Sharing mental health peer information and peer support in hikikomori's online discussion groups

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Abstract: This article has analyzed the information sharing related to the mental health of Finnish socially withdrawn (hikikomori) persons. The sample contains 60 discussion strings and 1741 messages, which were analyzes by qualitative and quantitative content analysis.As a result, the peer information is highly appreciated and in many cases it is preferred instead of information given by authors or specialists.

1. Introduction

Mental health has been defined as a state of well-being in which one can realize one's abilities, cope with everyday stresses, work, and contribute to one's community (WHO, 2014). People with adequate psychological functional capacity possess emotional and cognitive resources, such as emotions, assessment, and problem-solving skills, allowing them to cope with minor and significant adversities (Vorma et al., 2020). In contrast, a mental (health) disorder is diagnosed when a person's thinking, emotional regulation, or behavior are significantly disturbed over time (WHO, 2022). According to the WHO (2022), the broader term mental health condition can also refer to various mental disorders, psychosocial disabilities, and mental states associated with distress, impaired functioning, or risk of self-harm. Since mental illness is only one aspect of an individual's life, the American Psychiatric Association (2022) recommends avoiding words like "victim," "suffering," and "substance abuse." It is preferable to state that somebody has a mental (health) illness or a substance use disorder.

Most mental disorders have their peak onset during young adulthood (Pedrelli et al., 2015). Most symptoms and mental disorders, including substance abuse and substance use disorder, can be successfully treated. (Vorma et al., 2020.) Also, the hikikomori phenomenon is often observed during adolescence (e.g., Haasio, 2015), because it is one form of social exclusion.

Hikikomori is originally a Japanese phenomenon (Krysinska, 2008), but it has also been identified in other countries (e.g., Kato et al., 2012; Haasio, 2015; Husu & Välimäki, 2017). The word hikikomori can be translated into English as "to be confined inside" (Krysinska, 2007; Ohashi, 2008). Naka (2021) emphasizes that it is also about staying at home, i.e., a kind of seclusion from the rest of the world. In addition, Hikikomoris can be described as socially withdrawn people (Furlong, 2008; Haasio, 2021), and the term has been used in some previous studies as a synonym for hikikomori (Haasio, 2015). According to Saito (1998) and Furlong (2008), hikikomoris try to avoid all social contact.

When analyzing the hikikomori phenomenon and its psychiatric features, Ranieri and Luccherino (2018: 73) have pointed out that hikikomori "is something different from a manifest mental illness like schizophrenia or any disorder in the autistic spectrum,   intellectual disability, or the classic symptoms of a depressive state." According to Kato, Kanba, and Teo (2019: 431), the revisited diagnostic criteria for hikikomori give the hikikomori definition:

> "Hikikomori is 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:
> 1 Marked social isolation in one's home
> 2 Duration of continuous social isolation for at least 6 months.
> 3 Significant functional impairment or distress associated with the social isolation."

Saito (2010, here Kato, Kanba, & Teo 2018) defines hikikomori as "a situation where a person without psychosis is withdrawn into his/her home for more than six months and does not participate in society such as attending school and/or work."

People, who identify themselves as hikikomori, often have mental issues which they widely discuss on online discussion forums (e.g., Haasio, 2015; Haasio, 2021). For example, Katsuki et al. (2020: 652) have pointed out that hikikomoris "are more likely to have autistic tendencies." Mental health was also one of the topics widely discussed in the Finnish and Japanese discussion forums when the information needs of the hikikomori were analyzed (Haasio & Naka, 2019).

Previous research in information studies have analyzed the information needs of hikikomoris (Haasio, 2015; Haasio & Naka, 2019; Haasio, 2021; Naka, 2021).

Otherwise, the information behavior of this group has not been studied. However, their way of life makes it interesting to find out what kind of information practices this isolated group has. When analyzing hikikomori's information behavior, we are analyzing information seeking and sharing in a small world (see, e.g., Chatman, 1991), and we can also speak about a virtual small world (Burnett, Besant, & Chatman, 2001; Haasio, 2015; Kannasto & Haasio, 2021).

The hikikomori phenomenon is becoming more common in Japan and other countries worldwide, making it interesting for research (e.g., Kato et al., 2012). For example, when a group under study tries to avoid social contact, that affects their information behavior (Haasio, 2015).

Most previous studies have analyzed the hikikomori phenomenon from the viewpoint of psychiatry or medicine and nursing (e.g., Kondo et al., 2013; Teo, 2013; Teo et al., 2015; Kato, Kanba, & Teo, 2019; 2020). The socio-cultural view exists in some articles concerning suicide (Haasio & Salminen-Tuomaala, 2021) and family's importance to hikikomoris (Salminen-Tuomaala, Haasio, & Naka, 2021).

In this study, we concentrate on the questions of sharing peer information and peer support for other discussion group participants. This article contributes by examining the importance of peer information and peer support in online contexts and helps to understand the hikikomori phenomenon widely. In addition, this study sheds light on what kind of questions are asked online and what type of discussion takes place on the topic when information is shared.

1. Conceptual and theoretical background

In previous literature, both concepts, information sharing, and knowledge sharing are often used interchangeably; and are closely related. In library and information science, the concept of information sharing is widely used, although knowledge sharing is preferred, e.g., in management science. (Savolainen, 2017.) The authors of this paper have consciously chosen the concept of information sharing. The main reason is that we lean on the idea of the information value chain and understand that knowledge is formed in the cognitive process after the individual gives meaning and interprets the information one receives (Wilson, 1977: 40–41; Wilson, 1984: 197). Due to our opinion that knowledge is information that has been individually interpreted, it is logical to talk about information sharing.

According to Savolainen (2019: 518), previous studies of information sharing can be divided into two categories: "the indirect approach conceptualizes information seeking and sharing as discrete activities connected by an intermediating factor" and "interactive approach, information seeking and

sharing appear as mutually related activities shaping each other iteratively or in a cyclical manner." In this article, we understand the communicational aspect of information sharing as one of the main factors; sharing information is based on communication and communicational skills (Crompton et al., 2020). However, hikikomori's communication skills are often poor (Katsuki et al., 2020), and the internet plays a significant role in information seeking because hikikomoris try to avoid, e.g., face-to-face communication (Haasio, 2015). According to Kato, Kanba, and Teo (2019), hikikomoris lack in-person social interaction. They may have meaningful in-person social interactions only 2-3 days a week or more rarely. This makes them, as a group of individuals, an interesting research object from the point of view of information seeking because they may need to seek the specific socially available information elsewhere.

Peer information is a concept that does not have a clear definition. In this study, peer information is understood as the information given by people who have experienced the same things and are non-professional in that field. For example, if one has an ADHD diagnosis and asks about the experiences of the disorder in the discussion forum, the information given and wanted is peer information. However, as Bascoe et al. (2009) remind us, peer information can also be harmful. The same feature was noticed when analyzing information behavior on the Finnish discussion forum (Haasio, 2015).

Our theoretical background of information behavior is based on Zygmunt Bauman's theory of otherness and Elfreda Chatman (1991)'s theory of the "small world." The theory of otherness illustrates the unique feature of the group under study: it is deviant in its values compared to the majority. On the other hand, mental health problems create their own element of otherness in the group. Chatman's theory of the "small world" describes the features of the information behavior of those who live isolated, socially withdrawn, or in a "small world" where the contacts to the outside world are relatively narrow as occurring partly because of these elements.

According to Chatman (1991), information behavior in the "small world" is based mainly on informal sources, and the importance of peer information is significant. Authorities and, for example, doctors and social workers are not necessarily trusted, and it is often thought that only another person who has experienced the same thing can help and understand. Especially in those cases where intimate or otherwise sensitive matters are concerned, peer information and support are often desired. This has been observed, for example, in research on the need for information on drug withdrawal (Haasio et al., 2022).

Hikikomori's way of life represents life in a small virtual world (Haasio, 2015; Haasio, 2020), a modern version of Chatman's idea, and was introduced first by Burnett, Besant, and Chatman (2001). By understanding hikikomori's way of living, it is evident that they are more likely to resort to peer information and peer support, which is also our hypothesis.

3. Data, research questions and methods

Data were collected from the Finnish discussion forum Hikikomero (https://www.ylilauta.org/hikky) in May 2022. Hikikomero is an anonymous discussion forum for people who have mental health problems and are socially withdrawn. It is part of a broader picture board, Ylilauta, which is well-known as a liberal forum where the language used can sometimes be very harsh and provocative.

The material contains 60 discussion strings and 1741 messages. Because there is no search tool in the Hikikomero discussion forum, the strings concerning mental health were searched by Google's advanced search. The search terms used were *"mental health" OR anxiety OR depression OR adhd OR bipolar,*[1] and the search was narrowed to the Hikikomero discuss forum using the command site:https://ylilauta.org/hikky. By using this method during the search, only those discussions concerning mental health, which existed in Hikikomero, were shown in the results. Sixty first strings in the search results were included in the research material. The first author collected the material. Analysis was done by the first and second authors, and the third author took part in writing the theoretical background about mental health.

The discussion threads were copied from the discussion board to MS Word. All the discussion messages where information about mental problems was shared were classified and organized by their topic. First, the authors formed the classification based on the mental health problems mentioned in the messages. Then, by analyzing the content, the themes which raised information needs were found.

In addition to the topic of the shared information, we also analyzed what type of messages were sent to the discussion threads. This division was based on the typology made by Salmela (2021) in her dissertation. These categories used in the analysis were:

- Types of information given
  - Advice
  - Sharing own experiences
  - Common information
  - Opinion
  - New question

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[1] The search terms are translations from Finnish to English done by the authors.

By analyzing the types of information given, we were able to find out what kind of answers the users with information needs got and what kind of discussion was raised. The cyclical nature of information needs presented by Savolainen (2019: 518) also applies to online discussion in general (see Suominen, Saarikoski & Vaahensalo, 2019); the motives and possibilities of the participants differ (ibid. 18–19, 41) so the discussion can take alternative routes and start new discussion later returning to original post. This needs to be accounted for when analyzing discussion threads.

This research includes data from an anonymous online discussion board. Therefore no individuals can be identified from the study. Also, direct citing is only done to the extent necessary to support the analysis. The data can be considered a public archive since it is collected from a public discussion forum (McKee & Porter, 2009a). However, this requires careful consideration, because, even though the data can be found in a public forum, the participants have not necessarily considered their posts as public when discussing them in their community (Paasonen, 2013: 51). The data presents intimate and sensitive information in regards to, e.g., health issues. However, it cannot be connected with any individual because anonymity is secured. Therefore, obtaining direct consent from the individuals behind the posts is unlikely to be necessary (see McKee and Porter 2009b). It can thus be evaluated that the data and analysis do not harm any individuals (see Franzke et al., 2020; Mancosu & Vergetti, 2020), which is the most essential guiding principle in research.

Our main research questions are:
1. What are the needs about mental health problems in discussions?
2. What types of messages can be found concerning information sharing?
   • Types of questions (e.g., asking advice, opinions, etc.)
   • Types of answers given to the questions raised

4. Results

of every string has presented in table 1. Then we present our analysis of the discussion threads and the types of answers given to the information need presented during the discussion.

Types of information needs

There were 60 discussion threads in which the initial messages contained 46 information needs. The information needs are shown in Table 1. Only those information needs that appeared in the initial message and were relevant to this research topic have been considered. In some cases, the threads contained other information needs, either irrelevant to the topic or their purpose was to clarify the question already raised. Neither of these have been counted towards the total number of information needs.

Table 1. Information needs about mental health problems in opening messages (n=60)

Information need	Number
No specific information need	14
How to get a pension	10
Anxiety	7
Depression	5
Medication	4
Other/Troll	4
Diagnosis	4
Mental health services	3
Hikikomori life and mental health	3
Mental health in general	2
Bullying	1
Life story	1
Schizophrenia	1
Alcohol	1

Autism	1
Total	**60**

It is noteworthy that in the 14 opening messages, there were no actual information needs. Instead of asking for an opinion or advice, the author of the message wanted to talk about their own problems, mental health, and life situation, looking for peer support rather than getting answers to an individual problem. Based on this perception, we assume that health-related discussion forums can also be important when searching for peer support in a problematic life situation (see Haasio et al., 2022). Thus, the experiences of others in a similar life situation seem very important. Those were specially asked for in one conversation opening and shared in other discussions as an explanatory factor to the advice or an opinion. Based on this observation, it is evident that discussions are not just opportunities to satisfy one's information needs but also important forums where one can open up about their thoughts and worries. In these cases, the conversation starters did not seek any specific information. Instead, they sought for more peer support for their mental health problems and life situation.

> *Thanks to everyone who has already participated in the discussion. Last night when I was going to bed, when I was reading the messages on my cell phone, I got a tear in my eye. Somehow I felt that someone understands, has experienced this same thing.*

The attached quote shows how important peer support is considered in issues related to mental health. The participants of this discussion forum are not necessarily looking for an answer to their need for information but rather want an understanding of their own concerns.

The second most popular topic in the conversation openings was how to retire and get a pension. Due to the diagnosis and their own life situation, the authors of the opening messages felt that a pension would be the best solution in their case. They shared their own diagnosis and situation and wanted to know if anyone had gotten a pension with a similar diagnosis.

Own feelings, mental health problems, and diagnosis were other popular subjects in discussion openings. Anxiety, depression, schizophrenia, and autism were diagnoses that raised questions, as well as medication. In some cases, the diagnosis was official and made by the doctor. In other discussions, the one posting had self-diagnozed based on their experience and opinion using Google.

Bullying as a reason for mental health problems raised a considerable discussion. In one single discussion string, there were 237 messages concerning this theme. This was 13.6 % of all the messages in our data. In some previous studies, the significance of bullying as a cause for social withdrawal has been pointed out (e.g., Teo, 2010; Tajan, 2015; Haasio & Salminen-Tuomaala, 2021). Even though this topic had just one string, the participation and interest in this

discussion string show how significant the question of bullying as an experience in the past was as one of the causes of mental health problems and becoming a hikikomori is.

Individual discussion openings were made about mental health in general, autism, schizophrenia, and life stories. However, these topics were discussed in many strings even though the original information needs included other topics, thus representing their overall importance to the participants of the discussion community.

Types of information shared

As mentioned before, the division of information shared is based on Salmela's (2021) typology. Types of information shared, in addition to the mentioned categories, also contained inappropriate messages that can be understood as trolling and, in some cases, as malicious speech.

Table 2. Types of information shared

Type	Number (n=1741)	%
Opinion	745	41,0 %
Sharing experience	610	33,5 %
Question	262	14,4 %
Common information	125	6,9 %
Advice	77	4,2 %
Total	**1819**	**100%**

Some messages contained several types of information, e.g., opinions and advice. Information was shared in most replies, although a few messages did not actually have any informational content. Most of them were interjections. The content of opening messages is not included in the number of situations when information is shared (Table 2.).

In most cases, the information shared was an opinion (41, 0 %). The participants also shared their experiences (33,5 %) in many cases. It was typical for the opening messages that strict advice was not asked in many cases. Instead, opinions and experiences were highly appreciated. This emphasizes the importance of peer information. During the discussion, the participants, in the first place, wrote what they were thinking, and secondly, commented on others. If the topic was fascinating, it could stimulate an active discussion with more than 200 messages.

In the following, we have analyzed the content of different types of answers in more detail and illustrated it with examples from the data.

- Advice

The purpose of the advice was to guide the information seeker to do something, such as applying for rehabilitation support. In many cases, when giving advice, the discussants referred to their own experiences and told how the person giving the advice had acted in a similar situation. This shows the predominant role of peer information in sharing information. Although in simple situations where information was needed, it was possible to refer to using Google. Most often, the advice was based on the personal experience of those who gave the needed information.

> *You have to choose a new life or His life in you. And if you do so, you are new in Jesus Christ*

> *Stop drinking. It doesn't help.*

It is noteworthy that in some cases, the advice that was asked and the answers given to this information need were disnormative by nature. By this, we mean information that is contrary to generally accepted opinions, values, or legislation (see, e. g., Haasio, 2019). For example, in some discussion threads, someone may offer suicide to solve a difficult life situation. Also, advice on how to benefit more from the social security system is given, as the following example shows.

> *Agree to 4 hours of rehab once a week and choose an 8-12 shift. You get sick pay or worker's pay + increases for that workshop day.*

- Sharing own experiences

In several cases, no direct answer or advice was given to the information needs presented in the messages. Instead, many wrote about their own experiences and thus shared their opinions with others. It is mainly about peer support, but on the other hand, it can also be understood as a view based on which the person presenting the need for information could devise a solution to their own problem.

For example, when discussing the possibility of getting a pension at a young age, the shared information was, in most cases, based on the own experiences of the discussion participants. They advised, for example, which kind of diagnosis was needed for the pension or vice versa and which kind was insufficient.

> *Retired. I got through schizophrenia. Went right through.*

> *Everyone bullied me. In my own class I was an outcast.... I was absent from school quite a lot because I was anxious. I didn't really even have*

> *friends. Between classes I was standing somewhere in the distance. I guess it's no surprise that I'm a Hikikomori?*
>
> *In the end, I didn't go to school anymore because the loneliness bothered me so much. Through that, depression and anxiety were diagnosed.*
>
> *Over the years, video games and TV series have given me peace when I can put my thoughts on something else.*

Sharing own experiences was the most typical way of information sharing. In most cases, the information was based on the own experiences of the informant. Sharing information based on facts or widely known information was not as common. Stories about feelings and emotional distress were more common. Possible diagnoses were also regularly mentioned if the person had them.

- Common information

In some cases the information needs concerned the types of questions which could have been asked from other platforms or even by using Google. For example in one discussion the Bible was quoted:
> *For God so loved the world that He gave His only begotten Son, that whoever believes in Him should not perish but have everlasting life. (Book of John 3:16)*

In some cases, common information was also shared, e.g., concerning the side effects of certain drugs by quoting the product description.

- Opinion

In some cases, the information needs promoted discussion where people gave their opinions, not necessarily answering the information need that had been presented. These were sometimes even criticizing the need presented and presenting taking an even moral high ground in the discussion.

> *You won't be able to retire with those sets. And you wouldn't earn any pension in that situation... ...stop being a manchild and grow up, take care of those mental health problems.*
>
> *However, eating is one of the few joys of a person so disgusted.*

- New questions

In many cases, the given answers raised new questions. Those started a discussion, which might have contained several new questions, sometimes even from another topic than the original opening message. This shows the circular

nature of online discussion; when one topic arises, new initiations also come up (see Suominen et al. 2019). In several cases, the questions were used to clarify the opening message or the information given by the other participants.

New questions were also raised in those situations, when the discussant disagreed with others. In those cases, the tone of the question was sometimes even negative or irreverent. These malicious questions contained, e.g., the idea of stupid questions or comment. On the other hand, in many cases, it was desired to clarify the answers already received, as the following example shows:

Is pension a permanent solution?

5. Discussion

In this article, we have studied socially withdrawn people and information sharing within their discussion community. For them, the internet and peer information and support shared with others is one of the necessary channels to satisfy their information needs. Moreover, they live in a "small virtual world," which makes the online world an even more important channel for them.

Based on the results of the study, it can be observed that peer information is essential to the discussion participants, and it is well-trusted. The views and experiences of other people who have experienced the same things may be valued even more than the opinions of experts in the field, like doctors or official information that could be found online. This opinion was also explicated in some discussion strings.

Peer support has a significant role in the discussions; in many cases, the opening of the discussion string did not present any information needs. Instead, hikikomoris wanted to talk about their problems and life situation. This can be understood as their way of looking for peer support. This was also expressed clearly in some messages.

However, it is important to note that peer information and peer support can be harmful and, in some cases, even dangerous, especially concerning health topics. The study shows clearly that many discussion board participants rather believe peer information than the information given by experts. In some cases, when advice is asked, for example, about medication, peer information may be wrong and hazardous.

In many cases, hikikomoris, as isolated individuals, do not have anyone to talk to about their mental health problems or ask for advice. Their only contact may be a social worker, nurse, or doctor. Because of this, the importance of a forum of like-minded people suffering from the same problems is remarkable for them. Thus, the role of harmful information there may be significant.

This study is limited to hikikomoris and based on one platform and a limited choice of discussion threads in its scope. However, it shows that specific trends rise within the discussion threads supporting also earlier research on online discussion (e.g., Suominen et al. 2019). It also supports earlier findings on information needs also presented by Salmela (2021) and Haasio (2015).

In further studies, information sharing in other everyday life questions among subcultures and different ways of life would be helpful. The critical question is why we rather trust the peer information and seek it, not the information given by experts.

References

American Psychiatric Association. Words matter. Reporting on mental health conditions. https://www.psychiatry.org/news-room/reporting-on-mental-health-conditions,

Burnett, G., Besant, M., & Chatman, E. A. (2001). Small worlds: Normative behavior in virtual communities and feminist bookselling. *Journal of the Association for Information Science and Technology*, *52*(7), 536.

Chatman, E. A. (1991). Life in a small world: Applicability of gratification theory to information-seeking behavior. *Journal of the American Society for Information Science*, *42*(6), 438–449.

Crompton, C. J., Ropar, D., Evans-Williams, C. V., Flynn, E. G., & Fletcher-Watson, S. (2020). Autistic peer-to-peer information transfer is highly effective. *Autism*, *24*(7), 1704–1712. DOI: 10.1177/1362361320919286

Franzke, A. S., Bechmann, A., Zimmer, M., Ess, C., & the Association of Internet Researchers. (2020). Internet Research: Ethical Guidelines 3.0. https://aoir.org/reports/ethics3.pdf

Furlong, A. (2008). The Japanese hikikomori phenomenon: acute social withdrawal among young people. *The Sociological Review.* Vol.56(2), 309–325.

Haasio, A. 2015.*Toiseus, tiedontarpeet ja tiedon jakaminen tietoverkon "pienessä maailmassa": Tutkimus sosiaalisesti vetäytyneiden henkilöiden informaatiokäyttäytymisestä*. (Acta Universitatis Tamperensis 2082) [Doctoral Dissertation, Tampere University Press]. [*Otherness, information needs and information sharing in the "small world" of the Internet: A study of socially withdrawn people's information behavior]*. Available http://urn.fi/URN:ISBN:978-951-44-9878-7.

Haasio, A. (2019). What is disnormative information?. *Information and Communication Sciences Research*, *23*(1), 9–16. https://www.ceeol.com/search/article-detail?id=835830

Haasio, A. (2020). Sosiaalisesti vetäytyneet ja internetin pieni maailma. In Virtuaalinen kotiseutu. Ed. by Sulevi Riukulehto & Ari Haasio. Helsinki: SKS.

Haasio, A. (2021). Information Seeking Behaviour of the Socially Withdrawn. In *New Trends and Challenges in Information Science and Information Seeking Behaviour* (pp. 23–32). Springer, Cham.

Haasio, A., Harviainen, T., Ylinen, A., & Oksanen, A. (2022). TOR-verkossa tapahtuvien keskustelujen merkitys huumevieroituksessa. *Janus 30*(1), 65–80.

Haasio, A., & Naka, H. (2019). Information needs of the Finnish and Japanese hikikomori: a comparative study. *Qualitative and Quantitative Methods in Libraries*, *8*(4), 509–523.

Haasio, A. & Salminen-Tuomaala, M. (2021). Suicide motives and protective factors-contributions from a hikikomori discussion board. *Issues in mental health nursing*, *42*(5), 417–429.

Husu, H. M., & Välimäki, V. (2017). Staying inside: social withdrawal of the young, Finnish 'Hikikomori'. *Journal of Youth Studies*, *20*(5), 605–621.

Kannasto, E., & Haasio, A. (2021). "Tuntuu, että vietän liikaakin aikaa Internetissä.": Verkon pieni maailma virtuaalisena kotiseutuna. *Informaatiotutkimus*, *40*(3), 14–38.

Kato, T. A., Kanba, S., & Teo, A. R. (2018). Hikikomori: experience in Japan and international relevance. *World psychiatry*, *17*(1), 105. https://doi.org/10.1002/wps.20497

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. https://doi.org/10.1111/pcn.12895

Kato, T. A., Kanba, S., & Teo, A. R. (2020). Defining pathological social withdrawal: Proposed diagnostic criteria for hikikomori. *World Psychiatry*, 19(1), 116–117. https://doi.org/10.1002/wps.20705

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. https://doi.org/10.1007/s00127-011-0411-7

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. http://onlinelibrary.wiley.com/doi/10.1111/pcn.13154/full

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*(1), 79–86.

Krysinska, D. 2007. *Hikikomori (Social Withdrawal) in Japan: Discourses of Media and Scholars; Multicausal Explanations of the Phenomenon*. Doctoral dissertation, University of Pittsburgh.

McKee, H.A., & Porter, J.E. (2009a). Playing a Good Game: Ethical Issues in Researching MMOGs and Virtual Worlds. *International Journal of Internet Research Ethics*, 2(1).

McKee, H.A., & Porter, J.E. (2009b). *The Ethics of Internet Research: A Rhetorical Case-Based Process.* Peter Lang Publishing, New York.

Mancosu, M. & Vegetti, F. (2020). What You Can Scrape and What is Right to Scrape: A Proposal for a Tool to Collect Public Facebook Data. Social Media + Society, 6(3). https://doi.org/10.1177/2056305120940703

Naka, H. (2021). Identifying Hikikomori's 'Hidden' Information Needs and Practices in Online Discussion Forums: Applying Dervin's 'Situation-Gap-Use' and 'Gap-Bridging' Metaphors. In *New Trends and Challenges in Information Science and Information Seeking Behaviour* (pp. 33–47). Springer, Cham.

Ohashi, N. (2008). *Exploring the psychic roots of Hikikomori in Japan*. Pro Quest LLC

Paasonen, S. (2013). Ihmisiä, kuvia, tekstejä ja teknologioita. In: S-M. Laaksonen, J. Matikainen & M. Tikka. (Eds.) *Otteita verkosta.* Vastapaino. 34–48.

Pedrelli, P., Nyer, M., Yeung, A., Zulauf, C., & Wilens, T. (2015). College Students: Mental Health Problems and Treatment Considerations. *Acad Psychiatry,* 39(5): 503–11. https://doi.org/10.1007/s40596-014-0205-9.

Ranieri, F., & Luccherino, L. (2018). Hikikomori: debating a XXI century phenomenon from a clinical point of view. *Scandinavian Journal of Child and Adolescent Psychiatry and Psychology*, *6*(1), 72–79.

Saito, T. (1998). *Shakaiteki hikikomori: owaranai shishunki. [Hikikomori: Adolescence without end].* Tokyo: PHP.

Saito K. (2010). *Hikikomori no hyouka: shien ni kansuru gaidorain.* Tokyo: Japan's Ministry of Health, Labour and Welfare. (Evaluation and Support Guideline for Hikikomori)

Salmela, E. (2021). "Ajattelin kysyä palstan asiantuntijoilta ennen kääntymistä lipevien myyntimiesten puoleen". Erikoisalaan liittyvien neuvojen ja tiedon pyytäminen verkkoyhteisössä. (Acta Vasaensia 469) [Doctoral Dissertation, University of Vaasa]. ["I thought asking the experts of the board first before turning at the unctuous salesmen." Requesting special field related advice and information on online communities]. https://urn.fi/URN:ISBN:978-952-476-985-3

Salminen-Tuomaala, M., Haasio, A., & Naka, H. (2021). Meaning of the Family and Family Communication-Experiences of Hikikomoris. *Clinical Nursing Studies* 9(2), 1–11. DOI:10.5430/cns.v9n2p1

Savolainen, R. (2009). Small world and information grounds as contexts of information seeking and sharing. *Library & Information Science Research*, *31*(1), 38–45. http://InformationR.net/ir/22-3/paper767.html (Archived by WebCite® at http://www.webcitation.org/6tTRz0IcS)

Savolainen, R. (2019). Modeling the interplay of information seeking and information sharing: A conceptual analysis. *Aslib Journal of Information Management*. Vol. 71 No. 4, pp. 518–534. https://doi.org/10.1108/AJIM-10-2018-0266

Suominen, J., Saarikoski, P., & Vaahensalo, E. (2019). *Digitaalisia kohtaamisia. Verkkokeskustelut BBS-purkeista sosiaaliseen mediaan.* Gaudeamus.

Tajan, N. (2015). Japanese post-modern social renouncers: An exploratory study of the narratives of Hikikomori subjects. *Subjectivity*, *8*(3), 283–304.

Teo, A. R. (2010). A new form of social withdrawal in Japan: a review of hikikomori. *International journal of social psychiatry*, *56*(2), 178–185.

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., Fetters, M. D., Stufflebam, K., Tateno, M., Balhara, Y., Choi, T. Y., ... & Kato, T. A. (2015). Identification of the hikikomori syndrome of social withdrawal: psychosocial features and treatment preferences in four countries. *International Journal of Social Psychiatry*, *61*(1), 64–72.

Vorma, H, Rotko, T, Larivaara, M, Kosloff, A. 2020. National Mental Health Strategy and Programme for Suicide Prevention 2020–2030. Ministry of Social Affairs and Health. Publications of the Ministry of Social Affairs and Health 2020:15. http://urn.fi/URN:ISBN:978-952-00-5401-4

WHO. 2014. Mental health: Strengthening Our Response. https://www.who.int/ news-room/fact-sheets/detail/mental-health-strengthening-our-response

WHO. 2022. Mental disorders. https://www.who.int/news-room/fact-sheets/detail/mental-disorders

Wilson, P. (1977). *Public knowledge, private ignorance*. Westport, Conn.: Greenwood Press.

Wilson, T.D. (1984). The cognitive approach to information seeking behavior and information use. *Social Science Information Studies,* 4(2–3), 197–204.