

The Hikikomori Phenomenon and Its Evolution in Modern Society: A Systematic Literature Review

Esposito Vincenzo^a

Abstract

This paper intends to thoroughly examine the phenomenon called Hikikomori, which was initially studied in Japan in the late 1990s (Saito, 1998). Importantly, in recent years there has been a significant surge in current research efforts aimed at investigating the many aspects of this complex phenomenon.

This article's objective is to effectively organize and classify various articles discussing the Hikikomori phenomenon. It considers critical factors such as the type of researcher involved, the specific angle or focus of the article, and the disciplinary perspective underpinning it. By examining these elements, readers can gain a more comprehensive and nuanced understanding of this complex and often misunderstood phenomenon.

To achieve our goal, we followed a structured process. Firstly, we extracted articles through Scilit academic indexing platform. Then, we created an analysis form to enter the collected data. Finally, we analyzed the data using various techniques.

Keywords: Hikikomori, network analysis, systematic review, cluster analysis, new psychopathology.

1. Introduction

Hikikomori is a Japanese term formed from two words “Hiku” (to pull) and “Komuru” (to withdraw), which means “to stand aside, to withdraw” (Saito, 1998). This term is first used with scientific value, to refer to both the

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syndrome and the sufferer, by psychiatrist Tamaki Saito in 1998 in his work “Endless Adolescence.” In his book, Saito takes a radical stance by pointing to Hikikomori as a new form of isolation and a new psychopathology that cannot be superimposed on any other known ones.

Between the 1970s and 1980s in Japan, several studies first identified symptoms of “withdrawal neurosis” (Kasahara, 1978) in situations in which patients decided to withdraw from their everyday contexts, such as school or work (Inamura, 1990; Lock, 1986). Early withdrawal cases (mostly among young people) were often confused with various existing psychopathologies, such as schizophrenia or depression. Due to the increasing attention paid to these symptoms by various scholars, the disorder began to be studied more thoroughly, eventually being recognized as a real syndrome different from all others already known (Teo et al., 2018). Only in the 1990s were these symptoms traced back to the syndrome that is now known and identified as Hikikomori (Saito, 1998; Suwa, Suzuki, 2013). Because voluntary isolation is also a prodromal symptom of schizophrenia, in early diagnoses, Hikikomori syndrome was treated with the drug and nursing therapies provided for schizophrenic patients (Saito, 1998). However, in Hikikomori all of the symptomatology that greatly alters the perception of reality present in schizophrenics is absent. Far from being considered persons incapable of understanding, those who become Hikikomori first and foremost choose it, that is, they decide it with lucidity (Zielenziger, 2006).

In 2003, the Japanese government, through the Minister of Health, referred to Hikikomori syndrome as new psychopathology and identified its characteristics: 1) continued isolation for 6 or more months; 2) motivations for isolation, dictated by the desire to escape the pressures of social fulfillment; and 3) distrust of relationships, the individual who decides to isolate himself develops a strong distrust of interpersonal relationships, society, and its dynamics.

In early diagnoses, Hikikomori (Koyama et al., 2008) was confused with depression or schizophrenia and treated with psychotropic drugs: most often with poor and inconclusive results (Saito, 1998; Kato et al., 2016; Tajan 2017). After identifying Hikikomori as a new psychopathology and creating ad hoc therapies for its treatment (Tajan, 2017) today there is a tendency to confuse this syndrome with two other disorders, Internet Addiction and Gaming Disorder. While in these cases the isolation is due to an addiction to the Internet or video games, in the case of a Hikikomori the isolation is due to a social malaise (T.Saito, 1998). According to Ricci and Pierdominici, only 30 percent of self-isolating individuals are offline and it is estimated that only one-tenth of the total number of individuals make heavy use of the Internet (Pierdominici, 2008; Ricci, 2008).

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

Hikikomori syndrome has been classified in the 2019 version of the DSM as a cultural syndrome: this type of label is given only when a certain pathology affects only a state or a single population. This definition would seem outdated given the amount of research done outside Japan in Western countries such as France (Fansten, 2014), Belgium (Vanhalst et al., 2015) and Italy (Pierdominici, 2008; Ricci, 2008; Crepaldi, 2019; Esposito et al., 2023). In the 2022 updated version of the DSM, Hikikomori syndrome is included in the appendix of psychopathologies ready to become an integral and fixed part of the volume.

According to some authors (Yong, Kaneko, 2016), that of Hikikomori can be classified as a true state of anomie, a term coined by Durkheim (1897) that means “absence of norms.” However, their loss of normative references is not related to the general context, but only to those aspects related to social dynamics, personal success and one’s public image. It would thus be a narrow form of anomie, as other norms, such as moral ones, are maintained.

One of the first general features that emerges from early studies of hikikomori syndrome is the slow course of the pathology, which does not manifest itself suddenly and blindly, but as a long process. Crepaldi (2019) tried to identify the stages that a hikikomori goes through before total isolation. What can be inferred is that the isolation resulting from hikikomori syndrome is not a choice dictated by a bad personal moment, but is a reasoned choice that the person matures over time and in full clarity: In the first stage, the person begins to feel the urge to isolate himself or herself, finds relief in isolation and feels uncomfortable with other people; in the middle stage, the person begins to consciously process the impulse to isolate, quits school or work, reverses the sleep-wake cycle (Takasu et al., 2011) and begins to spend most of their time in their own home (Okamura, 2016).

In young people, the onset of hikikomori disorder often coincides with the end of school age (age 19) and the beginning of adulthood, when important decisions about one’s future must be made. At this delicate stage, those who have been termed “emerging adults” (Arnett et al., 2014), ages 18-29, must build their future and identity. In high-income societies, young people are often under constant stress caused by the competitive climate at both school and work. In this regard, other reasons related to the socio-cultural context of young people in self-isolation have been pointed out: frequent incidents of bullying suffered and poor relationships with peers (Krieg, Dickie, 2013; Teo et al., 2018); pressure from schools and inattention of educational institutions toward children who are hikikomori or prone to become hikikomori (Kato et al., 2016; Tajan, 2017); and an overly protective and comforting family context (Saito, 1998).

These factors are equally incisive in the Japanese context. Japan is considered the motherland of the Hikikomori phenomenon (Ogino, 2004;

Miller, Toivonen, 2010), and to date it remains the country with the highest number of isolated children. Data dating back to 2011, reported in a study by Takasu et al., showed that about 200,000 people in Japan can be classified as Hikikomori (out of a population of about 120 million). One of the reasons that could be attributed to the phenomenon are certain Japanese cultural traits. From a cultural point of view, in Japan great importance is placed on “sekentei” (世間体), which means “appearance in the eyes of others” and reflects social expectations that the individual cannot disappoint. Therefore, Dependence and conformity in Japanese culture are part of cultural values that can guide and condition each individual’s being in society.

In 2014, Fasten et al. hypothesized the existence of different blocking modes in the socialization process of hikikomori. Their study proposed the construction of a typology to define the different types of hikikomori, later revised by Crepaldi (2019). Currently, from the typological classifications developed by these scholars, 4 types of hikikomori can be distinguished: alternative, reactionary, resigning and chrysalis. On the other hand, Wong et al. (2015) proposed a classification of hikikomori syndrome about whether or not the person is affected by other diseases. In this regard, the distinction between primary Hikikomori and secondary Hikikomori has been proposed. In the former case, the syndrome is not related to any pre-existing psychopathology of the person. Secondary Hikikomori, on the other hand, is spoken of when confinement is a direct consequence of a problem that is already present.

Some research found in the literature (Varnum, Kwon, 2016; Furuhashi, 2023) points to an increasing number of hikikomori especially in wealthy and developed settings. These types of environments push young people in particular, in the constant race to get a good degree, a good job, a family. This would push the most vulnerable individuals to isolate themselves and give up the perennial competition with peers, unable to withstand the ever-increasing social pressure. From an epistemological and empirical point of view, this kind of perspective leads to more and more studies being conducted in cities of a certain type (wealthier and more emancipated) rather than in others. For example, in a country like Italy, where the gap between northern and southern regions is still alive, the latter are perceived as a more backward context, thus theoretically less prone to the development of hikikomori syndrome.

Social isolation has increased in prevalence in recent decades, which has led some authors to say that we are facing a silent and rising epidemic, potentially associated with other serious contemporary epidemics such as suicide and opioid use, called the “modern behavioral epidemic of loneliness.” Hikikomori could also be considered a silent and increasing epidemic during and after the COVID-19 pandemic, as physical and social isolation is likely to

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

increase. Therefore, it is essential not to further isolate this population in terms of clinical and scientific efforts.

The first studies on the relationship between pandemic-related closures and Hikikomori come from Japan. In a 2022 study, the authors (Watabe et al., 2022) stated how Hikikomori workers in Japan have increased due to the covid 19 pandemic. According to the authors, a substantial percentage of those who have tried smart working struggle to return and leave home less and less often finding themselves in a pre - Hikikomori stage.

To date, Hikikomori syndrome seems to have “spread” to all countries with advanced industrial and social development, but even countries that are faced industrial and social development in recent years such as South American countries are facing the problem of youth social isolation. A case in point is undoubtedly Brazil (Roza et al., 2022) where in recent years, thanks again to restrictions due to the covid 19 pandemic, cases of Hikikomori youths have increased.

2. Materials and Methods

This study provides an overview of the Hikikomori phenomenon based on scholarly articles collected from the Scilit platform. The platform was chosen for its extensive article indexing. The articles were manually entered into an analysis form. The initial data collection phase began in January 2023 and ended in March 2023. We maintained scientific control through manual searches and lists of study citations. The last study included is from April 2023, covering all studies published on the Scilit platform from 2004 to April 2023.

An analysis worksheet was constructed using the Microsoft Excel program. It systematically reviews previously collected articles using a method that minimizes bias. We strictly adhered to the PRISMA guidelines for transparent reporting and reproducible research (Page, McKenzie et al., 2021; Page, Moher et al., 2021; Blackwell et al., 2023; Mishra, Mishra, 2023), which have become the standard in medical and social science research (De Falco, Romeo, 2021).

It was decided to use the PRISMA methodology to ensure accuracy, transparency and the possibility of replication by other researchers. PRISMA consists of four basic steps: identification, screening, eligibility and inclusion.

The first step led us to search the Scilit platform for all articles that had the word Hikikomori in the article title and abstract, the number of articles found was 621.

Three exclusion criteria were selected:

- Criterion 1: The article is not about Hikikomori Phenomenon;

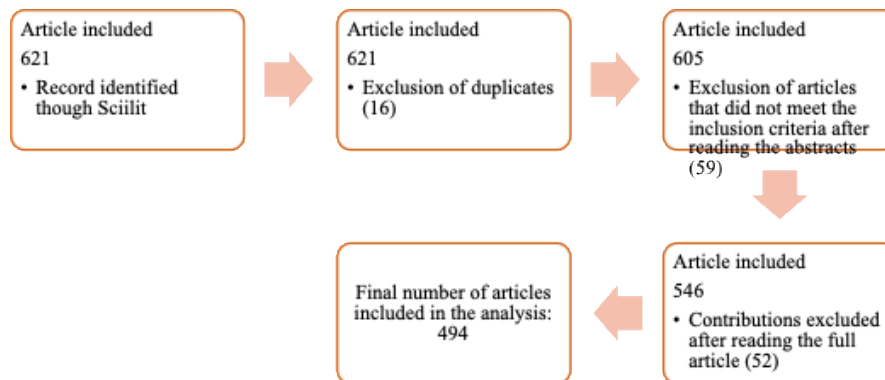
- Criterion 2: The population is unhealthy or less than 12 years old;
- Criterion 3: The study has not been published.

After collecting the items, we moved on to eliminating duplicates within the matrix. In this case, 16 items were eliminated. After reading the abstracts, another 59 articles were eliminated because they did not meet the inclusion criteria.

Articles that appeared to meet the inclusion criteria, or for which there was doubt due to lack of information, were exported for an eligibility check. Eligible articles were read in their entirety for inclusion in the review or excluded according to the criteria. This method achieved our objective by minimizing the risk of error.

After reading the collected articles in their entirety, a further 52 articles were excluded, bringing the final number of articles, on which the analysis in this article was performed, to 494.

Table 1. Article collection process.



The analysis form must gather crucial information about articles, including identifying the academic field/discipline, type of contribution, language, keywords and topic. This data is essential and must be provided accurately to ensure its usefulness.

Upon completing the analysis sheet, we immediately proceeded to conduct a thorough analysis of the collected data. This rigorous process involved conducting both univariate and bivariate analyses of the variables included on the sheet. We utilized the highly effective two-step cluster analysis technique

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

(Ming-Yi et al., 2010, Benassi et al., 2020, Harantová et al., 2023) to conduct a thorough multivariate analysis. The primary objective of cluster analysis (Frades, Matthiesen, 2010) is to group similar entities together. In the first phase, a sequential approach is employed to construct pre-clusters, which are dense regions within the space. Afterward, model-based hierarchical techniques are applied to produce the desired clusters.

Table 2. Composition of the analysis form.

Authors	Categorial	Authors' names
Title	Categorial	Article title
Journal of publication	Categorial	Journal when the contribution were published
Abstract	Categorial	Article abstract
Doi	Categorial	Article doi
Keyword	Categorial	Article Keyword
Date of publication	Continuous	Year of publication
Type of contribution	Categorial	Article, Monograph, Chapter
Number of book	Continuous	Number of the book when the contribution are published
Number of issue	Continuous	Number of the issue when the contributions are published
Number of pages	Continuous	Number of pages of contribution
Academic field	Categorial	Economics, Education, Engineering, Sociology, Communication, Psychology, Technology, Medicine, Anthropology, Psychiatry
Language	Categorial	Language of the contribution
Nature of contribution	Categorial	Empirical, Theoretical
Methodology used	Categorial	Quan, Qual, Mixed Method, Not present
Technique used	Categorial	Data collection technique used within the study if present
Countries in which it was written	Categorial	Country in which the authors are currently working
Continent in which it was written	Categorial	A continent in which the authors are currently working

The identification of specific search areas is the primary objective of conducting co-occurrence analysis on article keywords, as emphasized by López-Fernández et al. (2016) and De Falco and Romeo (2021).

3. Results

After completing the matrix in Excell, the first step of the analysis was to identify which words were most present within the titles of the articles:

Table 3. Words most present in titles.

Word	Presence in titles
Hikikomori	210
Social	128
Withdrawal	84
Japan	58
Study	24
Youth	21
Young	21
Health	17
Syndrome	14

Titles of articles were entered into freewordclouds, a free open-source software. The program builds a word cloud with the most frequently used words. The resulting file was a CSV that excluded stop words such as articles and conjunctions.

Figure 1 – Wordcloud of Hikikomori article titles.



The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

The term Hikikomori is typically associated with a range of related concepts, including social isolation, withdrawal from society, and a sense of disconnection from others. While the phenomenon has been particularly prominent in Japan, where it has been formally defined as a syndrome, it can also occur in other parts of the world. Hikikomori is often associated with young people and is frequently viewed as a health concern, given the potential negative impact of extended periods of social withdrawal on mental health and well-being.

Wordcloud that has been produced makes it possible to identify other themes that scholars address when they talk about hikikomori:

- There is a dimension related to family and adolescence, confirming how hikikomori is perceived and studied as an adolescent phenomenon related to the establishment of families, although there are several empirical pieces of evidence that point to adult hikikomori as possible (Yasuma et al., 2021);
- Words such as characteristics, factors, and risks, on the other hand, might indicate how many researchers are focused on developing models, both theoretical and empirical, designed to identify the characteristics of hikikomori;
- Classic hikikomori (Saito, 1998) did not use digital tools during their isolation, to date the scenario seems to be gradually changing (Kato, Shinfuku, Tateno, 2020) and that is why words such as Internet and virtual are present;
- Finally, there is another important core of studies based on the experiences of hikikomori boys of school and college age, as noted by the words university and students. There have been several studies in recent years that have pointed to the lack of empathy and performativity in educational systems as one of the causes of hikikomori (Coeli, Planas-Lladó, Soler-Masó, 2023).

The collected articles strictly encompass the period from 2004 to 2022. Excluding 2023 was necessary due to the ongoing nature of this year, which could have resulted in the presentation of temporary data. The years of the COVID-19 pandemic were the most prolific in terms of publications, with researchers delving into the ramifications of pandemic-related restrictions on people already enduring social isolation and the general population.

The analysis was conducted using the latest version of SPSS. The analysis aims to spatially delimit the places where researchers are most active. Table 4 shows that research on the Hikikomori phenomenon occurs predominantly in Europe and Asia. Research in North America and Oceania is limited, while it is

nonexistent in Africa and South America. This is not surprising given that the syndrome was first codified in Asia.

Graph 1 – Date of publication of article

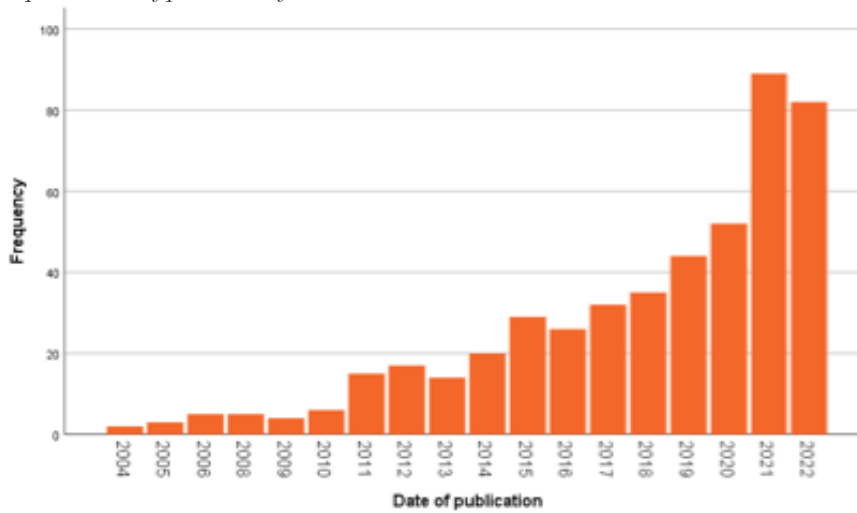


Table 4 - Continent in which the article was written.

Continent	Frequency	&
Asia	220	44,5
Europe	226	45,8
North America	46	9,3
Oceania	1	0,2
South America	1	0,2
Total	494	100

Table 5 – Country in which the article was written.

Country	Frequency	%
France	54	10,9
Japan	193	39,1
England	28	5,7
Italy	60	12,1
United States	45	9,1

As a part of our investigation, we have discovered that the Hikikomori phenomenon has been extensively researched in Japan, with 193 studies conducted to date. Other countries such as Italy, France, and the United States have also made valuable contributions to this research over the past two

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

decades. However, owing to the limited space, we have only presented the top five countries that have made significant contributions to this field.

Table 6 – Language of article.

Language	Frequency	%
Chinese	2	0,4
Corean	10	2
English	330	66,8
France	51	10,3
German	7	1,4
Hungarian	1	0,2
Japanese	23	4,7
Indonesian	2	0,4
Italian	25	5,1
Malay	1	0,2
Norwegian	1	0,2
Poland	10	2
Portuguese	8	1,6
Romanian	1	0,2
Russian	6	1,2
Serbian	2	0,4
Spanish	10	2
Turkish	3	0,6
Ucrainian	1	0,2
Total	494	100

Table 7 – Academic Field of the article.

Academic field	Frequency	%
Agriculture	1	0,2
Anthropology	6	1,2
Economy	5	1
Electronics	1	0,2
Informatics	2	0,4
Literature	1	0,2
Linguistic	1	0,2
Medicine	22	4,5
Pedagogy/Educational	8	1,6
Psychiatry	158	32
Psychology	115	23,3
Sociology	164	33,2
Technology	10	2
Total	494	100

After determining the location of production, the next step is to identify the language used in the article. English is the most commonly used language for international publications, followed by French and Italian. Articles written in other languages are typically submitted for publication in national journals.

The field of academic articles is dominated by sociological, psychological, and psychiatric topics. Currently, researchers are investigating hikikomori characteristics and their living environment, as well as the reasons why boys isolate themselves. However, there are still few studies in other fields, and scholars have only recently begun to explore medical and educational topics.

Table 8 – Method used in the article.

Method	Frequency	%
Not present	294	59,5
Mixed Method	7	1,4
Qual	80	16,2
Quan	113	22,9
Total	494	100

Most of the collected articles are compilations lacking empirical studies on the Hikikomori phenomenon. Researchers who do use empirical pathways favor Quantitative over Qualitative methods, with limited use of Mixed Methods.

Table 9 – Technique Used in Empirical Article.

Technique used	Frequency
Case Study	33
Medical Trial	16
Interview	31
Questionnaire	88

In the table 9, only the four most commonly used techniques are presented. Including all techniques made the table visually unclear as many were only used once. Out of 200 empirical articles, 88 used questionnaires as the data collection method, making it the most commonly used technique for studying the Hikikomori phenomenon. Even when using a Mixed Method, questionnaires are still used. Other methods such as Focus Groups (1) and Ethnography (4) are rarely used. Netnography (7) is becoming more popular, possibly indicating a shift towards using the web for research on Hikikomori.

The table indicates that theoretical articles are dominant in most academic fields, except the medical field where empirical articles are prevalent. In the fields of psychiatry and sociology, there is a relatively equal distribution of empirical and theoretical articles, while in psychology, theoretical articles outnumber empirical articles almost two to one.

Table 10 displays contributions related to psychology, psychiatry, and sociology only, as there are few articles from other academic fields. When cross-referenced with the continent variable, the resulting table had numerous 0s,

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

making it aesthetically unpleasing and confusing. Asia primarily focuses on psychiatry, while Europe has a greater emphasis on social science and psychology. This disparity indicates that Hikikomori is approached differently in Asia and Europe, with a more psychiatric perspective in Asia and a psycho-social perspective in Europe.

Table 10 – Type of Contribution X Academic Fields.

Academic Fields	Type of contribution	
	Empirical	Theoretical
Agriculture	0	1
Anthropology	1	5
Economy	0	5
Electronics	0	1
Informatics	0	2
Literature	0	1
Linguistic	0	1
Medicine	15	7
Pedagogy/Educational	3	5
Psychiatry	76	82
Psychology	35	80
Sociology	69	95
Technology	1	9

Table 11 – Continent x Academic Fields.

		Continent			
		North America	Asia	Europe	Oceania
Academic Fields	Psychiatry	17	85	56	0
	Psychology	10	45	60	0
	Sociology	13	63	87	1

Table 12 - Variables considered for cluster analysis.

Academic Field (A.F)	Categorial	Economics, Education, Engineering, Sociology, Communication, Psychology, Technology, Medicine, Anthropology, Psychiatry
Methodology used	Categorial	Quan, Qual, Mixed Method, Not present
Technique used	Categorial	Data collection technique used within the study if present
Language in which it was written	Categorial	Language in which the authors write the article
Continent in which it was written	Categorial	Continent in which the authors are currently working

Following the initial univariate and bivariate analyses, a comprehensive multivariate analysis was conducted using a two-step cluster analysis approach.

This involved first pre-clustering selected units, and then utilizing the SPSS programming language to carry out subsequent clustering.

Five variables were used to carry out the cluster analysis, all of which were categorical.

The table shown in Figure 2 demonstrates the analysis conducted through the use of 5 inputs and the subsequent creation of 4 clusters, resulting in a measurement silhouette score for cohesion and separation of between 0.5 and 1.0, certifying the goodness of the analysis conducted.

Figure 2 – Model Summary of Cluster Analysis.

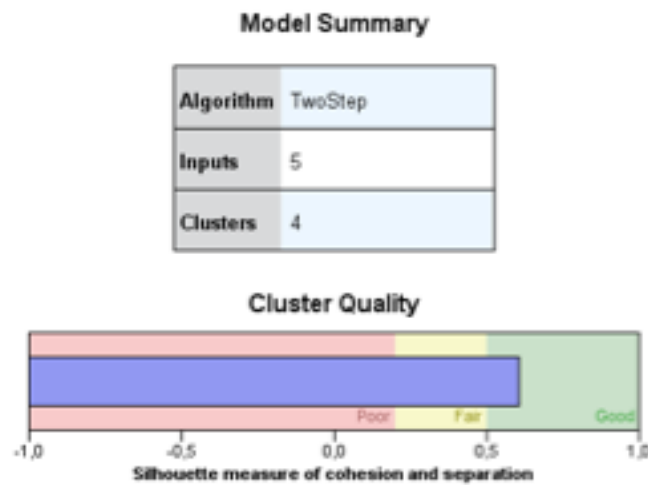
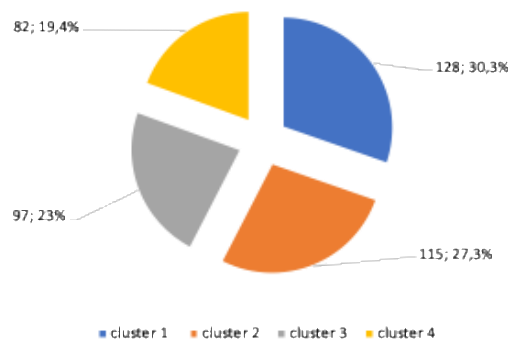


Figure 3 – Cluster Size.



The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

The largest cluster consists of 128 articles and collects 30,3% of the total, the smallest cluster collects 19,4% of the analyzed data and consists of 82 articles. As presented in Figure 2 below, the ratio of size produced a coefficient of 1,56 expressed from the largest to the smallest cluster.

The analysis reveals 4 clusters, presented below in Table 13, and ordered according to their size in percentage and number of items. After creating the clusters, we went on to define them according to their distinctive characteristics;

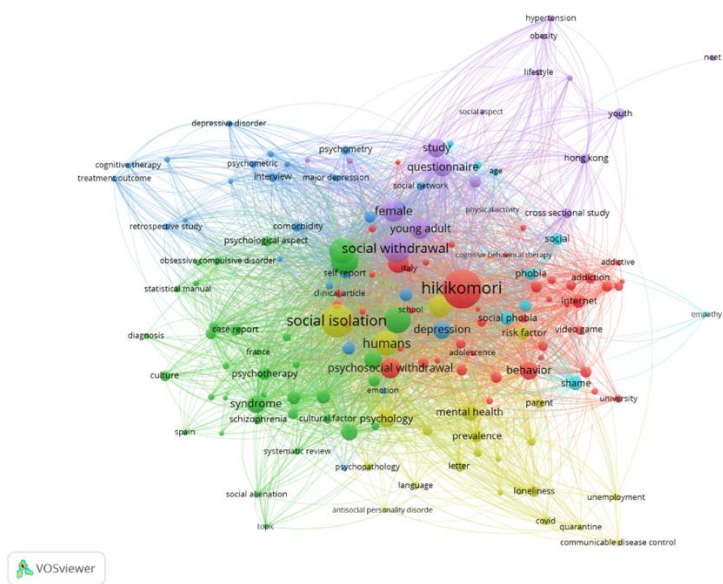
- *Syndrome Understanding*: Cluster number 1 is labelled “Syndrome Understanding” and takes its name because the articles in this group are articles that attempt to theorize and codify the Hikikomori syndrome. This cluster comprises 30,3% of the articles analyzed (128). It was defined as a theoretical cluster to differentiate it from cluster number 4, which is a cluster consisting of Psychiatry works but of an empirical nature, because the articles included in this cluster are all theoretical (100%) and it does not present a defined research method. The research area indicated is Psychiatry. The articles that are part of this cluster discuss the evolution of the Hikikomori syndrome and seek coding that is absent in the literature to date. Most of the articles in this cluster are produced in Asian countries (56.9 percent of the total) demonstrating how important it is for them to discuss Hikikomori in the psychiatric setting.
- *Behind Hikikomori*: This cluster comprises 27,3% of the total article (115) and is a Psychological cluster. The articles within this cluster are all theoretical/compilatory in nature and most are produced within Europe (72 percent), the home of psychological research. This is the only cluster of the 4 that has French as its primary language. The researchers producing these contributions aim to frame the Hikikomori phenomenon within pre-existing psychological theoretical frameworks.
- *Syndrome Exploration*: Cluster number 4 consists of empirical-type articles, the most present method being quantitative, in fact, all articles in this cluster are of this type. The most frequently used data collection technique is the questionnaire (77.7% of the articles present the questionnaire as the technique used). The academic field is Psychiatry and the cluster consists of articles produced and published in Asia. In this cluster are the empirical articles that seek to identify who has the propensity to become hikikomori through questionnaires; thus, we find the 25-item questionnaire (Alan Teo et al., 2018) and all its extensions and adaptations in a territory other than Japan. To date, the questionnaire has been adopted and adapted in most Asian and European countries. Another substantial part of articles instead deals with the Neet - Hikikomori continuum again using questionnaires.

- Social Construction of Hikikomori:** The smallest cluster contains 19.4 percent of the total items (82) and is an empirical cluster. The research path that is present within the articles in this cluster is largely Qualitative. 36.4 % of the articles have case studies as the empirical technique used, but the use of interviews (34.4 %) also has an important weight within the cluster. The articles are mostly produced in Europe (51.1%) and their main purpose is to go and investigate the everyday life of families with hikikomori children, how hikikomori relate to peers and their everyday life once isolated (in this case using methods such as netnography).

Table 13 – Cluster composition.

Cluster	Cluster name	Cluster size	Variables				
			Method	A.F.	Technique	Language	Continent
1	Syndrome understanding	30,3% (128)	Not present	Not present	English	Asia	Psychiatry
2	Behind Hikikomori	27,3% (115)	Not present	Not present	French	Europe	Psychology
4	Syndrome exploration	23,0% (97)	Quant	Questionnaire	English	Asia	Psychiatry
3	Social Construction of Hikikomori	19,4% (82)	Qual	Case study	English	Europe	Sociology

Figure 4 – Network - analysis clusters



The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

Keyword co-occurrence analysis using Vosviewer software is presented in a reticular form. The network analysis was based on 2495 keywords across 494 articles, resulting in an average of 5.05 keywords per article.

Table 14 - Keywords with more occurrences in clusters.

Red Network	Green Network	Blue Network	Yellow Network	Purple Network	Azure Network
Hikikomori (318)	Adult (156)	Depression (69)	Social isolation (229)	Social Withdrawal (165)	Shame (42)
Article (93)	Japan (146)	Social behavior (35)	Humans (122)	Female (97)	Social Phobia (37)
Psychosocial withdrawal (84)	Male (133)	Social Interaction (34)	Adolescent (105)	Young Adult (83)	Social (31)
Internet (28)	Syndrome (67)	Major Clinical study (28)	Psychology (64)	Questionnaire (79)	Phobia (31)
Psychiatry (22)	Mental Disorder (59)	Social support (27)	Mental Health (57)	Study (63)	Person (30)

The number of terms extracted is 156, each term to be represented graphically within the network had to co-occur more than 10 occurrences with the other terms. 6 networks have been formed:

- The first network, colored red, consists of 45 keywords. In this cluster is the word with the most occurrences and the most strength in the overall network, the word Hikikomori. The network is characterized by a high percentage of keywords with a psychiatric problematic, such as suicide and digital addiction;
- The second network, colored by green, consists of 35 keywords is formed by keywords that fall within the psychiatric type of research as well. In contrast to the red network, the keywords represented here mostly refer to mental disorders (such as schizophrenia, anxiety disorders, and mood disorder) and personal characteristics of the Hikikomori (as adult, japanese, male);
- The blue network, number 3, addresses sociological issues. It features among the keywords with the most occurrences of the words depression, interview, and social interaction;
- There are 23 keywords in the 4 network (Yellow): the one with the most occurrences is social isolation with as many as 229. The rest of the keywords relate back to a psychological research dimension on the term;
- The purple network consists of 18 items, in this network the social component is the most present. Keywords indicating the presence of gender studies (female), lifestyle studies, and social aspects of the Hikikomori phenomenon are present;

- The last network (azure) is formed by 9 items. The words that go into forming this network concern other “psychological” characteristics of hikikomori.

In Table 14, the elements with the most occurrences within the clusters are listed for each cluster. The number of occurrences for each element has been entered in brackets.

4. Discussion

The paper aims to survey the Hikikomori phenomenon, which has surged in interest from the scientific community in the last decade. The phenomenon is now studied across Europe, North America, and Asia, with Japan remaining the country where it is most studied and debated.

More than half of the collected articles were theoretical or compilative. This is unsurprising given the incomplete codification of Hikikomori syndrome and disagreement among researchers. For instance, the classic definition of Hikikomori (Saito, 1998; Yasuma et al., 2021) does not include the internet despite many studies examining its role in adolescent isolation. The syndrome is likely to require redefinition shortly.

Empirical research on the phenomenon of Hikikomori has predominantly utilized questionnaires as the primary tool. This trend is not surprising given that numerous researchers have dedicated their efforts over time to developing questionnaires and methods that can accurately predict individuals at risk of becoming Hikikomori, with a primary focus on the Asian continent. Case studies are widely employed in Europe but digital methods such as netnography are less commonly used, although they are gaining traction in recent years as a means of studying the digital spaces of Hikikomori.

The most interesting results come from the field of study and research from which the collected contributions come. There are mainly three academic fields: psychiatry, psychology and sociology. As shown by the cluster analysis:

- psychiatric works are divided into two strands: on the one hand, researchers try to find a shared coding to develop appropriate treatment strategies; the second strand are empirical works, most carried out through questionnaires, that try to identify the characteristics of hikikomori;
- Psychological studies, carried out mainly in Europe, are largely of a compilative or theoretical nature that attempt to trace the hikikomori phenomenon back to a theory already present and proven in the

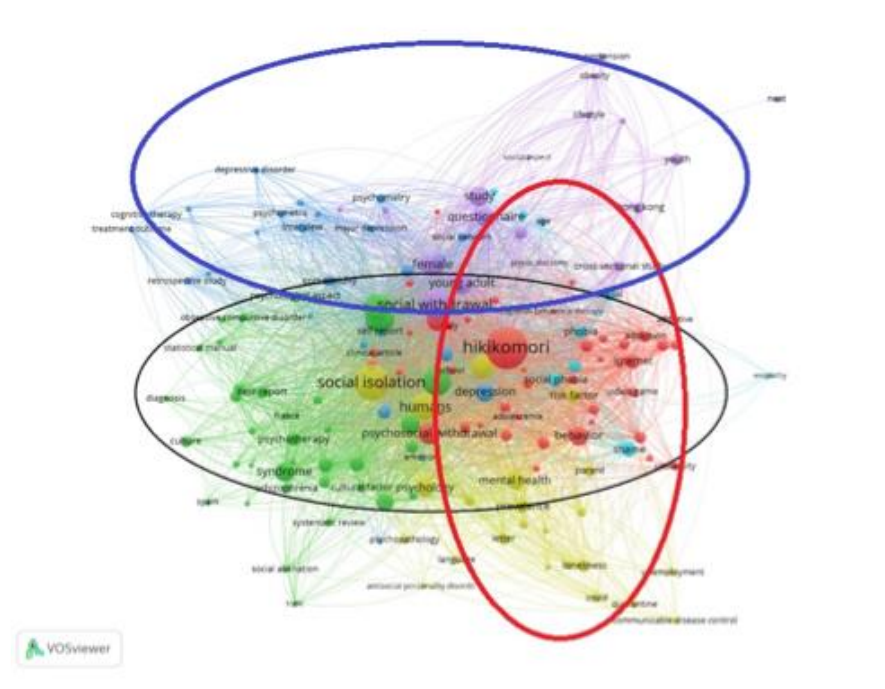
The Hikikomori Phenomenon and Its Evolution in Modern Society: A
 Systematic Literature Review
 Esposito Vincenzo

literature. interestingly, the language most frequently used for this type of article here are those in French;

- The third academic field is sociology, in this case also the studies were mainly conducted in Europe. Most of the research conducted is empirical and mainly uses Qualitative methods to collect data, such as interviews or case studies. This implies a study of the phenomenon included in a micro perspective (Balducci, 2021).

The outcome has been verified by cluster analysis, which has shown that the red and green networks belong to a broader macro-region, more precisely in the field of psychiatric research (black circle).

Figure 5 – Network Analysis: area.



Within the broad field of psychological research (red circle), two specific networks that are studied are the yellow and blue networks. These networks are examined in terms of their impact on various psychological phenomena and their relationship to other aspects of the field.

Research in the social sciences (blue circle) takes place within the two remaining clusters, the blue cluster and the purple cluster. These clusters are

dedicated to the study of various aspects of human society, such as culture, economics, politics, family and friendship relations.

5. Conclusion

The present study provides a comprehensive analysis of the current research status on the phenomenon of Hikikomori. The author identifies three pivotal academic fields that are actively engaged in studying this phenomenon. The author bolsters their findings through the application of both cluster and network analysis methodologies. Furthermore, the author acknowledges that although research in the fields of technology and medicine is still in its nascent stages, these areas exhibit promising signs of advancement.

Recent studies have discovered a significant correlation between Hikikomori syndrome and conditions such as internet and game addiction. To further our understanding of this phenomenon, we are currently working on conducting a thorough literature review, specifically focusing on articles that address the intersection of Hikikomori, internet addiction, and game addiction. Our goal is to gain a comprehensive understanding of these interrelated issues and develop effective strategies for addressing them.

The current study's findings are subject to limitations due to incomplete data collection and analysis. However, to supplement the presented analysis, future work will be conducted. This will enable us to acquire additional data, and thus provide a more complete and comprehensive analysis.

One limitation in our study is that we relied solely on Scilit and its indexing model, neglecting articles from other sources such as Web of Science. Additionally, Scilit does not index articles written in ideographic languages like Japanese, Korean, or Chinese unless they have English translations, resulting in a significant portion of articles being missed. To address this, we plan to integrate our matrix with articles from other indexing sites to include ideographic language articles in our analysis.

References

- Arnett, J.J.; Žukauskienė, R.; Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18–29 years: Implications for mental health. *Lancet Psychiatry*, 1, 569–576.
- Balducci, G. (2021). *La vita quotidiana come “gioco di ruolo”: Dal concetto di face in Goffman alla labeling theory della Scuola di Chicago*. Mimesis.

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

- Benassi, M., Garofalo, S., Ambrosini, F., Sant'Angelo, R. P., Raggini, R., De Paoli, G., & Piraccini, G. (2020). Using two-step cluster analysis and latent class cluster analysis to classify the cognitive heterogeneity of cross-diagnostic psychiatric inpatients. *Frontiers in Psychology, 11*, 1085.
- Blackwell, J., Matherne, N., & McPherson, G. E. (2023). A PRISMA review of research on feedback in music education and music psychology. *Psychology of music, 51*(3), 716-729.
- Coeli, G., Planas-Lladó, A., & Soler-Masó, P. (2023). The relevance of educational contexts in the emergence of Social Withdrawal (hikikomori). A review and directions for future research. *International Journal of Educational Development, 99*.
- Crepaldi, M. (2019). *Hikikomori: i giovani che non escono di casa*. Psiche e Dintorni; Alpes Italia: Roma
- De Falco, C. C., & Romeo, E. (2021). Social Sciences Research Methods Regarding COVID-19 Pandemic. A PRISMA Systematic Review. *Culture e Studi del Sociale, 6*(1), Special, 123-141.
- Durkheim, É. (1987). De La Définition Des Phénomènes Religieux. In *L'Année Sociologique (1896/1897-1924/1925)*; Presses Universitaires de France: Paris, France; Volume 2, pp. 1-28.
- Esposito, V., Addeo, F., D'Auria, V., & Lenzi, F. R. (2023). The Sustainability of Emerging Social Vulnerabilities: The Hikikomori Phenomenon in Southern Italy. *Sustainability, 15*(4), 3869.
- Fansten, M. (2014). *Hikikomori, Ces Adolescents en Retrait*; Elliot Edizioni: Paris, France
- Frades, I., & Matthiesen, R. (2010). Overview on techniques in cluster analysis. *Bioinformatics methods in clinical research, 81-107*.
- Furuhashi, T. (2023). Adolescent psychiatry of Y. Kasahara and succeeding research on Hikikomori in Europe and in Japan. *Psychiatry and Clinical Neurosciences Reports, 2*(3), e120.
- Harantová, V., Mazanec, J., Štefancová, V., Mašek, J., & Foltýnová, H. B. (2023). Two-step cluster analysis of passenger mobility segmentation during the COVID-19 pandemic. *Mathematics, 11*(3), 583.
- Inamura, H. (1990). *Gakko ni se mukeru kodomo, [Children Who Turn Their Back on School]* Tokyo: Nihon Hosho Shuppan Kyokai.
- Kasahara, Y. (1978). Taikyaku shinkeishou withdrawal neurosis to iu shinkategorii no teishou (Proposal for a new category of withdrawal neurosis). *Shishunki no seishinbyouri to chiryou (Psychopathology and treatment in the adolescent)*, 287-319.
- Kato, T. A., Hashimoto, R., Hayakawa, K., Kubo, H., Watabe, M., Teo, A. R., & Kanba, S. (2016). Multidimensional anatomy of 'modern type depression' in Japan: A proposal for a different diagnostic approach to

- depression beyond the DSM-5. *Psychiatry and clinical neurosciences*, 70(1), 7-23.
- 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.
- Kato, T. A., Kanba, S., & Teo, A. R. (2018). Hikikomori: experience in Japan and international relevance. *World psychiatry*, 17(1), 105.
- Koyama, N., Miyake, Y., Kawakami, N., Tsuchiya, M., Tachimori, H., & Takeshima, T. (2008). Lifetime prevalence, psychiatric comorbidity and demographic correlates of hikikomori in a community population in Japan. In *The World Mental Health Japan Survey Group* (p. 176). Elsevier.
- Krieg, A., & Dickie, J. R. (2013). Attachment and hikikomori: A psychosocial developmental model. *International Journal of Social Psychiatry*, 59(1), 61-72.
- Lock, M. (1986). Plea for acceptance: school refusal syndrome in Japan. *Social Science & Medicine*, 23(2), 99-112.
- López-Fernández, M. C., Serrano-Bedia, A. M., & Pérez-Pérez, M. (2016). Entrepreneurship and family firm research: A bibliometric analysis of an emerging field. *Journal of Small Business Management*, 54(2), 622-639.
- Miller, A., & Toivonen, T. (2010). To Discipline or Accommodate? On the Rehabilitation of Japanese ‘Problem Youth’. *Asia-Pac. J. Jpn. Focus*, 7, 3368.
- Ming-Yi, S., Jar-Wen, J., & Lien-Fu, L. (2010). A Two-Step Method for Clustering Mixed Categorical and Numeric Data, *Tamkang Journal of Science and Engineering* 13 (1), pp. 11-19.
- Mishra, V., & Mishra, M. P. (2023). PRISMA for Review of Management Literature—Method, Merits, and Limitations—An Academic Review. *Advancing Methodologies of Conducting Literature Review in Management Domain*, 125-136.
- Ogino, T. (2004). Managing Categorization and Social Withdrawal in Japan: Rehabilitation Process in a Private Support Group for Hikikomorians. *Jpn. J. Sociol*, 13, 120–133.
- Okamura, O. (2016). Filial Violence: An Unrevealed Problem for Decades, in: Kumagai & Ishii-Kuntz, *Family Violence in Japan*, Springer, Singapore
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n7>

The Hikikomori Phenomenon and Its Evolution in Modern Society: A
Systematic Literature Review
Esposito Vincenzo

- Page, M. J., Moher, D., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., & McKenzie, J. E. (2021). PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *BMJ*, n160. <https://doi.org/10.1136/bmj.n160>
- Pierdominici, C. (2008). Intervista a Tamaki Saito sul fenomeno Hikikomori, *Psychomedia*.
- Ricci, C. (2008). *Hikikomori: adolescenti in volontaria reclusione*, Franco Angeli, Milano.
- Roza, T. H., Paim Kessler, F. H., & Passos, I. C. (2022). Hikikomori in Brazil: Context, clinical characteristics, and challenges. *International Journal of Social Psychiatry*. 2023;69(4):1059-1061. doi:[10.1177/00207640221120363](https://doi.org/10.1177/00207640221120363)
- Saito, T. (1998). *Adolescence without end*, Minnesota University press, USA
- 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, T. (2017). Hikikomori: The Japanese Cabinet Office’s 2016 Survey of Acute Social Withdrawal, *The Asia-Pacific Journal* 15
- Takasu, N. N., Toichi, M., & Nakamura, W. (2011). Importance of regular lifestyle with daytime bright light exposure on circadian rhythm sleep–wake disorders in pervasive developmental disorders. *Jpn. Dent. Sci. Rev.*, 47, 141–149.
- Teo, A. R., Chen, J. I., Kubo, H., Katsuki, R., Sato-Kasai, M., Shimokawa, N., & Kato, T. A. (2018). Development and validation of the 25-item Hikikomori Questionnaire (HQ-25). *Psychiatry and clinical neurosciences*, 72(10), 780-788.
- Vanhalst, J., Soenens, B., Luyckx, K., Van Petegem, S., Weeks, M. S., & Asher, S. R. (2015). Why do the lonely stay lonely? Chronically lonely adolescents’ attributions and emotions in situations of social inclusion and exclusion. *Journal of Personality and Social Psychology*, 109(5), 932.
- Varnum, M. E.; Kwon, J. Y. (2016). The Ecology of Withdrawal. Commentary: The NEET and Hikikomori spectrum: Assessing the risks and consequences of becoming culturally marginalized. *Front. Psychol.*, 7, 764
- Watabe, M., Kubo, H., Horie, K., Katsuki, R., Yamakawa, I., Sakamoto, S., & Kato, T. A. (2022). Effects of COVID-19 on mental health in business: Increasing the hikikomori-like workers in Japan. *COVID-19 and the evolving business environment in Asia: The hidden impact on the economy, business and society*, 189-204.

- Wong, P. W. C., Li, T. M. H., Chan, M. K. Y., Law, F. Y. W., Chau, M., Cheng, C., Fu, K., Bacon-Shone, J., & Yip, P. S. (2015). The prevalence and correlates of severe social withdrawal (Hikikomori) in Hong Kong: A cross-sectional telephone-based survey study. *Int. J. Soc. Psychiatry*, 61, 330–342.
- Yasuma, N., Watanabe, K., Nishi, D., Ishikawa, H., Tachimori, H., Takeshima, T., & Kawakami, N. (2021). Psychotic experiences and hikikomori in a nationally representative sample of adult community residents in Japan: A cross-sectional study. *Frontiers in Psychiatry*, 11, 602678
- Yong, R. K. F., & Kaneko, Y. (2016). Hikikomori, a Phenomenon of Social Withdrawal and Isolation in Young Adults Marked by an Anomic Response to Coping Difficulties: A Qualitative Study Exploring Individual Experiences from First- and Second-Person Perspectives. *Open J. Prev. Med*, 06, 1–20.

Zielenziger, Z. (2006). *Non voglio più vivere alla luce del sole. Il disgusto per il mondo esterno di una nuova generazione perduta*, Elliot Edizioni, Roma.