National Security: Countering Pandemics and the Threats of Bioterrorism

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ABSTRACT

This paper highlights the security threats like COVID-19 as non-traditional threats and explains how COVID-19 and experiences from bio-terrorism remain a likely threat and how it poses tangible tests to the national security, including the public health system. This research paper argues that the COVID-19 revealed that the security threats of the 21 century need multidisciplinary knowledge of national security beyond the state-centric approaches that cover many fields, and shows greater international cooperation, and more multilateralism. The paper also argues that to strengthen global health security, there is a need for collaboration and commitment across disciplines and sectors. Furthermore, new attitudes, approaches, and methodologies are required to ensure national security in the modern era where threats are rapidly developing. National security cannot be ensured through traditional methods and approaches anymore and require the recalibration of existing doctrines, concepts and strategies on national security, legal and their adaptation to the modern conditions.

1. Introduction. The Limitations of existing approaches in facing new threats . In the view of the theory of realism, states are the main actors in international relations. This is mainly explained based on the view that states are the only units that have the sovereign and legitimate right as well as the power to execute their authority to deal with any conflicts between people and groups and between states. States protect the interests of the larger world community and are also rational actors to choose strategies that increase their benefits and cut their losses [1]. Morgenthau [2, p. 290-292] believes that as long as the world is politically divided into ruling states, they will remain the dominant actors in international politics. States are free to take actions for their long-term interests, not based on moral values primarily. According to realism, governments must seek power and rely on themselves, because only through power states can protect themselves and improve the well-being of their citizens. In other words, states need to rely on their power capabilities vis-à-vis any external threats. To sum up, the realist's belief in the mismatch of interests in the world and their emphasis on the contentious nature of international relations have weakened the prospect of cooperation in this view.

However, cooperation is not impossible for realists. States will only cooperate if it serves their national interests and increases their national power. Stephen Walt, argues that today's critical situation shows us that states are still key actors in the international system. History has shown that in times of crisis and new events, human beings seek refuge in their national states more than any other regional or global organisation or institution. Stephen Walt states that after 9/11, Americans did not seek help from the United Nations, Microsoft or Amnesty International to protect their lives against al-Qaeda. Rather, they looked to the decisions of Washington and the federal government, and this is the case today [3].

On March 11, 2020, the World Health Organization described COVID-19 as a pandemic, pointing to over 3 million cases and 207,973 deaths in 213 countries and territories [4]. With the outbreak of the COVID-19, states have adopted strict control policies. There are ample examples that underscore state-centric efforts against the COVID-19. In most countries, states quarantined cities, limited and controlled the free movements of their citizens [5]. The states authorities entered many new areas showing their authority and craft more than ever in recent decades. International relations declined sharply, and states closed their borders to each other. All of this was in the face of a threat that endangered human life. Although corona is a global crisis, states preferred to deal with it on their own [6]. In various countries, tourists and foreigners, are not allowed to enter the country. Passengers are tested for COVID-19 and placed in quarantine. The issuance of e-visas and visa on arrival was partly suspended [6].

However, while from the realism's view, unilateral and state-centric actions may serve the national security interest to fight the pandemic "within the national borders", the pandemic is a global security threat and thus remains unsolved so long as other states and non-state actors have not done the same and states move on unilaterally. A major implication of the state-centric actions is that there is global competition on vaccines. Creating a COVID-19 vaccine is proof of the effectiveness of a

country's health care system, its technological advancement, and the sophistication of its scientific research.

Meanwhile, China, Russia, and the United States from the beginning associated huge diplomatic importance to establishing the global dominance of their vaccines. U.S. media especially emphasised Russia and China were attempting to increase their global power via COVID-19 vaccines [7]. During the November BRICS summit, Russian President Vladimir Putin openly praised the high effectiveness of Sputnik V and announced on forum associates to join in the vaccine's joint creation and deployment. In January 2021, to encourage extensive global vaccination with the Russian vaccine, Putin declared Sputnik V "the best in the world" [8]. China raised the claim that Chinese-manufactured vaccines would be made a "global public good," adding later that the vaccinations would be shared at fair prices to the developing world [9]. While India lately made global headlines with its so-called "vaccine friendship" directed at South Asian nations, Russia and China will also stay committed to producing vaccines at competitive prices and the United States has lately declared help for the initiative, besides one of President Joe Biden's first orders rejoining the World Health Organization [10].

There is a consensus that the outbreak of this infection will cause changes in the international power structure and impose real challenges to global public health security. One clear example is the rising dependence of developing countries on developed nations in solving global threats such as the COVID-19 and the fact that COVID-19 has caused the so-called vaccine diplomacy, the prioritisation of nations, for instance, the prioritisation of the American people over the rest of the world. These examples show the lack of solidarity among the nations [11]. Another issue is the lack of trust in the World Health Organisation. This went so far that even the United States withdrew from the organisation. President Donald Trump criticised the World Health Organization for preventing the announcement of the danger of a corona outbreak, adding that "the United States should reconsider its relationship with the World Health Organisation and cut off financial help to the organization" [12].

Furthermore, the pandemic condition does not simply endanger human beings but also tears down the economy. Regarding possible obstacles to growth, there are some regional differences, as people in developed economies are more probable than their counterparts to relate the pandemic as well as high levels of the national deficit, and supply-chain disruptions. At the same time, concerns over insufficient government aid, unemployment, inflation, and uncertain demand are more top of mind in emerging economies.

Thus, realism does not give solutions to the existing security challenges of the 21st century. Today, states are concerned about maintaining the overall stability of their country and region. This has primarily to do with the change in the quality of the security threats. The outbreak of COVID-19 is a national security crisis that has led to diminished economic actions, enormous unemployment, and income losses around the world. The travel restrictions, social demonstrations, economic side effects and the so-called vaccine diplomacy show the limitation of existing approaches. Simply put, the existing responses to the pandemic from a realism point of view with the states as the most important actors are better at explaining risks and dangers than giving solutions. States cannot satisfy their needs completely through

their own national statecraft. Global measures are favourable in both circumventing infectious diseases and reducing economic disturbances.

2. COVID-19: A wake-up call for modern threats

As we face this challenge of the contemporary century today, we need to check the very nature of our comprehension of national security threats. The virus was first observed in Wuhan, China in December 2019 [13]. Afterwards, on the 11th of March 2020, the virus was categorised by the World Health Organization [14]. Until now it is still mysterious precisely how the birth of the virus is. When it comes to such mysterious diseases, the fundamental priority of security becomes a human being and this makes multidisciplinary knowledge of national security beyond the state-centric approaches therefore necessary [15].

Thus far, the issue has received broad interest from academics and researchers with some extensive discussions about non-traditional security issues. For instance, "COVID-19: National Security and Defense Strategy" addressed by Congressional Research Service, from a realist perspective honours deterrence and uses people and states as its referent point and holds that the eruption of COVID-19 pandemic has imposed threats to the US national security and disaster preparedness (Congressional Research Services, 2020). Rage Taufika discusses the management of states in defeating the COVID-19 pandemic and says that states should not militarize the COVID-19 administration because it is a war of humans against the infection, not a conflict between humans. The national defence includes any attempts to support national sovereignty, secure national integrity, and guarded citizens against armed threats [16, p. 3]. Taufika also argues that there are no connections between global health and the military [16, p. 4].

The paper argues that the COVID-19 pandemic cannot be seen only through the lens of traditional realism, as in the case of COVID-19, it is not a military threat. It is rather a security challenge towards the public health system that can endanger human security. This paper aims to move beyond the traditional lens of realism on security and focuses on COVID-19 as a non-traditional security threat and explain why Covid-19 is non-traditional security. Whatever the reason for epidemics or arising infectious diseases is, the reaction to them will need to realise that initially in most circumstances, the public health system will be the first instance to detect outbreaks and put forward the measures. Also, the danger of any intended usage of infections as biological weapons should be taken precariously and the most helpful answer to these dangers is to strengthen multilateral global public health standards.

3. Health security as a matter of National Security

How can we explain exactly national security? The answer is it is not straightforward. to achieve a consensus on the explanations. While there is a consensus that national security involves defending the territory of the states, national cohesion and integrity, economic success as well as the lives of its citizens, the meaning can be extended. It can further incorporate assurance for key allies and partners, security of values such as democracy and fundamental human rights, or supporting a world order with stability and certain democratic values and principles. How a state determines national security helps it figure out and protect against intimidation to that security. National security can also be seen as a complex and multi-level system that cover all fields of activity. It exemplifies a set of subsystems each of which has its own structure. Each of the fields of activity and important interests is influenced by different threats. Therefore, security issues have to be divided into components according to their fields of activity [17, p. 3].

Although there are many types of definitions and examples of what national security and the threat are, not all debates and concepts are purely academic. Some governments, such as the George W. Bush and Obama administrations had set national security and threats to it more broadly, paying greater attention to threats like a pandemic disease. The 2017 Trump NSS however cut the pattern concentrating on a restricted list of interests and threats to them [18]. In the 21st century, the threats to national securities come in wider models and forms than they did a century ago.

To defend citizens, territory, and economy, states need to acknowledge the more comprehensive variety of threats. With the pandemic, what is at stake is essentially a matter of national security, namely attaining herd immunity that restabilizes public health, international relations including economic vitality, and that social life can continue safely. The COVID-19 outbreak has intensified the case that pandemic preparation and response, including the distribution of vaccines, are subjects of national security. States can use their influence to develop a synchronised international strategy to the shared anxieties vis-à-vis vaccine and misinformation which pose a threat to public health security as well. The fact that vaccine trust and misinformation are interests of national security should be included in high-level dialogues at the UN, including the Security Council.

4. Concern about Bioterrorism

Bioterrorism worry rises after the deliberate release of biological agents at the end of the twentieth century. Letters carrying anthrax powder were posted through the U.S. postal system and created panic among the population. The emergence of the COVID-19 in 2019 is a significant security threat of the early 21st century, fundamentally affecting international relations, our life and trends. The COVID-19 has made the nations consider how good or how poor the public health system is prepared to manage a large-scale emergency [19]. Bioterrorism issue is connected with the intentional spreading of deadly infections. The emergence of COVID-19 and the experiences of bioterrorism have made administrations across the world recalibrate national security policy against non-traditional threats.

Although thus far there have been no unusual deaths recently due to bioterrorism, however, it poses vital security challenges that can cause deadly infections. COVID-19 illustrates how the increase of infections is a possible threat to society that has come to our attention after 9/11. Following COVID-19, thinking about bioterrorism might become again a subject of national securities globally and transform existing laws and official constructions related to protection, including the movement of public and products, separation and quarantine, vaccination, the expansion of facilities, such as hospitals and emergency facilities and certification of healthcare professionals. Therefore, adjusted national biodefense strategies seem to be very essential that can transform the existing arrangements implemented by states and put governments in a better place while facing the threats.

While infection outbreaks among troops have always been a concern, the potential occurred in the twentieth century to systematically produce biological weapons and then produce these weapons at an industrial scale. After the horrors of the gas battle in World War I, and from the "Spanish flu" that killed over 50 million people towards the end of the war, the League of Nations banned the use of asphyxiating, poisonous or other gases in war as well as 'bacteriological methods of warfare under the 1925 Geneva Protocol. Essentially however biological weapons and important programmes to develop biological warfare capabilities soon appeared in several states. Yet, despite intense progress, which ultimately showed that biological weapons could make a great threat to populations as nuclear weapons, biological weapons were not integrated into military thoughts and planning, and there has been no identified use since 1945.

Bioterrorism first appeared as a political concept during the early 1990s in the United States. As the Cold War faded, the threat of terrorists armed with biological weapons and other weapons of mass destruction began to replace the Soviet threat. Various assessments of the importance, urgency

and scale of the threat were present in the early political debates on bioterrorism. Alarmists, who included leading scientific and technical advisers, tended to emphasise the possibility of' apocalyptic attacks with natural pathogens and genetically engineered hybrids, and the vulnerability of the civilian population. They are less focused on the identities of bioterrorists and in their interests in pursuing such attacks or in their capacities to do so. Sceptics, however, tend to have background and training in the history, politics and culture of terrorism, and for them, puzzles of identity, interests and circumstances of earlier attackers are the fundamental questions to ask [20].

Disease outbreaks like COVID-19 have not historically been regarded as a subject of national security. Although it is crucial to mention that little credible evidence exists yet that COVID-19 is bioterrorism, however, it raises the awareness that states or terrorists would, or even could, resort to biological weapons, and that in modern national security doctrine, capitals should flow into the preparedness and civilian biodefense plans of substantial institutional proportions. In the United States, the danger of bioterrorism developed in the Bush administration's fundamental security concerns during its two terms in office and initiated a series of new legislation, policies and programmes to further strengthen US preparedness and defence against a biological attack [21]. Worry about the threat of international terrorism linked with WMD proliferation was also exported from the United States to international security conferences. The international community's premier security committee, the United Nations Security Council agreed in resolution 1540 that all states should refrain from delivering any sort of support to non-state actors that try to get biological and other weapons of mass destruction for terrorist purposes [22].

Following this guide, the Obama administration paid even more attention to its reaction to possible bioterrorism. The administration's first crucial policy initiative on biosecurity was the National Strategy for Countering Biological Threats. While the Bush Administration's efforts had been concentrated on biodefence, the Obama administration's strategy was concentrated on deterrence. It emphasised combining intentional infection eruptions from bioterrorism attacks with naturally happening infection outbreaks, to set up a more integrated connection across all types of biological hazards. In his 2011 speech to the United Nations General Assembly, President Obama called upon all nations to 'come together to stave off, and see, and combat every sort of biological threat – whether it's a pandemic like H1N1, or a terrorist threat, or a treatable infection. In February 2014, the US began the Global Health Security Agenda to establish the global ability to avoid, inspect and promptly respond to biological dangers [23].

5. Bioterrorism's threat assessments

Historically, in terms of state threats, during the 20th century, the extent and sophistication of the extensive Soviet biological weapons programme took Western intelligence communities entirely by surprise when it started to be disclosed at the end of the Cold War. The most striking negligence, nevertheless, was the inaccurate examination of Iraq's biological weapons programme before the United States attacked Iraq in 2003. This shows how the CIA analysts used data and their assessment of the particular technical features of information instead of the more perplexing social, political and economic dynamics covering Iraq's biological weapons advancement. The global essence of science proceeds with more knowledge hubs and it is becoming simpler in future to abuse the science for a vaster group of people, and vulnerabilities are becoming bigger.

There are commonly at least four classes of biological threats: unintentional outcomes of research, laboratory accidents, absence of knowledge and carelessness. For any future infectious disease outbreak, health intelligence and other fields of social science can come up with concepts, methods, practices and tools to control and inspect health incidents or assess risks [24]. An examination of the political, social and cultural context could for instance find proper policies linked to the governance of healthcare, population movements or identify potential riskcases. The intervention success in infectious disease requires especially an advanced intelligence perspective that includes other sciences as well.

International security specialisation on security intelligence for instance is a critical part in fighting effectively bioterrorism, particularly in the works to defend critical and relevant organisation's network. Security intelligence can find out when something goes wrong, see exactly what occurred and prepare all the characteristics required to assess its threat and risk. Thus, security intelligence can be very helpful for critical analysis to discover what happened during a security incident so that proper measures can be taken to diminish a threat or at least its costs. However, the ultimate purpose of security intelligence is to do predictive analysis, which means to assess what an attacker will do so that every countermeasure can be taken into the consideration to thwart an enemy. The cyber risks include attacks on systems, supply chains, or strategic infrastructure to harm, damage or contaminate crucial stocks of vaccines, antibiotics, cell or immune medicines or even malware that could be used to trigger data manipulation [25].

The COVID-19 shows that a lack of cooperation and profound knowledge can lead to the breakdown of the state (or government) to keep up its interest in the long term. But, in the long term, the lack of strategic intelligence about the "condition or subject of interest," in the local and international context, can also lead to a threat to the national security of a state. A concerning condition is that the

global build-up of biodefence infrastructure and abilities can indicate that states are shifting closer to being in a place to jeopardize or execute a biological attack. Hence, there is perpetually a risk of 'sudden change of mind or shift of doctrines in the defence and research. Russia, for instance, claims that the US military is making a series of dual-use labs on its border, that it is secretly gathering Russian biological substance, and that the United States is developing biological tests near Russia's peripheries. These claims already show that maintaining a robust body of strategic intelligence available quickly to policymakers is fundamental as much as gaining intelligence power and cover the worldview, ideological attitudes, geopolitical relations, international and local legal frameworks, and the social and cultural perceptions of all parties of interest. Thus, many sectors and dimensions of national security are interconnected and cannot be accomplished without one another. This research, therefore, emphasizes security intelligence, particularly the evolving role of information security in the national security systems

6. Conclusion .This paper concludes that in the field of national security attention is perpetually directed to 'traditional' terrorism. Although there are few terrorists potentially able in bringing their ambitions to success, it is very hard to identify them all and international terrorism continue to present worrying geopolitical circumstances. When added to the ambition of terrorist groups the capacity to make chemical, biological, radioactive, or nuclear attacks, the future risks present intenser concerns for national securities. Bioterrorism in its variety of potential forms is not just a danger for the future but also today. Therefore, finding proper measures against potential bioterrorism need to be one of the highest priorities of national securities. Experiences from COVID-19 can be very helpful.

To defend a nation and to eliminate or mitigate the various spectrum of security threats in the 21st century and future requires a preventative and intelligence-led approach that proceeds beyond the classic state-centric approaches. Simply put, awareness of health security risks and the scope of threats should trigger an improvement of the stakeholder's actions and methods involved in analysis and intelligence gathering as well as threat assessments. To strengthen global health security, the traditional state-centric constructions must actively recalibrate and connect with non-security actors and integrate room for fresh streams of science and academic actors to contribute to formulating multidisciplinary, empirically conscious and policy-relevant strategies in global health security.

Moreover, this paper concludes that a primary element in facing effectively a potential risk of potential future bioterrorism is the attainment of the ability to gain new insights and mitigate against failure. The attempts to offer vaccines exclusively to some countries with higher prioritisation can be seen as a drastic example of zero-sum thinking, as it represents a self-helped solution to the outbreak of Covid-19. Therefore, in the wake of the unusual challenges presented by COVID-19, and any possible future bioterrorism, nations should capitalise on their social and public responsibility to collaborating beyond borders, share knowledge to combat the modern threats more effectively.

References

[1] J. Baylis,and S. Smith. 2001. The globalization of World Politics: An Introduction to International Relations.In *The globalization of World Politics: An Introduction to International Relations* , *J. Baylis, and S. Smith* , Eds., London: Oxford University Press,2001 ,pp. 380-420

[2] H. J. Morgenthau, "Politics among Nations: The Struggle for Power and Peace," *Political Science Quarterly*, pp.290-292,1949

[3] S. Walt, "The Realist's Guide to the Coronavirus Outbrea," Mar.9,2020[Online] Available: https:/foreignpolicy.com/2020/03/09/coronavirus-economy-globalization-virus-icu-realism/ [Accessed: Jun.26, 2021]

[4] World Health Organization.(2020). *WHO Director General's opening remarks at the media briefing on COVID-19*. [Online] Available: World Health Organization: https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media- briefing-on-covid-19 [Accessed: Jun. 26, 2021].

[5] Coronavirus pandemic (COVID-19) – Statistics and research. 2020. Our World in Data. https://ourworldindata.org/coronavirus COVID-19 situation update worldwide, as of 1 September, 2020, European Centre for Disease Prevention and Control[Online]. Available: https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases [Accessed: Jun. 20, 2021].

[6] "Coronavirus travel restrictions border shutdowns by country*,*" *Aljazeera*, Jun.3, 2020.[Online]. Available:https://www.aljazeera.com/news/2020/6/3/coronavirus-travel-restrictions-border-shutdowns-by-country [Accessed Jun.20, 2021].

[7] S.Meredith, "As Russia and China seek to boost their global influence, analysts warn vaccine diplomacy is here to stay,"Feb.2021 [Online] Available:https://www.cnbc.com/2021/02/ 17/covid-vaccine-diplomacy-   russia-china-seek-to- boost-global-influence.html. [Accessed :Jun.25, 2021].

[8] K. Morozov, "Putin Orders Mass Coronavirus Vaccination Next Week," *The Moscow Times,*Jan.13,2021 [Online]. Available: https://www.themoscowtimes.com/2021/01/13/putin-orders-mass-coronavirus-vaccination-next-week-a72468 [Accessed Jun.20, 2021].

[9] Xinhua, "China to provide COVID-19 vaccines to the world at reasonable price:spokesperson ," *Global Times*,Sep.30, 2020 [Online] Available: https://www. globaltimes.cn /content/1202538.shtml [Accessed Jun.26, 2021].

[10] D. Simes Jr, "China and Russia adopt 'one team' mindset on COVID vaccines vs US ," *Nikkei Asia,*Sep.18, 2020 [Online].Available:https://asia.nikkei.com/Spotlight/Coronavirus/China-and-Russia-adopt-one-team-mindset-on-COVID-vaccines-vs-US [Accessed Jun.20, 2021]

[11] "Covid: Italy blocks AstraZeneca vaccine shipment to Australia," *BBC News*,Mar.18, 2021 [online]Available https://www.bbc.com/news/world-europe-56279202> [Accessed Jun.26 2021]

[12] "Coronavirus: Why is Donald Trump so critical of the WHO and China?," *DW* May.19,2020. [online] Available: https://www.dw.com/en/coronavirus-why-is-donald-trump-so-critical-of-the-who-and-china/a-53500009> [Accessed Jun.26,2021].

[13] W. Markotter, "Why it matters that scientist continue their search for source of 'patient zero's'infection,"*Hlengiwe Mnguni.* Mar.13 ,2020[Online]. Available: https://www.up.ac.za/news/post_2880755- covid-19- why-it-matters-that-scientists-continue-their-search-for-source-of-patient-zeros- infection-[Accessed Jun.20, 2021].

[14] WHO.INT, "Weekly operational update on COVID-19 - 24 May 2021," WHO.INT 24 May 24,2020 [online] Available :https://www.who.int/publications/m/item/weekly-operational-update-on-covid-19---24-may-2021> [Accessed Jun.23, 2021].

[15] SETA, "Coronavirus: A human security issue," *Daily Sabah,* Feb.26, 2020[Online]. Available:https://www.setav.org/en /coronavirus-a-human-security-issue/ [Accessed Jun. 21,2021].

[16] R. Taufika, "The militarization of COVID-19: mixing traditional and non-traditional security?," *CSIS Commentaries*,May.1,2020 [Online]. Available: https://csis.or.id /publications/the- militarization-of-covid-19-mixing-traditional-and-non-traditional -security" https://csis.or.id/publications/the-militarization-of-covid-19-mixing-traditional -and-non- traditional-security [Accessed Jun. 18, 2021].

[17] R. M. Alguliyev et al., " Information security as a national security component, Information Security ,"*Journal: A Global Perspective*,vol30,no.1,pp. 1-18, 2020 doi:10.1080/19393555.2020.1795323

[18] A. H. Cordesman, "President Trump's New National Security Strategy," *Csis.org*,Dec.18, 2017 [Online].Available: https://www.csis.org/analysis/president-trumps-new-national-security-strategy [Accessed Jun. 26, 2021].

[19] T. Wright and K. M. Campbell, "The coronavirus is exposing the limits of populism,"*The Atlantic,*Mar.4, 2020 [Online] Available: https://www.theatlantic.com/ideas/archive /2020/03/geopolitics- coronavirus/607414/ [Accessed Jun.26, 2021].

[20] Spiegelhalter,*Government Office for Science.*Assets.publishing.service.gov.uk,2021 [Online].Available: https://assets.publishing.service.gov.uk/government/uploads/ system/uploads/. [Accessed :Jun. 18, 2021].

[21] National Science Advisory Board for Biosecurity,*Proposed Framework for the Oversight of Dual Use Life Sciences Research: Strategies for Minimizing the Potential Misuse of Research Information.*Washington,2007 DC: NSABB.

[22] *UN Security Council Resolution 1540. (2004)* – UNODA. [Online] Available: https://www.un.org/disarmament/wmd/sc1540/ [Accessed :Jun.26, 2021].

[23] The White House, "President Obama Releases National Strategy for Countering Biological Threats,"Dec.9, 2009 [Online] Available: https://obamawhitehouse.archives.gov/the-press-office/president-obama-releases- national-strategy-countering-biological-threats [Accessed : Jun. 26, 2021].

[24] E. Pauwels, *The New Geopolitics of Converging Risks: The UN and Prevention in the Era of AI.*New York: United Nations University Centre for Policy Research,2019

[25] J. Pirc, and W. Gragido. (2016). "Security Intelligence – an overview. Science Direct Topics,"Sciencedirect.com. 2016[Online]. Available: https://www.sciencedirect.com/topics/computer-science/security-intelligence [Accessed Jun. 21, 2021].