

Internet Addiction as Onlife Derealization between Loss and Recovery

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The concept of addiction, highly investigated by psychology and psychiatry, still remains under-researched in philosophy, despite its anthropological relevance. Very few is known about the processes that detach from or reconnect the human person to the world. This paper is aimed at focusing on Internet addiction as a particular case of derealization of the hyper connected world where offline and online are melted together. An interesting phenomenon of the Onlife age (Floridi, 2015) Internet addiction presents a twofold profile: on one side it is strictly related to the loss of the 'real' world; on the other side, it reveals the effort to compensate the offline loss with online exposure. The very key for grasping this double movement, as I argue through the lens of General System Thinking (Bartelanny, 1976; Urbani Ulivi, 2019), can be noticed in the act of filling the void: common to any addictive behavior, and to the phenomena of derealization in general, this attitude is highly revealing of a cluster of dynamics whose activity is systemic at its core. Perturbation, dissipation, and coherence will be highlighted. On this premise I'll explain why in the hikikomori syndrome the prolonged exposure to Internet activities (Fisogni and Fisogni, 2020) or online gaming (Tateno, 2016) can be therapeutic, as recently reported.

Internet Addiction

The term addiction widely refers to a pathological behavior related to substances abuse that interferes with the cognitive, deliberative, sensitive abilities of the individual. Within the digital domain the obsessive/compulsive use of the Internet is considered as well as a peculiar addiction (1). The highlight of this disturbance dates the end of the twentieth century, since the online experience has become a relevant part of our lives with the huge availability of mobile devices.

Internet addiction has not yet been incorporated in the DSM-V (2). It is generally referred to the addictive behaviors (3), differently from online gaming, which has been included in the manual since 2013, although further studies and experimental researches are expected to strengthen the diagnostic configuration. The first scholar to focus on Internet Addiction Disorder, Goldberg (4) underlined the emergence of a new clinical disorder related to the compulsive use of the network. The disturbance is associated with a specific behavioral frame (5) which consists of spending a large amount of time in the web, surfing, playing, chatting, gambling, shopping, and limiting social interactions (6).

Although there is wide consensus among psychiatrists and psychologists about the risks of being voluntarily exposed to web power, nevertheless the Internet Addiction «lacks a universal definition and diagnostic criteria» as Durkee and colleagues pointed out (2012) (7). The correlation between compulsive use of the network and risk behaviors, highly reported among the adolescents (8), is included in two macro areas, the Pathological Internet Use (PIU) – a term coined by Young (1996) (9) – and Maladaptive Internet Use (MIU) (10). Recent studies have revealed that PIU, as it happens with substances abuse, is mainly related to the young male population while female adolescents tend to exceed in MIU. It is still debated whether to speak of addiction or problematic use.

Though they both cope with a common behavioral frame, PIU refers to a «compulsive interaction with loss of control and negative consequences in school results» and MIU primarily suggests a risk condition rather than a real pathology. Frequently the social networking activity may result in «more predictive of addictive behaviors than general internet use» (Carmony, 2012). (11) As Romano and colleagues suggested (2013), Internet

exposure presents a differential impact which is comprehensive of co-morbid psychological symptoms such as depression, attention deficit, and hyperactivity disorders (12). According to Young's Internet Addiction Scale, nevertheless, it is possible to grasp the complexity of a phenomenon that, in the most severe cases, can widely affect the physical and mental health of the youngsters (Young, 2018; Chauhan et al, 2017). (13) Among the other Rebisz and Sikora outlined pathological behaviors and emotional states grouped into several major psycho-physical and social effects that may appear simultaneously in Adolescent Internet Addiction (anger, depression, chronic fatigue or deteriorating health) (14).

Onlife Derealization: Between the Real and the Digital

Exploring Internet addiction is highly relevant in order to understand the surge of the anthropological phenomenon, still under-researched, which goes by the name of derealization. A discomfort suffered from the Self as a consequence of the loss of contact with the world of life, the disease reveals a temporary lack of relation between the existential poles of the individuals (Self-other subjects/objects) that gives rise to the feeling of being detached from the environment (15).

Very commonly reported in case of traumatic events, stressful situations, or pathological frames, the disturbance is diagnosed «only if such feelings of detachment frequently recur». (16) Among the pathological traits of derealization (17) the perception or cognitive characterization of external reality» should be noted. (18) Given this premise, it could be assumed that derealization only pertains to the 'real world', however, and it can be widely applied also to the digital domain. Furthermore, the third level of derealization may be sketched within the melted environment of digital and real that belongs to the Onlife region (19). Let's briefly focus on these three levels of the disturbance.

The first one is the more commonly experienced and researched, as we briefly sketched before. Digital derealization belongs to the disconnection or the impossibility of being part of the web domain. Both circumstances can be associated with «loneliness or anxiety» linked to «the lack of access to the network» (20). In the social environment, the unwilling lack of connection with the network gives rise to the 'digital divide', a condition where people suffer from a social gap. As Jauréguiberry noted (2014), the «ICTs were so full of promise that not being connected was soon perceived as an injustice» (21). Furthermore, the digital divide is due to the cognitive/cultural abilities of the individual and it comes from the incapacity of the user to become acquainted with the change of technologies or with the social opportunities provided by the online environment. In the coronavirus outbreak, beside the increasing of smart working or e-lesson through the digital devices (smartphone, Pc, tablets) on a global scale, also the marginalization of people unable to use the network or disconnected from became much more relevant than ever. Finally, the third type of derealization, which I call 'Onlife derealization' strictly depends on the interactive processes that pertain to this melted domain.

Coined by Italian philosopher and Oxford scholar Luciano Floridi (2015), the Onlife environment is definitely the hyperconnected world, where offline/real and online/digital are sewn together (22). Within the Onlife region the notion of 'connection' grounds any activities linking the real to the digital and vice-versa. No experience of the virtual is ever allowed without a connection with the offline world. Any digital device, a smartphone as well as a computer, should be linked to 'real-life' for working (the agent, the content). The constant interaction between the two domains is the place where Internet addiction could be located: this point of departure is highly relevant, within a theoretical perspective, because it gives

rise to a phenomenology of addiction that cannot be compared in toto with other types of addictive disorders. If we look at the overuse of the network from the perspective of the offline world, we can conclude that the highest risk of PIU is to limit the experience of the real, giving rise to a constellation of behavioral, psychological, psychiatric-like symptoms and relational diseases.

At a first sight those who suffer from the Internet overuse appear to be immersed within the virtual reality at the highest grade. The question to be posed is whether the immersive experience of the virtual can partly compensate for the loss of the offline reality or not. For trying an answer we should focus on how offline and online interacts in the Onlife domain. As it was noticed before, the two regions are involved in processes that connect them into a wider perspective on reality. A useful toolkit to grasp this concept is the General System Thinking (23), which regards to phenomena as systems involved in interactions that originate 'emergences' or II type systemic properties. These emergences do not belong to one or another system, indeed their existence depends upon all of them: it is the case of mind, for instance, which can be explained only as a systemic property due to the relations of the brain, environment, bodily sensations, perceptions. The Onlife world is a proper type of systemic emergence related to the real and the virtual. Coming back to Internet addiction, we notice that this condition is linked both to the offline/online domain. At large we could say that the overuse of the Internet also interferes with the possibility to make a valuable experience of the digital environment, not simply of the 'real' world.

Pathologies of Self within the digital overexposure

The prolonged exposure to the online environment, through the illusion of a huge relation with a global audience, is expected to accentuate the isolation of the Self, according to several symptoms of derealization. For grasping this phenomenological insight, we have to focus on the processes that originate that discomfort in order to grasp the proper characters of Internet addiction. As we noticed before, the I and the environment in which the Self is immersed are systems that incessantly interact, according to complex dynamics. Among them, I especially underline coherence and dissipation, the two poles that preside any change of the system (Minati, 2019) (24).

Coherence is basically a process of aggregation of different elements, while the second one deals with the end of a dynamic, a stop from which a new beginning can start. Think for example to personal identity, a fluid stream within constraints, which is built through an incessant interaction of those poles (25). This systemic activity is due to the combined interrelation of the different systems (people, natural environment, cultural layouts, emotions): each system is related autonomously to the other. If I walk along a street I cannot do anything to limit other individuals to orient their sight to me; nor I can stop the noises of the town (car, industries) or whatever happens all around me. According to the philosophical language, we could otherwise say that other people/animated beings/things are constantly inclined towards me and refers to me. Inclination can be interpreted at large as a twofold process of questions and answers from which new cognitive contents, emotions, perceptions get the surface. If we move from the offline to the online world, we do find a different type of environment. Within the digital interrelations depend always on the decision of any individuals to remain connected or not. As I noted before, in the natural environment that identifies the world of life this possibility is not allowed. A human subject should decide to voluntarily isolate if he/she wants to leave the world outside the walls. And also, in that case, human persons are still immersed in another 'natural' environment. When we connect to the network, as we already underlined, a decision has to be taken: I open my Pc or my smartphone; I click on the Wi-Fi configuration, etc. Hence, although the Internet is a place of interrelations, all these links always depend upon my decision, my will, my selective interest toward a particular digital domain (the social networks, for instance). Furthermore, I can decide to stop surfing or online gaming or chatting: I can connect and disconnect. By disconnecting the environment ends up definitely its capacity to interact with the subject. A situation that is never given in the world of life, as argued before. The very question that we should therefore

ask is: what kind of consequences does the Self experiment in a prevailing digital context? The loss of relations with the offline environment reduces the intentional exchange; the Self becomes more isolated and it tries to recover the lack of which it suffers from. In the Internet addiction, as well as in any addictive behavior, this attitude becomes an obsessive-compulsive need to fill a void.

Filling the Void of Derealization in Internet Addiction

The operation of filling the void, in anthropological terms, refers at large to the effort to solve the discomfort provided by a void (26) or by the loss of reality (27). This phenomenon encompasses several domains from aesthetic experiences to addictive disorders. A common trait of the horror vacui, the Latin phrase from which 'filling the void' derives, is the absence of a stable environment where to ground any activities: a journalist and a writer suffer sometimes from the incapacity to express their ideas in a paper; an artist is often unable to find the thread of its inspiration. The process can be also reported in the addictions domain. An adolescent who spends a huge amount of time in the network will be reinforced to pass more and more time chatting, gaming online, etc. Filling the void is not a negative or pathological condition in itself.

On, the contrary, the human subject always looks for a stable environment in which to flourish. Hence, filling the void becomes the most powerful resource that allows the person to recollect and restore reality. No surprise that this effort is part of any kind of addictive behaviors, where the addiction - a large amount of time spent on the web or the substance abuse - becomes the most important activity for the individual, reinforcing his/her wrongful conduct. At first sight, it could appear contradictory that a negative behavior like addiction could be the consequence of the positive attempt to reach a balanced existential condition. To have a better understanding of this dynamic we should turn from the linear thinking to a systemic view of the processes. Through the lens of General System Thinking, the approach to complexity (Urbani Ulivi, 2019) (28), derealization could be compared to a perturbation, a shock that shatters a previously stable system. Worth noting that void is a main symptom of trauma and also addictions are traumatic events that reflect on the constellation of systems that belongs to the human person, that's to say the biological frame, the psychological domain, the cognitive capabilities, the emotional region, the interpersonal attitude to relationships. Within a complex system, any perturbation is strictly related to a dissipative dynamic. A young person who suffers from the consequences of the over/pathological exposure to the Internet is often affected by inattention, lower psychosocial well-being, co-morbid psychiatric disorders, such as anxiety, depression, attention deficiency, and hyperactivity disorder. All these discomforts and diseases, on a systemic perspective, are symptoms of a dissipative structure, the consequences of the perturbation made by the addiction. At this point we can get back to filling the void, which is the way a person reacts to a loss, looking for new stability. On the systemic ground, it depends upon the «ability to transform a large amount of entropy» to the environment (29) in order to restore a balance through coherence. By coherence I primarily refer to the bonds that provide unity to a process: it supports the unitary and integrated response of the system to disturbances/perturbations, avoiding isolation or the independent organization of some parts or functions. Although very summarily sketched, the process that connects 1) perturbation (addiction) to 2) dissipation (loss of abilities/capabilities) and 3) coherence (the effort to re-establish an inner balance) is highly valuable to clarify the 'filling the void experience'. At this point, we can come back to the question posed above: what does turn into damage a process which is per se positive? We have to focus on the consequences on the hypertrophy of the Self as a consequence of the prolonged, overexposure to the web.

The Hypertrophy of the Self in Internet Addiction

As discussed above, within the digital domain the relation to the virtual environment differs from the offline one because of a major reason: it is the subject to decide whether disconnecting or not. In the real-life, this closure with the environment is basically impossible in reason of the constant, mutual inclination of the other subjects and entities. Hence we can

say that the Self always plays the main role in the virtual world, however, this leadership should be handled with care, because it reveals an inner fragility more than a veritable power. From a phenomenological point of view, we notice that the subject, through the over activity in the network, aims to assert himself/herself and continually reinforces this belief. On the opposite, this attitude brings to surface the frustration of being alone. The very power of the digital, as Floridi (2017) noticed (30), lies in the act of cut and paste, which basically means the effort to create reality: it has not to be found in the isolation of the Self, but properly in the act of pasting, gluing, putting together. If we reflect, this virtual process recalls the relational dynamics that are part of the offline world. This set of considerations is useful to understand why digital addictive behavior facilitates the hypertrophy of the Self. Being concentrated almost exclusively on itself, the ego feels frustrated. The experience of the void comes into the Self, according to the increasing efforts to fill it through a much more intense digital activity, obsessively repeating. Despite its pathological traits, the web addiction grounds on a veritable although a maladaptive effort to restore the loss of reality, filling this void with a surrogate of the real world. Is there any possibility for this effort to be effective? I'll consider the hikikomori syndrome, a severe social withdrawal, which is also a particular Onlife phenomenon.

Over Exposure to the Internet: a Therapeutic Side?

Internet addiction as an Onlife phenomenon can be clearly revealed by the hikikomori syndrome or severe social withdrawal. In the case of hikikomori, a very particular transition is experienced, from the real to the virtual world: after the voluntary isolation from society the person generally spends much of his/her time on the Internet. The overuse of digital, far from being a pathological addiction, seems to compensate for the derealization that comes out from isolation (Fisogni and Fisogni, 2020) (31).

Diagnosed from the Nineties of the twentieth century, but reported since 1978³², initially interpreted a socio-cultural phenomenon of Japan, the hikikomori syndrome refers to the voluntary isolation of adolescents and young adults, up to 40 years. Although there is not a direct causation between Internet addiction and the syndrome of severe social withdrawal³³, recent empirical studies have proved a correlation between the exposure to the web (social, video games) and the outset of hikikomori³⁴. A common trait to hikikomori persons - the term designates both the behavioral disturbance and those affected by it - is the loss of any interest in several regulatory activities, such as study, sport, social relationships, and even the sleep/wake cycle is changed. The lack of contact with the 'real' world, accompanied by the loss of temporal frame, is compensated with the immersive approach to the digital environment. Young people affected by hikikomori, in fact, are withdrawn into their room but they spend most of their time coping with Pc and digital devices. This trait is common to the cases reported in the literature, where adolescents are described to be «absorbed in PC games and Internet» or «surfing the Internet, chatting on online bulletin boards and playing video games». The digital world counterbalances the loss of reality filling the gap - social, relational, educational, relational, and motivational - that the hikikomori's phenomenology brings into the surface. Offline and online are melted together, in the hikikomori, in the same way as it happens in the Onlife domain, that's why «The growing interconnectedness of offline and onlife worlds could also offer ways to ease hikikomori back into everyday life» (36).

Far from being a pathological trait, this interrelation recalls the typical operation of filling the void in the 'real' world, which is aimed at recovering something that has been lost. As Tateno, Kato, Skoukouskas and Guerrero reported (2016), a patient affected by the syndrome started going out, leaving his room, after downloading Nintendo's smartphone game Pokémon Go (37). Worth noting that this process - the recovering of the lost/broken relation to the world of life (offline) through the overuse of the digital - is not comparable with the phenomenon of dissociation. Craparoa suggested a correlation between Internet addiction, affect dysregulation and dissociation (38), a constellation of psychological reactions of the individual aimed at «modulate traumatic affective states». Differently from what Craparoa reports - «Through the dissociation, the subject may build up a parallel and more favorable reality, an easy shelter» - the overuse of

the Internet by hikikomori people sheds light on the process of a new coherence of the reality frame. This can be better understood, as sketched before, through the system thinking. A further argument to this insight may be found in the absence of psychiatric-like symptoms in the majority of the hikikomori, differently from those who are affected by the pathological use of the Internet. It is still widely debated in psychiatric literature whether hikikomori can be regarded as an effective psychopathology or a social-cultural phenomenon linked to maladaptive behaviors.

Discussion

There is a wide consensus about scholars concerning the high risks related to Internet addiction. However, after three decades of investigations, little is known about the pathological, physiological and cognitive mechanisms responsible for this particular addiction. At the same time, methodologically adequate research is increasing in order to recommend evidence-based treatment of the disturbance. Time has come to focus on the processes that give rise to maladaptive behaviors related to the overuse of the Internet that is deeply related to derealization: this part can be played by systemic thinking, a valuable philosophical approach to complexity. In my paper I sought to highlight some main traits of the Internet addiction dynamics. First of all I provided arguments for including it into the frame of the Onlife phenomena, typical of the hyper connected world. On this ground, I could suggest a process that is systemic at its core: 1) Internet overuse provides a loss of connection with the world of life (offline), of which derealization consists; 2) the compulsive use of the web, then, can be noticed in the attempt to fill that previous lack; 3) despite its pathological profile, this attitude nevertheless reveals the effort to reconnect a previously broken reality. The positive side of Internet addiction dynamics - I suggested - could be found in the hikikomori person who spends a huge amount of time surfing on the web. As I argued, the behavior outlines the need to compensate for the consequences of the social isolation due to the voluntary loss of offline relations. This paper, where philosophy is in dialogue with addiction research, aims to introduce new concepts and ideas in the scientific debate and the author is well aware that her proposal will greatly benefit from any further suggestions.

Reference

- Weinstein A, Lejoyeux M. Internet Addiction or Excessive Internet Use. *The American Journal of Drug and Alcohol Abuse*, 2010: Online:1-7.
- APA. *Diagnostic manual of mental disorders: DSM-V*, Washington D. C.: American Psychiatric Association, 2013.
- Shaw M, Black DW. Internet addiction: definition, assessment, epidemiology and clinical management. *CNS Drugs* 22(5) 2008: 353-65. doi: 10.2165/00023210-200822050-00001
- Goldberg I, Internet Addiction Disorder. Available at: <http://www.iucf.indiana.edu/brwn/hyplan/addict.html>
- Cantelmi T, Talli M. Internet Addiction Disorder. *Psicologia Contemporanea*, 150, 1998 : 4-11.
- Saliceti F. Internet Addiction Disorder (IAD). *Procedia - Social and Behavioral Sciences*, 191, 2015: 1372-1376.
- Durkee T et al. Prevalence of pathological internet use among adolescents in Europe: demographic and social factors, *Addiction*, May 2012, 107: 2210-2222. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/22621402>; Durkee T et al, Pathological Internet Use and Risk-Behaviors among European Adolescents, *Int. J. Environ. Res. Public Health*, 13, 294; 2016; doi:10.3390/ijerph13030294. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/27005644>
- Pabasari G. Internet Addiction Disorder. In Martin H. Maurer (Eds.), *Child and Adolescent Mental Health*, SPi Global, Zagreb, 2017, <https://doi.org/10.5772/66966>
- Young K.S. Pathological Internet Use: a Case that Breaks the Stereotype. *Psychological Reports*, 79, 1996: 899-902.
- Diaz-Aguado MJ, Martín-Babarro J, Falcón L. Problematic Internet

use, maladaptive future time perspective and school context. *Psicothema*, Vol. 30, No. 2, 2018: 195-200. doi: 10.7334/psicothema2017.282
 Fernandes B, Rodrigues M B, Ponte HM. Internet addiction or problematic internet use? Which term should be used. *Psicologia USP*, 2019, vol. 30. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S010365642019000100220&lng=en&nrm=iso&tlng=en. <https://doi.org/10.1590/01036564e190020>

11 Carmody C L. Internet Addiction: Just Facebook Me! The Role of Social Networking Sites in Internet Addiction. *Computer Technology and Application*, 3, 2012: 262-267. Quotation: p. 262.

12 Romano M, Osborne L A, Truzoli R. Differential Psychological Impact of Internet Exposure on Internet Addicts. *Plos One*, Feb 2013 vol 8, Issue 2 pp 1-4.

13 Chauhan V, Buttar B K, Singh R. Internet Addiction among Adolescents. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 1 (6) 2017: 395-398. OECD, Children & Young People's Mental Health in the Digital Age, Paris: OECD Publishing, 2018.

14 Rebisz S, Sikora I. Internet Addiction in Adolescents. *Practice and Theory in Systems of Education*, 11 (3) 2019: 194-204. Doi: 10.1515/ptse-2016-0019. Quotation: p. 194.

15 APA. *Diagnostic manual of mental disorders: DSM-V*, Washington D. C.: American Psychiatric Association, 2013. Derealization-depersonalization Disorder corresponds to: Code 300.6 (F48.1). Depersonalization/Derealization Disorder. *Psychology Today*. Available at: <https://www.psychologytoday.com/intl/conditions/depersonalizationderealizationdisorder>

16 Depersonalization/Derealization Disorder. *Psychology Today*. Available at: <https://www.psychologytoday.com/intl/conditions/depersonalizationderealizationdisorder>

17 Michal M, Adler J, Zwerenz R. A case series of 22 patients with depersonalization-derealization syndrome. *BMC Psychiatry*, 16 (2016), available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4924239/>. doi: 10.1186/s12888-016-0908-4

18 APA Dictionary of Psychology, Available at: <https://dictionary.apa.org/derealization>

19 Fisogni P. Void in Onlife Age, Aspects of Derealization and Disconnections. *Arc Journal of Psychiatry*, 4 (3), 2019: 27-34.

20 Rebisz S, Sikora I. Internet Addiction in Adolescents. *Practice and Theory in Systems of Education ...* Quotation: p. 194.

21 Jauréguiberry F. Disconnectin from Communication Technologies. *Réseaux*, 4 (186), 2014: 15-49. Quotation: p. III.

22 Floridi L. *The Onlife Manifesto. Being Human in a Hyperconnected Era*, Heidelberg, New York, Dordrecht, London: Springer Open, 2015.

23 Agazzi E (2019), *Systemic Thinking: An Introduction*. In L. Urbani Ulivi (Ed.), *The Systemic Turn in Human and Natural Sciences. A Rock in The Pond* (pp.xixvii). Cham, Switzerland: Springer. <https://doi.org/10.1007/978-3-030-00725-6>.

24 Minati G. On Some Open Issues in Systemics. In Minati G. and Pessa G. editors: *The Systemic of Incompleteness and Quasi-Systems*, Springer: Cham, 2019.

25 Urbani Ulivi L, Fisogni P, Identity Within Constraints, 2020, to be forwarded.

26 Kirmayer LJ. Pacing the Void: Social and Cultural Dimensions of Dissociation: Culture, Mind and Body (91-122). In D. Spiegel editor: *Dissociation: Culture, Mind, and Body*, American Psychiatric Association. Washington: American Psychiatric Press, 1994: 91-122.

27 Fisogni P. Void in Onlife Age, Aspects of De-Realization and Disconnection. *ARC Journal of Psychiatry*, vol. 4 (3), 2019: 27-35.

28 Urbani Ulivi L (edited). *The Systemic Turn in Human and Natural Sciences. A Rock in The Pond*. New York-Switzerland: Springer, 2019.

29 Minati G. Phenomenological Structural Dynamics of Emergence: an Overview of How Emergence Emerges, in *The Systemic Turn in Human and Natural Sciences. A Rock in The Pond.....* 2019.

30 Floridi L. Infraethics - On the Condition of Possibility of Morality. *Philos. Technol.* 30, 2017: 391-394. doi: <https://doi.org/10.1007/s13347-017-0291-1>

31 Fisogni P, Fisogni A. The Experience of Void within De-realization and Disconnection. *Journal of Psychiatry and Psychology Research*, 2020, to be forwarded.

32 Kasahara Y. Taikyaku shinkeishou withdrawal neurosis to iu shinkategorii no teishou (Proposal for a new category of withdrawal neurosis). In: Nakai, H.; Yamanaka, Y. editors. *Shishunki no seishinbyouri to chiryou* (Psychopathology and treatment in the adolescent). Tokyo: Iwasaki Gaku-jutsu Shuppan, 1978: 287-319.

33 Furlong A. The Japanese hikikomori phenomenon: acute social withdrawal among young people. *Sociological Review*, 56, 2008: 309-325.

34 Tateno M, Teo AR, Ukai W, Kanazawa J, Katsuki R, Kubo H, Kato TA. Internet Addiction, Smartphone Addiction, and Hikikomori Trait in Japanese Young Adult: Social Isolation and Social Network, *Frontiers in Psychiatry*, 10 July 2019, doi: 10.3389/fpsy.2019.00455. Available at: <https://www.frontiersin.org/articles/10.3389/fpsy.2019.00455/full> Stip E, Thibalt A, Beauchamp-Chatel A and Kisely S. Internet Addiction, Hikikomori Syndrome, and the Prodromal Phase of Psychosis. Available at: <https://www.frontiersin.org/articles/10.3389/fpsy.2019.00247/full>

35 Teo AR, A New Form of Social Withdrawal in Japan: A Review of Hikikomori. *Int J Soc Psychiatry*. March ; 56(2), 2010:178-185. doi:10.1177/0020764008100629, p. 2.

36 Gent E. Social isolation is often blamed on technology, but could it be part of solution?, *BBC Future*, 29 January 2019. Available at: <https://www.bbc.com/future/article/20190129-the-plight-of-japans-modernhermits>

37 Tateno M, Skoukaskas N, Kato TA, Teo AR, Guerrero APS. New game software (Pokemon go) may help youth with severe social withdrawal, hikikomori. *Psychiatry Res* (2016a) 246: 848-9. doi: 10.1016/j.psychres.2016.10.038

38 Craparo G, Internet addiction, dissociation, and alexithymia. *Procedia - Social and Behavioral Sciences* 30 (2011) 1051 - 1056. Quotations: p. 1052. 39 Fisogni P. Dipendenze da Internet e vuoto. Tra perdita e riappropriazione di realtà nell'hikikomori. *ExAgere*, marzo, 2020. Available at: <https://www.exagere.it/dipendenze-da-internet-e-vuoto-tra-perdita-eriappropriazione-di-realta-nell'hikikomori/>