ASA

Annie Searle & Associates LLC

Research Note

Hypervigilance and the Digital Age

Matthew T. Welden

September 2016

Abstract: This paper discusses the development of a hypervigilant culture within the U.S., with attention-grabbing low-frequency incidents overshadowing the far deadlier but less sensational every day risks. While we now live in a modern world where people are living longer, free-er, and richer than ever before, more of us have become captives of fear. The author defines the condition of hypervigilance, illustrates the condition with historical examples, and then offers some solutions to the condition and ethical arguments for their consideration.

Introduction

In his 1933 inaugural address, U.S. president Franklin Roosevelt spoke the prescient words that forewarned of a coming century of hypervigilance when he declared that, "…the only thing we have to fear is fear itself—nameless, unreasoning, unjustified terror which paralyzes..." This "unreasoning" fear began with Emperor Hirohito, transitioned to the Third Reich, and continued on through the Soviet threat, China, Iran, and today manifests as a pantheon of boogeymen that threaten to destroy the collective 'us' at every turn. While there is a documented psychological need for allies and enemies,[1] there are also sound ethical and legal arguments against fear-mongering and stoking public unrest. In the 21st century, the western world is absent of clear and definable enemies, and entire industries have sprung to define the 'unseeable' threats to our modern way of life. Although the current leading fear is undeniably that of aggressive stateless bodies, or 'terrorists', the more amorphous threat driving citizens to hypervigilance is that of cybersecurity. The minority that Westin[2] terms privacy fundamentalists stoke the fear that technological advances will lead to a dystopian future and despotism.

Hypervigilance is often closely related to post-traumatic stress disorder (PTSD)[3] but is applicable to a host of psychological states. This paper examines the post-World War 2, post-911, and post-

Snowden hypervigilance within the western world related to data terrorism, and the ethical problems of the industries reliant on the perseverance of the condition. First, we define the condition of hypervigilance, and then outlines differences between hypervigilance in the third world versus that of those that live within the safety of the first world economies. We will illustrate the condition with historical examples of anti-technology manias and the modern celebrity cases that fuel the condition today, and finally examine the role of the military-industrial complex and its impact on the public psyche. After defining these conditions through illustrations, we will explore the impacts upon citizens, and then the ethical conundrums facing organizations, industry, and government related to hypervigilance in the digital age. Finally, we will offer some solutions to the condition and ethical arguments for their consideration. This paper argues that the condition of hypervigilance is ethically untenable, and has yielded diminishing returns since before Roosevelt warned of the condition. In short, the paper tigers of fear are truly the greatest risk to society and the public health here at the threshold of the twenty-first century. We are, in Roosevelt's terms, captives of fear in a world where people are living longer, free-er, and richer than at any time in the history of man.

What is Hypervigilance?

The National Institute for Health (NIH) defines hypervigilance as, "a cognitive, physiological, and behavioral pattern in which an individual responds to ambiguous stimuli as if they were threatening."[4] The condition is closely linked with Post Traumatic Stress Disorder (PTSD), and manifests in a condition wherein the subject is hyper-alert to threats real or imagined. The NIH goes on to say that the condition leads to, "significant functional impairment." In war-torn countries, the rate of PTSD and hypervigilance is as much as 5 times higher than in the U.S.[56] In these countries, life expectancy is as much at 40 percent lower than in the U.S.,[7] and the odds of being killed by something other than your diet (read: violent) are as much as twenty-two times more likely.[8] In the Honduras, a man has approximately a one in six hundred chance of being murdered, and in Syria, a citizen's odds of dying unnaturally are as high as one in a hundred.[9] For these people hypervigilance is undoubtedly rooted in a fear of actual direct threats to their life. In the U.S. clinical PTSD and the related condition of hypervigilance affects approximately 7 percent of the population.[10] This is induced through trauma, either physical or mental.

Although traditionally assigned to survivors of trauma such as war and assault, a mild form of this serious condition is prevalent throughout much of western society and has been termed, "living under condition yellow"[11] in reference to the American security coding system promoted by the Department of Homeland Security (DHS). This mild form sells newspapers, props up industries, and can drive politician in to or out of office. The only party that does not prosper is the general citizenry. Hypervigilance is a mania. We are in what Castro and McQuinn[12] term the rising panic portion of the privacy panic cycle. Unfortunately, the cycle is quickly churning as new technologies emerge, and fear of mature technologies yield to new nascent fears. (Figure 1)
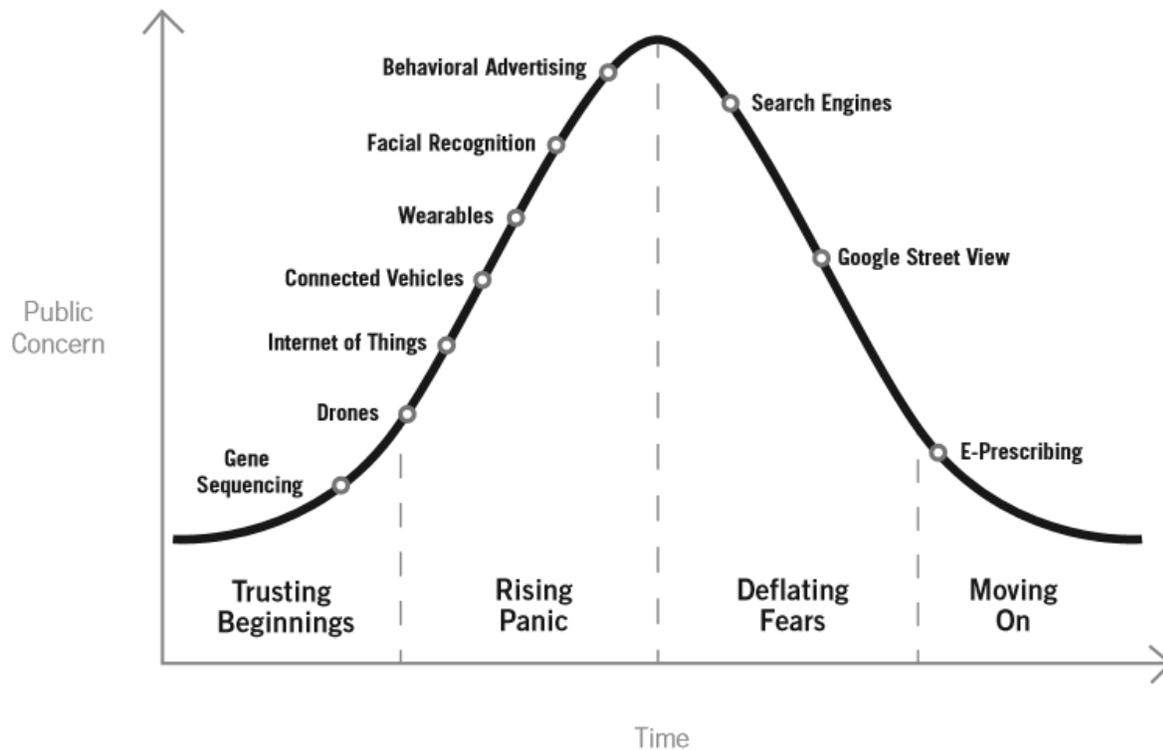
Figure 1: Technology on Castro and McQuinn's panic cycle[13]

Who or What do we Fear?

According to a 2015 study of fear in America, three of the top five fears for Americans are related to technology, and the other two are closely related to the technology fears.[14] Some 44.8 percent of Americans fear Cyberterrorism, 44.6 percent fear corporate tracking of personal information, and 41.4 percent fear government tracking of person information. The top spot was held by the fear of corruption of government officials, which aligns with the fear of government tracking of personal information, and the fourth spot is held by general terrorism. People are less afraid of a violent terrorist attack than that of a cyber-attack. Seventh on the list is identity theft, with credit card fraud coming in 10th with 36.9 percent of Americans afraid of this eventuality. Let us take a quick look at the facts behind these fears that keep American's awake at night.

Cyberterrorism is defined by the Federal Bureau of Investigation (FBI) as "the premeditated, politically motivated attack against information, computer systems, computer programs, and data which result in violence against noncombatant targets by sub-national groups or clandestine agents."[15] The possibility of an attack against the U.S. information systems resulting in violence or harm is the second largest fear for Americans. Yet, there has yet to be a single documented

incidence of a cyber-terrorism attack on the U.S.[16] Certainly, there have been documented cases of cyber-espionage, and outright cyber-theft, but there has not been a single case of an attack that meets the definition as defined by the FBI. Meanwhile, Americans continue to get in their cars every day – a place where the National Highway Traffic Safety Administration reports that over 30,000 Americans die every year[17]. We are afraid of an idea, while we buy our sixteen-year old children documented killing machines. Which is a greater threat to American lives?

The third greatest fear Americans currently live with is the fear of corporations tracking our every move and using our data for nefarious purposes. This is a fact-based fear. Corporations do in fact make every effort to collect data on customers and potential customers for profit and to improve their services. Data breaches of customer data have led to financial consequences for customers, but of course that is more in line with the seventh (identity theft) and 10th (credit card fraud) biggest fears for Americans. This fear is purely a fear of the loss of privacy. Similar fears have captured the public attention in history, when the portable camera was first introduced by Eastman Kodak a wave of fear crossed the country about the threat to privacy. In 1897, the Chicago Tribune warned readers of this "fearful craze," and the New York Times railed against, "the Kodak fiend," who would take photos our private moments.[18] In Castro and McQuinn's model, this fear falls into in the rising panic stage with little end in sight.

Finally, we land at the fifth greatest fear for Americans today, the fear of government tracking of personal information. As with corporate information collection, this action is well documented. Leaks by insiders and government disclosure confirm that our government is continuing the practice of collecting information on citizens. Government data collection is first documented as far back as 4000 BC.[19] The threat of harm due to this for everyday Americans is based upon the 'slippery slope' theory. In the slippery slope theory, "actions seem to lead inevitably from one action or result to another with unintended consequences."[20] For those afraid of government tracking, the act of tracking leads to some dystopian future where Americans are held hostage by the government via their own data. Of course, as was demonstrated during the "red-scare" of the 1950's, the government can just as easily fabricate information on Americans for this end. Although the practice of data collection is as old as civilization, this fear has peaked in the digital age and reached a fevered pitch with the release of National Security Agency (NSA) files by former analyst Edward Snowden.

Each of these fears is real, but upon examination pose only hypothetical risk to the lives and safety of most Americans. The biggest direct threats to American lives are heart disease (611,105 killed in 2014); cancer (584,881 killed in 2014); respiratory disease (149,205 killed in 2014); and accidents (130,557 killed in 2014).[21] In short, butter, asbestos, cigarettes, and slippery floors are what we should fear the most. Instead of being afraid of the wolf at the door, we overwhelmingly fear these technological paper tigers. In the following section, we will explore historical illustrations of the technology panics of the past.

Historical Precedent and the Panic Cycle

Although difficult to confirm, Plato is believed to have said, "writing is a step backwards for

truth," and allegedly believed that the invention of writing would lead to a weakening of the mind and a step backwards for mankind.[22] Fortunately, someone wrote down his words and we have managed to not slide back into the muck from whence we came. Fear of new technologies has a long and colorful history. Some are simply amusing, while others led to manias that moved law itself.

In 1877, the *New York Times* attacked the new technology of the telephone as an "atrocious" and "nefarious instrument" and called for the "death of the inventors and manufacturers of the telephone." The newspaper went on to describe how no man or woman was safe to speak even near this invention for fear others would overhear their conversations. They warned residents that if the telephone wires were strung across the city, "there will be an immediate end of all privacy."[23] While early party lines did allow others to listen in on conversations of their neighbors, society managed to survive, and privacy did not vanish from the face of the earth. In fact, the telephone has allowed for far greater privacy than had existed before. Two people are able to speak to each other without fear of being seen together, or without leaving a written trace to be absently picked up by a spouse or an employer. Yet, the phone is still today at the center of the privacy debate and privacy fundamentalist use a host of tactics to hide their tracks on this device.

In 1888, (technologies were invented at a quick clip in the 19th century as well), George Eastman introduced his newest invention, the portable Kodak camera. The camera was portable unlike previous photography equipment, and allowed users to take "snapshots" or quick pictures of others without the need for them to hold a pose for 60 to 90 seconds as was previously necessary. The first camera came preloaded with film for 100 photos. The technology was relatively affordable, and was a popular product. Newspapers quickly proclaimed this device to be an assault on privacy and pressed for a "revolt against these photographic machines."[24] For a time these nefarious machines were even banned from the grounds of the Washington Monument by law.[25] Again, the world seemed to make it through this crisis, privacy was not erased from the planet, and ironically, the photographic camera and telephone have now been combined into a single device that is ubiquitous as shoes and more common than hats.

More recently, the introduction of the radio-frequency identification tag (RFID) at first seemed to be a welcome way to track inventory for retailers, but soon privacy advocates began assailing the passive trackers as a gateway to a dystopian future. In 2003, the privacy advocate group CASPIAN called it "the most invasive consumer technology ever," and called for manufacturers to provide "kill codes" so these tags could be disabled after purchasing a product.[26] Just over a decade later, few consumers even think about these inventory management tags, and have moved on to new and more exciting things to fear. In 2015, industry experts estimated that as many as 40 million Americans carry RFID on their person every day.[27] Unfortunately, for the alarmists at CASPIAN and other privacy groups, RFID tags have not yet succeeded in turning our world into a police state.

As demonstrated in these examples, fear of technology and its risk of destroying our very way of

life are a common theme though history. The threats have been outlined by everyone from Plato to Time magazine, and yet we have somehow survived over the millennia to create new fearsome technologies. In 2005, CNN released a report warning us "email hurts our IQ more than pot."[28] I am not sure if this is an endorsement of cannabis consumption or a crazy run at email. Fear mongering and driving our fellow man into a state of hypervigilance seems to be an ongoing phenomenon. In the next section, we will examine the cases that have recently seized the public attention and driven them to build their biggest fears of cyberterrorism, "big-brother" privacy invasions, and large corporations.

Celebrity Inciters

Great and irrational fears require demonstration of the aggressor. The current fear of how technology will or has stripped our privacy and threatens to enslave us in some dystopian gulag has many bandleaders, but three stand out as relevant to our conversation. A CIA analyst who made the public worry their naked photos were being ogled by analysts at the NSA; a supposed attack on a film studio by a country with limited internet access; and a fight between the FBI and a phone manufacturer over access to a mobile phone that had what one law enforcement official calls, "no information we don't already have." [29] These three celebrity cases have captured the public's imagination, and turned the small fringe of privacy fundamentalists into a growing group of fear-mongering talking heads on the nightly news.

In June of 2013, Edward Snowden - a technologist for the NSA - leaked thousands of classified documents to journalists outlining foreign and domestic electronic surveillance conducted by the U.S. government.[30] The 'revelation' that the government was collecting information on both its own citizens and foreign allies set off an explosion of paranoia amongst the American public. The sensationalism was enough to spur the production of two biopics, one produced by the prince of paranoid biopics, Oliver Stone. Seemingly capturing another great fear, Snowden revealed that the "spy agency sometimes shared sexually explicit photos they intercepted."[31] At the very heart of American privacy is the fear that someone will see us naked, and the evidence showed that the government was doing just that. This captures the American imagination much more that the abstract thought of the collecting of phonecall meta-data, or the British tapping into fiber-optic cables. Although the violations of domestic and international law raised by Snowden are serious, the fears of having a nude photo seen or illicit phone call overheard by some 25 year old analyst are what the average American most fears. Just like when journalists railed against the portable camera because people could supposedly take illicit photos of women in their swimsuits,[32] the media has pressed these worthless stories as the primary reason Americans should worry about their privacy. Meanwhile the world seems to be unchanged from three years ago. No black helicopters and detainment camps have yet sprung up in my neighborhood.

In November 2014 the sixth largest film studio in America, Sony Pictures, was reportedly hacked into by the isolated country of North Korea[33]. This was supposedly done in retaliation for the spoof comedy "The Interview" which portrays two bumbling operatives and their attempt to assassinate the supreme leader of North Korea. The story captured the imagination of the

American public. Although in the end most sources debunked the idea that the hack was carried out by North Korea, the insinuation that America was somehow attacked by a country with fewer computers that an average U.S. university evoked the fear of cyberterrorism. In the end no theatres were bombed for screening "The Interview" (although those who paid $15 for a ticket may have considered it). The nameless terror that may very well have just been a misconceived publicity stunt was successful in seizing the American imagination, and even prompting the president to speak directly about the case.

Following a mass shooting in San Bernardino, California by a husband and wife duo, the FBI requested a court to compel Apple to unlock one of the suspect's work phone. If this couple had been Caucasian this may not have made a high-ratings news story, but the couple were both Muslim and racially Arab. The median portrayed the FBI as using terrorism as a door to forcing a technology firm into opening up the secrets encrypted into the phone. In truth, the phone was a work issued phone, and investigators already had all of the meta-data including to whom calls had been made, when they were made, and how long they lasted. Not surprisingly, the calls were all work related. The fight between the FBI and Apple, however, rages on with one side declaring that the safety of the American people is at stake, and the other side declaring that this is another government assault on privacy. Both sides beat their chests; Americans stand by transfixed; and the world continues to stand as the free-est it has ever been in the history of mankind. Surely, the government will be able to catch bad guys without access to their snapchat accounts, and surely our very existence as a free world is not imminently threatened by hacking into a boring work phone. Perhaps they will find the last lunch order in the memory. The sensationalism of the event has captured the attention of politicians, technophiles, and average citizens across the world.

Admittedly, these cases have some interesting facets that will influence back room policy creation and may even spawn a subsection in future legislation. Yet, the point of this paper is to show that these threats are paper tigers and that although the sensation sells newspapers and increased link clicks, it unnecessarily flames the irrational fears of an already dopey public. Even if there was a NSA analyst assigned to listen to every phone call ever made in the U.S., it is highly unlikely we would stop dying from heart disease in droves, or demonstrating some of our other hard earned freedoms. Journalists and security 'experts' are not the only parties to blame in fanning these hysterias; we can also blame the government industry. The military-industrial complex seeking to grow budgets and politicians looking to drive voters to the polls are made up of people who do, after all, want to make a living.

Politics as an Industry

On the list of highest defense budgets, the U.S. spends more money on defense than the next 12 countries combined.[34] The U.S. spends an average of $596 billion per year on defense. An estimated $13.3 billion piece of this pie is dedicated to cybersecurity.[35] This is an industry. To increase this spending, the industry needs the public to have a healthy fear of the impeding threat to their lives. I mean, Honduras spends almost nothing on cybersecurity and people are

murdered there all the time. Although that particular claim has not likely been made by an industry expert on CNN, these have: "we are at risk of a digital pearl harbor"[36]; "we are already engaged in a cyber-war"[37]; and "we will be facing an Armageddon-type cyber-attack…a cyber 9/11."[38] According to these individuals, whose jobs rely on the perceived ongoing threat to the American way, we face another world war, are already in this war, and are on the brink of an end-of-the-world event. Of course, they may be overstating the situation to illustrate their point, but not every American may get this subtlety.

In addition to those that rely on defense spending for their paychecks, there is also an industry of people who rely on scaring people out of their Barcaloungers. Politicians are famous for telling the public that the world stands on the edge of a new era or is at the verge of a new threat to their world. Even if we guessed at a fifty-fifty split, half the time they use the new threat to motivate the public to rouse themselves and head to the polls. It is unlikely that the candidate that tells voters, "Everything is fine. Tomorrow will be the same as yesterday," would motivate a single voter to complete a ballot. Instead, politicians are happy to debate wildly unlikely scenarios for our entertainment, like when Reagan scared us about the imminent threat of furloughed murderers in 1988.[39] If that got us to go vote, surely the threat of a cyber-Armageddon should have us running to the voting booth.

Each of these examples demonstrates that fanning the flames of mania serves to both entertain us, motivated us, and bilk us. In fact, we are always at the threshold of tomorrow. That is the function of the present; it is always in front of the future. We are always threatened with death. That is a function of being alive, and is why we consume poly-unsaturated-fats and lay in tanning beds. We are happy to be bilked out of our money or we would not pay 99 cents for an app that allows us to throw birds at pigs. The unfortunate part is that the public does not seem to see the humor in the 'threats' to America.

Hypothesis

The illustrations provided to this point have shown that the public seems to desire sensational distractions. Our hypothesis is that in a world of unprecedented peace, prosperity, and health, society has a need to create proxies for the natural drivers of survival. In the U.S., we currently enjoy an average lifespan 68 percent longer than we did in 1900[40] and 2.6 times longer than people did in the 1800's. According to the IRS, we are earning 21 percent more than we did fifty years ago.[41] In just the last fifty years, the rate of poverty has fallen by over half.[42] Finally, since 1945 the true threats to peace in America have degraded from that of a failed state (USSR) to uncoordinated bands of nomads in rural areas of the world. Overall, it would appear to an outside observer that Americans actually have less to fear than at any time in the history of their existence.

Psychologists describe the phenomenon of needing enemies and allies to be a "profound aspect of human psychology."[43] Perhaps we should not blame the fear mongers, but rather our own psychology, and our own prosperity. In a world with ever diminishing threats to our lives, perhaps it is hard to be afraid of a cheeseburger, the sun, or wet floors. Perhaps instead we have a

deep-seated need to create an enemy that is truly frightening. The fact that butter contributes to the death of over 600,000 Americans every year does not motivate us, but the spectre of cyber-terrorism that has killed exactly zero Americans is the kind of boogeyman that can really motivate the human psychology. This is our hypothesis; that fear of a dystopian future keeps us warm at night and is a necessary mechanism for a prosperous society.

Risks

Perhaps the fear of being watched, or of having some unknown enemy shut down the Internet is a necessity of our psyche, but it is also an unhealthy distraction. Studies show that fear and irrationality make people engage in "suboptimal decision making."[44] This distraction causes our brains to ignore pressing threats, and instead utilize mental energies to fight these paper tigers. This is similar to worrying about the safety of an airplane while eating cheeseburgers and drinking beer. The immediate threat that is faced is ignored, while the imagined threat we have no ability to influence absorbs our mental capacity. The other risk we face is not cognitive, but social. Citizens, corporations, and governments comprise of individual human beings. Citizens fear corporations and governments when they are convinced to disassociate these bodies from the individual parts. This is analogous to damning entire religions because of the actions of a few, or entire races because of the actions of a few. When people fear these 'bodies' they have become irrational animals, and regress from their earned humanity. This irrationality may manifest in a dangerous mania. The Oklahoma City bombers were caught in the throes of this type of mania. History is littered with examples of citizens caught up in their irrational fears. From John Wilkes Booth to Randy Weaver we have seen how manias can destroy both men and communities.

Conclusion

The world is full of risks. It always has been, and always will be. There are certainly new threats presented by new technology, but these threats are not the ones that the media and government heads seem to want us to focus on. Instead, we are distracted into fearing the same encroachments upon our privacy that were above the fold a century and a half ago. We fear someone sneaking a peak at our bare backsides, and the possibility of someone overhearing our scintillating conversation with our friend about fantasy football. If we believe what we have been told, the government spends almost $14 billion a year to read our forwarded memes, and corporations are using similar funds to diabolically figure out what type of diaper to stock in their stores. Privacy fundamentalism has taken hold of the American imagination and stoked our fears. The road to a dystopian autocratic blade-runner type future is apparently presaged by ridiculously low unemployment and an average life expectancy bordering on 80 years. Surely, the future is not so bleak.

Over the course of human history, society has proven itself to both be ignorant of imminent threats and fearful of progress. This paper has illustrated that the current condition of hypervigilance is not unique, but prolonged. With a 24-hour news cycle and an annual election cycle, the need to stoke fear has become an industry. The situation calls for cooler heads, and a moderation of sensationalism. Leaders should be cautious with 'slippery-slope' arguments. These

are almost never supportable. These intense arguments by individuals on both extreme sides of the privacy and data security spectrum have ignored the moderate voice. We need to harken back to the time when Franklin Roosevelt spoke to citizens from his fireside and treated us as adults. In summary, the fears that we face are shadows cast upon the wall by paper tigers. Paper tigers that are based in fact, but blown up into monsters that threaten to distract us from both the imminent dangers and the progress we have made.

---

[1] Volkan, Vamik (1989), *The Need to Have Enemies and Allies: From Clinical Practice to International Relationships, Political Psychology Vol. 10, No. 2 (Jun., 1989), pp. 351-353, retrieved from* http://www.jstor.org/stable/3791655

[2] Westin,Alan (2003), *Social and Political Dimensions of Privacy,* Journal of Social Issues, Vol. 59, No 2, 2003, retrieved from http://www.privacysummersymposium.com/reading/westin.pdf

[3] Kimble, M. O., Fleming, K., & Bennion, K. A. (2013). Contributors to Hypervigilance in a Military and Civilian Sample. Journal of Interpersonal Violence, 28(8), 1672–1692. http://doi.org/10.1177/0886260512468319

[4] ibid

[5] Neria, Y., Bravova, M. & Halper, J. (2010) Trauma and PTSD among Civilians in the Middle East, PTSD Research Quarterly, 28(8), retrieved from http://www.ptsd.va.gov/professional/newsletters/research-quarterly/v21n4.pdf

[6] Gradus,Jaimie (2016) How Common is PTSD?,U.S.Department of Veterans Affairs, National Center for PTSD website, retrieved from http://www.ptsd.va.gov/public/PTSD-overview/basics/how-common-is-ptsd.asp

[7] Central Intelligence Agency (2015), Life Expectancy, The World Fact Book, retrieved from https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html

[8] The Economist (2014), Dicing with Death, *The Economist*, retrieved from http://media.economist.com/sites/default/files/media/2014InfoG/databank/IR2a.pdf

[9] CNN (2015) Syrian War Fast Facts, CNN.com, retrieved from http://www.cnn.com/2013/08/27/world/meast/syria-civil-war-fast-facts/index.html

[10] Gradus, Jaimie (ibid)

[11] Schneier, Bruce (2015) Living in a Code Yellow World, Schneier on Security, retrieved from https://www.schneier.com/blog/archives/2015/09/living_in_a_cod.html

[12] Castro,D. & McQuinn, A. (2015) The Privacy Panic Cycle: A guide to Public Fears About New Technologies, Information Technology and Innovation Foundation, retrieved from http://www2.itif.org/2015-privacy-panic.pdf

[13] ibid

[14] Ledbetter, Sheri (2015) Chapman University Survey of American Fears, retrieved from https://blogs.chapman.edu/wilkinson/category/fear-index/

[15] Tafoya, William (2016) Cyber Terror, Federal Bureau of Investigation, Law Enforcement Bulletin, retrieved from https://leb.fbi.gov/2011/november/cyber-terror

[16] Lachow, Irving (2014) CyberTerrorism: Menace or Myth, CyberPower and National Security, Patomac Books, retrieved from http://ctnsp.dodlive.mil/files/2014/03/Cyberpower-I-Chap-19.pdf

[17] National Highway Traffic Safety Administration (2013) NHTSA Data Confirms Traffic Fatalities Increased In 2012, retrieved from http://www.nhtsa.gov/

[18] Bilton, Nick (2013) Disruptions: At Odds Over Privacy Challenges of Wearable Computing, New York Times, May 26, 2013, http://bits.blogs.nytimes.com/2013/05/26/disruptions-at-odds-over-privacy-challengesof-wearable-computing/

[19] Office of National Statistics (2016) Census taking in the Ancient World, The National Archives, retrieved from http://webarchive.nationalarchives.gov.uk/20160105160709/http:/www.ons.gov.uk/ons/guide-method/census/2011/how-our-census-works/about-censuses/census-history/census-taking-in-the-ancient-world/index.html

[20] Merriam Webster (2016) Slippery Slope, retrieved from http://www.merriam-webster.com/dictionary/slippery%20slope

[21] National Center for Health Statistics (2014) Leading Causes of Death, retrieved from http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm

[22] Burger, Ronna. Plato's Phaedrus: A Defense of a Philosophic Art of Writing. Tuscaloosa, AL: U of Alabama P, 1980

[23] The New York Times (1877) The Telephone Unmasked, retrieved from NYTime archives at http://query.nytimes.com/mem/archive-free/pdf?res=9B0CE1DB103FE63BBC4B52DFB667838C669FDE

[24] Bilton, Nick (2013) Disruptions: At Odds Over Privacy Challenges of Wearable Computing, *New York Times,* retrieved from http://bits.blogs.nytimes.com/2013/05/26/disruptions-at-odds-over-privacy-challenges-of-wearable-computing/?_r=1

[25] iIid.

[26] Booth-Thomas,C. (2003)The See it All Chip, Time Magazine, retrieved from http://content.time.com/time/magazine/article/0,9171,485764-1,00.html

[27] Foley,Mary (2015) RFID Chips and your Privacy, Norton.com, retrieved from http://us.norton.com/yoursecurityresource/detail.jsp?aid=rfid

[28] CNN(2005) Emails 'hurt IQ more than pot', retrieved from CNN at http://www.cnn.com/2005/WORLD/europe/04/22/text.iq/

[29] Masnick, Mike (2016) No, The FBI Does Not 'Need' The Info On Farook's iPhone; This Is Entirely About The Precedent, Techdirt, retrieved from https://www.techdirt.com/articles/20160220/22412933661/no-fbi-does-not-need-info-farooks-iphone-this-is-entirely-about-precedent.shtml

[30] Bamford, James (2014) The Most Wanted Man in the World, Wired Magazine, retrieved from http://www.wired.com/2014/08/edward-snowden/

[31] Schmidt, Michael (2014) Racy Photos Were Often Shared at NSA, Snowden Says, The New York Times, retrieved from http://www.nytimes.com/2014/07/21/us/politics/edward-snowden-at-nsa-sexually-explicit-photos-often-shared.html?_r=0

[32] Bilton.

[33] Box Office Mojo (2015) Studio Market Share, retrieved from http://www.boxofficemojo.com/studio/

[34] International Institute for Strategic Studies (11 February 2015). The Military Balance 2015. London: Routledge. ISBN 1857437667.

[35] Security Week (03 December 2010). Federal Cyber Security Spending Expected to Reach $13.3 Billion by 2015. Security Week, retrieved from http://www.securityweek.com/federal-cyber-security-spending-expected-reach-133-billion-2015

[36] CBS News (2000) Digitial Pearl Harbor Warning, retrieved from http://www.cbsnews.com/news/digital-pearl-harbor-warning/

[37] Levin, Adam (2013) Top Five Ways to Prepare for the Coming Cyber War, ABC News, retrieved from http://abcnews.go.com/Business/top-ways-prepare-coming-cyber-war/story?id=18570685

[38] Whitehouse,Kaja (2015) Regulator Warns of 'Armageddon' Cyber Attack on Banks, USA Today, retrieved from http://www.usatoday.com/story/money/business/2015/02/25/lawsky-goldman-sachs-banks

[39] Toner,Robin (1988) Prison Furloughs in Massachusetts Threaten Dukakis Record on Crime, The New York Times, retrieved from http://www.nytimes.com/1988/07/05/us/prison-furloughs-in-massachusetts-threaten-dukakis-record-on-crime.html

[40] Centers for Disease Control, National Vital Statistics Reports, Vol. 50, No.6. Life Expectancy at Birth, by Race and Sex, Selected Years 1929-98

[41] DeNavass, C.,Proctor, B. & Smith, J. (2013) Income Poverty and Health Insurance in the United States, United States Census Bureau, retrieved from http://www.census.gov/prod/2013pubs/p60-245.pdf

[42] Ibid

[43] Volkan, Vamik (1989), *The Need to Have Enemies and Allies: From Clinical Practice to International Relationships, Political Psychology (see footnote 1)*

[44] Simon H (1957) A Behavioral Model of Rational Choice in Models of Man. London, UK: Taylor & Francis