Social Media: A Source of Radicalization and a Window of Opportunity- Lessons from Israel

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המכון לקרימינולוגיה
הפקולטה למשפטים
האוניברסיטה העברית בירושלים

מרכז המחקר להגנת הסייבר
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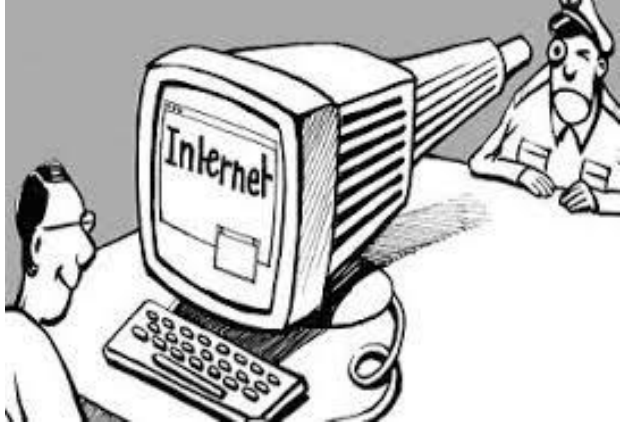
PROTON
Modelling the processes leading
to organised crime and terrorist networks

Two sides to the social media coin



Radicals

- Leveraged by radical groups to incite and encourage supporters to engage in acts of radical violence, including violent protests, riots, and terrorism.
- Leveraged to create social movements that can lead to violence and unrest.
- A tool for propaganda, communications, and organization.

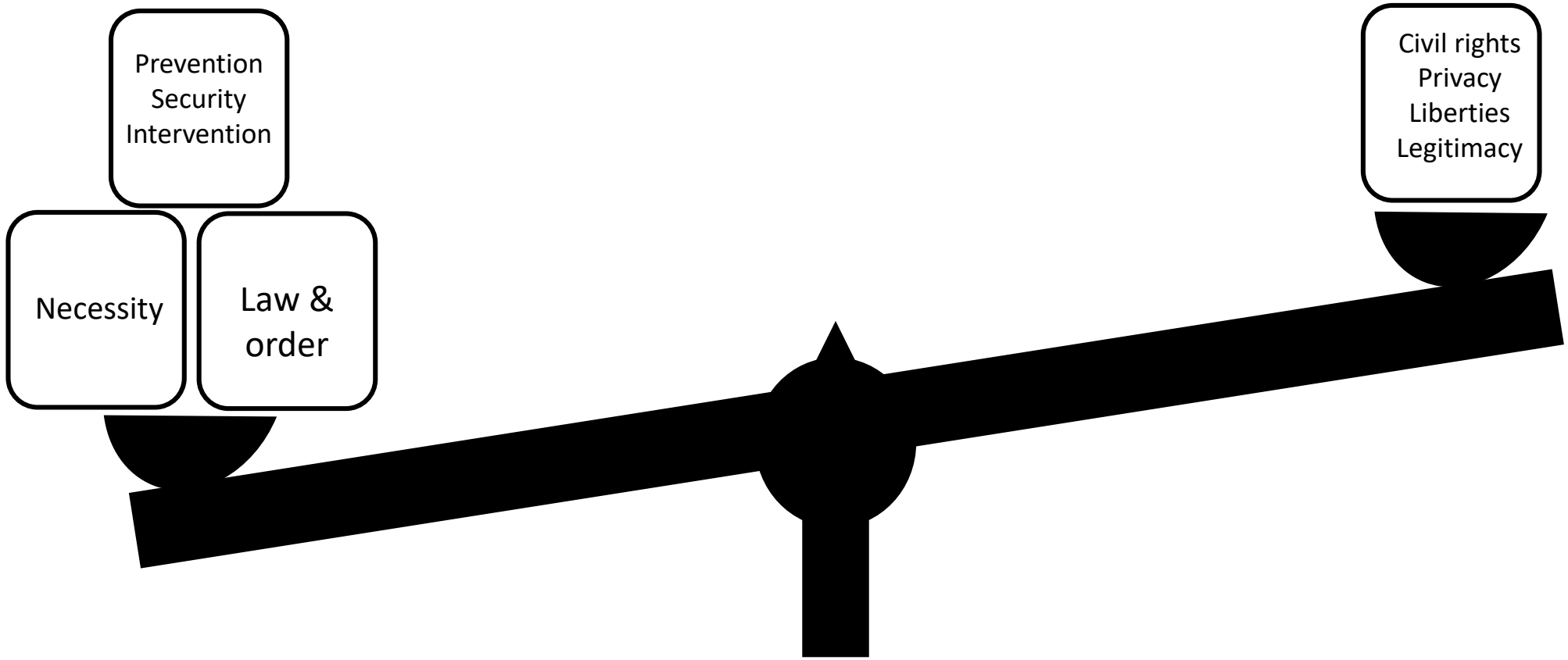
Government agencies

- Superior surveillance tool which is mostly non-invasive.
- Allows for the dissemination of counter-messaging.
- Provides access to the small window of opportunity for intervention and prevention

Balancing security needs and rights

- We have to find a balance between maintaining democratic principles and maintaining effective prevention strategies

- What is proportional?
- What is effective?



To delete or not to delete? that is the question

- Sometimes necessary, even mandated under international humanitarian law (Fidler, 2015; Shefet, 2016).
- The “least desirable” approach (Neumann, 2013).
  - Evidence to support claims and arguments, thereby generating mc support (Weirman &Alexander, 2018).
  - May cause radicals to move to more secure platforms (e.g. Telegram).
- May limit legitimate free speech
- Automated tools may flag legitimate and innocuous content, impinge on privacy (EU, 2011) and may lack proportionality (Granger & Irion, 2014).

Other considerations

- Content removal requires mass surveillance and the use of automated detection tools.
- Large number of opinion radicals but only a small proportion will act (Schmid, 2013; Hafez & Mullins, 2015).
- Keywords more likely to be used by non-violent radicals than violent radicals, simply because they outnumber them (Shortland, 2016).
- Automated detection tools built on data from radicals or synthetic data (Pelzer, 2018)
- Low accuracy rate, many false arrests (Munk, 2017; Brumnik, Podbregar, and Ivanuša, 2011).

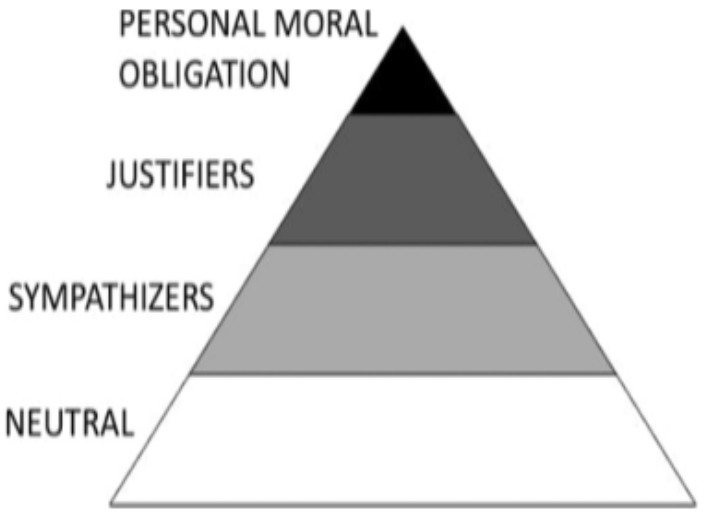


Figure 1. Opinion radicalization pyramid.

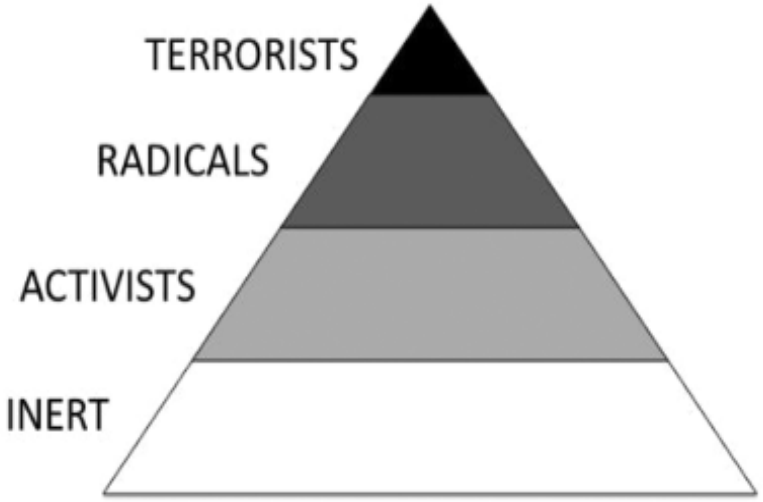
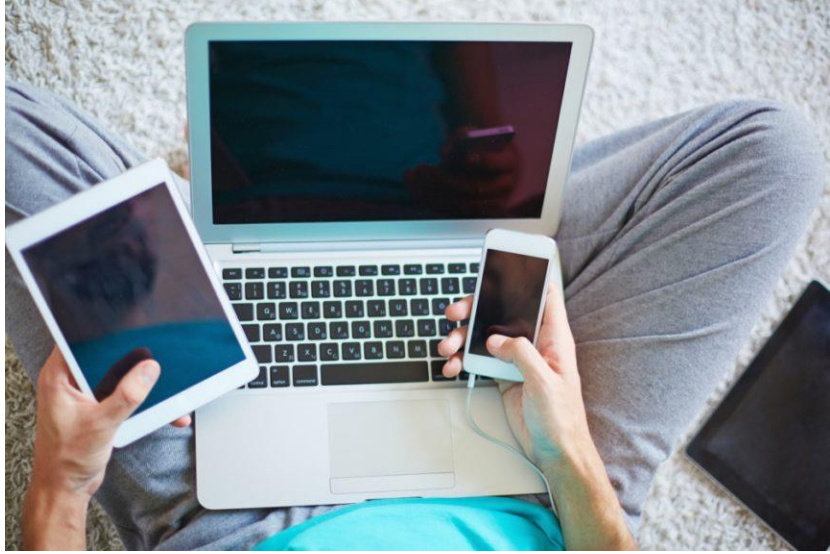


Figure 2. Action radicalization pyramid.

Can online radical content be a protective factor?

- By providing an essentially non-violent outlet to voice grievances, increased social media posting can potentially act as a protective factor against extremism (Barbera, 2014; Helmus, York and Chalk, 2013; Özdemir & Kardas, 2014, 2018).
  - Keeps them busy
  - Makes them feel like they are contributing to 'the cause'
- In Chile, using Facebook for self-expression was unrelated to engaging in offline, violent activism (Valenzuela, Arriagada and Scherman, 2012).

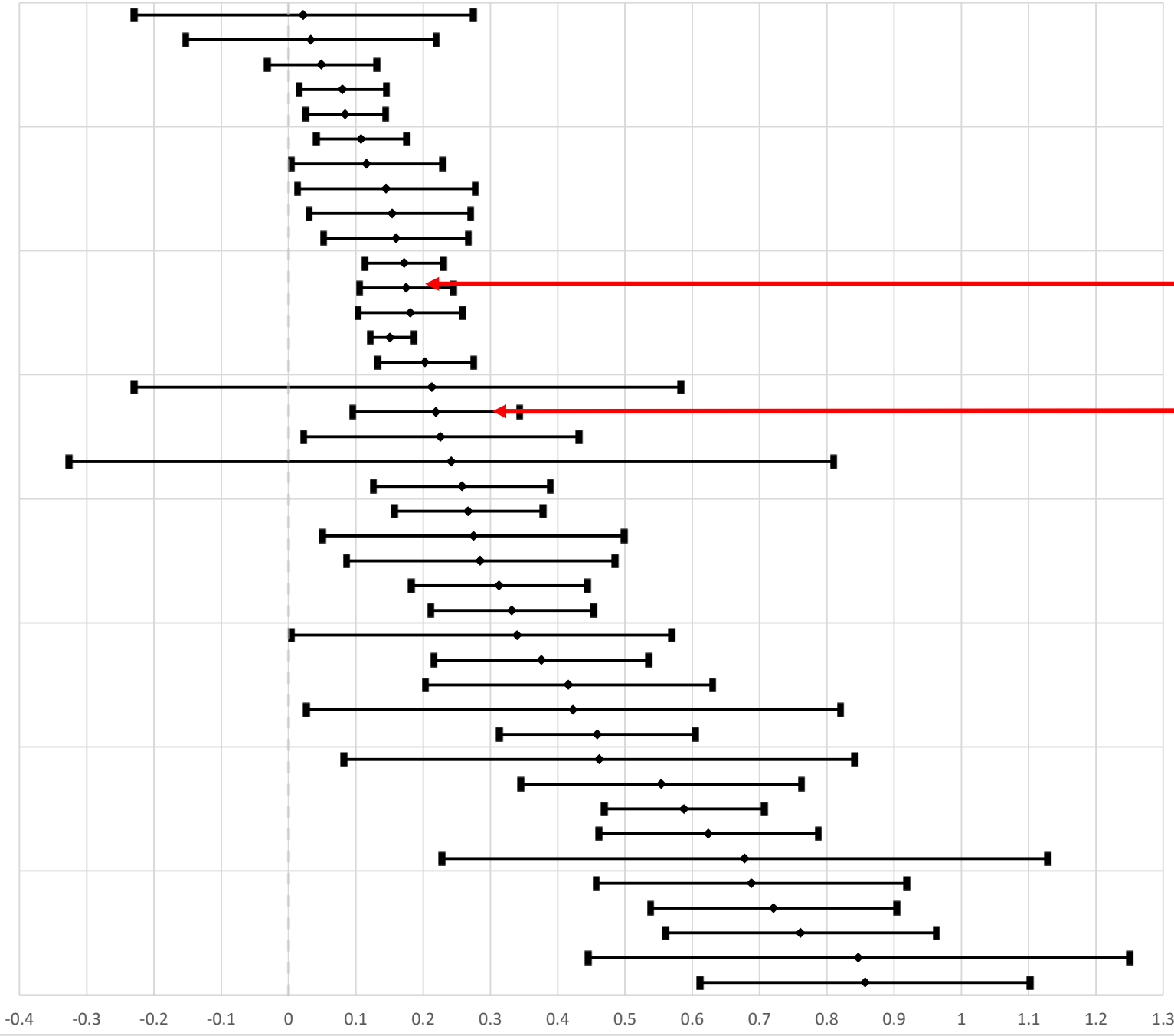
Is it as big of a problem as we think?



The internet's role in radicalization (Gill et al., 2017):

- Passive
  - Reinforcing prior beliefs
  - Seeking legitimization for action
  - Consuming propaganda (Videos, images, recordings, text based media etc.)
- Active
  - Disseminating propaganda (Videos, images, recordings, text based media etc.)
  - Communications
  - Planning
- Passive/active
  - Support groups

Risk factors for radicalization



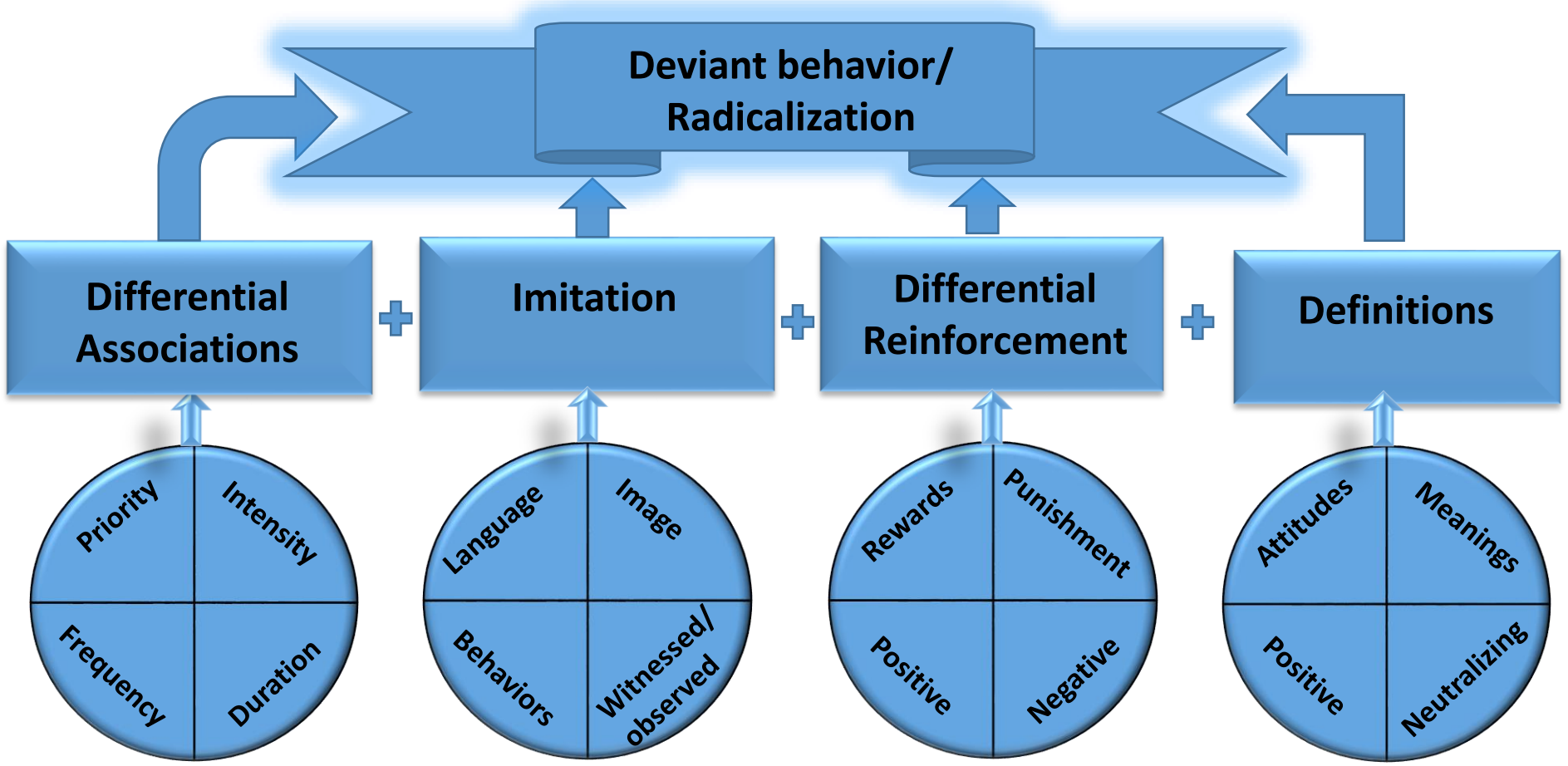
- Political efficacy (.022 NS)
- Uncertainty (.033 NS)
- Worship attendance (.049 NS)
- West Vs Islam (.08*)
- Immigrant (.084**)
- Welfare recepient (.108**)
- Unemployment (.116*)
- Religiosity (.145*)
- Discrimination (.154**)
- Political Grievance (.16**)
- Prayer frequency (.172***)
- **Violent media Exp. (.175***)** — ***Passive***
- Perceived injustice (.172***)
- Violence exposure (.186***)
- Male (.203***)
- APD/Narcissism (.213 NS)
- **NSM posting (.219**)** — ***Active***
- Aggression (.226**)
- SES (High) (.242 NS)
- Relig/Nat identity (.258***)
- Personal strains (.267***)
- Anti Democratic (.275*)
- Ind. Rel. Dep. (.285**)
- Educ. Low (.313***)
- Coll. Rel. Dep. (.332***)
- Anger/Hate (.34 NS)
- Low integration (.376***) — ***Offline peers***
- Deviant peers (.416***)
- Legal cynicism (.423*)
- Segregation (.459***)
- Moral neutralization (.462*)
- Law legitimacy (.554***)
- Low Self Control (.588**)
- Thrill/risk seeking (.624***)
- Criminal History (.678**)
- Symbolic threat (.688***)
- Police Contact (.721***)
- Realistic threat (.761***)
- Group superiority (.847***)
- Authoritarian/fundamentalism (.857***)

What is our goal?

- Identifying potentially violent radicals from the non-violent radical pool; not radicals from the general population.
- Moving beyond text-based analysis.
- Minimizing impingements on rights without compromising on security.

Social learning theory

- Deviant beliefs and behaviors are learnt as normative ones (Sutherland, 1947)
- The peer/network effect is stronger online than offline (Sunstein, 2017)



The study

- 48 violent radicals (terrorists)
  - All male
  - Aged 15-57 (M=21)
  - Carried out a combination of stabbings (49%), vehicular attacks (17%), shootings (8.5%), and other types of attacks (25.5%) (including 1 bombing)
- 96 matched non-violent radicals (two matches for each violent radical).
  - Matched by age, gender, location
  - Had to be friends with the terrorist
- Compared 100 days of Facebook activity across social learning metrics
- Only a small number displayed clear intentions of action

Theoretically driven social media level metrics

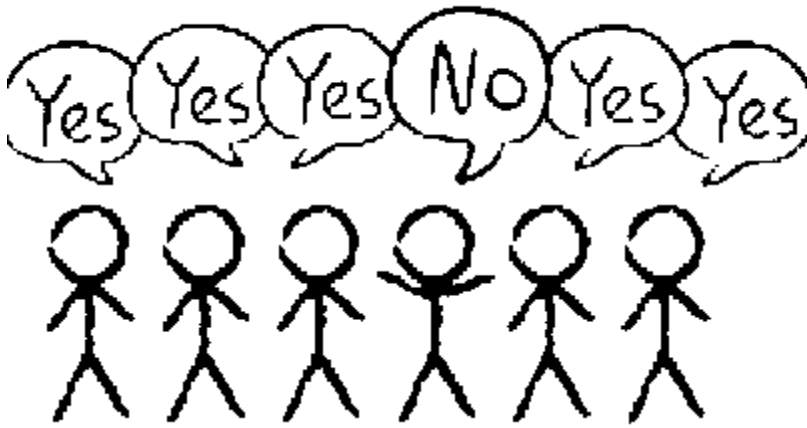
Social learning variable	Facebook metric
Differential associations (Deviant peers)	Measured as a dichotomous variable of whether the subject has posted content relating to a terror attack committed by an online network member.
Frequency	Measured as posts/day Measured as fluctuations in posting activity: non-activity
Duration	Measured as the time on Facebook prior to attack
Network size	Measured as the number of friends
Imitation	Measured as the proportion of posting types: Text post, image post, video post, shared post
Definitions	Measured as the ratio between radical and non-radical posts
Differential reinforcement	Measure of likes/post received Measure of comments/post received Measure of shares/post received

Results

Variable	Actions (N=48)	Beliefs (N=96)	T	U (Standardized)
Differential associations with terrorists	0.542 (SD=0.504)	0.219 (SD=0.416)	3.837***	3.880***
Network size (Computed)	478.104 (SD=214.673)	528.083 (SD=270.561)	-1.116	.199
Posts/day (Frequency)	0.555 (SD=0.795)	0.469 (SD=0.442)	0.696	-1.344
Duration	38.688 (SD=20.886)	34.365 (SD=17.685)	1.300	1.134
Definitions (radical post ratio)	0.696 (SD=0.397)	0.578 (SD=0.377)	1.738 †	1.804†
Differential reinforcement				
Likes/post	45.001 (SD=47.136)	44.037 (SD=36.296)	0.136	-.687
Comments/post	7.538 (SD=6.813)	9.110 (SD=9.167)	-1.051	-.161
Shares/post	0.469 (SD=0.729)	0.156 (SD=0.326)	2.834**	3.383***
Imitation (post type)				
Text posts (%)	17.938 (SD=23.089)	31.271 (SD=22.089)	-3.363**	-3.907***
Shared posts (%)	32.792 (SD=32.854)	15.271 (SD=20.637)	3.377***	2.556*
Picture posts (%)	45.083 (SD=33.285)	45.577 (SD=26.517)	-0.090	-.352
Video posts (%)	4.20 (SD=.121)	8.00 (SD=.121)	-1.798†	-2.835**

***< 0.001, ** <.01, *<.05, †<.10

What does it mean?



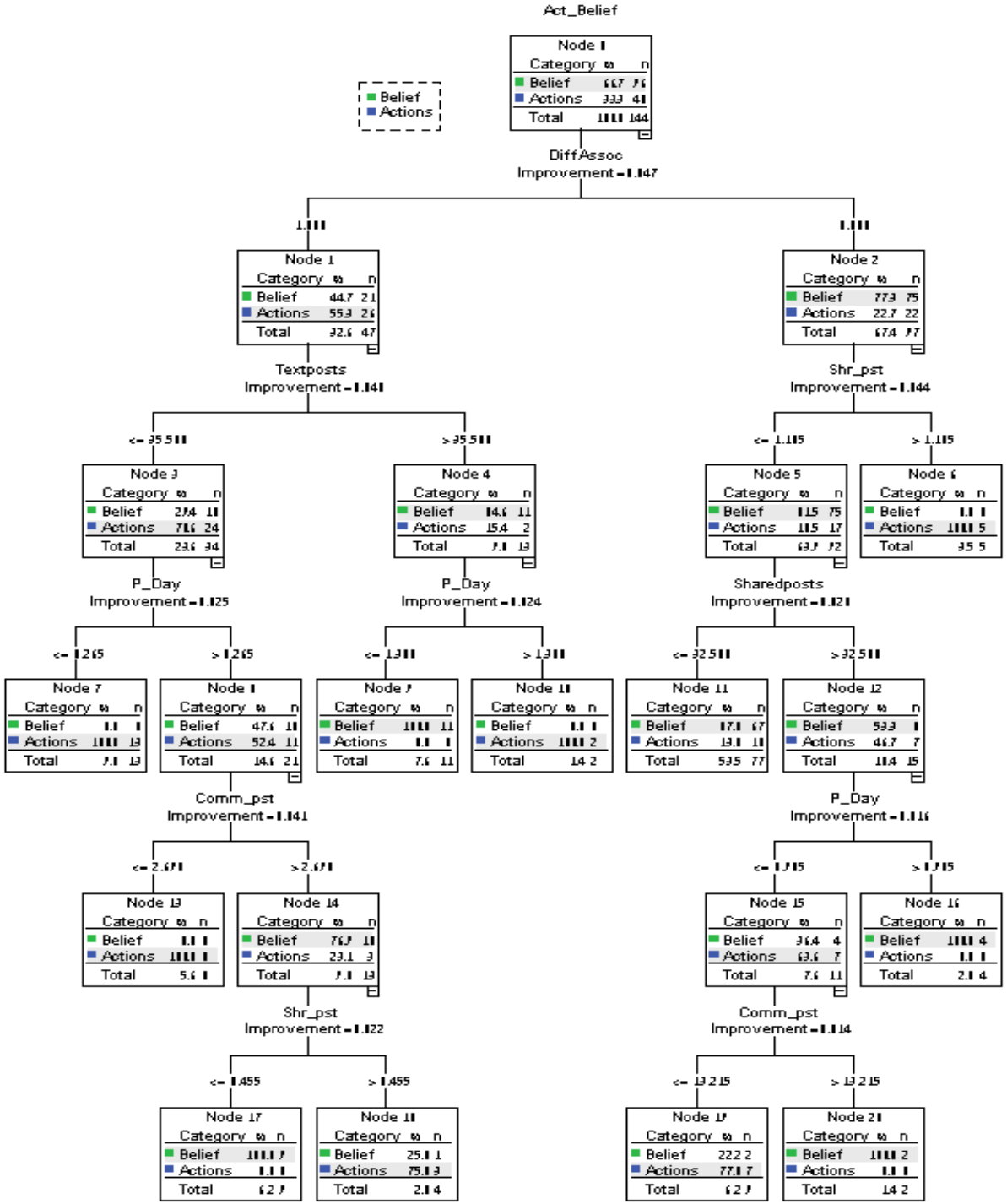
1) Differential associations (Pauwells & Schills, 2016).

2) Opinion leaders (Oeldorf-Hirsch & Sundar, 2015)

3) Lower cognitive sophistication (Baele, 2017)

- Fixation (Meloy et-al, 2012)
- Identification/imitation (Meloy et-al, 2012).
- More self expression is a protective factor(Barbera, 2014; Helmus, York and Chalk, 2012; Özdemir & Kardas, 2014, 2018).
- Supported by the findings from the study in Chile (Valenzuela, Arriagada and Scherman, 2012).

4) Using text-based analysis ignores most of the content, especially for violent radicals



Examples of rules:

If Type 1 in [22.5, 92.31[and Radical3 in [0, 2.735[then 0/1 = 0 in 100% of cases

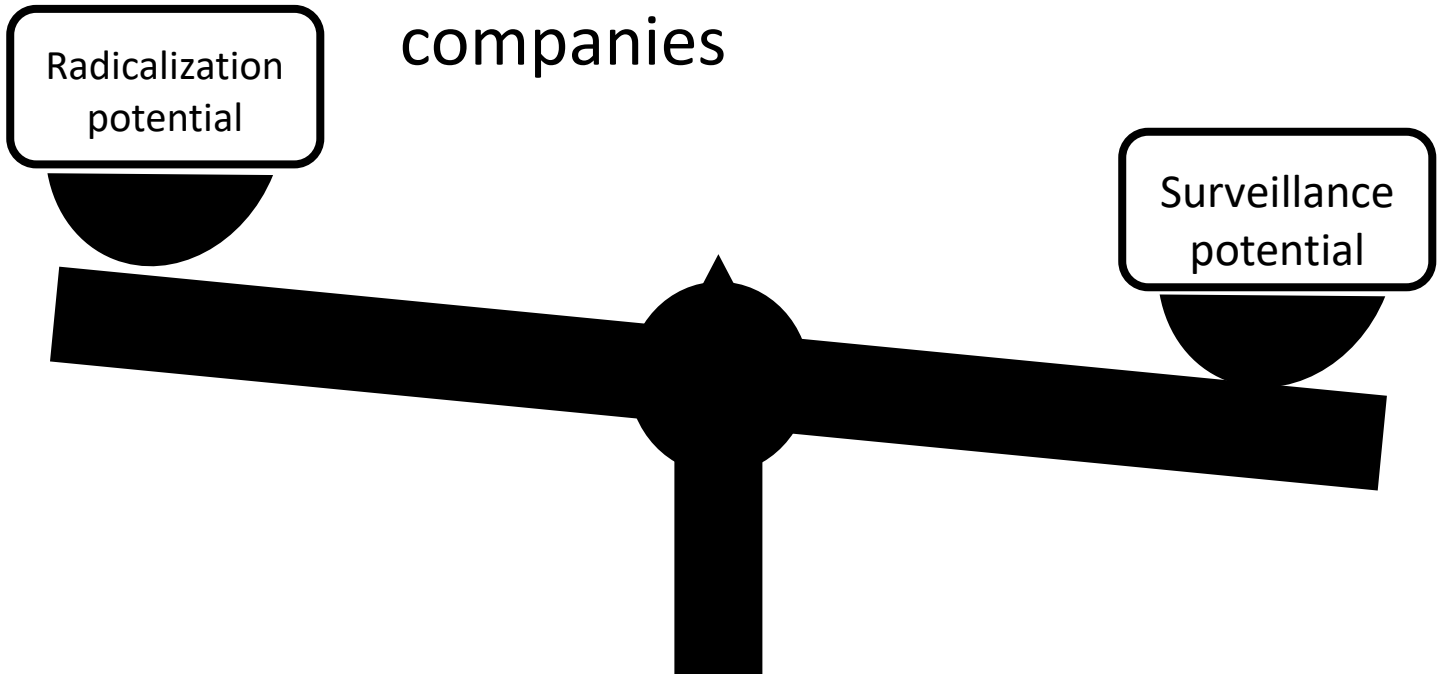
If Posts/day in [1.335, 1.66[and Radical3 in [8.13, 16.415[then 0/1 = 1 in 100% of cases

Model	AUC	Overall	Actions	Beliefs
Logistic Regression	.827	78.47%	77.08%	79.17%
CART	.918	91.0%	79.2%	96.9%
CHAID	.837	81.9%	60.4%	92.7%

Important decisions

- The most active writers are less likely to be violent.
- The internet may provide a better window of opportunity for identification, prevention and intervention than it does for radicals to radicalize (Benson, 2014; Sageman, 2010; Hughes, 2016).

- Leaving content up leaves the windows open.
  - Allows for counter-messaging
  - Improves maintenance of rights and freedoms
  - Improves relationships with IT companies



Success in Israel

- Combine online detection with offline warnings (The Economist, 2017; Barnea, 2018).
- This combines situational prevention with intelligence-led efforts and focussed deterrence.
- A well rounded approach such as this has been shown to be effective against crime.
- Warnings are taken more seriously and legitimacy is maintained (Braga & Weisburd, 2015).
- In Israel, claims of 800 arrests (Santos, 2018), but 400 of them terrorists (Barnea, 2018).
- This is well above the rates of automated detection tools alone.

Conclusions

- Content removal only when necessary (like high-policing in general)
- The internet can act as a protective factor, and may for the most active
- Leaving content untouched has benefits that outweigh removal:
  - Protects free speech
  - Enables more targeted surveillance (better privacy protection)
  - Decreases chances of radicals moving underground
  - Provides legitimacy
  - Keeps the window of opportunity for counter-messaging open
- Automated tools need to move beyond text based analysis
- Automated tools should not replace the analyst but are a ‘tool’ to be used in conjunction with offline tools

References

- Baele, S. J. (2017). Lone-Actor Terrorists' Emotions and Cognition: An Evaluation Beyond Stereotypes. *Political Psychology*, *38*(3), 449-468.
- Barberá, P. (2014). How social media reduces mass political polarization. Evidence from Germany, Spain, and the US. *Job Market Paper, New York University*, *46*.
- Barnea, A. (2018). Challenging the "Lone Wolf" Phenomenon in an Era of Information Overload. *International Journal of Intelligence and CounterIntelligence*, *31*(2), 217-234.
- Benson, D. C. (2014). Why the internet is not increasing terrorism. *Security Studies*, *23*(2), 293-328.
- Braga, A. A., & Weisburd, D. L. (2015). Focused deterrence and the prevention of violent gun injuries: Practice, theoretical principles, and scientific evidence. *Annual review of public health*, *36*, 55-68.
- Fidler, D. P. (2015). Countering Islamic State exploitation of the internet. *Digital and Cyberspace Policy Program, June 2015*
- Gill, P., Corner, E., Conway, M., Thornton, A., Bloom, M., & Horgan, J. (2017). Terrorist use of the Internet by the numbers: Quantifying behaviors, patterns, and processes. *Criminology & Public Policy*, *16*(1), 99-117.
- Granger, M. P., & Irion, K. (2014). The Court of Justice and the Data Retention Directive in Digital Rights Ireland: telling off the EU legislator and teaching a lesson in privacy and data protection. *European Law Review*, *39*(4), 835-850.
- Helmus, T. C., York, E., & Chalk, P. (2013). *Promoting online voices for countering violent extremism*. Rand Corporation.
- Hughes, S. (2016). Countering the Virtual Caliphate. *Written testimony submitted before the US House of Representatives, Foreign Affairs Committee*.
- Kardaş, T., & Özdemir, Ö. B. (2018). The making of European foreign fighters: Identity, social media and virtual radicalization. In *Non-State Armed Actors in the Middle East*(pp. 213-235). Palgrave Macmillan, Cham.
- Meloy, J., Hoffmann, J., Guldimann, A., & James, D. (2012). The role of warning behaviors in threat assessment: An exploration and suggested typology. *Behavioral sciences & the law*, *30*(3), 256-279.
- Oeldorf-Hirsch, A., & Sundar, S. S. (2015). Posting, commenting, and tagging: Effects of sharing news stories on Facebook. *Computers in Human Behavior*, *44*, 240-249.
- Özdemir, Ö. B., & Kardaş, T. (2014, October). The Making of European Foreign Fighters. SETA.
- Neumann, P. R. (2013). Options and strategies for countering online radicalization in the United States. *Studies in Conflict & Terrorism*, *36*(6), 431-459.
- Pauwels, L., & Schils, N. (2016). Differential online exposure to extremist content and political violence: Testing the relative strength of social learning and competing perspectives. *Terrorism and Political Violence*, *28*(1), 1-29.
- Sageman, M. (2010). Small Group Dynamics. *Protecting the Homeland from International and Domestic Terrorism Threats: Current Multi-Disciplinary Perspectives on Root Causes, the Role of Ideology, and Programs for Counter-radicalization and Disengagement*, 133.
- Shefet, D. (2016). Policy options and regulatory mechanisms for managing radicalization on the Internet. Retrieved from www.en.unesco.org/sites/default/files/rapport_dan_shefet.pdf
- Shortland, N. D. (2016). "On the Internet, Nobody Knows You're a Dog": The Online Risk Assessment of Violent Extremists. In *Combating Violent Extremism and Radicalization in the Digital Era* (pp. 349-373). IGI Global.
- Sunstein, C. (2017). Hashtag Republic., Princeton: Princeton University Press
- Sutherland, E. H. (1947). Principles of Criminology. Philadelphia: J. B. *P Lippincott*.
- The Economist (2017, June 8), The stabbing intifada: How Israel spots lone-wolf attackers, The Economist. Retrieved from https://www.economist.com/international/2017/06/08/how-israel-spots-lone-wolf-attackers
- Valenzuela, S., Arriagada, A., & Scherman, A. (2012). The social media basis of youth protest behavior: The case of Chile. *Journal of Communication*, *62*(2), 299-314.