LONE ACTORS EXPERIENCING MENTAL HEALTH ISSUES

Ioana MATEI (CHIŢĂ)*

Abstract

Mental health is a concept that includes all the psycho-sociological aspects of an individual's life so that one manifests itself in a desirable way during its existence. It includes the ability to form and maintain healthy relationships, to study and make decisions about educational, professional, or personal issues. If an individual's mental health is impaired, the abilities above mentioned are severely diminished and have a negative impact at individual and societal level.

In the context of mental health problems of individuals displaying signs of radicalization or involved in violent extremism, the issue becomes of interest if we are to consider the emerging number of lone actors experiencing mental health issues across Europe and the significant number of youth and children returnees and refugees that due to the severe trauma exposure are more prone to develop cognitive impairment, post traumatic disorders and mental health issues. Therefore, this paper aims to map the existing knowledge in the literature regarding the link between mental health disorders and the involvement in lone actor terrorism.

Keywords: lone actor, mental health, mental disorder, terrorism, radicalization, lone actor terrorism.

Definition

There is a variety of definitions for lone actor terrorism. Most of them focus on the modus operandi of lone actors, and usually define lone actors as individuals that operate in isolation from organized networks (Spaaij, 2012; Crisismanagement, 2007). Other definitions emphasize that lone actors are individual terrorists executing attacks on their own, but maintaining contacts with organized extremists during the radicalization process. The analysis unit of the Danish Police

^{*} Phd Student at "Mihai Viteazul" National Intelligence Academy, e-mail: ioana.matei@animv.ro

Intelligence service, CTA, introduced a distinction between lone actors and solo terrorists, the former operating in isolation, without having any connection to a terrorist organization, and the latter having ties to violent extremist or terrorist networks (Spaaij, 2010), but acting individually under direct instructions (Graaf, 2011). As a consequence, a number of authors have distinguished between lone actors acting under no direction from a terrorist group, but this does not necessarily imply an absence of links, and individual actors acting under the instructions of a terrorist organization (Nesser, 2010; Pantucci, 2011; Spaaij, 2010).

Jessica Stern (2003) defines lone actor terrorists as: "small groups who commit terrorist crimes, inspired by a terrorist ideology, but do not belong to established groups". (Stern, 2003) Other authors prefer to pay attention to individuals and preclude those attacks committed by smaller cells that act isolated from a larger terrorist network (Borum, 2012; Gruenewald 2013; Spaaij, 2010). Pantucci (2011) even suggests that such groups design their own subset and named this kind of typology 'lone wolf packs' (Pantucci, 2011).

A more detailed definition for lone actor terrorism is offered by the CLAT Project: "the threat or use of violence by a single perpetrator (or small cell), not acting out of purely personal material reasons, with the aim of influencing a wider audience, and who acts without any direct support in the planning, preparation and execution of the attack, and whose decision to act is not directed by any group or other individuals (although possibly inspired by others)". (Ellis, 2016)

For the intent of the present study we will retain that lone actors are individuals who "(a) act individually, (b) are not affiliated with an organized group/network; and (c) have a modus operandi designed and conducted by the individual excluding any immediate external direction or hierarchy". (Spaaij, 2010)

The features of lone-actor terrorists

The general consensus in the specific literature is that it is not possible to profile terrorists. Accepting this limitation, we can still notice some patterns/characteristics of lone actor perpetrators. A literature analysis provided certain characteristics of lone actors as

respects gender, age, and ideological drivers of lone actor terrorism, education and relationship status. Another characteristic is the prevalence of mental health issues. However the results that indicate a mental health issue need comparison to samples of local, national or international health organizations. The results should be judged by mental health experts.

To begin with, most of the studies indicate that the lone actor "profile" is heavily male oriented (Gruenewald, 2013; Gill, 2014; Ellis, 2016). The percentage of male lone actors is over 85%. In a study by Jeanine de Roy van Zuijdewijn and Edwin Baker, 96% of perpetrators are male (Baker, 2016).

According to Gill, Horgan and Deckert, the standard age of lone actor perpetrators is 33 years. The number exceeds the militants from Colombia commonly aged around 20 years old, the PIRA combatants that are usually aged 25 years old or Al-Qaida terrorists aged 26 years old (Gill, 2014). The lone actors found in Chermak, Gruenewald and Freilich's study are in their thirties (Gruenewald, 2013).

Nonetheless, it seems that the increased use of social media platforms determined a decrease in the regular age of the actors as a consequence of the users of social media. (Wolfowicz, 2017) More recent studies indicate that 20 year old men are most likely embrace radical action (Wolfowicz, 2017).

Regarding ideology, there are three dominant ideological drivers that can be identified: right-wing (RW), jihadist ideology and peculiar, self-grown ideologies. Daesh repeatedly promoted through its propaganda the use of lone-actor attacks. While it may seem paradoxical, most recently, the extreme far-right is taking insight from the Islamist extreme by moulding its ethno-nationalist ideology and by applying the reach of social media to advance it across borders in order spotting a younger, more tech keen admirers, who it cherishes to mobilize for what it perceives as a long-term attempt against the radical Islam.

However, these ideologies have very different age profiles. When correlating age with ideology, it seems that most of the older perpetrators are usually right extremists and some religiously-inspired.

The younger perpetrators are mostly religiously inspired (Baker 2016). In their dataset, Jeanine de Roy van Zuijdewijn and Edwin Baker, found that the youthful group, aged minor than 25 years, is in a high percentage religiously motivated (47%). (Bakker, 2016) On the opposite, out of the perpetrators beyond the age of 40, 47% were rightwing extremists and 21% religiously inspired (Bakker, 2016).

The spotlight of the media, and consequently the public eye, is mostly focused on Islamist extremists that are violent. Nonetheless, it seems that RW extremists are in charge for considerably more fatalities. The CLAT dataset, which includes Breivik's attack, RW attacks were responsible for 260 injuries and 94 fatalities. The same dataset highlights that religiously-motivated attacks killed 16 and injured 65 persons. The findings indicate clearly that RW extremists represent a substantial threat and must not be overlooked. (Ellis, 2016)

Gruenewald, Chermak and Freilich's study indicate that half of the RW extremists examined had 'previous arrests' (Gruenewald, 2013). It seems there is a preponderance of preceding convictions by all of lone actors (Fredholm, 2011): 41.2% of the lone-actors had formal criminal sentences (Gill, 2014) - of this subgroup 63.3% were imprisoned and while being in prison 32.3% became radicalized that ultimately led to the final attack.

A misconception questioned by the research regards the general belief that lone actors are socially isolated persons. Studies indicate the opposite (Eby, 2012): they are rather well educated and somewhat socially privileged (Spaaij, 2012). Eby (2012) mentions that lone actors aren't indubitably lower-class citizens without any perspective of social flexibility ... [and are] as expected to be employed as unemployed (Eby, 2012). In the groups that are religiously inspired, the ratio of those socially isolated is very low (9%). (Baker, 2016)

In the CLAT dataset, the youngest cluster, which was aged below 25, exhibited the maximal proportion of social seclusion, which is 36%. The percentage of social isolation at those aged 25–39 years was of 25%, whilst the individuals aged over 40 reported the smallest amount of 11 percent. The youngest age group (lower than 25 years) manifested the topmost amount of mental-health disorder (40%). (Bakker, 2016)

Regarding the literacy of lone actors, the statistics are allotted relatively proportionately: Gill, Horgan and Deckert's research indicate a percentage of "24.7% of lone actor individuals that achieved the lowest level of education of secondary school or correspondent; 20.8% attained the highest level of graduate school and the remaining actors completed a level amid the two". (Gill and Deckert, 2014) Evidence regarding employment proves a bigger ratio of deprivation after graduating from school. Within the alike study cases of 112 persons, a percentage of 40 had no job. A 26% level of military background is meaningful within the authors' sample (Gill and Deckert, 2014) since the general population percentage is 13%.

Gill, Horgan and Deckert's sample also features the likely significance of the individual's relational context as 50% of the lone actors are sole and never married (Gill, 2014). From the above mentioned we can conclude that unlike we expected, lone actors are not socially isolated persons. Another important detail is that those aged fewer than 25 have the highest percentage (40%) of mental-health disorders (Bakker, 2016) and their attacks are mostly religiously inspired (45%). (Bakker, 2016) In the following we will highlight the link between violence and mental disorders, and between mental health disorders and lone actor terrorism, on the other.

Lone actors, violence and mental health disorders

The research results obtained by (Schuurman, 2019) propose the reconsideration of the "lone wolf" or "lone actor" typology, in relation to the factors of radicalization. Their empirical efforts have proved that the motivation and behaviour susceptible to radicalization and criminal acts are correlated to radical milieus, both in online and offline environments. Attackers described as "lone wolves" result to have connections with certain groups, according to their interests – political, operational etc. Schuurman (2019) have studied lone actor extremism in Europe and United States, in case of 125 attackers who have been active between 1978 and 2015. The researchers consider that the term "lone wolf" implies a certain degree of cunning, which is not necessarily available, so they propose the use of the term of "lone actor". Factors like peer-pressure, polarization or leader-influence are

not available in the case of this type of attackers. The loneliness of the lone actors most often results after social changes – they cannot integrate, or just because of their lack of sociability or mental health disorders. Some lone actors experience the exit from certain terrorist groups, sometimes on a non-voluntary basis, therefore they act by themselves. The involvement of lone actors in radical networks offer them access to role models and also a frame for a justification of their terrorist acts; being exposed to extremist ideologies and authority figures contribute to the process of overcoming guilt. The results obtained by (Schuurman, 2019) indicate that 78% of the lone actors they have studied were influenced by external figures to use violence, and under a third of the sample has received assistance by external sources in preparing the attacks.

The lone actors have also been analysed in relation to possible returnees from Syria's civil war; the latest pose security risks in the context of their paramilitary training, war experience and previous interactions with terrorist networks. Schuurman (2019) suggest analysing this threatening possibility through a multi-disciplinary collaboration between academics, practitioners and policymakers.

Schuurman (2019) found that most often the lone actors connect to other groups or persons starting from the process of radicalization, to the planning of the terrorist act itself, fact which makes them detectable for the law enforcement agencies or intelligence services. Also, they seem to act by themselves after having attempted to recruit followers and have failed, because of their lack of social skills, or mental disorder. The analysis of lone actors' profiles indicate that they usually don't have operational skills, auto-evaluate themselves as very important and despise the potential partners. Also, they tend to give hints of their intentions long before starting the terrorist act. It is the case of 86% of the sample analysed by (Schuurman, 2019), who shared their convictions with others long before committing attacks, and 58% provided actual indications.

Studies on lone actors (Schuurman, 2019; Andres, 2016) have outlined a series of typical actions and behaviours that may indicate violent intentions:

• expressing the admiration for murderers;

- expressing support for the murders of people who facilitate abortion;
- expressing online a racial discourse;
- disseminating execution videos;
- critically addressing the Government's activities and decisions;
- expressing the desire to act radically, violently, or threatening persons or properties;
- ignoring operational security and not keeping the secret of their intentions or actions;
- being exposed to mental or physical abuse.

In the framework of mental health, violence can be sensationalized. What this only does is to deepen the stigmatization of the patients. (Welton, 2008) Mental illness may boost in the case of some individuals the possibility of performing violent acts, but a limited percentage of the violence from society could be attributed to individuals with mental health issues. (Welton, 2008)

Violence and mental illness share plenty biological and psychosocial features. "Individuals with mental illness, when appropriately treated, do not pose any increased risk of violence over the general population". (Welton, 2008) Violence could become a concern in the cases of patients diagnosticated with disorders of personality as well as with substance dependency. (Welton 2008)

Numerous distinct disorders have been associated to violence and illegality, such as psychotic disorders, substance abuse disorders, Cluster B personality disorders, delirium and dementia, dissociative, affective disorders and posttraumatic stress disorders. (Welton 2008) According to Steadman and colleagues "patients with mental illness and substance abuse were 73 percent more likely to be aggressive than were nonsubstance abusers, with or without mental illness". (Steadman, 1998; Rueve, 2008)

The percentage of violent individuals with a mental health issue is double the one of mentally healthy violent persoans. (Swanson, 1990)

Brugha et al. (2005) claim that weighted predominance of psychosis in penitentiaries was over ten times higher than the average population (52 per thousand as to 4.5 per thousand). (Brugha et. al.,

2005) Elbogen and Johnson demonstrated statistically that "bipolar disorder, schizophrenia and major depressive disorder were the only trustworthy predictors of violent assaults when there is substance addiction/dependence co-morbidity". Moreover Corner (2015) highlights in "an analysis of disorder predominance across nonviolent individuals, violent men, and members from gangs, the latter scored the highest percentage across six disorder groups (anxiety, depression, psychosis, drug dependence, anti-social personality disorder, alcohol dependence)". (Corner, 2015)

Lone actors and mental health disorders

Few lone-actor cases include reports on clinical diagnoses. Also, there is a difference between those where the diagnosis has been made and cases where there is an indication of a diagnosis (such as news referring to mental health problems). In many cases there might not be possible to find clear data on diagnoses (Bjornsgaard, 2015).

Gruenewald, Chermak and Freilich determined that 40% of the actors in their sample had mental illness. The number is significantly higher than the percentage of 7.6 among the group actors (Gruenewald, 2013). The recent study by Emily Corner and Gill deduced that lone actors are 13.49 more probably to experience a mental illness than a terrorist from a group. (Corner, 2015) In a research project conducted by the Centre for Terrorism and Counter-terrorism at the Leiden University in the Netherlands focusing on the mental health aspect of lone actor terrorism, "32% of the cases had some indication reported of a mental health issue whereas this percentage decreased to 23% in terms of an actual clinical diagnosis of such a mental health disorder. However, for 62% of the cases a clinical diagnosis was unknown". (Network, 2017)

This means that either the direct environment of the lone actor – such as friends and family – declared that the individual received cure for a mental health problem, or they indicated that they knew he was suffering from a mental health issue.

The same research project found a significant difference in the score obtained by ideological groups with regard to mental health disorders. For the well-defined ideologies (extreme right, religiously-inspired), the figures were below average (24 and 28 percent).

The group "other" scored a percentage of 70%. This group is different from other ideologies: its ideology is the least well-defined; the perpetrators often combine different sources in order to design their own subset of ideological influences. (Baker, 2016)

Verwey Jonker Institute analysed 167 individuals that performed all together 351 threats in between 2008 – 2015. The main findings were that the threats or attacks are done by people with mental health issues (RAN, 2016).

A research study on the Islamic stated driven attack found that the attacks inspired – rather than directed – by the Islamic State had a higher preponderance of mental health disorders than the global average (Corner, 2016).

The scientific literature also examined personality issues. Thus, it seems that lone actors exhibit on a certain degree social problems. (Spaaij, 2010) ICCT concludes that lone actors don't "work and play well with others". (Graaf, 2010) This can lead to social alienation. This was found prevalent in Gill's samples of 119 offenders. (Gill, 2013) "It seems that social issues act as an impediment to joining wider terrorist groups". (Spaaij, 2010)

It was also revealed that grievances or significant personal events can play a central role in radicalization. In the study of Clark McCauley and Sophia Moskalenko, there were identified four characteristics that are common, which include sorrow and 'unfreezing', a personal crisis defined by maladjustment (Moskalenko, 2014). Nesser similarly concluded that 'a personal frustration appears as a substantial factor behind radicalisation' (Nesser, 2010).

Types of mental disorders prevalent in the lone-actor terrorism cases:

Early research studies point out that mental disorders such as psychopathy or personality disorders (Lasch, 1979). Later, the literature reviews questioned these assumptions, the methodology and claimed that there is no evidence to support the fact that some forms of mental disorders are caused by terrorism. (Horgan, 2005; Victoroff, 2005; Silke, 1999)

Schizophrenia:

Schizophrenia is a mental health disorder characterized by delusions and hallucinations at visual, auditory, tactile or olfactory level. Because the hallucinations feel real, schizophrenic individuals cannot properly distinguish actual from altered reality. The treatment of schizophrenia involves antipsychotic medications and psychotherapy (Grohol 2019). Schizophrenic people suffer from stigma, prejudice and discrimination (National Institute of Mental Health, 2019).

The disorder was long accepted as being connected to violence and violent behaviour (Corner, 2016). Weenink's study on 140 extremist Islamists suspected for joining or planning to involve in the battle of Syria revealed a prevalence of schizophrenia of 2% – the double of the ordinary population (Weenink, 2015).

Delusional disorder:

Delusional disorder means that one experiences for at least a month "bizarre or non-bizarre delusions". Non-bizarre delusions refer to "beliefs of something possible in a person's life". The situations might be true, but the individual knows they are not, for instance through fact-checking, third-person confirmation, etc. Bizarre delusions are those implausible and they are not derived from the usual life experiences (i.eg. the loss of control over mind and body). The preponderance of delusional disorders is about 0.2%. (Bressert, 2018) These types of disorders are linked to violence because individuals have stringent beliefs, inconceivable in the eyes of others. At the same time, "loneactors have a high preponderance of single-issue ideologies; highly personal grievances linked to political aims". (Corner, 2016)

Disorders from the autism spectrum (ASD):

"Autism spectrum disorder (ASD) is a human development disorder. It affects behaviour and communication" (National Institute of Mental Health, 2018).

The "Diagnostic and Statistical Manual of Mental Disorders" mentions that individuals with ASD display low communication and interaction with other skills, limited interests, behaviours that are

repetitive, symptoms that limit their capacity to go to school/work or to get involved in other life areas. (ASP, 2013)

There are wide variations when it comes to the type and symptoms individuals' experience. "Autism spectrum disorder (ASD) occurs in all racial, ethnic and economic groups" (National Institute of Mental Health, 2018).

ASD registers a higher preponderance in lone actor cases. "Although ASD individuals don't necessarily display violent behaviours, the social interaction deficit impairs an individual's ability to maintain functional relationships. However, they often develop online relationships, a characteristic of lone-actors with ASD" (P. G. Emily Corner 2016).

Conclusions

Significant criticism has been brought to research studies that link mental health disorders to violent extremism. The most invoked reasons include the fact that these studies do not involve interviews with the perpetrators in order to assess the mental health status and it does not analyse the temporal order of the risk factors across the individuals engaged in violent extremism.

It is commonly argued that mental health disorders cannot predict terrorist involvement. Some authors argue that mental health disorders are a risk factor for terrorist engagement. At the same time, research studies clearly show a link between cases of lone actor perpetrators and some mental health disorders, such as schizophrenia, ASD and delusional disorders. It could be noticed from the above mentioned studies that these mental health issues are more prevalent to those individuals aged below 25 years and religiously inspired.

References:

- 1. American Psychiatric Association, APA. 2013. "Diagnostic and Statistical Manual of Mental Disorders (DSM-5)".
- 2. Andres, J. P. & Pisoiu, D. 2016. "Mental Illness and Terrorism. START". Accessible on https://www.start.umd.edu/news/mental-illness-and-terrorism
- 3. Baker, Jeanine de Roy van Zuijdewijn and Edwin. 2016. "Personal Charcteristics of Lone-Actor Terrorists". Policy Paper, Hague: International Centre for Counter-Terrorism (ICCT).
- 4. Bakker. E., 2006. "Jihadi terrorists in Europe, their characteristics and the circumstances in which they joined the jihad: an exploratory study". The Hague: Clingendael Institute.
- Bjornsgaard, Sebastien Feve and Kelsey. 2015. "Lone Actor Terrorism. Database Workshop", Countering Lone-Actor Terrorism Series No. 3. Royal United Services Institute for Defence and Security Studies.
- 6. Borum, R. 2012. "Informing Lone-Offender Investigations." Criminology & Public Policy, p. 103-112.
- 7. Bressert, Steve. 2018. "Psychcentral". September 8. Accessed June 2019. Accessible on https://psychcentral.com/disorders/delusional-disorder-symptoms/
- 8. Burton, D., Foy, D., Bwanausi, C., Johnson, J., & Moore, L. 1994. "The relationship between traumatic exposure, family dysfunction, and post-traumatic stress symptoms in male juvenile offenders". Journal of Traumatic Stress, p. 83-93.
- 9. Corner, E., & Gill, P. 2015. "A false dichotomy? Mental illness and lone-actor terrorism". Law and human behavior.
- 10. Crisis management, COT Instituut voor Veiligheids en. 2007. "Lone Wolf Terrorism". The Hague: COT.
- 11. Eby, Charles A. 2012. "The Nation that cried Lone Wolf: A Data Driven Analysis of Individual Terrorists in the United States since 9/11". Naval Postgraduate School.
- 12. Ellis, Clare, Raffaello Pantucci, Jeanine de Roy van Zuijdewijn, Edwin Bakker, Benoît Gomis, Simon Palombi and Melanie Smith. 2016. "Lone Actor Terrorism. Final Report", London: Royal United Services Institute for Defence and Security Studies.

- 13. Fazel, M., R. V Reed, C. Panter-Brick, and A. Stein. 2009. "Mental health of displaced and refugee children resettled in high-income countries: risk and protective factors". *The Lancet*, p. 266 282.
- 14. Gill, Paul. 2013. "Seven Findings on Lone-Actor Terrorists". ICST. February 6. Accessed June 4, 2019 on http://sites.psu.edu/icst/2013/02/06/seven-findings-on-lone-actorterrorists/
- 15. Graaf, Edwin Bakker and Beatrice de. 2011. "Preventing lone wolf terrorism: some CT approaches adressed". *Perspectives on Terrorism*.
- 16. Grohol, John M. 2019. "Psychcentral". 18 May. Accessed June 7, 2019, accessible on https://psychcentral.com/schizophrenia/
- 17. Holcomb W, Ahr P. 1988. "Arrest rates among young adult psychiatric patients treated in inpatient and outpatient settings". *Hosp Community Psychiatry*, 52-57.
- 18. Horgan, John. 2005. "The Psychology of Terrorism". London: Routledge.
- 19. Jeff Gruenewald, Steven Chermak and Joshua D Fr eilich. 2013. "Distinguishing `Loner` Attacks from Other Domestic Extremist Violence: A Comparison of Far-Right Homicide Incident and Offender Characteristics". *Criminology and Public Policy*, p. 65-91.
- 20. Jeff Gruenewald, Steven Chermak and Joshua D. Freilich. 2013. "Far right lone wolf homicides in the United States". *Studies in Conflict and Terrorism*.
- 21. Moskalenko, Clark McCauley and Sophia. 2014. "Toward a Profile of Lone Wolf Terrorists: What Moves an Individual from Radical Opinion to Radical Action". *Terrorism and Political Violence*, p. 69 85.
- 22. National Institute of Mental Health. 2018, accessible on https://www.nimh.nih.gov/health/topics/depression/index.shtml
- 23. National Institute of Mental Health. March 2018. Accessed June 2019 on https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd/index.shtml
- 24. Nesser. 2010. "Research Note". Perspectives on Terrorism, no. 67.
- 25. O'Driscoll, Dylan. 2018. "Violent Extremism and Mental Disorders. Knowledge, evidence and learning for development". University of Manchester.
- 26. Pantucci, Raffaello. 2011. "A Typology of Lone Wolves: Preliminary Analysis of Lone Islamist Terrorists". Developments is Radicalisation and Political Violence.

- 27. Schuurman, B., Lindekilde, L., Malthaner, S, O'Connor, F., Gill, P. & Bouhana, N. 2019. "End of the Lone Wolf: The Typology that Should Not Have Been". *Studies in Conflict & Terrorism*, p. 771-778.
- 28. Silke, Andrew. 1999. "Cheshire-Cat Logic: The Recurring Theme of Terrorist Abnormality in Psychological Research". *Psychology, Crime and Law,* no. 4, p. 51–69.
- 29. Spaaij, Ramon. 2010. "The Enigma of Lone Wolf Terrorism: An Assessment". *Studies in Conflict and Terrorism*, p. 854 870.
- 30. Spaaj. 2012. "Understanding Lone Wolf Terrorism: Global Patterns, Motivations and Prevention". London: Springer.
- 31. Steadman H, Cocozza J. 1974. Careers of the Criminally Insane: Excessive Social Control of Deviance. Lexington Books.
- 32. Stern, Jessica. 2003. "Terror in the Name of God: Why Religious Militants Kill". New York: Ecco.
- 33. Swanson J.W., Holzer CE 3rd, Ganju VK, Jono RT. 1990. "Violence and psychiatric disorder in the community: evidence from the Epidemiologic Catchment Area surveys". *Hosp Community Psychiatry*, p. 761-70.
- 34. Victoroff, Jeff. 2005. "The Mind of the Terrorist: A Review and Critique of Psychological Approaches". *Journal of Conflict Resolution*, no. 3, p. 42.
- 35. Weenink, Anton W. 2015. "Behavioral Problems and Disorders among Radicals in Police Files". *Perspectives on Terrorism*.
- 36. Welton, Marie E. Reuve and Randon S. 2008. "Violence and Mental Illness". *Psychiatry* (Edgmont), Vol. 5, No. 5. Accessed 2019. Accessibleon https://www.ncbi.nlm.nih.gov/pmc/articles/PMC 2686644/
- 37. Wolfowicz, Michael, Litmanovitz, Yael, Badi Hasisi, David Wesiburd. 2017. "PROTON. Modelling the processes leading to organised crime and terrorist networks".
- 38. World Health Organization. 2019. Accessible on https://www.who.int/mental_health/management/en/