U.S. Drone Attacks and the Proportionality Principle

Growing ignorance or Consciousness?

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ABSTRACT

This thesis focuses on the usage of military drones, a type of semi-autonomous weapon, which has shifted the premises of conventional warfare, particularly relating to the ethics and legality of warfare. This paper examines the conditions that affect the civilian casualties in United States (U.S.) drone attacks. Drawing on Graham Allison's work on the factors that influence U.S. foreign policy decision making, I theorize that civilian collateral casualties are more likely under certain conditions. These conditions changes depending on the type of administration in office, level of organization pressure, and the value and level of risk a target directs towards the U.S. In light of the discussion and the effect of drones on civilian casualties a debate upon the proportionality principle will be assessed. In the assessment a cost and benefit analysis is made between the military goal and civilian casualties (Gardam,1993). The proportionality principle refers to the balancing act of the excessive use of force on civilians in relation to the military goal.

This paper is using a quantitative method. This study investigate data on US drone attacks, sourced from Bureau of Investigative Journalism, covering 733 attacks in four countries (Afghanistan, Yemen, Somalia and Pakistan) during the time period from 2002 to 2016. Based on Allison's model three hypotheses are formulated and evaluated against the data using descriptive statistic and t-tests. The empirical result suggests that there was a statistical significance in all three hypotheses, indicating that it was possible to detect that under certain circumstances drone attacks are more likely to lead to more civilian casualties. However, when one observed the total casualties in proportion to the civilian casualties the result was not as grand as anticipated. However, the findings of this paper illustrates a pattern that during certain premises and cost and benefit analyses, the usage of drones are causing a greater risk towards civilians. Thus, these discussions further develop an already existing debate on today's focus on military autonomous weapons and the results of using such weapons. Hence, this type of study can be applied to other military autonomous weapons as well. In light of the discussion of the proportionality principle, this paper suggest that the development of autonomous military weapons should not be taken lightly and an improvement of international regulations should perhaps be made.

CONTENTS

Abbreviations

Law of Armed Conflicts (LOAC)
The Bureau of Investigative Journalism (TBIJ)
Autonomous Military Weapons (AMW)
Central Intelligent Agency (CIA)
Artificial Intelligence (AI)
Non-Governmental Organizations (NGOs)

1. INTRODUCTION

The technology of autonomous military weapons refers to weapons which can "*independently select and attack targets*" (Geneva, 2014). It has continued to develop even further in recent years. Its growth has challenged individual states as well as the international community as a whole. With the new technology of autonomous weapons comes a great deal of power as well a responsibility. Nonetheless, it puts those who use it in an advantage position. The increase usage of autonomous military weapons has slowly started to replace the soldiers in the battlefield. The current existing legal frame work of autonomous weapons within the international community is still a work in progress. Thus, an unresolved question is how to apply the law of armed conflicts (LOAC) to the new development of autonomous weapons, particularly, in applying the proportionality principle. The proportionality principle refers to the balance between the value of the military goal and the cost of civilian casualties (Gardam,1993). Thus, in order to apply the LOAC, it first becomes important to understand, under what situations and scenarios civilian casualties are higher. What makes this puzzle interesting is the development of a new form of weapon system that may possible change the whole setting of international warfare. Hence, it becomes essential to understand the effects on civilians during political decision making processes and what risk it has with the new growth of autonomous weapon systems. Then are civilian casualties in drone attacks a sign of growing ignorance or growing consciousness?

This study will focus on drone attacks performed by the U.S. which is also the most frequent user of drones for military purposes. This study will examine under what conditions and premises drones cause collateral civilian casualties and what this can tell us about the proportionality principle. This study uses Allison Graham's theory as described in his book Essence of Decision Making where he uses three different models (Allison, 1971). These three different models are the grounds for the hypotheses formed in this study. I argue that under certain conditions and situations, drone attacks are more or less likely to lead to civilian casualties. Thus, with the help of Grahams's theory, I hypothesize that the value of the target is significant to the number of civilian casualties, if the target is valued as a high risk threat, or a low risk threat directed towards the U.S., the outcome of the civilian casualties will differ. I also argue that the statistical number of civilian casualties depends upon power play politics. In other words, depending upon the administration is in office. Lastly, I hypothesize that other

organizations such as in this case the paramilitary organization CIA and the U.S. military of defense has a difference of impact on civilian casualties.

In this study, I examine data on 733 attacks in four countries during the period from 2002 - 2016. In this study a quantitative method is used by using differences of means t-test between categories of interest. The t-test is used to illustrate if there is any statistical significance on formed hypotheses. The t-test as a method gives way for analyzing and understanding what the number of civilian casualties for each sample may have for the proportionality principle. The way the t-test is used for this study allows for the method to be replicated in other areas of autonomous weapon systems. The questions and assessed furthers the debate of autonomous weapons in concern to the proportionality principle. Questioning whether the number of civilian casualties are a result of conscious actions of overlooking the proportionality principle or ignorance of the effects of autonomous weapons such as drones.

I find that there is indeed a statistical significance and pattern that indicates that one can expect a difference in the number of civilian casualties depending upon the initiated targets value of a risk directed towards the U.S. Hence, this then suggest that when the target value is high, the civilian casualties will increase. The result also indicated a statistical significance in the civilian casualties due to the effect of the office administration. Moreover, during the years of George W. Bush's presidency the civilian casualty rate were less than during the years of Barack Obama's presidency. Lastly, there results also shows that there is indeed a statistical significance in the civilian casualties of the two sample means of who issued the drone attacks. Where the results demonstrated that during the years CIA were in charge for launching the drone attacks, the civilian casualties were higher than when Pentagon had the responsibility.

The previous research of this area has indicated that there is lack of understanding as well discussion on other factors which may influence the toll of civilian casualties caused by drones. This thesis uncovers those factors by examining the different category interest. In this study, the civilian casualties and the result of each hypotheses indicates whether or not the there is a growing consciousness or ignorance of the proportionality principle when using drones as a military weapon. The existing debate until now has been mainly a debate divided into two different camps, one where which scholars promotes the usage of drones, and one where scholars argues for its unethical and immorality. Within the debate there is also an

acknowledgment that there is in fact difficulties in applying the proportionality principle in the growth of autonomous weapons. The existing research has also focused mostly on the development of technology, where the argument is that targeted killings allows for less casualties. Arguing that weapons such as drones allows for a more precise and accurate targeted killing. This lacuna, underscores the relevance of this paper to the field of political science and as well its contribution. Since the development of autonomous weapons is continuously growing, it becomes necessary to develop this debate further. In order for the existing legal frame work to grow, there has to be an understanding of when the usage of autonomous weapons is being overused to the point of negligence for the wellbeing of civilians. Until this point it still exists a form of dis-acknowledgement of the level of development autonomous weapons have reached. Instead, some scholars believe that the discussions on autonomous weapons are something that needs to be discussed in the future rather than now. Hence, in order to break the division and further the debate on the growth of autonomous weapons, this paper aspires to provide a starting point to discuss their implications for civilian harm in U.S. warfare right now rather than in the future.

2. RESEARCH TOPIC

The first two parts of this section will begin by identifying the research puzzle and presenting the research question. The last part of this section will briefly discuss the growth of autonomous weapons and its challenges with a special focus on drones.

2.1 RESEARCH PUZZLE

The fast growing technology of autonomous weapons has left a huge vacuum in how to apply existing international law of armed conflicts onto a weaponry system where human operators are decreasing slowly (Bowcot and June, 2012). The questions which arises as autonomous weapons are growing are both ethically and moral issues but also has a technical connotation as of how to use such weapons. The aim of this paper is go gain a greater understanding of under what conditions and decision making processes civilian casualties are more at risk. Thus, does a growing number of civilian casualties necessary indicate an ignorance of the proportionality principle? Or does the usage of drones for military purpose indicate a growth of consciousness for the civilian casualties? This study is attempting to make an assessment and conclusion of these different hypotheses in order to explain how in certain scenarios, the number of civilian casualties tend to differ.

2.2 RESEARCH QUESTION

"What are the factors affecting the number of civilian casualties in U.S. drone attacks and what indication does it have for the proportionality principle?"

2.3 THE GROWTH OF AUTONOMOUS WEAPONS: DRONES

Autonomous weapons are regarded as weapons which have the ability on their own to select and attack targets. In other words, autonomous weapons are slowly replacing or minimizing the human factor more or less within its usage. With the growing technology and development of autonomous weapon, the international community is faced with demanding challenges ahead. They are faced with both ethical and moral dilemmas as well as technical difficulties. However, the stage and growth of the technique has also stirred a peculiar debate within the international community. Here the main question relies on the belief that the effects of autonomous weapons is still in its early development stages, and has therefore not reached its full potential. Such opinions tend to overlook and marginalize the fundamental effects autonomous weapon systems may have. The technology is growing at rapid speed and it is essential to keep up with other legal and moral issues that one might face with the development of new technology. The early developmental stages of autonomous weapon systems and the current LOAC indicates on the necessity to further develop the existing debate.

As discussed in an expert meeting, autonomous weapons are usually categorized in to three areas; "autonomous weapon systems", "supervised autonomous weapon system" and "semi-autonomous weapons" (Red Cross, 2014). The autonomous weapons, also known as "fully autonomous" is the category which stalls the already existing debate. The fully autonomous weapons have no human operator involved. This in itself create a whole different ethical discussion onto responsibility, which will not be discussed in this paper. This study's main focus will be on the category called semi-autonomous weapon system. Semi-autonomous weapons are identified as a weapon system which is activated by a human operator and is aimed to only engage the specified target (Red Cross, 2014). Therefore, usually when

discussing the usage of drones one refers to it as a semi-autonomous weapon. Drones is one of the autonomous weapons which is more frequently used. Today, drones are currently used or developed in over 40 countries (Webb and Sulzman, 2010). However, there is only a few countries who uses them as a weapon in warfare, where other countries are using drones for the purpose of surveillance (Webb and Sulzman, 2010). Yet, there still remains a wide debate on how to regulate drones both domestically and internationally. However, the difficulty remains in how to control the usage of drones and its purposes (Byman, 2013). Hence, it is safe to say that the technology is growing faster than what the LOAC conflict can catch up to.

3. PREVIOUS RESEARCH

In this section I will present the existing thoughts and debates that exist in the literature today in terms of discussing drone attacks and the compliance of the proportionality principle. First, the current debate on ethics and morale of drone attacks will be presented. Secondly, a discussion on the exiting debate on which method is best used in order to identify the compliance of the proportionality principle in drone attacks will be demonstrated. Thirdly, the existing debate on the difficulty of applying the proportionality principle in drone attacks will be reviewed. Lastly, a discussion on the contribution of this study to the existing debate and literature will be presented.

Existing data on U.S. launched drone attacks towards other countries has become a public source granted by non-profit organizations such as BIJ and the think tank New America. This has allowed for several researches to investigate and to understand the civilian casualties in relation to drone attacks. It has allowed for the debate on drone attacks to originate.

In the existing literature today a main focus has been to observe each case individually, where most of the focus has been especially on Pakistan and its exposure to being targeted. However, the main existing debate concerning drones and civilian casualties has become a debated which has shaped to more ethical discussion on the role of drones of being either good or evil. In other words, the discussion is focusing on whether or not this "new" phenomenon is sets out to be the "silver bullet" of democratic warfare (Sauer and Schöring,2012). Nonetheless, drones have gained a political role within the debate, where discussions have been made on drones being the "weapon of choice" for Washington (Byman, 2013). In this article, the main argument is how drone works and serve its original purpose,

where the purpose is to decrease the soldiers in the battlefield, and also provide for better target aim. Scholars such as David Byman argues that some of the claims of civilians being killed is uncalled for and some critiques are legitimate. However, his main argument is that drone serve its purpose, in simple words, they work, and that is to further the operation of counterterrorism. Other scholars also argue that the usage of drones actually tend to lower the toll of civilian casualties due to its technical abilities (Voster, 2015). Their argument for this is that the growing technology and its ability of targeting killings (Brunstetter and Jimenez-Barcadi, 2015). Where their main argument is that it would be wrong to claim that U.S. diminishes the human rights laws while using drones.

However, even so, scholars such as Brooks and Akerson claims that the usage of drones may inflict greater civilian harm than other conventional weapons. Scholars of the debate argue that civilian casualties are indeed in great harm, and the idea of having possibly drones flying at any given moment is a distress in itself (Brunstetter and Jimenez-Barcadi,2015). Thus, that leaves this existing debate at an endless roundabout of what is ethically and morally correct. In other words, what is regarded as just when using drones? Mainly do drones allow for a morale of which the proportionality principle which can be applied? However, in the existing debate on today's literature is little discussed on factors which are contributing to drones being more harmful.

The main agreement which seems to co-exist within the debate is the difficulty of measuring the proportionality principle, if at all possible. It seems as if the major work of the literature is using a qualitative method focusing on case studies rather than using a quantitative method. In the debate authors such as Martin Senn and Jodok Troy, David Akerson and Rosa Brooks discuss the difficulty of determining if the proportionality principle has been used. Authors such as Akerson and Brooks argue that the context and background of the attacks may vary. The scholars claim it becomes difficult to operationalize and measure the proportionality principle and gain a general idea if the proportionality principle has been applied in a more quantitative study. The difficulty of measuring the proportionality principle has to do with the contextually of each individual case. Akerson in his article, "Applying Jus in Bello Proportionality to Drone Warfare" (2014) argues that to further assert the concept of the proportionality principle is difficult in itself. Akerson argues that it becomes even more difficult with the usage of drones as one try *teasing apart its components shed light on its profound complexity*" (Akerson, 2014,p. 224). In other words, his argument is that the

difficulty already lays in the notion that there is no existing explanation of what proportionality actually means, claiming it's a question of subjectivity (Akerson,2014). In Akerson's own article there is exist some difficulties in identifying and express a concrete example of the use of excessive force. What is actually regarded as military advantage above civilian harm in the context of drone attacks? Rosa Brooks in her article "*Drones and the International Rule of law*" (2014), argues for how the usage of drones itself contest and challenges the moral and ethics of LOAC. Claiming it is an attack to existing "*core legal concepts i.e….proportionality*"(Brooks, 2014.p 2). It is difficulty remains in understanding the morale behind drone attacks. Brooks argues how concepts such as "self –defense" becomes more important than questions such as the proportionality principle. Drones has become a tool to justify the usage of self-defense clause in the LOAC. Making this issue subjective and more difficult to quantify. However, Martin Senn and Jodok Troy (2017), takes it a step further in their article "*The transformation of targeted killing and international order*". They argue that the international order and its Westphalian system of law has encountered major transformation over the years. Hence, it might be time for a change within the proportionality principle. whether international law or the proportionality principle may be applicable or if at all. In cases where states attempt to justify its targeted killings on terrorist, the proportionality principle needs to be reviewed.

Another significant point made by Akerson is the difficulty of identifying the actual civilian casualties in the drone attacks. Making it more difficult in determining the compliance of the proportionality principle (Akerson,2014). This is a major critique made by Akerson on the sources from the NGO. In the article, Akerson also states there is a general misconception on what the proportionality principle actually is, where the proportionality principle is solely a distinction of the of use of extensive force. Akerson puts a real quandary into the debate and that is how "*the United States clearly understands that UAV Warfare gives them unprecedented ability to be cautious avoiding civilian harm if they so choose*" (Akerson, 2014 p. 218). Thus, the question should then be, under what conditions do U.S. choose not to avoid civilian harm?

Lastly, the existing literature and debates has used qualitative measures focusing on case studies. The debate has shed light on mostly moral and ethical questions. The difficulty of actually applying the proportionality principle has also been dominating. Researchers and scholars which are prominent to the usage of drones has argued that drones are decreasing

civilian casualties and its reason for it has to do with the technology. However, the aim of this paper is to observe under what conditions drones are more harming civilians and also discuss what such conditions indicates for the compliance of the proportionality principle. As far as I am concerned the application of Allison's theory has not been used before in order to understand such processes. Therefore, Allison's theory allows for this paper to understand the variation under what conditions and situations drones are leads to more civilian casualties. Thereby, adding a new dimension to an already existing debate. The aim of this paper is to gain a more general understanding in order to move this debate further. Hence, a case study would not be able to reveal such answers.

4. THEORETICAL FRAMEWORK

For this section I will divided the theoretical framework discussions into two segments. The first section will be focusing on the proportionality principle and how it may be applied for this particular study. The last section will be discussing Allison's theory where I also will be presenting the motivation for using theory as well as the arguments ´of how the theory can be applied to identifying the conditions of which civilian casualties are at greater risk under drone attacks. The last part of this section will identify the hypotheses used in this study.

4.1THEORIZING THE PROPORTIONALITY PRINCIPLE

"*an attack is supposed to be canceled or suspended or re-planned if the attack may be expected to cause incidental loss of civilian life, injury to civilian or damage to civilian objects. Or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated*" (API, art,. 51(5)(b) and Arts. 57 (2)(a) (iii) and (2)(b) (Robinson and Nohle, 2016).

 The notion of proportionality principle is a part of the ethical debate of the Just war theory. It is the "*fundamental component of the law of armed conflict-the jus ad bellum and the jus in bello*"(Gardam, p, 391,1993). Jus ad bellum refers to the response which is made out of aggressiveness due to grievance. In other words, what is the appropriate response of a country acting in "self-defense". While the jus in bello, focuses on the fine line between military achievements/goals and the price paid in human casualties during warfare. This paper, will focus on the latter(Gardam,1993). The LOAC and the proportionality principle is "*based on*

the fundamental principle that belligerents do not enjoy an unlimited choice to inflict damage on the enemy"(Gardam,1993,p,391). In other words, it refers to the notion of where civilian casualties should outweigh the intended goal and military gains (Powers, 2016). If one were to break it down to three pieces, first and foremost, the proportionality is a factor of the selection of a target. Secondly, the proportionality is a factor of the means used, and if it is proportionately balanced with the method used in the attack. In other words, it's the military response and its performance in consideration of the achieved goal. Hence, some weapons may be more in danger to civilians than others and may then be seen as an excessive use of force. Thirdly, despite the points above, the attack in itself shall not be negligent to the civilians (Powers, 2016). An example of this could be the decision making process which is made beforehand of launching a drone attack. Therefore, the usage of drones for certain cases may not be necessary, and there may become an excessive use of force. One also need to make sure that there is no other conflicting political interest for using drones (Canizzaro, 2014). Thus, these are the factors one has to observe in determining whether or not the proportionality principle is being applied.

According to Canizzaro, the proportionality principle fits best as to be studied with quantitative measures(Canizzaro,2014). Nonetheless, it has been argued that the proportionality principle requires equivalence data. Where equivalence is then measured in "*the means employed, or the damage inflicted by each*" (Canizzaro, 2014). Therefore, to operationalizes and measure the proportionality principle in the case of drone attacks, leaves one to quantify number of militant killed versus number of civilian killed. It relies on the idea that civilians should be immune to the effects of war. The main ideas of measuring in such a way derives from the notion that any kind of force that surpasses the military objective is prohibited. In other words, the proportionality principle is used rather than identifying a level of subjectivity the proportionality principle is aimed to "establish a means of appropriateness" It becomes a cost and benefit calculation, comparing the military gain to the harm of civilian.

However, previous paragraph opens up the discussion even further onto how the usage of autonomous weapons in general can be regarded as proportional if at all. If civilians are "supposed to be immune", it seems as the roles are reversed in this case of the usage of drones. Here, the "attackers" are immune from being fired at. A difficulty with measuring the proportionality principle which Braun and Brunstetter (2013) claims is the fine line between proportionality and precision. Arguing that there is a difference between the two and they

should not be intertwined. Therefore, when measuring the proportionality principle one should take into consideration if it was due to proportion or precision. However, one was to hope that the development of autonomous weapons was to develop precision in order to follow the proportionality principle.

4.2 GRAHAM ALLISON'S THEORY- ESSENCE OF DECISION MAKING

Motivation
Ultimately, any form of military attack requires a decision to be made. Hence, the question is under what conditions are the choice made of a targeted killing? In other words, how do you reason the old saying "the end justifies the means"? In order to understand the different patterns and different variation in the number of civilian casualties we need to examine the patterns of the decision making process. In other words, what organization was in charge of launching the drone attacks, who was in administration and what where the cost and benefit analysis calculated when launching the drone attacks.

Graham Allison's theory is famously known for to be applied to foreign policy issues. Originating from a critical assessment of the Cuban missile crisis in trying to understand the underlying factors of what led up to the crisis itself and how decisions were made (Allison,1971). However, I believe that this theory can also be applied in this particular case which this paper is trying to study. Ultimately, drone attacks reflect a decision making process. Allison's theory allows for a thorough analysis of such processes. Thus, by using his theory, one can gain an understanding of under what conditions civilian casualties are more or less at a risk when using drones. In other words, the theory allows, for one to go backstage and understand the different aspects and factors within the decision making processes. By understanding the conditions, it becomes easier to understand if the proportionality principle is being applied.

Argument
In his theory, Allison puts forward three types of models in order to understand the different puzzle pieces which is weighed in a decision making process (Allison,1971). In the first model, also known as the Rational Actor Model, governments are regarded as the key actor. Here governments base their assessments and goals from the perspective of their capabilities and what has the highest pay off (Allison,1971). Hence, in the case of U.S. drone attacks it could seem as if the initiated target is regarded as high risk threat directed towards the U.S.

there should be a higher pay-off, which would result in an increase in the number of civilian casualties. However, an increase in civilian casualties does not necessary mean that the proportionality principle is not being applied. What becomes important is to understand if the risk directed towards U.S. was in such degree that the means used was necessary, and therefore generated a higher number of civilian casualties. Therefore, the first assessment is to be able to categorize what is regarded as high risk target, which would the generate a higher pay-off.

In order to understand if the proportionality principle is being applied, it becomes essential to understand the means of appropriateness. The means of appropriateness in this study refers to assessment made by using drone instead of another form of weapon in order to reach expected results (Cannizzaro,2014). The rational actor model gives the idea that governments makes a cost and benefit calculation when making a decision (Allison,1971). Thus, what has already stated been stated in previous discussion, in regards to the proportionality principle (Cannizzaro, 2014), a cost and benefit analysis is taken into consideration when applying the proportionality principle. Thus, questions which one can ask is the following; when is there a higher cost of ignoring the life of civilians?

Thus, one would have to understand the cost and benefit calculation. Thereby, understanding the pattern of when U.S. are more or less likely to issue a drone attack where civilians are more likely to get harmed or vice versa. Nonetheless, a hypothesis that can be made based on the rational actor model is that the value of the target has a great impact on the number of civilian casualties. In other words, if there is a higher pay -off or reward on the initial target, then there is a probability of increase in civilian casualties. A high target value could be something or someone who poses a larger threat for U.S.

Allison's second model also known as the "Organizational Model", acknowledges that with bureaucracy comes along limitations for making decision. The existing organizational structure shapes the output and decision which is made. Consequently, arguing that there is a decision making process which needs to be considered. Even though, the final decision is made within the government, there are existing influences from other organizations. In other words, there are certain procedures of how a decision is being made (Allison,1971). Hence, based on this model, one has to understand how bureaucratic politics works in a certain organization in order to understand its effect on civilian casualties. According to Allison, in a

time of crisis the nation states put limit on taking actions. Hence, this would allow for an explanation of the expected variation, of why in certain periods of time or where certain places where attacked, and why a number of civilians died more in one year compared to another.

The organizational model gives us a question which is necessary in order to understand the bureaucracy behind the process (Allison,1971). Most of U.S. drone attacks has been launched by either Pentagon or CIA. Both Pentagon and the CIAs' main aim is to protect the U.S. for any type of threat. However, despite common missions their role differs as they are two different entities. Pentagon, also known as the military defense department has a stricter and more controlled role as it is the principle defense policy adviser to the president of the U.S. (Department of Defense, 2017). CIA on the other hand is an independent agency which main role is to gather and comply information in regards to intelligence and security internationally. However, its task has grown and covert action has also become its main focus (CIA,2018). Due to the different bureaucratically structure and role between Pentagon and CIA, the number of civilian casualties during drone attacks may differ. Where CIA being an independent agency has an impact on launching drone attacks. Nonetheless, how does difference in the bureaucratically structure affect the compliance of the proportionality principle? When it comes to the responsibility of the drones and its usage, Pentagon has mostly used drones for surveillance and accompanying troops. While the CIA has used drones for targeting terrorists (Brunette and Braun, 2011). Yet, this leaves the division and illustrates the organizational model allows for us to understand the different methods and role which CIA and Pentagon has. Thus, it becomes interesting to observe the difference in when *"civilian causalities would clearly outweigh the military gains"* (Powers, 2016), depending upon who launched the drone attack. Consequently, Allison's theory in regards to the organizational model allows for an alternative explanation in explaining the expected variations of results in civilian casualties depending upon which organizational structure was launching the drone attacks. It also gives us an implication to understand how the proportionality principle is applied under different organizational structures. Thus, I hypothesize that that drone attacks that are issued by the CIA will lead to a higher number of civilian casualties than drone attacks issued by Pentagon.

In his third model, Allison emphasizes the role of negotiation, or "politicking" as he calls it. He calls the model "Governmental Politics" (Allison,1971). This model states that it's

difficult to reach an agreement with different types of authorities figures within the top leaders (Allison,1971). Here it becomes interesting to observe the effect on the civilian casualties depending upon governmental politics. What are the effects on the civilian casualties on which administration was in office? In other words, who was the adviser? Who had military power? Depending upon which year it was as well as which country the drone attack was launched, a distinction between the years of Bush presidency and Obama's presidency should have an effect on the number of civilian casualties due to "Governmental Politics". As Allison's model focuses on negations and "politicking", the different leaders and advisory plays a large part. Hence, one can expect that there will be a different number of civilian of casualties, depending on which administration is in power.

Thus, for this study, in order to understand the expect variation of number of civilian casualties and when targeted killing is a harm for civilians, one has to observe what underlying conditions lays behind the attack, and what factors pushed for a drone attack. Allison's theory of decision making process can give an explanation to why such might be the case. It thoroughly explains with the help of the three models in the theory.

4.3 HYPOTHESES

 1) Depending of the level of target value, one can expect a difference in the total number of civilian casualties.
2) One can expect that there will be a difference in the number of civilian casualties depending upon which organization is launching the drone attacks.
3) One can expect that there will be a difference in the number of civilian of casualties, depending on which administration is in office.

5 RESEARCH DESIGN

I will begin this section by discussing the type of method being used in this study. I will also asses on what grounds I believe the used method to be appropriate. Then I will move on to discuss the data used and how it has been collected. Lastly, I will identify the variables used in this study.

This paper will be using a quantitative method(Blaikie,2016). I will be applying a t-test of difference of means on an already existing data set which has been present by the Bureau of investigate Journalism and New America. The purpose of using a quantitative method, is to focus on observations and measurements in order to see the patterns of a political phenomenon of when U.S. is more or less likely to comply with the proportionality principle(John, 2010). Its aim is to justify whether attacks by U.S. on target Y exceeds the necessities, and the civilian collateral damages is much higher. Hence, the data used and hypotheses tested allows for a method which can be replicated in other cases (Grix, 2010). In other words, this measurement could even be used in examining fully autonomous weapons. The purpose with using a quantitative method is to be able to use a method which can illustrate a pattern and which later can also be replicated. Hence, a quantitative method is used to observe patterns. This is also why using a quantitative method becomes more than appropriate for this study in order to answer the broader and general context which a qualitative method would not be able to do in this case.

5.1 METHOD

As previously mentioned, for this study a t-test has been used in order to reach the following results. A t-test is usually described as an analysis of two populations means. The t-test is able to differentiate between samples where it is common that the variance of two normal distributions are not known. Furthermore, it observes the "degrees of freedom" in order to identify if there is a statistical significance or not (Kaur, 2013). Thus, what is measured is the sample size between the constructed two scenarios which becomes useful for the purpose of this study. Moreover, the results which usually follows a t-test allows for a comprehensive yet simplistic comparison between the different groups(Kaur, 2013). Thus, it is an appropriate method of comparing the outcomes of between two different groups.

In this paper, the aim is to understand under what conditions civilians are at greater risk under drone attacks. The method of t-tests' fits the purpose of this paper as it allows for observations in the degrees of which civilians are at greater risk. Thus, in this paper, the hypothesized independent variables are observed through two different scenarios, where the civilian casualties are always the main focus. Hence, the t-tests' are used to observe how the civilian casualties differs depending upon these conditions and if there actually is a great

difference within these scenarios. In other words, the t-tests helps to identify if there is in fact a statistical significance between the sample means each hypotheses as presented above.

The two sample means is based on the dependent variable of civilian casualties. The civilian casualties is being tested in each hypothesis, where the premises changes and so does the effects of the civilian casualties. The aim is then to understand does the target value matter? Does the type of administration show a difference in the sample size of the civilian casualties? Hence, I believe that for this paper, a t-test of equal variance is able to illustrate the different conditions and allows for an understanding, and illustration of a pattern of when civilian casualties in the case of drones are more at risk.

Yet, the t-tests strength of being able to illustrate a statistical difference of two sample means may also be regarded as it weakness. Its possibility to solely observe two sample means could also generate for factors being isolated. Hence, isolation of different factors may then cause a skewed result. In other words, the cofounding variables cannot be assessed. Thus, what one is left with are hypotheses which are constructed in ways in order to understand certain conditions.

However, in order to minimize such weakness this paper has observed three different conditions on where the risk for civilian casualties are at greater harm. By observing these three different conditions, the risk for constructing conditions and constructed results minimizes. Thus, I believe that in order to gain an understanding of the risk of using drones and what it means for the proportionality principle, it becomes significant to isolate some factors. By isolating some factors allows also for a greater understanding and understanding if there is possible to identify a pattern during certain conditions.

5.2 DATA

 In this study I examine data on 733 attacks in four countries (Afghanistan, Pakistan, Somalia, and Yemen) during the period from 2002 to 2016. The data is collected from TBIJ and the New American Foundation. In this paper a spread sheet of all the attacks has been made with the following variables: Strike ID, Year, Location, Type of Target, Target Value, Administration, Total Number of Civilian Casualties and lastly Total number of Casualties. This raw data set has been used to design t-tests to test the three hypotheses.

A description of how the data has been collected from the TBIJ can be found on their webpage under the section titled "Our Methodology" (The Bureau Investigates, 2010). On their webpage, the organization demonstrate how their statistic has been collected. Stating that its data has been collected by *"reports, statements, documents and press releases"*. Most of the reports from the TBIJ comes from news reporting's such from news channels such as CNN, the Guardian, ABC News, the Telegraph, just to mention a few. They have also on some occasions, in cases such an Afghanistan and Yemen used information from terrorist propaganda (Our Methodology, 2010).

The New America Foundation is a think tank which focuses on counter terrorism which was launched during the George W. Bush administration. The New America Foundation has in also used its data from TBIJ. On their webpage under the section called in depth methodology (New America, n.d) is a presentation of the foundation's method of retrieving sources. The organization uses at least two credible media sources in order to secure reliability of the source. In this existing data we get a clearer description of who were targeted and if that target was successful or not. Thus, for each attack and the number of militant killed and civilians there is also a source of who was the initial target. At the same time, they also have the name of the initial target and what role the target had (New America, n.d).

Due to lack of existing data from the early years of President Bush early years in office, this paper will be observing drone attacks issued from the year of 2002 to 2016. The chosen time period is decided based on the availability of data. This paper has chosen not to look at the year of which Donald Trump has been office. I argue that such figures would be misleading and inconsistent. The reason is that we do not have an end result of his presidency and we do not have enough data available to put into contrast with the other two presidents. Therefore, using data from Donald Trump's presidency would not provide any further analysis or development to this paper, which therefore makes it inequivalent to use.

5.3 VARIABLES

Dependent Variable
The first aim and first step is to identify the dependent variable. In order to do that, a statistical summary per drone attack of the number of civilian killed vs. total killed became

was calculated. For each attack and for each hypothesis an average was then calculated in order to illustrate the general picture of the dependent variable. This was done in order to observe if the civilian casualties were in proportion to the total casualties of each attack. This then also becomes the controlled variable for each hypothesis. Descriptive patterns of the dependent variable will be presented below.

Independent Variables
The independent variables examined in this t-test following the hypotheses is the following: Target value, Administration and Organization.

Target value
The target value is based on an assessment of a scale defined as low or high. This variable can only take measures of two, and will therefore not use an intermediate level. The value of the target is based on the notion of what role the target has and the level of risk directed towards the U.S. The classification and determining factor of a target is based up on what type of target it is and the role the target plays. Is it a terrorist organization? Then what terrorist organization is it? Is it factions of rebel groups? Then lastly, what type of role does the target has within the organization or rebel group? If the target has a commander of chief position, the target has been listed as a high value target, where the risk of threat towards the U.S. is regarded as higher. Whereas a target which is affiliated to a terrorist organization but has a "minor role", in other words, not a leadership role, has been listed as a low value target. An example of such could be a "bomb expert". For example, in 2008 in a drone attack the target was a commander from the Taliban (New America, n.d). Here, I categorized this particularly target as a high risk value. In this scenario, we observed a death toll of 20 civilians and a total number of 25 casualties. While as a midlevel al Qaeda leader, has been categorized as a low target value. In this scenario there was 0 civilian casualties and a total of 6 casualties (New America, n.d). For some cases it was not possible to indicate nor there was not enough sufficient data to observe what type of target was hit. Thus, targets which has not been determined has not been calculated into this data. Hence, the number of observations of the target value was are not grand. In matter of facts, the total number of observations of a high targeted value was 56, while there were 26 observations of a low targeted value.

Organization

Because of the imperfect data set, where there is no exact description of whom issued the attack, a proxy has been used as a statistic measure. It was not until the year of 2016, Pentagon, also known as the U.S. defense department took over the complete operations of drone attacks. This is due to the constant dispute between CIA and Pentagon. Thus, in order to understand the difference between drone attacks issued from CIA and Pentagon, the statistical measures have been made from data used by observing the total number of civilian casualties from 2004 to 2015 versus the total number of civilian casualties after 2016. Despite its imperfect data, as the number of observations differs due to the different of time laps. I believe that this still manage to illustrates that in the years' prior 2016, there the amount of drone attacks and the civilian casualties would be higher.

Hence, after, September 11 2001, CIA had been seen as a paramilitary force. President Bush, had sign a directive for a high target value list, which allowed CIA to kill without the need for presidential approval (Dodds, 2008). Thus, prior 2016, not all, but most drones were launched by the CIA. For almost two years, towards the end of his presidency, Obama had prompted that the drone program should be transferred to the military of defense and to not be in the hands of the secret agency service. Where he stated that the U.S. secret agency service aim should not be of a paramilitary force. Yet, the bill did not pass congress. However, despite the bills failure, Obama managed to pressure the secret agency survey by outing its misconduct. Hence, after following events and official documents been leaked of CIAs operations, (Miller, 2016, June 16) the constant struggle between CIA and Pentagon had reached a peak and a major turning point in 2016.

Administration

The independent variable of administration has been calculated on the basis of the knowledge of which administration served under which year. Thereof, its measurement consisted of the total number of civilian casualties under George W. Bush's presidency (2001- 2009) versus the total number of civilian casualties under the year of Barack Obama's presidency (2009-2016). Here, there is a difference in the amount years calculated. There is no existing data from the first three years of Bush's presidency, which exist in Obama's. However, despite the gap, this variable is still significant and poses an important question in order to understand under what conditions drones are more likely to increase the target of civilian casualties.

6 EMPIRICAL RESULTS & ANALYSIS

I will begin this section by discussing and demonstrating a more descriptive pattern of the drone attacks issued by the U.S. Firstly, I will look at the number of attacks across time, then I will turn to present the different attacks on each country. Lastly, a result will be presented on the total amount of civilian casualties over time and the total amount of civilian casualties for each country. The tests which are made of a difference of mean means test are measured in absolute numbers, but the descriptive data is made upon proportionate measures.
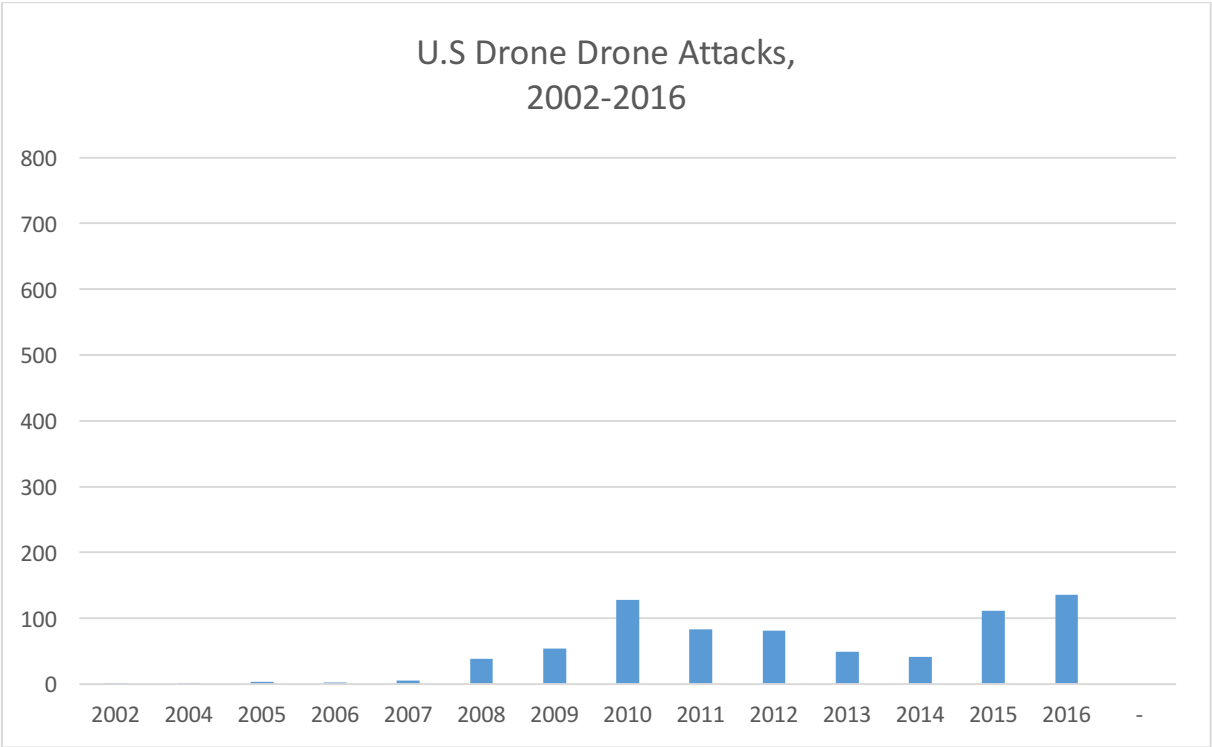

Figure1: Number of Attacks from year 2002-2016

In the figure above, one can observe all the 733 attacks within all four countries (Afghanistan, Somalia, Pakistan and Yemen) from the years of 2002-2016. What one can observe is that the usage of drone attacks began to escalate in the years of 2009- 2010 and reached its peak in 2016 with a total of 136 attacks. When we observe in each specific country one can see that certain countries have been more targeted than the others and in certain periods of times some countries were more exposed to the attacks then others.
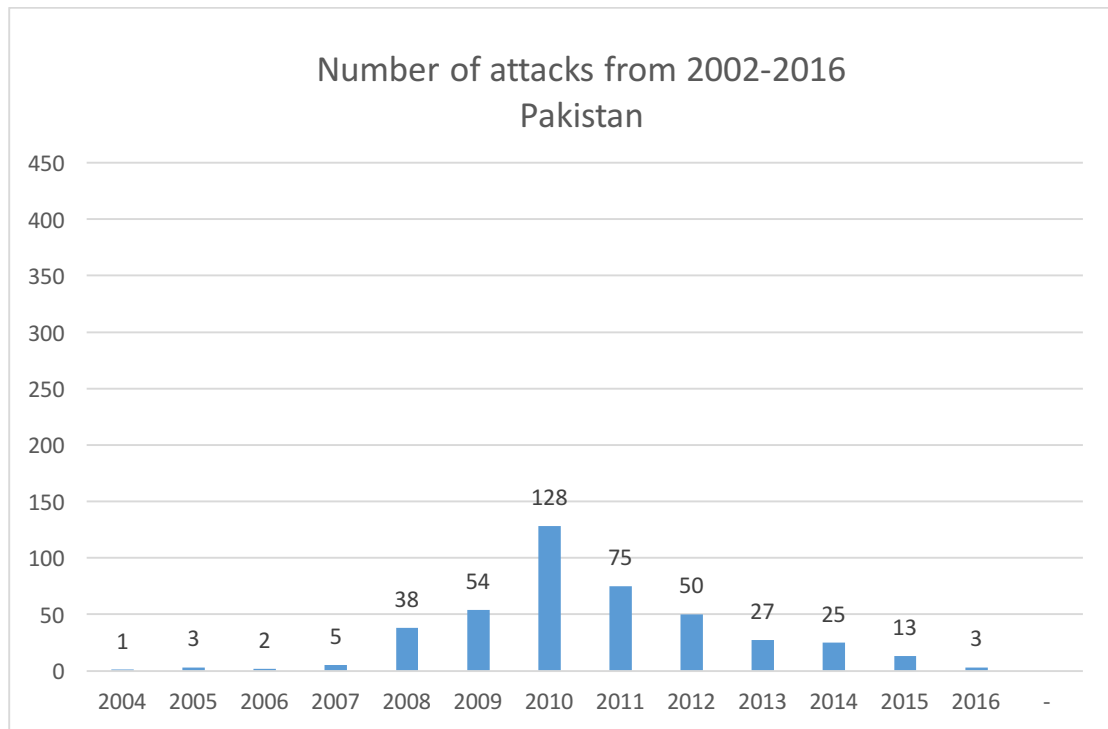
Figure 2 Total number of Attacks in Pakistan from year 2002-2016

As can be seen on the figure above, Pakistan is one of the four countries which has had been hit the most by U.S drone attacks with a total of 424. It is also the country which has had a consistency of attacks between the years of 2004-2016, where the peak of attacks was in 2010 with a total of 128 attacks. In other words, compared to the other countries Pakistan seem to be the country which has been a constant target of U.S. drone attacks.
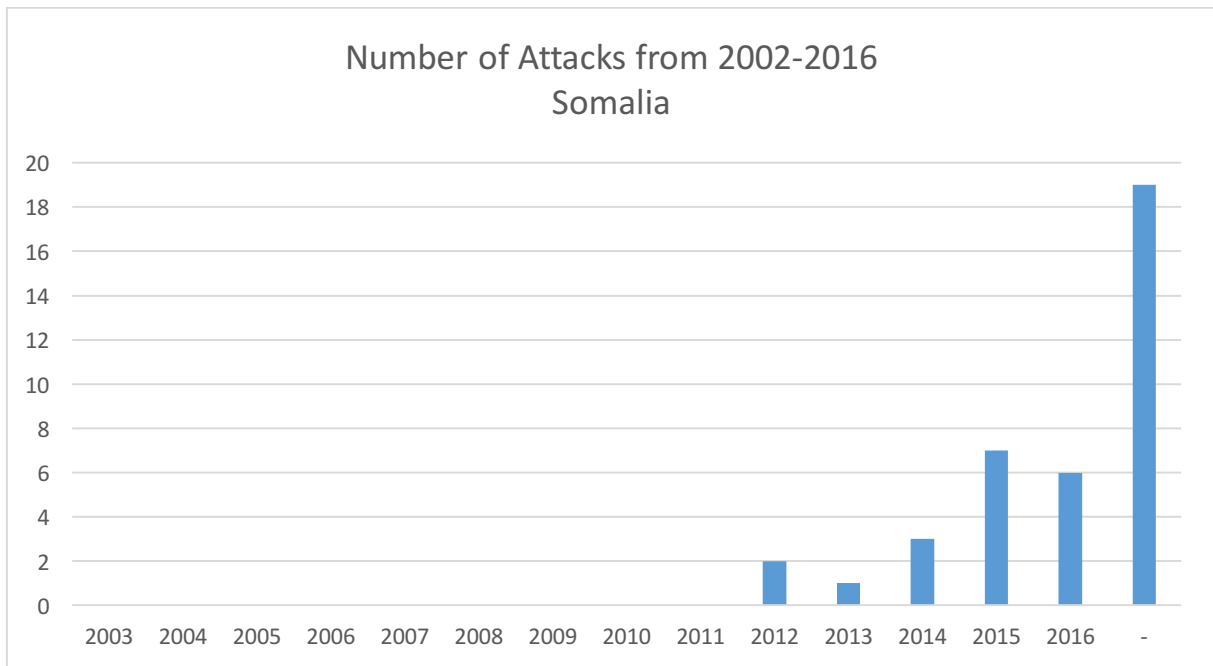
Figure 3 Number of Attacks in Somalia from year 2002-2016

Somalia is the country which has faced the least number of attacks of U.S drones. It is also one of the countries not until later years started to become a target with drones. The first U.S. drone attacks in Somalia started in 2012. The number of attacks was also relatively small in comparing to the other countries observed. Then the attacks reached its peak in 2015 and 2016 with a total of 7 attacks in 2015 and 6 in 2016.

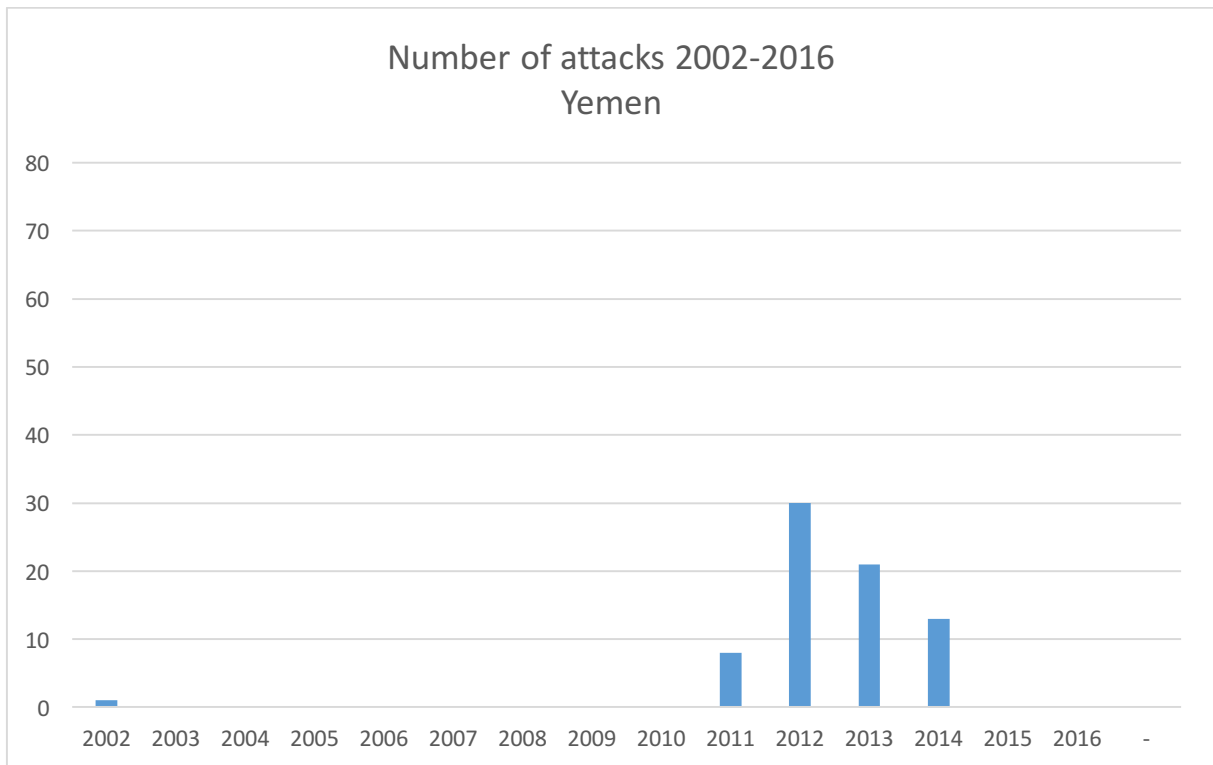*Figure 4 Number of Attacks in Yemen from year 2002-2016*

Yemen was the first countries to receive a drone attack from the U.S in the year of 2002. However, it was not until the year of 2011 the next attack would strike again. Yemen and Somalia did not receive as many attacks as Pakistan and Afghanistan. Where the total number of attacks in Yemen was 73, and its peak was in 2012 with a total of 30 U.S drone attacks.
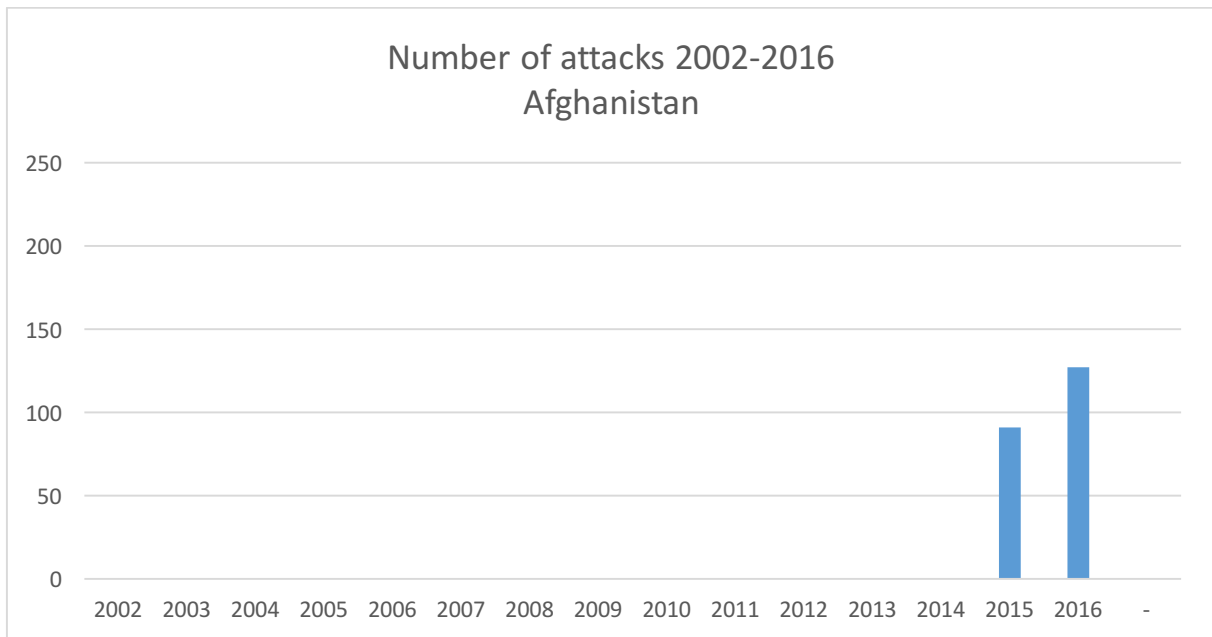
Number of attacks 2002-2016
Afghanistan

Figure 3 Number of Attacks in Afghanistan from year 2002-2016

Afghanistan is the country which latest received U.S. drone attacks. Its first attack in Afghanistan was in the year of 2015. In the year of 2015, U.S. issued a total of 91 one attacks. In 2016, it had reached its peak of 127 U.S. drone attacks.

As we observe all the attacks in each country it becomes important to observe how different period of time and different countries are targeted. When we look at the raw data the focus target of the attacks has in fact been terrorist groups rather than the regimes. Thus, when we use Grahams theory of essence of decision making, it becomes interesting to observe how the choices of target, power play within politics and the administration of the government becomes an essence as which country is being attacked and under what time period. For instance, it comes as no surprise that peak of attacks in Pakistan occurred in the year of 2010, following the assassination on Osama Bin Ladin, which was initiated and carried out by CIA in 2011. Thus, as the level of target grows higher, so does the number of attacks as well and therefore generating a higher number of civilian casualties. Meanwhile, it's also interesting to observe how in the year of 2015 the peak of the attacks. Thus, what becomes interesting to observe is that all though the attacks might have hit its peak, what were the effects of the civilian casualties? What is also becomes interesting is that, countries such as Afghanistan has faced U.S. military force in the early 2000's, but it was not until 2015 military operations such as drones were used.

Based on the result from the t-test, I argue that under certain conditions and situations, the usage of drones is more likely to increase the number of civilian casualties. The testing of each hypothesis indicated a statistical significance. Hence, by observing the raw data, one could observe a tendency that under certain situations and conditions, the civilian causalities tended to be higher. The testing of the hypothesis also illustrates that under certain conditions U.S. is more or less likely to actually take into consideration of the civilian casualties. Thus the question then becomes, does the need necessary justify the means used? And is there any other political interest that may play a factor. That in itself requires a more in-depth analysis, which may be used with the theoretical frame work from Allison.
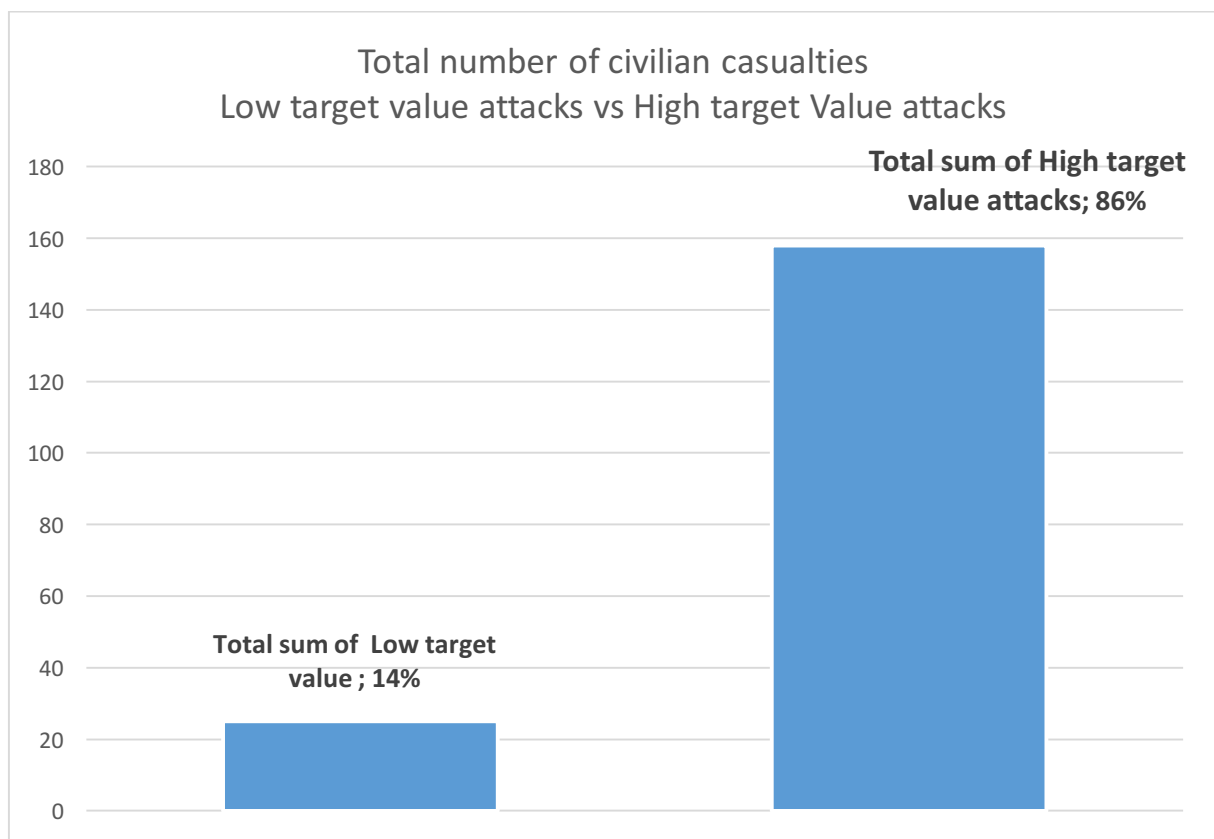
For the dependent variable for each hypothesis the proportion of the civilian casualties has been tested. Thus, for each case, the number of civilian casualties was divided with the total number of casualties. Then for each case/ hypothesis, the result of the proportion was calculated in into an average sum in order to gain a more general picture, rather than observing each attack separately. The reason for this method was to observe if the number of casualties are in actual proportion to the total amount of people killed in the attacks.

Hypothesis 1: Target value

On an average, targets with a low value where 6% of the casualties' civilians. Whereas when the target was regarded as a high value target the total average of civilian casualties in comparing to the total number of casualties were approximately 19%. Thus, what one could say is that on an average level the total number of civilian casualties were in proportion to the actually total amount of casualties of the attacks. In other words, the civilian casualty rates were low in comparing with the actual total casualties. Yet in some cases, if one were to observe each case individually, it was possible to observe where the actual total amount of civilians was the total number of casualties. However, it's not possible to make such a general conclusion on individual cases. On the other hand, what we do observe is that there is actually a pattern of when the target value is higher, the risk of civilian casualties is greater.

A t-test was conducted to compare the total number of civilian casualties in a high target value (condition 1) versus the total number of civilian casualties in a low target value (condition 2). There was a significant difference between the conditions in the score for condition 1 (M=2,82,SD 5,5) and condition 2 (M= 0,69, SD=1,6), Conditions: t=1,9 and P=

P<0.01. The results suggest that, depending of the level of target value, one can expect a difference in the number of civilian casualties. Hence, this then implicates that that when the target value is high, the civilian casualties should increase. Thus, a higher number of civilian casualties depending upon the target value could possibly indicated that mean of necessity may not have been met in some cases. Therefore, one could argue that the proportionality principle has not been taken into consideration when the target value is high in some particularly cases.

Total number of civilian casualties
Low target value attacks vs High target Value attacks

Total sum of High target value attacks; 86%

Total sum of Low target value ; 14%

The t- test results of hypothesis 1 suggested that there should be a difference of statistical significance in the total number of civilian casualties depending upon the level of target value. A trend that could be observed from the raw data is that if the target value was regarded as a high, the number of total civilian casualties tended to be higher. In cases where the target value was identified as higher, the target was usually a high official leader of a terrorist group. Thus, this brings to the next interesting observation. That is that, the most of the targets in general were usually affiliated to terrorist organizations or network. Based on Allison's first model, Rational Actor Model, one could argue that the reason for targeting solely people

which are solely affiliated to terrorist organizations and networks has to do with the cost and benefit calculations which is made by governments. According to the model, Allison argues how governments base their choices of the possibility of receiving accomplishment (Allison,1971).

Hence, the equation of balancing the target selection within the proportionality principle becomes "simpler" to justify, as launching an attack on another state if it is on the grounds for example such the notion of "War on Terror". As the discussed previously, the proportionality principle, begins with the selection of the target. Thus, as a statement was made by Bush after 9/11 "Our War on terror begins with Al-Qaeda"(Whitehouse archives, 2001). Indicated that the target selection and the level of the target of Al Quaeda were to be valued as a high target. In other words, such a statement, some ways authorized the use of military force against terrorist (Dodds, 2008). It then opened up for falling back on the proportionality principle. Hence, if the target value is high, civilian casualties may be higher. It is plausible to argue that the target of drones issued by U.S. are usually targets of which is regarded as an "enemy of the free world". Thereof, it may be regarded as the target selection is used in proportion as of to balance the military advantage (Powers, 2016). In this case, the proportionality principle and its calculation of total of civilian casualties becomes indeed met. Resulting in higher toll of civilian casualties. But the dilemma here then becomes a critic of subjectivity of the proportionality principle itself.

However, what is interesting is that there is never been declared or issued a drone on a nation. What has been declare is affiliated organization with for example the Taliban regime in Afghanistan. Therefore, one could argue that it when the cost and benefit analysis is made by the government, it becomes "easier" and more "correct" to attack someone whom is not connected to a nation state. Thus, the cost would be higher if U.S. did launch a drone attack towards an individual state. Therefore, it seems as if, U.S. is careful in which target they are choosing, and what risks they are willing to take. Hence, they are still in the frame of LOAC. Thus, the decision of using drones then may fall on upon whether or not they may hit the target or not. But mostly, the value of the target. Therefore, if the result fallouts in a higher pay off, U.S. are more likely to use drones (Allison, 1971).

Moreover, in the media U.S. has been highly criticized for it hitting a large amount of civilian casualties. Yet, one could observe from the raw data, is that it is solely when the target is

regarded as high there tends to be more civilian casualties. Thus, finally I then argue that, under the condition of where the target value results in a higher pay-off and accomplishment for the government, drones are more likely to lead to more civilian casualties. Thus, it is a risk assessment which is made by the U.S. government of upholding its role as the protector of the "free world" versus the proportionality principle.
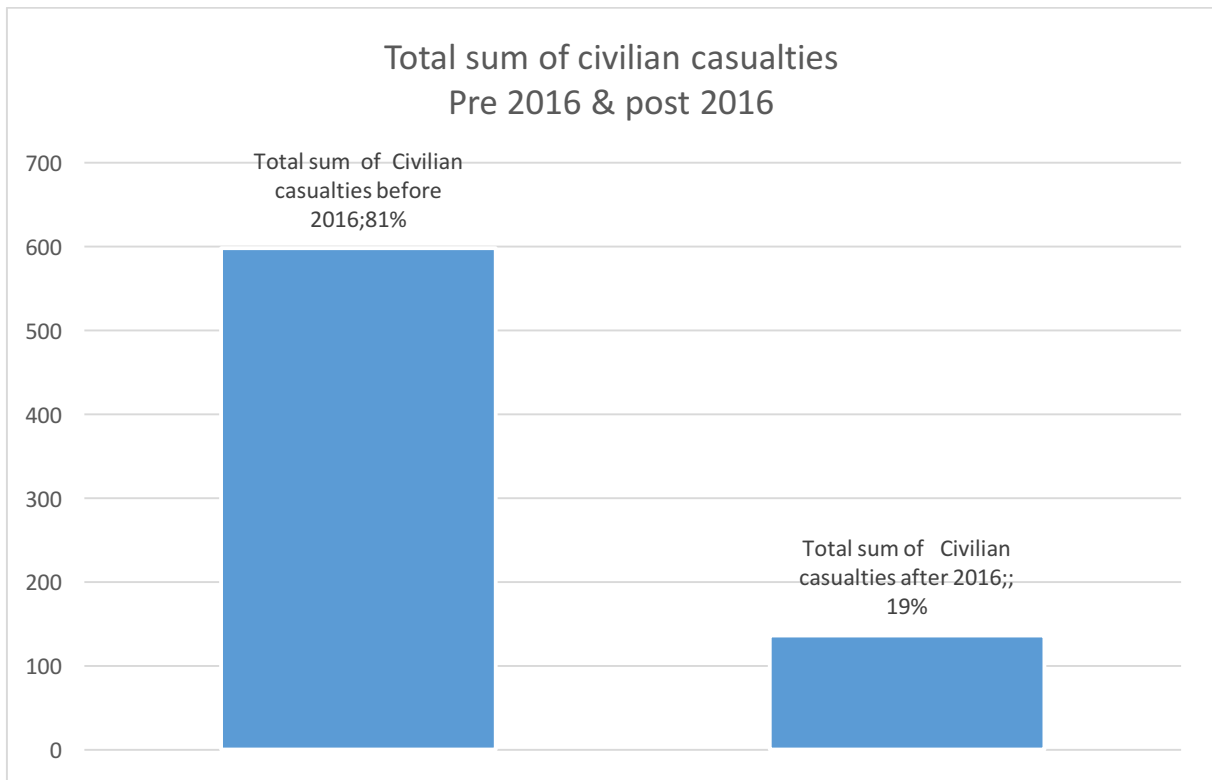
So, what does this mean for the proportionality principle? The difficulty with this hypothesis and the result from the test is that in regards to the proportionality principle, determining the military advantage is difficult in itself. If one where to say that proportionality principle is the extreme measure taken which seems fitted for the situation. The proportionality principle leaves the decision maker to ignore the civilian cost in return of military advantage. However, by observing the results it seems as if the proportion of the civilian casualties' rates are low at an average, it becomes possible to claim that in general and most cases it would seem that proportionality principle is taken into consideration. In other words, the selection of the target is a factor in itself of the proportionality. Because the selection of a high target value is then balanced to the military advantage. Thus, as the means were met, it would be wrong to claim that the conduct of these drone attacks were negligent to civilian damages, as it were in proportion to the total number of casualties. Because as the target level grows higher, then the means of extremes increases as well. So, it is not odd that the civilian casualties do increase. However, those cases where the civilians are actually not in proportion to total amount of casualties does illustrate a flaw. Where in those cases the proportionality principle was indeed not met at all. The question is if it's a flaw in the technique of the drones or the human operator and the decision making processes behind it. In those cases, where the where the target selection is not in proportion and the civilian casualties are neglected, is important to actually observe other factors that which contribute to such a decision making process. Hence, does then the type of administration matter or which organization is behind the conduction of the attack? In those cases, in particularly I believe it is important to look at other factors that may affect the proportionate.

Hypothesis 2: Organization

In calculating the proportion to the actual toll of casualties in comparing the amount of civilians killed, illustrated that on average of the total casualties, 14% of those casualties was civilians in the years prior to 2016. Whereas in post 2016, the total average of civilian casualties of the total casualties measured up to an average of approximately 8%. However,

when on observe from case to case, it was possible to see that for example in one case there were 83% of the total casualties were civilians. So, if one were to do an assessment based on the average percentage, it is possible to claim that the proportional principle was being applied due to the fact that the number of civilian casualties were not in disproportion. However, if one were to observe on individual case one can observe that in some cases in the years prior to 2016 that was not the case. Based on the data of those cases where the civilian casualties were high and not in proportion to the total number of casualties, I would argue that it was possible to see a difference in who the number of civilian casualties depending upon who was issuing the drone attacks. Nonetheless, it is safe to say that in those cases where CIA were in conducting the drone attacks, it tended to be more cases of civilian casualties of which were not proportionate. Thus, in those case one could then argue that the method of using drones and the neglect of civilian casualties shows signs of ignorance onto complying to the proportionality principle.

A difference of means test was conducted to compare the total number of civilian casualties from year 2004-2015(condition 1) versus the total number of civilian casualties from year 2015-2016(condition 2). There was a significant difference between the conditions in the score for condition 1 (M=1,92,SD 5,73) and condition 2 (M= 0,78, SD=3,19), Conditions : t=2,78 and P<0.01. The results suggest that compared to the years between 2004 -2015 and 2015-2016, one could observe a difference in the number of civilian casualties. It implicates that the shift in responsibility between CIA and Pentagon did have an effect on the total number of civilian casualties.

Total sum of civilian casualties
Pre 2016 & post 2016

Total sum of Civilian casualties before 2016;81%

Total sum of Civilian casualties after 2016;; 19%

700
600
500
400
300
200
100
0

The result from the t-test in hypothesis 2, signified a statistical significance during the shift of responsibility of launching the drone attacks. What could be observed from the raw data is that, in 2016, there total number of civilian casualties tended to decrease in comparing to previous years. It is also fair to mention that the calculated dependent value indicates a proportionate decline in the total number of civilian attacks. In what follows, I argue that one of the declining factor has to do with the peak which the dispute between Pentagon and CIA reached in 2016. For two years had Obama insisted that CIA should be removed as a paramilitary force, and the responsibility of the drones should be solely on Pentagon. Subsequently, since organizational structures shapes the output and the governmental decision, such as CIA's role as a paramilitary force, Allison's theory and his Organizational model allows for following assumption. That under the condition of which the organization has put pressure on the government, drones are more likely to lead to an increase of civilian casualties. Hence, it indicates that military service agencies organizations such as CIA can put pressure on the government to the point where they do have great power (Allison, 1971). Yet, it also indicates the opposite as well, that when the leader is strong and the organizational structure is weak in putting pressure, there may have an effect as well. Hence, it indicates that organizations such as CIA can put pressure on the government to the point where they do

have great power. Yet, when Obama kept pushing strong, although the bill did not pass, Obama managed to put pressure, and it occurred a decrease in civilian deaths despite the usage of drones. Such notion indicates that the proportionality principle is taken into consideration depending upon which organizational structure and level which is putting pressure. Therefore, under the conditions when organizational level is putting great pressure on the government, one can observe tendency of civilian casualties becoming increasingly higher, than when the pressure from the organizational structure is low.

Hypothesis 3: Administration

In calculating all the casualties of all the attacks focusing on the administration in office, the result showed that during the years of the Bush administration, the total average of the proportion of the civilian casualties in relation to the total number of casualties was approximately a total average of 76%. Whereas during the period of the Obama administration the result showed an average of the total proportion of civilian casualties to be approximately 11%. Here the numbers become interesting. In the period of the Bush administration, the civilian casualties are in proportion to the total of casualties of the attacks. Where in the case of the Obama administration, the total number of civilian casualties are not in proportion to the actual death toll. Hence, this illustrates that the findings for the Bush administration do indicates that the results do not just suggest a pattern but also that there is a strong correlation with the tested hypothesis.

Based on the results I argue that the consideration of the death toll of civilian casualties is depending upon what's the target value is and what organizational structure is existing at the time as well what administration is in office. Thus, the notion which is based on the proportionality principle that civilians are supposed to be protected from any form direct attack has in some of the individual cases not been taken into consideration. However, when we observe on an average, the proportionality principle was indeed met. Therefore, one can argue that the roles are reversed. Thus, it would be foolish to say that U.S. does not comply to the LOAC. Yet, it is possible to argue that in some individual cases under certain conditions the civilian casualties are only taken into consideration when the pay-off is low.

A difference of mean test was conducted to compare the total number of civilian casualties from year 2004-2008(condition1) versus the total number of civilian casualties from year 2009-2016(condition 2). There was a significant difference between the conditions in the

score for condition 1(M=6,50,SD 12,69) and condition 2 (M= 1,21, SD=3,82), Conditions: t=7,33 and P<0.01. Such result suggests that there is a difference in the total number of civilian casualties when there were two different administrations.

Total number of Civilian Casualties
Bush vs Obama

| Bush: Civilian Casualties . 7% | Obama: Civilian casualties. 93% |
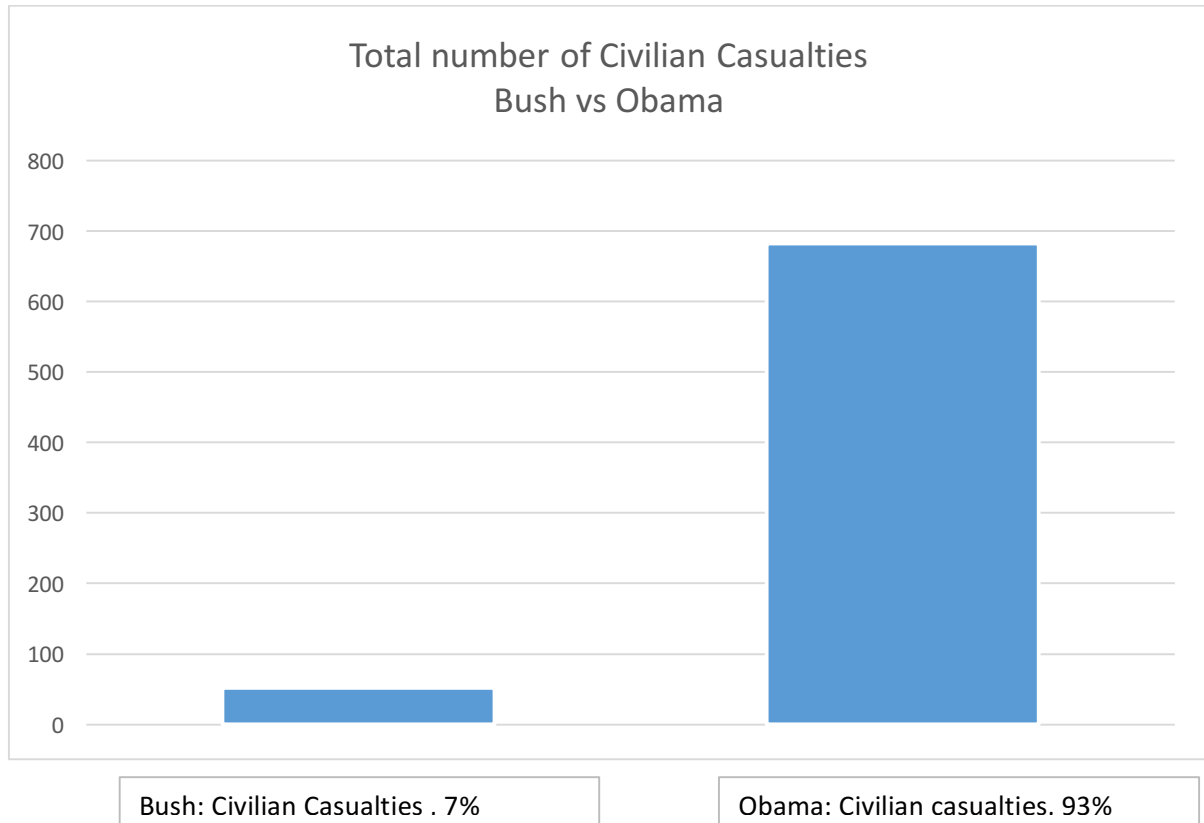
Allison's Governmental model indicates the difficulties of coming up with solutions, in what he also refers to "politicking". Where the president has more than just his supporters to consider. He has to please the hard liners, and other factions that would make it difficult to make a decision (Allison,1971). This could once again be illustrated when Obama had difficult in passing the bill in congress of shifting the authority and responsibility of drones back to Pentagon. This is part of the decision making process and the results then depends upon which administration is in power. The t-test result in hypothesis 3 indicated that there is a statistical significance in the total number of civilian casualties from the years of when Bush was President to when Obama was president. What could be observed from the raw data was that in the beginning years of Bush one can observe how he issued less drone attacks from towards the end of his presidency. While Obama on the other hand did the reverse, where he in the beginning of his presidency issued more attacks than towards the end. However, what is interesting to note is that in the raw data one could observe how Obama issued more attacks

than Bush. Therefore, it is important to observe it with the context of the time period of when they were both president and the conditions which they had to face and this is where which politicking becomes essential. Bush faced the aftermath of 9/11, a time period where a lot of Americans felt they wanted answers and justice (Dodds, 2008). While, Obama faced the after math of many years of military presence in Middle East and the American people wanted their soldiers back home and the citizens had begun to questioning Americas involvement in the Middle East (Cohen, May 23, 2013). Obamas promise to the American people was to bring back the soldiers, and may then also signify the more usage of drones compare to Bush. One could argue that the contextual conditions do have an effect, and the administration of that time period ability to solve the issues under such circumstance. Their ability to politicking in a manner which pleases and make a decision follow through. For such reason I argue that depending upon which administration is in office and what challenges it faces, drones has a tendency to lead to more civilian casualties.

Finally, I argue that the t-test of the three hypotheses indicates that target value, organizational level and administration, are all three conditions of which effects how drones are being used and thereby also does have an effect on the civilian casualties one way or another. When it comes to the proportional principle, it seems as if U.S. is in fact complying with the proportional principle. However, these conditions do illustrate a pattern of when civilian casualties tend to be greater in the usage of military weapon such as drones. However, it is essential to note, that these tests in itself does not explain alone the reason of why there is trend of a higher number of total civilian casualties. I argue, that it is essential to also observe the context. By context, I refer to other variables such as time period, major events and other technological developments. An observation made from the year of 2002-2016 allowed us to understand what other events occurred in order for a decision of issuing drones were made. By observing the years, we have both established which administration was in power, as well as what events occurring at that time and how that effect the result of the decision making process.

<u>7. DISCUSSIONS OF RESULTS</u>

In this section I will discuss the result presented from the t-tests. In the first part I will begin with identifying the cofounding variables for this study. In the second part I will discuss the limitations of the sources used and the implications it has for this study.

Identifying the Confounding Variables
The t-tests gives us the results depending upon a null hypothesis, which gives us a yes or no answer, whether if the hypotheses has any difference of statistical significance or not. By solely observing the samples from the t-tests it would seem as if its result is absolute. However, it would be ignorant to argue that such is the case. As briefly discussed in previous paragraphs, it is not enough to only view the results from the t-tests. The cofounding variable, is what has an effect on both the dependent and independent variable. In other words, there may be other factors which contributes to when and why under certain conditions civilian casualties are at greater risk during drone attacks. As well as why the proportionality principle has been disregarded in some individual cases.

The t-test indicates that there is a statistical significance of the total number of civilian casualties between the years Bush and Obama were in office. However, it does not explain to us the following reason of why during the whole time period Pakistan has been the country which has been attacked the most. However, during the two different administrations one can observe that the target shifted within Pakistan. Illustrated from the webpage of the TBIJ, during the Bush administration, more than one third (1/3) of the targeted strikes was Al Qaeda. While, during Obama, the main focus has been on targeting the Taliban and Haqqani network. The question then remains is if the shift in target has to do with the goal of the administration, or if it has to do with the value of the target has changed? In other words, the cause of threat has changed, which has resulted in a change in the premises and ways of conducting warfare. Thus, I argue that the confounding variable is the time period and the context itself. In other words, the conditions and events that has taken place effects the result of the total number of civilian casualties.

The statistical finding indicates that during Obamas administration, has issued more drone attacks in comparing to when Bush was in office. Here I argue, that the cofounding variable is the level of development. It should not go unnoticed that the development of drones has enhanced in recent years. During the Bush administration, in 2002, drones was at its first use

for targeted killing(Greg,2016). Prior, its main intentions had been surveillance. Thus, this may then be a factor which effects the difference of the total number of civilian casualties. Where drones were not as developed as it was then and its usage was not as common. Soldiers in the battlefield was still the main resource (Cohen,2013, May 23). This can be seen in the case of Afghanistan, we know that Bush did intervene in Afghanistan during his years in office, yet, no drones were issued towards during his presidency. Moreover, this may one wonder if the proportionality principle was more taken into consideration or whether the technology development of drones was its factor in its increase of usage during the time period of Obama's presidency.

Another cofounding variable which is difficult to identify and measure is the international pressure from example of organizations such as UN. The question is, how does one measure in quantity the worth of international recognition and image? Although, discussed a bit in the analysis, this context is important to take into consideration, since it may very well effect the choices made. This variable may be possible to observer in a more qualitative study by observing events and possible triggers which lead to a decision of performing a drone attack. Hence, this is something which would not be possible for this study to do. Yet, it still remains important to take this into consideration when reading the result from this study.

Now, as the confounders variable has been identified, the question that remain is, what does it entail for this paper? Controlling the cofounder variables for this study is difficult. Yet, with the use of Allison's theory and the usage of a quantitative method, this paper has attempted to eliminate as many confounding variable as possible. Where context and situational understanding has been taken into consideration by using three different conditions. However, it is not possible to undertake all possible scenarios. I believe that it is important to take the cofounder variables into calculation when conducting such a study. Yet, it does not entail for one to rule out the study completely due to its cofounding variables.

Limitations of Sources
As previously mentioned there is a debate in the existing literature today which discusses the possibility of using quantitative measures for this particular question at task. Whereas my study contributes to emphasizing its ability. However, that does not minimize that there is indeed some limitations to this study as well.

One of the main critiques to the existing data collected by the TBIJ journalism" is the identification of who is actually called a "militant". The main debate is concerning of how one identify the civilian and who is the alleged enemy (Akersan,2014). Arguing that the represented data is a bit skewed. Thus, the question then becomes, how damaging is such effect for the study of understanding of drones effects on civilians' casualties and what does that entail for measuring the proportionality principle? Since the proportionality principle measuring and quantification is dependent upon understanding the different number of civilians killed versus militant killed. The problem here is that this becomes a question of subjectivity. Thus, this becomes the same conundrum of one person's freedom fighter is someone's terrorist. These question tend to have a more ethical and moral debate, which we do need to ignore in this paper in order to gain the general understanding. Although, it is important to acknowledge such limitations, I believe that this data can still provide such information which is essential for the purpose for this paper. Another critique on this particular data is the lack of possibility to observe all the attacked countries. There are some data missing for some countries and more available for others. Where arguments has been put forward that, these are cases which needs to be observed individually and separately (Akersan, 2014). However, I argue its availability does not necessarily have to mean the data is inadmissible. Instead, it becomes important to understand why such data is missing and what does that entails? Therefore, I opted for a quantitative research method and a theory which of allows for a greater depth within a general explanation. In challenges such as this, it becomes important to observe the context.

Another limitation of the sources is grounded on how the TBIJ actually collected its sources. Where their findings have been based on newspaper articles. That generates a dilemma of biasness which may exist in some newspapers. Yet, another problem which the TBIJ themselves acknowledge is the that they are using an active dataset. An active dataset indicates that the result may differ depending upon new material. In other words, it can continuously be updating depending upon the notion and understanding of what is regarded as an "attack". For example, CIA has until this point still not recognized its responsibility for some of its attack in Yemen. While, in some cases the total civilian casualties have come up years later (New America, n.d). For that reason, it is important when reading this data, one has to take into consideration that this is a rough data of which can update and change depending upon the understanding of who issued the attack, later recognition and confirmation of attack. Yet, the existing data still explains to us that under certain conditions,

drone attacks are more likely to lead to a larger number of civilian casualties. And if a drastic change in the dataset would occur, one can perform the t-test once again and see if it generates a different result. Yet, I firmly believe that based on the quantitative method used in this research and the different conditions based on Allison's theory, this study gives us comprehensive evidence. Now, it would be ignorant to not acknowledge the fact that the sources used in this paper do have some loopholes. Making the study difficult to study. Even so, I believe that the weakness in the sources can be outweighed with the usage of quantitative method and as well the usage of Allison's theory of Essence of Decision Making.

Limitations of Data variables
The total observation of target value was not as grand as one would have hoped. There was also not always comparable in the sense that the number of attacks differed for each tested group. For some of the hypothesis there were more numbers to evaluate than others, which then also gave a skewed proportion. There was also not enough evidence to illustrate for each attack who the actual target was. Thus, this then make the total observations number low. One may therefore claim it to be a limitation the study where it would be more desired to have a larger number of observation in order for the statistical significance to be stronger. There was a similar case, when it came to observing the organization variable, where it was only possible to observe one year for condition 2 in the statistics. Yet, it was in that year a shift occurred, which then also caused the number of observation be that low. Thus, when observing these patterns, it is important to have in mind that the numbers were not equally distributed, depending upon what one is asking.

8. CONCLUSION

There is an unresolved debate regarding the challenges on how to apply existing international legal frame work onto autonomous weapons such as drones. The discussion on whether the proportionality principle is taken into consideration when using drones is a topic which is part of this debate. Nonetheless, what becomes vital, in order to understand the proportionality principles relationship with drones is the understanding if drones in fact do lead to more civilian casualties or not. I examined data on 733 drone attacks by U.S. in four countries between the years of 2002-2016. I theorized with Allison's theory the scope of civilian casualties would depend on three factors. The value of the initial target, the organizational level and depending upon the current administration in office. Three principle findings

emerged from my analysis. First, the result indicated that based on the value of the target, the toll of civilian casualties differs and illustrates a statistical significance. Secondly, it's possible to observe a difference in the number of civilian casualties between the organizations. Thirdly, the results demonstrate that depending on the administration in office the toll of civilian casualties tends to differ as well.

As autonomous weapons such as drones are more frequently being used, it becomes relevant to observe under what conditions it exceed the necessity of means. However, the result from the dependent variable indicated that on an average the proportionality principle was complied with. This conclusion could be made due to the civilian casualties were in proportion to the total casualties in the attacks. However, in some individual cases observed in the raw data it was possible to observe that such was not always the case. Thus, it makes one understand that in some cases the proportionality principle is being ignored. Hence, the result from the three findings has illustrated that the organizational and administration effect illustrates a pressure from the "functional powers" and also other political interest. Whereas the target value illustrates under certain conditions the military response is an excessive use of force for the achieved goal and necessity. These results are based on a limited statistical analysis where some of the test have small number of observations and that should be taken into consideration. However, it's still fair enough to claim that with the development of drones, it is not the lack of information that leads to its lethal effects, instead its growing ignorance by the decision makers and those in power. Moreover, it is not necessarily an increase in civilian casualties which indicates on a disregard for the proportionality principle. It is instead the disproportion in the civilian casualties amongst the total casualties.

My study makes three contributions to our understanding of U.S. drone attacks and LOAC. Firstly, the usage of autonomous weapons such as drones, is a choice made by decision makers. Therefore, political interests and organizational pressure does effect the usage of who use it and whom becomes an initial target. Secondly, is that one can observe that under these certain conditions the usage of drones becomes more lethal. Thirdly, this paper is putting it out there that U.S. are prone to comply with the proportionality principle on an average but under certain context and conditions it is possible to observe that the proportionality principle is not being applied.

This paper focused on the categorization on semi-autonomous weapons, yet, the growing technology for autonomous weapons indicates that further research needs to be done. Particularly in other areas of autonomous weapon systems such as "supervised autonomous weapon system" and "semi-autonomous weapons" (Redcross, 2014). Moreover, as AI is developing there is a progress and shift from conventional warfare (Redcross, 2014). Simultaneously, the results from this paper indicates the LOAC has not managed to catch with developments of drones. Consequently, what needs to be done is further research on under what conditions regulation is necessary and how to deal with the norms and existing rules of just war when the pretext for war has changed (Greg, 2017). It is possible to replicate this research into further and advanced autonomous weapon system as well in order to understand its lethal effects and under what conditions they are more harmful. Yet, until today there is not enough data which would give enough observation in order to determine and give us an adequate result. Since the other categories of autonomous weapons has not been as frequently used as drones. Despite such, one could use the variables applied from Allison's theory in order to understand under what conditions a nation is more or less likely to use other forms of autonomous weapons. Nonetheless, it is also important to identify other forms of independent variables to see if a different result would emerge. Another interesting independent variable that could be interesting is the identified cofounding variable of technology development (Cohen, 2013). Where one were to do a similar t-test based upon the technological development of drones. Finally, in the last concluding remarks it becomes safe to say that with the development of autonomous weapons, the need for a more developed legal framework is necessary.

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