



# *Epidemiological characterization of nursing students and the consumption of anime and manga, POLISAL UNAN MANAGUA. Nicaragua. First semester 2019*

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## **ABSTRACT**

To epidemiologically characterize the population of nursing students before the consumption of anime, manga, and dorama, POLISAL UNAN Managua. Nicaragua, first semester 2019. **Methodological Design:** With 249 nursing students who participated in the study with a descriptive and cross-sectional research route, an instrument containing variables under study such as sociodemographic, consumption, risk of Hikikomori, data collection, filling, tabulation, analysis, and discussion were carried out in November 2019.

**Results:** the predominant age was between 18 and 25 years of age in the profile of obstetrics and perinatology nursing with 97 (38.96%) students from the city of Managua, of which 83 (44.3%) are female and 17 (35.42%) male, 99 (39.76%) consume anime, manga or dorama being the largest consumers those of obstetric nursing and perinatology and of these 57 (49.91%) do so through the internet with 54 (54.5%), dedicating 1 to 2 hours from 7 to 12 midnight (MN) with 26 (26%). Both demographic and thematic gender do not know the classification and of the total population of the study, 141 (57%) are at risk of developing Hikikomori syndrome.

**Conclusions:** The study population was between 18 and 25 years old, with obstetrics and

perinatology predominating. This population came mainly from Managua and Masaya and less than half of the population consumes anime through the internet, preferring animated series at night, of all participants more than half have the threshold to be categorized as at risk of Hikikomori syndrome.

## INTRODUCTION

Epidemiology, as a space for research into social determinants (Segura del Pozo, J, 2006), allows us to understand social phenomena and their implication in the daily life of the individual, in this sense, the Otakus culture, has been considered a social phenomena due to their scope and transcendence in the lives of the Japanese and their influence on the world is noted to such an extent that these manifestations are considered “cultural ambassadors” (Yoko, 2011),

This leads to the suffering of syndromes such as Hikikomori syndrome considered a psychiatric condition related to the consumption of manga, anime, or video games. To assess this condition there is research that dictates a test that measures the burden of factors to develop this syndrome.

One of the changes and multicultural influences has been manga and anime where youth invest a lot of time in the consumption of such series that some even integrate attitudes, manners, and lifestyles of manga and anime into their lives. This situation has a direct impact on their lifestyles, education, and academic performance and every day this current takes more boom in the population described.

Nicaragua is not excluded from this reality since in the young population, and even in adults, there is a tendency in which a form similar to that of the well-known urban “Tribes” is adopted. This phenomenon has been occurring with more and more representativeness in Nicaragua, acquiring significant figures in the last three years and generating meeting spaces such as events, groups, and virtual spaces that allow them to approach the manga-anime phenomenon, (Nuevo Diario, 2017).

Due to this relatively new character, in the Nicaraguan area, no studies related to the subject have been found in any of the areas of knowledge, either in social sciences or health sciences, and for this reason, there is a need to epidemiologically characterize this theme and what is the consumption of anime and manga in nursing students, thus allowing to assess if they have key characteristics of Hikikomori syndrome. being this, disorder characterized by an asocial and avoidant behavior that leads to leaving society. The disorder primarily affects adolescents or young people who isolate themselves from the world, locking themselves in the rooms of their parent’s house for an indefinite time, and can be cloistered for years. They reject

any type of communication and their life begins to revolve around the use of the Internet and new technologies.

Therefore, this research is useful as a tool to understand the situation of students before the consumption of anime, manga, and dorama allowing us to understand in this way this new influence on the Nicaraguan youth population. In turn, these aspects allow us to understand the sociodemographic characteristics of the students, the practice of consumption of anime, manga, and dorama, and the burden of factors for the development of Hikikomori syndrome.

## **MATERIALS AND METHODS**

The study followed a quantitative-descriptive and cross-sectional research route. The study was conducted at the National Autonomous University of Nicaragua, Managua, taking place specifically in one of the areas of education such as POLISAL, in nursing careers, which are located in pavilion 54 of this entity.

All students of nursing careers between the first and fifth year and of the four mentions offered, that is, Public Health, Critical Care, Maternal and Child, and Perinatal Obstetrics, were taken as part of the research. It is a universe of 375 participants. During the data collection process, 126 students did not accept to participate in the study, so it was constituted a total of 249 participants and they met the inclusion criteria, namely: active students, who were enrolled in nursing careers and the semester of the research, and who wished to participate in the study.

For the study, primary information sources were taken, the information collection technique the self-administered questionnaire and for the last section of the questionnaire, the HQ - 25 was taken, which is a self-report instrument with a novel potential to help with the evaluation of a relatively new mental health problem. This instrument has convergent validity with the R-UCLA Loneliness Scale ( $r = 0.88, P < 0.0001$ ) and the *Loneliness Preference Scale* ( $r = 0.73, P < 0.0001$ ). *In addition, it showed a high inverse correlation with the Multidimensional Scale of Perceived Social Support ( $r = - 0.81, P < 0.0001$ ).*

For data processing, SPSS version 23 was used to present a frequency distribution expressed in absolute figures and percentages. The results and the output tables for the different variables, as well as the necessary crossing of the same, were analyzed by the researcher to proceed to the preparation of the final report.

The HQ-25 has a Likert rating of 0 to 4 with a total of 25 questions classified into socialization, isolation, and emotional support. For the evaluation of this test, a score of 42 or higher is suggested as a threshold to categorize an individual as at risk for Hikikomori syndrome.

Consent was acquired from the National Autonomous University of Nicaragua, Managua, through the director of the Department of Nursing and with authorization from the direction of the POLISAL of the UNAN Managua followed by verbal and written informed consent by the nursing students of the different years and profiles, also in the same way the author of the publication on the HQ-25 was contacted, for consent in the use of the questionnaire.

For the processing of the data, the SPSS version 23 program was used to present frequency distribution expressed in absolute figures and percentages, in the case of the HQ-25 Likert scale was used where a score of 42 is suggested as a threshold for the categorization of the individual.

## RESULTS

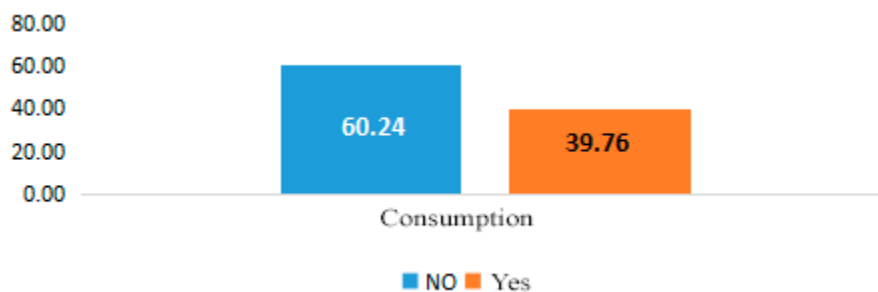
The age relationship, according to the student academic profile, where the median age in public health was 20, maternal and child 19, critical care 18, perinatal obstetrics 20, and senior technician 25, being the global between the ages of 18 to 25 years, being the minimum age value of 16 and 19 in the careers of critical and perinatal obstetrics, The maximum value is between 25 and 29 years.

In sex, according to academic profile, obstetrics and perinatology are observed 82 (32.92%) women and 15 (6.02%) for men, maternal and child with 45 (18.07%) women and 5 (2.01%) for men, public health with 39 (15.66%) women and 10 (4.02%) for men, then senior technician with 19 (7.63%) women and 3 (1.20%) for men and critical care with 16 (6.43%) women and 15 (6.02%) for men.

In the case of origin according to sex in both men and women, the origin of Managua predominates with 83 (44.3%) for women and 17 (35.42%) for men, followed by Masaya with 41 (20.4%) for women and 14 (29.17%) for men, a third is in those who did not register their origin with 35 (17.4%) women and 8 (16.67%) men and the rest of the participating departments are between 1 and 5%.

**Figure 1**

Consumption of anime, manga, and dorama by nursing students of POLISAL UNAN Managua. Nicaragua. First Semester 2019



Source: Survey of nursing students at POLISAL UNAN Managua

Of the study population, it was found that 150 (60.24%) do not consume anime, manga, or dorama, and 99 (39.76%) do consume them. The above allows us to say that 4 out of 10 students are consuming manga.

Of the 99 (39.76%) nursing students who consume anime, manga, and dorama, perinatal obstetrics has 29 (29.3%), followed by public health with 23 (23.2%), maternal and child with 17 (17.2%) and critical care with senior technical nursing with 15 (15.2%).

In turn, of the same 99 (39.76%), consumer media were classified according to sex, finding that for both men and women, the most used media are the internet with 40 (35%) women and 17 (14.91%) for men, followed by television with 31 (27%) women and 17 (14.91%) men.

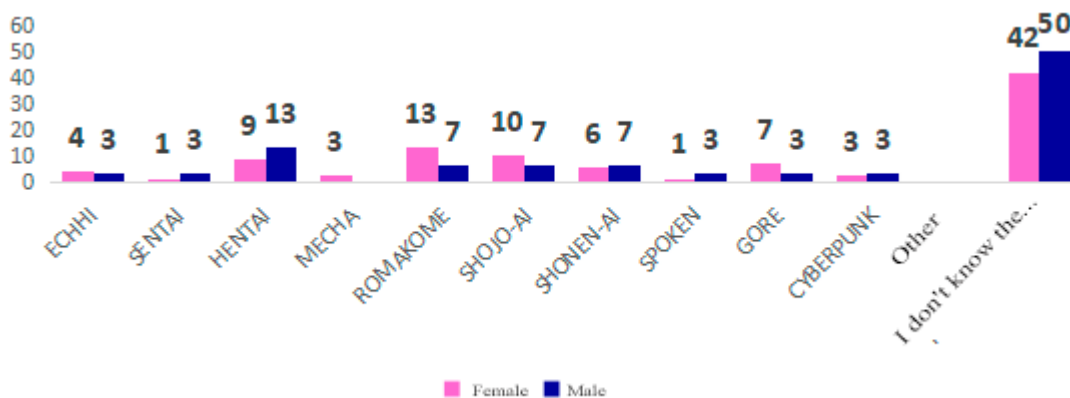
Based on the form and preference of consumption, it is evident that the main consumption in animated series was women with 54 (54.5%) men with 25.3 (25.3%), followed by animated films women with 7 (7.1%) men with 2 (2%), and in third women with soap operas 7 (7.1%).

According to the time of choice for the consumption of anime, manga, and dorama, the time spent is at night, at 7 to 12 midnight (mn) between 1 to 2 hours with 26 (26%), <1 hour 17 (17%), 3 to 4 hours 8 (8%), 5 to 6 hours 5 (5%), more than 6 hours 4 (4%); followed by afternoon schedules from 1 to 6 pm with a consumption of 1 to 2 hours 13 (13%), < 1 hour 11 (11%), 3 to 4 hours 2 (2%) for more than 6 hours 1 (1%). (see Annex 5, Table 8)

In the field of thematic gender, 44 (64%) of women and 20 (67%) of men do not know the classification of the thematic genre, however, 5 (17%) of men and 4 (6%) women know the gender Shonen and 9 (13%) women and 3 (10%) men know the gender Shojo.

**Figure 2**

Thematic gender according to the sex of nursing students at POLISAL UNAN Managua. Nicaragua. First Semester 2019

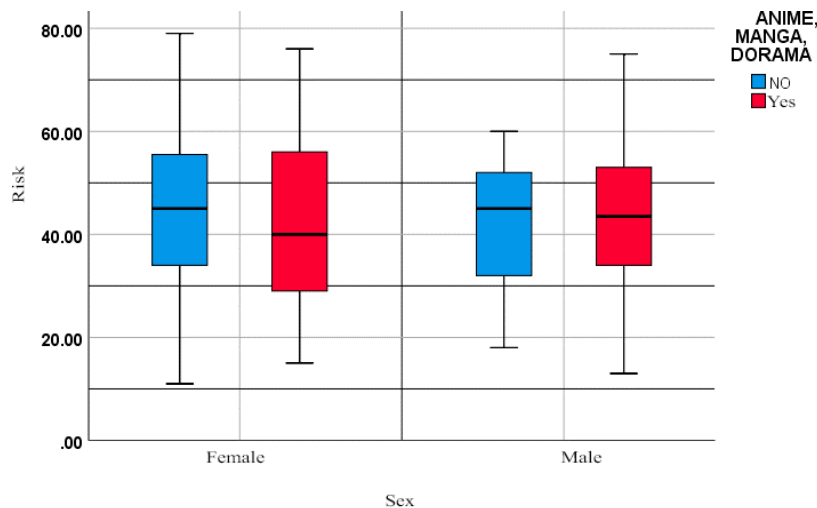


Source: Survey of nursing students at POLISAL UNAN Managua

About the thematic gender according to sex, it is evident that 29 (42%) and 15 (50%) do not know the thematic classification, however, it is more representative in men than in women, also, the thematic genres that do recognize are Hentai with 6 (9%) in women and 4 (13%) for men, followed by Romakome 9 (13%) in women and 2 (7%) in men, and Shojo AI, with 7 (10%) in women and 2 (7%) in men (see Annex 5, Table 10).

**Figure 3**

Consumption of anime, manga, and dorama according to sex of nursing student of POLISAL UNAN Managua. Nicaragua. First Semester 2019



Source: Survey of nursing students at POLISAL UNAN Managua

Taking this into consideration, the grouped box diagram of risk by sex by consumption of anime, manga, and dorama allows us to see that 141 (57%) of the combined population of both men and women is at risk of developing Hikikomori syndrome; However, 108 (43%) of the entire population do not have the risk of suffering from it, thus, looking at it by sex we find that 79 (56%) women do not consume however if they present risk and only 34 (24%) if they consume and present risk, and in the case of men 10 (7%) do not consume and if they present risk score unlike 18 (13%) that if they consume and present risk score.

**DISCUSSION OF RESULTS**

It was observed that the population under study, despite being at a young age and considering themselves digital natives, are not stimulated or influenced by the global trends of manga, anime, and dorama. This is related to consumption where 99 (39.76%) are doing this activity, however, it allows us to think that it is being affected by other factors or interests that are influencing the lifestyles of these adolescents that may be associated with culture, place of residence, lifestyles, and interpersonal relationships.

The issue of gender and sex have been very controversial in the field of the study of societies and from the anthropological point of view, however, the academic profile according to sex allows us to show that the nursing profession continues to be mythologized by the social concept or behavior linked to roles or customs and continues to be considered a female profession dedicated to the care of the individual. It is important to highlight that in obstetrics and perinatology profiles such as maternal and child care, it is more striking for women because of the maternal role related to child care, however, the critical profile has a more equal inclination between men and women.

On the other hand, the evidence presented by Lucía Cobos (2010), refers to what she calls the “Latinization of anime and manga” in Latin America, due to a deterritorialization and relocation of Japanese cultural industries greatly fostered by globalization.

Therefore, and considering the influence of Japanese industries (maquilas), a cultural industry is transported about its environment causing in this way the insertion of Japanese habits within the daily life of the Nicaraguan and example of this is the Japanese park, directly influences the integration of young people to different types of activities. Without creating judgment, one could assume an unforced colonization in which members of society accept new models and patterns due to globalization.

In the same way, the participants are concentrated in the cities of Managua and Masaya, which infers that they are the departmental areas that have the most students in the RURD and also become more vulnerable people since they are in two places with a high rate of foreign mobility because one of them is the capital and the other one of the most tourist areas of the country.

The trend of consumption of anime, manga, or dorama, although this is a global situation, at the level of the population under study is not marked, which allows us to relate the data with the consumption by career profile and the risk of development of Hikikomori syndrome. Also, it allows us to think that 150 (60.24%) of young people are having other types of experiences with the environment which respond to other types of social, cultural, political, and context stimuli, which is influencing the risk of developing psychiatric syndromes such as Hikikomori syndrome.

It is necessary to reflect on the experiences of young people and understand if there are protective factors or others that predispose people to a physical health condition that influences and marks their personal, family, and professional environment that will have repercussions in the future.

Related to what Tapscott proposes (1998); and Chisholm (2005); The current generation of young people has grown up watching these anime series in the afternoons, therefore, they are

people with obvious access to technology since throughout their lives they were growing up with it. These same elements were reaffirmed by Ito (2012), where he raises the rise of technology and the internet and its easy access for young people.

Therefore, anime, manga, and dorama are now a trend that accompanies the lives of young Nicaraguan, and with the rise of technology and access to the Internet, having access to these is increasing and this facilitates following the thread to their favorite stories. Internet translation and distribution have made anime and manga a format accessible to fans around the world, even in the absence of overseas localization and distribution (Ito, 2012).

It is considered that the highest consumption is in obstetrics and perinatology since it was the largest amount of the population according to the selection criteria and consent of the study, therefore, it is necessary to consider taking an equitable sample of the different mentions that allow greater analysis under the consumption of anime, manga and dorama, However, it is important to note that despite being marked consumption in one mention more than another, all have some degree of consumption of this product by young people.

The above is based on the fact that the current generation of young people grows up watching these anime series under the influence of parents since they were influenced by some type of this trend such as Goku and other anime and are also people with obvious access to technology for being digital natives since, additionally and through their lives, they grew with her. Young people are more adept than the previous generation in a key innovation for society: digital technology” (Tapscott, 1998; Chisholm, 2005).

In the percentages obtained, many of the participants took both the Internet and television as their first choice of consumption. The aforementioned is conditioned to the type of population to which it is analyzed and these are digital natives as it is also related to the reading culture. Therefore, they have more access to a lot of information and cultural exchange at a global level, so they find more cultural influence from different countries conditioning the consumption of new ways of thinking and acting leading to positive or negative trends according to the influence and factors of the environment in which it is located.

At present the use of technology, mainly through the internet gives increasingly wider access to new trends of forms of communication to the population in general and mainly in the young population, this related to the trend globalization allows access to new forms of distraction such as animated series, Online movies, online games, etc. Therefore, these global conditions are in a certain way conditioning the non-experiential socialization of people one by one, which means that all these habits and daily practices are becoming routine that will directly affect the lifestyles of the individual.



On the other hand, Galvis (2016) and the findings of the study suggest that the habit of consuming anime, manga, and dorama at night repetitively will create a habit and therefore consolidate a lifestyle probably not very positive, thus causing affectations in their daily work; For example: academic performance, physical activity, obesity, etc. This leaves the gap for further research to identify if the routine of consumption of anime, manga, dorama, or any other distractor is affecting lifestyles directly such as hours of sleep, academic performance, obesity, social isolation, etc.

Similarly, there is a high consumption between 5 and 6 hours which allows us to think that they are dedicating enough time to leisure and do not have an organization of their time which could be directly influencing their lifestyles from academia to interpersonal relationships and it is pending to think that they are dedicating their time and if that other percentage of people who do not consume these programs is being planned.

On the other hand, Vidal (2010), proposed a classification of anime, manga, or dorama according to demographics and themes. In this sense, the Shojo is raised as one aimed at adolescent women and is the second on the popularity scale, and in the case of Shonen, this is aimed at adolescent men and is also considered the most popular worldwide. This is closely related to what was found in the research where it can be evidenced that the largest population, of those who recognize the demographic gender, corresponds according to the description given by Vidal, however, it is evident that there is a part of the opposite sex for which the demographic gender was designed that is to their liking and all this may be associated with cultural aspects, of context and fashion for those involved in this field.

Following the classification of Vidal (2010) on thematic genres, he defines Hentai as anime with pornographic content because it is as broad as bizarre, without losing substantiality in the plots. In Romakome's case, this is a genre of romantic comedies and Shojo AI is homosexual romance between women. Despite being a subject that still represents taboo for many societies, homosexuality in anime has great acceptance among fans.

With these findings, it is evident that young people are being influenced by this type of distraction towards an area as dangerous as pornography which when becoming a habit will have serious conditions at the level of the individual's nervous system, in addition to leading to the search for other types of distraction related to the same or conditions the individual who leads him to perform acts outside of reality and percentage seems that Men are the ones who are consuming this thematic genre the most.

It is important to note that more women are watching the Hentai genre, the Shojo AI, being a genre aimed at homosexual romance between women, it is evident that it is women who are consuming this type of anime, manga, or dorama; Therefore, it is necessary to reflect on the

conditions that are leading women to search for this type of distraction, it may be related to the family environment, the need to feel loved, desired or a biological – physiological hormonal process. It is necessary to be able to take into account these questions that allow other related studies.

Finally, according to Kato (2018), severe and prolonged social abstinence called Hikikomori has appeared, which has become a clinical problem of public health and society in general, defining this as a state of social withdrawal combined with the avoidance of important social interactions or responsibilities.

Teo (2018), on the other hand, demonstrated with the HQ-25 the convergent validity with the R-UCLA loneliness scale and the Loneliness Preference Scale, in addition, showed a high inverse correlation with the Multidimensional Scale of Perceived Social Support, an instrument that became a crucial new element for the evaluation of mental health such as Hikikomori syndrome where it established as a measured score of equal or more than 42 as a threshold to categorize an individual as at risk for this Hikikomori syndrome.

Therefore, in the study population, more than half are at risk of Hikikomori syndrome, grouped mainly between the ages of 18 to 22 years approximately, important to note that the risk in this population was not conditioned by the consumption of anime, manga, and drama, it is also meritorious to affirm that there are other conditions within the lifestyles and the time of distraction within the youth life in our context that is leading them to have this risk of isolation syndrome,

## **CONCLUSIONS**

The study population was between the ages of 18 and 25 years, with obstetrics and perinatology predominating, followed by maternal and child care, mostly from the department of Managua. The female gender predominated.

Less than half of the population consumes anime, with the internet and television being the consumption mechanism, with a preference for animated series at night from 7 pm to 12; predominating in the career of obstetric and perinatal nursing followed by public health and maternal and child and more than half of those who consume do not know the demographic gender and less than half do not know the thematic gender.

From the study participants, more than half have a threshold to categorize them as at risk of Hikikomori syndrome, predominantly between the ages of 18 and 22 years.

## WORK CITED

- Benach, J., & Montaner, C. (2005). Learning to look at health: how social inequality damages our health. Editorial El Viejo Topo.
- Cobos, T.L. (2010). Japanese animation and globalization: Latinization and the Otaku subculture in Latin America, in Revista Razón y Palabra, No. 72, Mexico City, Tecnológico de Monterrey.[http://www.razonypalabra.org.mx/N/N72/Varia\\_72/32\\_Cobos\\_72.pdf](http://www.razonypalabra.org.mx/N/N72/Varia_72/32_Cobos_72.pdf).
- Chen, Y. (2002). Personalization and the Problem of Youth in Japan. Sociological Research, (2), 6. <https://www.scielosp.org/article/rbepid/2005.v8n1/7-17/>
- Foerster. (2009). Thesis to qualify for the title of anthropologist. Otakus in Chila. Faculty of Social Sciences. Chile.
- George A. Kaplan, (July 2004). What's Wrong with Social Epidemiology, and How Can We Make It Better?, Epidemiologic Reviews, Volume 26, Issue 1, Pages 124–135, <https://doi.org/10.1093/epirev/mxh010>
- Hornos, A. (2013). Japanese animation, Analysis of current animated series. Dissertation. University of Granada. ISBN: 9788490830222. Pag. 44
- Ito, M. (2012). Fandom Unbound: Otaku Culture in a Connected World. Yale University Press.
- Kato, T. A., Kanba, S., & Teo, A. R. (2018). Hikikomori: experience in Japan and international relevance. World psychiatry: official journal of the World Psychiatric Association (WPA), 17(1), 105–106. [doi:10.1002/wps.20497](https://doi.org/10.1002/wps.20497)
- Krieger, N. (2002). Glossary of social epidemiology. Pan American Journal of Public Health, 11, 480-490.
- Segura del Pozo, Javier. (2006). Field epidemiology and social epidemiology. Gaceta Sanitaria, 20(2), 153-158. [http://scielo.isciii.es/scielo.php?script=sci\\_arttext&pid=S0213-91112006000200011&lng=es&tlng=es](http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S0213-91112006000200011&lng=es&tlng=es).
- Moreno-Altamirano, A., López-Moreno, S., & Corcho-Berdugo, A. (2000). Main measures in epidemiology. Public Health of Mexico, 42, 337-348.
- Muñoz, G. (2011). Youth, cultures, and powers. Colombia: Century of Man Publishers
- Otaku, (2010). Otaku Sekai. <http://otakusekainolima.blogspot.com.co>
- Paolicchi, L. (2011). ACTING AND SPEAKING PRELIMINARY NOTES FOR A TRANSCENDENTAL PRAGMATIC THEORY OF ACTION. Philosophical Praxis, (32), 57-72.
- Perez, E. (2013). The Otaku Culture Lifestyle. <https://releeportare.wordpress.com/2013/05/29/la-cultura-otaku-un-estilo-de-life/>

- Stip, E., Thibault, A., Beauchamp-Chatel, A., & Kisely, S. (2016). Internet Addiction, Hikikomori Syndrome, and the Prodromal Phase of Psychosis. *Frontiers in psychiatry*, 7, 6. doi:10.3389/fpsyt.2016.00006
- Tateno, M., Park, T. W., Kato, T. A., Umene-Nakano, W., & Saito, T. (2012). Hikikomori as a possible clinical term in psychiatry: a questionnaire survey. *BMC Psychiatry*, 12, 169. doi:10.1186/1471-244X-12-169
- Teo, A. R., & Gaw, A. C. (2010). Hikikomori, a Japanese culture-bound syndrome of social withdrawal?: A proposal for DSM-5. *The Journal of nervous and mental disease*, 198(6), 444–449. doi:10.1097/NMD.0b013e3181e086b1
- Teo AR, Chen JI, Kubo H, Katsuki R, Sato-Kasai M, Shimokawa N, Hayakawa K, Umene-Nakano W, Aikens JE, Kanba S, Kato TA. Development and validation of the 25-item Hikikomori Questionnaire (HQ-25). *Psychiatry Clin Neurosci*. 2018 Oct;72(10):780-788. doi: 10.1111/pcn.12691. Epub 2018 Jul 27. PubMed PMID: 29926525; PubMed Central PMCID: PMC6221010.
- Teo, AR, & Gaw, AC (2010). Hikikomori, a social withdrawal syndrome linked to Japanese culture?: A proposal for the DSM-5. *The Journal of Nervous and Mental Illness*, 198(6), 444-449. doi: 10.1097 / NMD.0b013e3181e086b1.