhibit psychological symptoms which overlap or form a subset of depression and social anxiety disorders. Thus, Hikikomori appears to be a "modern-day" disorder that seems to onset during adolescence and exhibits significant depressive symptoms and social anxiety, leading to social withdrawals often coupled with increased gaming and internet addiction as a coping response. Yet, these symptoms do not fall under the clear clinical categorization of the international classification of disease or DSM-5 (APA, 2022) to qualify as a disorder partly due to the amalgamation of syndromes and often these symptoms are not severe enough to be categorized as a clinical concern. While a series of revisions have been made to the diagnostic criteria, Hikikomori may not meet the criteria of any psychiatric disorders but demonstrate adjustment and social withdrawal issues. In these cases, these youth would be classified as adjustment disorder based on the DSM-5 (APA, 2013), and the Hikikomori state was named as 'idiopathic [ichijisei] Hikikomori' by a Japanese (see Teo, 2010, for detail). Nosologically, it draws affiliation from panic disorder and appears to have similarities with major depressive disorder (MDD). Indeed, the high comorbidity, shared profile, and putative genetic risk among major depressive disorder with generalized anxiety disorder would warrant a question about Hikikomori's place in future psychiatric nosology.

Perhaps, with extensive research in the future on the interrelationship among these syndromes, the Diagnostic and Statistical Manual-5 (DSM-5) and International Classification of Diseases-11 (ICD-11) would finally establish the nosological validity of Hikikomori Syndrome and establish its position in psychiatric nosology. Understanding the nuances and psychopathological characterization of this intriguing syndrome would further contribute to the advancement of clinical categorization in diagnosis as well as shedding important insights which would be instrumental in formulating preventive and intervention programs.

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Authors have declared that no competing interests exist.

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REFERENCES

American Psychiatric Association, D., & American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, DC: The Author.

Auerbach, R. P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., ... & Kessler, R. C. (2018). WHO world mental health surveys international college student project: prevalence and distribution of mental disorders. *Journal of abnormal psychology*, 127(7), 623-638.

Benjet, C., Mortier, P., Kiekens, G., Ebert, D. D., Auerbach, R. P., Kessler, R. C., ... & Bruffaerts, R. (2022). A risk algorithm that predicts alcohol use disorders among college students. *European Child & Adolescent Psychiatry*, 31(7), 1-11.

Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R. P., Cuijpers, P., Demyttenaere, K., ... & Kessler, R. C. (2018). Mental health problems in college freshmen: Prevalence and academic functioning. *Journal of Affective Disorders*, 225, 97-103.

Borovoy, A. (2008). Japan's hidden youths: mainstreaming the emotionally distressed in Japan. *Culture, Nedicine and Psychiatry*, 32(4), 552-576.

Bynner, J., & Parsons, S. (2002). Social exclusion and the transition from school to work: The case of young people not in education, employment, or training (NEET). *Journal of Vocational Behavior*, 60(2), 289–309.

Chong, S. S. C., & Chan, K. M. (2012). A case study of a Chinese 'Hikikomorian' in Canada—theorizing the process of Hikikomorization. *Journal of Special Education and Rehabilitation*, 13(3-4), 99-114.

Clauss, J. A., & Blackford, J. U. (2012). Behavioral inhibition and risk for developing social anxiety disorder: A meta-analytic study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51, 1066–1075.

Coluccia, A., Fagiolini, A., Ferretti, F., Pozza, A., & Goracci, A. (2015). Obsessive-Compulsive Disorder and quality of life outcomes: protocol for a systematic review and meta-analysis of cross-sectional case-control studies. *Epidemiology, Biostatistics and Public Health*, 12(2). Article ID: e11037-1.

Erikson, E. H. (1950). *Childhood and society*. New York, NY: W. W. Norton & Company.

Flesch, B. D., Houvèssou, G. M., Munhoz, T. N., & Fassa, A. G. (2020). Major depressive episode among university students in Southern Brazil. *Revista de Saúde Pública*, 54.

Frankova, I. (2019). Similar but different: psychological and psychopathological features of primary and secondary hikikomori. *Frontiers in Psychiatry*, 10. Article ID: 558.

Furlong, A. (2008) The Japanese Hikikomori Phenomenon: Acute Social Withdrawal among Young People. *Sociological Review*, 56, 309-325.

Garber, J., Gallerani, C. M., & Frankel, S. A. (2009). Depression in children. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 405–443). New York, NY: Guilford Press.

Goldman-Mellor, S. J., Caspi, A., Harrington, H., Hogan, S., Nada-Raja, S., Poulton, R., & Moffitt, T. E. (2014). Suicide attempt in young people: A signal for long-term health care and social needs. *JAMA Psychiatry*, 71(2), 119–127.

Guo, Z. (2022, January). A Review of Social and Cultural Causes of Hikikomori: Collectivism in Japan. In *2021 International Conference on Public Art and Human Development (ICPAHD 2021)* (pp. 727-731). Linwood, NJ: Atlantis Press.

Hamasaki, Y., Pionnié-Dax, N., Dorard, G., Tajan, N., & Hikida, T. (2022). Preliminary study of the social withdrawal (Hikikomori) spectrum in French adolescents: focusing on the differences in pathology and related factors compared with Japanese adolescents. *BMC Psychiatry*, 22. Article ID: 477.

Hattori, Y. (2006) Social withdrawal in Japanese youth: A case study of thirty-five Hikikomori clients. *Journal of Trauma Practice*, 4, 181-201.

Jablensky, A., & Kendell, R. E. (2002). Criteria for assessing a classification in psychiatry. In M. Maj, W. Gaebel, J. J. Lopez-Ibor, & N. Sartorius (eds.), *Psychiatric diagnosis and classification* (pp. 1-34). Chichester, UK: John Wiley & Sons.

Jane Costello, E., Erkanli, A., & Angold, A. (2006). Is there an epidemic of child or adolescent depression? *Journal of Child Psychology and Psychiatry*, 47(12), 1263-1271.

Jones, M. (2006, January 15). Shutting themselves in. In *The New York Times Magazine*. Retrieved from: <https://www.nytimes.com/2006/01/15/magazine/shutting-themselves-in.html>.

Kato, T. A., Kanba, S., & Teo, A. R. (2016). A 39-year-old 'adultolescent': Understanding social withdrawal in Japan. *The American Journal of Psychiatry*, 173, 112-114.

Kato, T. A., Tateno, M., Shinfuku, N., Fujisawa, D., Teo, A. R., Sartorius, N., ... & Kanba, S. (2012). Does the 'Hikikomori' syndrome of social withdrawal exist outside Japan? A preliminary international investigation. *Social Psychiatry and Psychiatric Epidemiology*, 47(7), 1061-1075.

Kato, T. A., Shinfuku, N., Fujisawa, D., Tateno, M., Ishida, T., Akiyama, T., ... Kanba, S. (2011). Introducing the concept of modern depression in Japan; an international case vignette survey. *Journal of Affective Disorders*, 135(1-3), 66-76.

Kato, T. A., Kanba, S. & Teo, A. R. (2018). Hikikomori: Experience in Japan and International Relevance. *World Psychiatry*, 17, 105-106.

Kato, T. A., Kanba, S., & Teo, A. R. (2019). Hikikomori: Multidimensional understanding, assessment, and future international perspectives. *Psychiatry and clinical neurosciences*, 73(8), 427-440.

Kato, T. A., Shinfuku, N., & Tateno, M. (2020). Internet society, internet addiction, and pathological social withdrawal: the chicken and egg dilemma for internet addiction and hikikomori. *Current Opinion in Psychiatry*, 33(3), 264-270.

Katsuki, R., Tateno, M., Kubo, H., Kurahara, K., Hayakawa, K., Kuwano, N., ... & Kato, T. A. (2020). Autism spectrum conditions in Hikikomori: A pilot case-control study. *Psychiatry and Clinical Neurosciences*, 74(12), 652-658.

Kerr, D. C., & Capaldi, D. M. (2011). Young men's intimate partner violence and relationship functioning: long-term outcomes associated with suicide attempt and aggression in adolescence. *Psychological Medicine*, 41(4), 759-769.

Krieg A and Dickie JR (2013) Attachment and Hikikomori: A psychosocial developmental model. *International Journal of Social Psychiatry*, 59, 61-72.

Kondo, N., Sakai, M., Kuroda, Y., Kiyota, Y., Kitabata, Y., & Kurosawa, M. (2013) General Condition of Hikikomori (Prolonged Social Withdrawal) in Japan: Psychiatric Diagnosis and Outcome in Mental Health Welfare Centres. *International Journal of Social Psychiatry*, 59, 79-86.

Lee, Y.S., Lee, J.Y., Choi, T.Y. and Choi, J.T. (2013) Home Visitation Program for Detecting, Evaluating and Treating Socially Withdrawn Youth in Korea. *Psychiatry and Clinical Neurosciences*, 67, 193-202.

Li, T. M., & Wong, P. W. (2015). Youth social withdrawal behavior (Hikikomori): a systematic review of qualitative and quantitative studies. *Australian & New Zealand Journal of Psychiatry*, 49(7), 595-609.

Lin P, Andrew , Koh A & Liew K (2022). The relationship between Hikikomori risk factors and social withdrawal tendencies among emerging adults: An exploratory study of Hikikomori in Singapore. *Frontiers in Psychiatry*, 13. Article ID: 1065304.

Malagón-Amor, Á., Córcoles-Martínez, D., Martín-López, L. M., & Pérez-Solà, V. (2015). Hikikomori in Spain: A descriptive study. *International Journal of Social Psychiatry*, 61(5), 475-483.

Muris, P., & Ollendick, T.H. (2023). Contemporary hermits: A developmental psychopathology account of extreme social withdrawal (Hikikomori) in young people. *Clinical Child and Family Psychology Review*, 26, 459-481.

Nakagami, Y., Li, T., Russ, T.C., Marques, J.G., Riese, F., Sönmez, E., ... & Akiyama, T. (2017). Taijin kyofusho: A culture-bound diagnosis discussed by Japanese and international early career psychiatrists. *Psychiatry and Clinical Neurosciences*, 71(2), 146-149.

Niederkrotenthaler, T., Wang, M., Helgesson, M., Wilcox, H., Gould, M., & Mittendorfer-Rutz, E. (2017). Labour market marginalisation subsequent to suicide attempt in young migrants and native Swedes. *Social psychiatry and psychiatric epidemiology*, 52(5), 549-558.

NHK World–Japan (2019). Japan's Hikikomori is growing older. Tokyo, Japan: NHK World–Japan.

Nonaka, S., & Sakai, M. (2021). Psychological factors associated with social withdrawal (Hikikomori). *Psychiatry Investigation*, 18(5), 463-470.

Norasakkunkit, V., & Uchida, Y. (2014). To conform or to maintain self-consistency? Hikikomori risk in Japan and the deviation from seeking harmony. *Journal of Social and Clinical Psychology*, 33, 918-935.

Niederkrotenthaler, T., Tinghög, P., Goldman-Mellor, S., Wilcox, H. C., Gould, M., & Mittendorfer-Rutz, E. (2016). Medical and social determinants of subsequent labour market marginalization in young hospitalized suicide attempters. *PLoS One*, 11(1), Article ID: e0146130.

Orsolini, L., Bellagamba, S., Volpe, U., Kato, T. A. (2022). Hikikomori and modern-type depression in Italy: A new phenotypical trans-cultural characterization? *International Journal of Social Psychiatry*, 68(5), 1010-1017.

Pozza, A., Coluccia, A., Kato, T., Gaetani, M., & Ferretti, F. (2019). The Hikikomori' syndrome: Worldwide prevalence and co-occurring major psychiatric disorders: A systematic review and meta-analysis protocol. *BMJ Open*, 9(9). Article ID: e025213.

Saito, T. (2013) *Hikikomori: Adolescence without end*. (translated by J. Angles). Minneapolis, MN: University of Minnesota Press.

Silić, A., Vukojević, J., Čulo, I., & Falak, H. (2019). Hikikomori silent epidemic: a case study. *Research in Psychotherapy: Psychopathology, Process and Outcome*, 22(2), 317-322.

Staff, J. (2013). Coming of age in America: The transition to adulthood in the twenty-first century. *Contemporary Sociology: A Journal of Reviews*, 42, 117-118.

Stip, E., Thibault, A., Beauchamp-Chatel, A., & Kisely, S. (2016). Internet Addiction, Hikikomori Syndrome, and the Prodromal Phase of Psychosis. *Frontiers in Psychiatry*, 7. Article ID: 6.

Suwa, M., & Suzuki, K. (2013). The phenomenon of "Hikikomori"(social withdrawal) and the socio-cultural situation in Japan today. *Journal of Psychopathology*, 19, 191-198.

Tajan, N. (2015). Social withdrawal and psychiatry: A comprehensive review of Hikikomori. *Neuropsychiatrie de l'Enfance et de l'Adolescence*, 63(5), 324-331.

Tamaki, S., & Angles, J. T. (2013). *Hikikomori: Adolescence without end*. Minneapolis, MN: University of Minnesota Press.

Tateno, M., Park, T.W., Kato, T.A., Umemoto-Nakano, W. and Saito, T. (2012) Hikikomori as a Possible Clinical Term in Psychiatry: A Questionnaire Survey. *BMC Psychiatry*, 12, 1-7.

Tarumi, S. (2005). The 'new' variant of depression: The dysthymic type (in Japanese). *Japanese Journal of Clinical Psychiatry*, 34, 687.

Tarumi, S., & Kanba, S. (2005). Sociocultural approach toward depression-dysthymic type depression. *Japanese Bulletin of Social Psychiatry*, 13, 129-136.

Teo, A. R. (2013). Social isolation associated with depression: A case report of hikikomori. *International Journal of Social Psychiatry*, 59(4), 339-341.

Teo, A. R., Nelson, S., Strange, W., Kubo, H., Katsuki, R., Kurahara, K., ... & Kato, T. A. (2020). Social withdrawal in major depressive disorder: a case-control study of hikikomori in japan. *Journal of Affective Disorders*, 274, 1142-1146.

Teo, A. R., Stufflebam, K., Saha, S., Fetters, M. D., Tateno, M., Kanba, S., & Kato, T. A. (2015). Psychopathology associated with social withdrawal: Idiopathic and comorbid presentations. *Psychiatry Research*, 228(1), 182-183.

Vriend, N., Pfaltz, M. C., Novianti, P., & Hadiyono, J. (2013). Taijin kyofusho and social anxiety and their clinical relevance in Indonesia and Switzerland. *Frontiers in Psychology*, 4. Article No. 3.

Watts, J. (2002). Public health experts concerned about 'Hikikomori'. *Lancet*, 9312, 1131.

Wong, V. (2012). Social withdrawal as invisible youth disengagement. *The International Journal of Sociology and Social Policy*, 32, 415-430.

Wong, J. C., Wan, M. J., Kroneman, L. M., Kato, T. A., Lo, W. T., Wong, P. W., & Gloria, C. H. (2019). Hikikomori phenomenon in East Asia: Regional perspectives, challenges and opportunities for social health agencies. *Frontiers in Psychiatry*, 10. Article No. 512.

World Health Organization (2014). WHO calls for stronger focus on adolescent health. In *WHO Media Centre News*. Retrieved from: [ht://www.who.int/news/item/14-05-2014-who-calls-for-stronger-](http://www.who.int/news/item/14-05-2014-who-calls-for-stronger-)

focus-on-adolescent-health<https://www.who.int/news/item/14-05-2014-who-calls-for-stronger-focus-on-adolescent-health>.

Xie, G. H. (2023, March 14). Nosology and nosography of hyperlexia subtypes. In the *IACT-approved Registered Educational Therapist Training Program: Module 1 - Hyperlexia*. Singapore: The Author.

Yong, R., & Nomura, K. (2019). Hikikomori is most associated with interpersonal relationships, followed by suicide risks: A secondary analysis of a national cross-sectional study. *Frontiers in Psychiatry*, 10. Article No. 247.

Yong R. K., Fujita K., Chau P. Y., & Sasaki H. (2020). Characteristics of and gender difference factors of Hikikomori among the working-age population: a cross-sectional population study in rural Japan. *Japanese Journal of Public Health*, 67(4), 237–246.

Zivin, K., Eisenberg, D., Gollust, S. E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders*, 117, 180-185.