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THE IMPACT OF INDIVIDUALISM ON THE SIZE OF TERRORIST ACTORS

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ABSTRACT

How does the individualistic or collectivistic cultural nature of a country affect which types of terrorism that country experiences? This paper explores the connections between the individualism cultural dimension and the size of terrorist actors in order to be able to better predict what types of actors are more likely to commit terrorist attacks in various places. Finding links between culture and terrorism can help countries to make more effective terrorism policy; this research specifically attempts to determine which actors certain categories of countries should be most concerned about and subsequently tailor their policy towards. Results were inconclusive: some results showed a significant positive relationship between individualism and the percentage of attacks committed by individuals while others with different control variables did not. No significant results were found in the relationship between individualism and the percentage of attacks committed by groups. This shows some evidence signaling a relationship between a state's culture and the terrorist attacks within it but no conclusive results in this analysis.

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Chapter 1

Introduction

In both academia and the policy world, there is a constant and dynamic desire to better understand terrorism: where it comes from, what signs may foreshadow it, who commits it, and how to prevent future attacks. There has been a plethora of research done, particularly in the past two decades, to answer these questions from seemingly every angle possible. One under-explored relationship is that of culture and terrorism. This may be because it can be difficult to scientifically study culture: quantification requires judgment and there are endless ways to interpret and analyze culture at a region, state, tribal, or individual level. But nevertheless, it is a crucial realm to research because of the potential impacts it could have on mitigate the effects of terrorism that are felt worldwide.

Not only would clear relationships between culture and terrorism help determine counterterrorism policy in regards to preventing attacks, but also it would also have implications for the formation of terrorist groups and lone-wolf terrorists. By more intimately connecting these two phenomenon, culture and terrorism, psychologists, sociologists and political scientists could to help shape a world without terrorism by countering not just the attacks themselves, but factors that nurture terrorist activity. The results of this body of research have so far been mixed and inconclusive with results appearing in certain niches, but lacking one overarching picture of the relationship. This is to be expected, as culture even more muddled than the definition of terrorism, but even minor advances in understand on this subject can be helpful in pushing forwards.

This paper will build on the foundation for exploring this relationship by looking at one narrow theory in a way that has been quantified without significant objection in the past. My theory is relatively straightforward: individualistic societies, those placing emphasis on individuals, will experience higher rates of terrorist acts committed by individuals while collectivist countries, those placing emphasis on groups, will experience higher rates of terrorist acts committed by groups. The goal of this research is to find links between one aspect of a culture that can be used to help predict future acts of terrorism and in this way, help countries in deciding on a more effective counterterrorism policy.

There are a few ways to approach this idea but this paper will focus mainly on one "theme" and then introduce a few variations to test the robustness of the significance found in the first set of results. Two separate hypotheses will be tested. The first is that more individualistic states will see higher rates of terrorist attacks committed by individuals. The second is that more collectivistic states will see higher rates of terrorist attacks committed by groups. If I find relationships between these independent and dependent variables in either hypothesis or both hypotheses, it will support my theory that there are links between the level of individualism and collectivism in a society and the actors involved in terrorist attacks. Whether or not a relationship exists will be determined on whether or not my results are statistically significant.

Chapter 2

Literature Review

First and foremost, it's important to begin with a discussion of the concept of individualism and collectivism and to define these terms before being able to recognize the connection they may have to terrorist activity. Much of the foundational research into the cultural phenomenon of individualism comes from the writings of Geert Hofstede, a Dutch social psychologist who has pioneered research on cultural dimensions since 1970. Having been a factory worker in the Netherlands before pursuing research, much of his work stems from the psychology of workers across countries (Hofstede 2013). This includes the dataset used for this research, which was complied based on surveys of workers in each country coded for the dataset.

In its most basic form, Hofstede said that individualism, "describes the relationship between the individual and the collectivity which prevails in a given society… It is reflected in the way people live together – for example, in a nuclear families, extended families, or tribes" (Hofstede 1984, 148). This natural part of culture has far reaching implications. Hofstede discussed these implications in saying they are "intimately linked with societal norms (in the sense of value systems of major groups of the population)," and that they "affect both people's mental programming and the structure and functioning of many other types of institutions besides the family: educational, religious, political, and utilitarian." (Hofstede 1984, 149). The individualistic nature of a society directly impacts how we view ourselves and subsequently dictates how we interact with others. Hofstede (1984, 152) said that collectivistic societies require organizations to have emotionally dependent members. This is important for future

discussion because of the investment an individual must have in a group in order to join and commit subsequent actions that uphold a group ideology, particularly one as consequential as terrorism.

Another author who has written substantially in the field of individualism and collectivism is Dr. Harry C. Triandis. In the article "Individualism and Collectivism: Cross-Cultural Perspectives on Self-Ingroup Relationships", authored by Triandis and co-authored with Robert Bontempo, Marcelo Villareal, Masaaki Asai, and Nydia Lucca, it is shown that the level of individualism or collectivism is also linked to health factors such as one's stress level, ability to lose weight, and likelihood of mental health problems (Triandis et al. 1988, 327). These cultural factors play a much larger role in our lives than most people realize.

More authors have looked at the links between psychology and terrorism, notably John Horgan in his 2006 book "The Psychology of Terrorism". In this book, one of Horgan's main conclusions was that, in general, terrorists don't have any identifiable psychopathy and they are "frighteningly normal". This gives these results more significance within the field of predicting terrorism because it shows that identifying probable terrorists is not as simple as conducting a psychological evaluation. Instead, these terrorists may seem "normal" because the factors that influence them to become terrorists are commonplace in that society, as they are linked to the culture that the population of the country shares.

In recent years, more authors have looked at the links between culture and terrorism using similar methods to this research. This includes the recent research done by Michele Gelfand, Gary LaFree, Susan Fahey, and Emily Feinberg in the article "Culture and Extremism" from 2013. In this article, Gelfand et al. looked at a variety of cultural factors including fatalism ("the belief that one's destiny and life events are pre-determined"), tightness-looseness ("if

societies are tolerant of deviation from social norms"), gender egalitarianism ("the degree to which a collective minimizes gender inequality"), power distance ("the degree to which members of a society expect and accept inequalities") and most relevantly, individualism and collectivism ("the extent to which people are autonomous individuals or embedded in their groups") (Gelfand et al. 2013, 8-15).

Due to the variety of cultural factors that Gelfand et al. researched, there are many hypotheses throughout their article. The most relevant to my discussion is their hypothesis that collectivistic countries will experience more terrorism than individualistic countries. They theorized this would be the case because "this socialization naturally makes it easier for individuals in collectivistic nations to join the fight, and commit to and sacrifice themselves for the good of the group" (Gelfand et. al 2013, 12). They also cited a 2011 article by Orehek, Sasota, Kruglanski, Ridgeway, & Duchesne that found that collectivism lowers one's fear of death. Just as I will be doing in my research, Gelfand et al. used the Global Terrorism Database in order to test their hypotheses. Instead of using Hofstede's index for individualism scores, they used an index from House et al. (2004) that measures individualism-collectivism, gender egalitarianism, and power distance. This dataset includes measurements of individualism-collectivism for 62 nations, less than the dataset produced by Hofstede. After compiling data for all of their variables, Gelfand et al. were only able to analyze 21 countries. Another important note is that Gelfand et al. controlled for both economic development of a country and the religiosity of a country using data from the World Bank and the World Values Survey. What Gelfand et al. found was that while four out of the five cultural factors they research did appear to relate to the level of terrorism in a country, as well as the number of fatalities these attacks result in, the cultural dimension that had a weak relation with their terrorism indices was

collectivism saying outright “the data at the culture level do not show strong support for the idea that collectivistic nations have increased terrorism” (Gelfand et al. 2013, 26). Though this one finding demonstrates a potential lack of a relationship between culture and terrorism, the rest of Gelfand et al.’s findings show the opposite: culture and terrorism are related.

Most research looking at culture and terrorism seems to follow the same path as Gelfand et al. looking at the amount of terrorism a country experiences, as well as the lethality of those attacks. Kulch and Vaux (2017) did similar research to Gelfand et al., also hypothesizing low individualism scores would result in higher levels of terrorism. Their hypothesis stems from research by Brian Jenkins in 1985 who determined that terrorism is not evenly distributed across the world; there are regions that see a much higher concentration of attacks than others. Kulch and Vaux use the same data as this paper: the Global Terrorism Database and Hofstede’s cultural dimensions. They also used Gallup polling data for certain aspects of their analysis that are less relevant to this paper. Their findings were, unsurprisingly, much like Gelfand et al.’s. Low individualism (collectivism) was only significantly correlated with one aspect of terrorism: “proportional lethality (the percentage of incident with 1 or more fatality”. Their overall conclusion was much like the one this paper will present: “Broadly, the principal research question of this study was this: Is there a relationship between Hofstede’s cultural dimensions and terrorism? On this question, the findings were not straightforward; rather, they were complicated, inconsistent, and only partly supported predictions, suggesting some unexpected directions for future research.” (334).

There have been a handful of studies that have found relationships between collectivism and terrorism. The most substantial of these was done by Robert Davis in 2009 where he found that suicide bombing was far more likely in collectivistic countries. He stated: “The presence of a

collectivist culture is a required element of suicide terrorism campaigns. Terrorist organizations that originated in countries with a collectivist culture are responsible for nearly 98 percent (2,149 of 2,202) of all suicide attacks from 1981 through 2006. Although the degree to which a collectivist culture may cause suicide terrorism is unknown, there is enough evidence to conclude that collectivist cultures are a key input to the development of communities that support suicide terrorism." The other main aspect of terrorism that was found to be correlated with individualism is the acceptance of terrorism as a method to instigating social change. For example, Daniela Peterka-Benton and Bond Benton in 2014 found this relationship "between collective cultural identity and the acceptance of terrorism as a vehicle for social change," while Kulch and Vaux found that rejection of the 9/11 attack was correlated with countries that are more individualistic.

Combined, this research presents conclusions similar to much of the research done on terrorism: mixed results and inconclusive evidence for solutions. There are some aspects of culture that have clear correlation, if not causation, to terrorist activity, while others have a strong theoretical argument for their impact but a lack of research supporting that conclusion. This paper will add to that collection, following the theme of a clear theoretical link that is intermittently supported by the data.

Chapter 3

Explanation of Variables and Data Collection

Independent Variables

This research looks to explain the type of actor by looking at a country's individualism score. The database of individualism scores used was part of Geert Hofstede's *Culture's Consequences* book published in 1984. He defines it most simply as "the degree of interdependence a society maintains among its members". The rest of the database includes four other scores for Hofstede assigned to countries based on results from his surveys: Power Distance, Masculinity, Uncertainty Avoidance, Pragmatism, and Indulgence. These scores were all based off of surveys given to IBM employees between 1967 and 1973. Though this may seem outdated, Hofstede argues that the data is still relevant for modern day application because cultural changes take several decades for even a small impact to be made, especially in these very broad, overarching contexts. The indexes have also been updated or refined periodically throughout the last thirty years since its original publication. Individualism is assigned as a score from 0 to 100 with 100 being the highest level of individualism. The database currently includes 66 countries assigned scores in the original publication but 101 countries later assigned scores or assigned scores on a regional basis. In this paper, there are regressions based on only the original scores and separate, additional regressions that use the regional and estimated scores as well.

Dependent Variables

This analysis is primarily concerned with explaining percentage of terrorist attacks committed by individuals and groups. To operationalize this as two dependent variables, the variables used are the percentage of terrorist attacks in the country that were committed by individuals and the percentage of terrorist attacks in the country that were committed by groups. Analysis was done using an Ordinary Least Squares regression.[1] The dependent variable percentages were derived from the Global Terrorism Database (GTD), an open source database recording all terrorist events from around the world starting in 1970 that includes international as well as domestic events. The time span used in this research is 1970-2013 with additional analysis of the 1997-2013 period because the GTD started to more extensively list attacks as being committed by "individuals" starting in 1997. For an incident to be recorded in the database, it must fit two of three criteria:

> "Criterion 1: The act must be aimed at attaining a political, economic, religious, or social goal. In terms of economic goals, the exclusive pursuit of profit does not satisfy this criterion. It must involve the pursuit of more profound, systemic economic change.
>
> "Criterion 2: There must be evidence of an intention to coerce, intimidate, or convey some other message to a larger audience (or audiences) than the immediate victims. It is the act taken as a totality that is considered, irrespective if every individual involved in carrying out the act was aware of this intention. As long as any of the planners or

[1] An alternative method of analysis is a Tobit model and this could be used to explore this question again in further research.

decision-makers behind the attack intended to coerce, intimidate or publicize, the intentionality criterion is met.

"Criterion 3: The action must be outside the context of legitimate warfare activities. That is, the act must be outside the parameters permitted by international humanitarian law (particularly the prohibition against deliberately targeting civilians or non-combatants)" (GTD 2013)

The actor committing the attack is coded under "Perpetrator Group Name (gname)". The counts for attacks committed by individuals were those with the group name listed as "Unaffiliated Individuals". From the GTD: " For events that occurred post-1997, if the perpetrator is an individual who is not affiliated to a perpetrator group, this field is coded as "Unaffiliated Individual(s)." Though some events pre-1997 are coded with this as the perpetrator group, so it's not entirely useless to discard the pre-1997 data, it was more systemically applied after 1997. This is why there is an analysis for the whole 1970-2013 time period and then a separate analysis for the 1997-2013 period. There are occasional events where an individual's name is listed as the group name and those are also included as individual attacks. Because there are many attacks listed with "Unknown" as the perpetrator name, I also found the percentage of attacks where the number of perpetrators was listed as "1" under the column "Number of Perpetrators (nperps)" and the attack was not credited to a group under perpetrator group name. Separate regressions were performed using the percentage of attacks committed by one perpetrator (which included those listed as being committed by individuals).

I also calculated the percentage of attacks committed by individuals as my second dependent variable. Again, the counts of attacks committed by groups used the "Perpetrator Group Name". Any attack that was credited to a specific group was counted towards the number of group attacks. For example, if the perpetrator group name was listed as "Abu Sayyaf Group (ASG)" it was counted as a group attack, but if it was listed as "Islamic Fundamentalists", "Palestinians" or "Students", it was not counted. According to the GTD: "in cases where a particular individual perpetrator is not identified, and a perpetrator organization is not identified, this field may contain generic designations for perpetrators that do not represent a cohesive unit. For example, 'Protestant Extremists.'" It is these generic group names that were not included in the count of group attacks. This was intended to separate attacks that were committed by clearly identified groups that those in collectivist societies may have been very closely tied to, rather than loose groups that didn't require as much buy-in and commitment from members. This is not a perfect system for analyzing this relationship, but given time and resource constraints, this was the system used for this analysis.

Control Variables

There are several control variables used in this analysis: Democracy, Freedom, Religion, and GDP. A country's democracy score was drawn from the Economist Intelligence Unit's Democracy Index from 2010. Countries are assigned a score from 0 to 10 with 10 being a full democracy. These scores are based on five subcategories of scores: the electoral process and pluralism, the functioning of government, political participation, political culture, and civil liberties. Freedom scores were taken from Freedom House's Freedom in the World 2016 report

and scores were taken from aggregate score assigned by Freedom house looking at political rights and civil liberties in a country. Religion was used as a dummy variable where countries were coded as a 1 if they had an official religion and a 0 if there is no official religion. This information was taken from the National Bureau of Economic Research's report "Which Countries have State Religions" by Robert Barro and Rachel McCleary from 2004. Analysis is done using various groupings of control variables. Because factors like religion and civil rights are very intertwined with the level of individualism in society, it is important to look at the various combinations of control variables and their effect on the results, as well as to analyze the relationships between the independent variables and the dependent variables without control variables at all.

Dataset Preparation

This research required a dataset to be made using the Global Terrorism Database. The database lists every incident, but this analysis used counts instead. To arrive at these counts, each country was analyzed and numbers of various types of attacks were recorded. The dataset of counts of attacks included the following categories: total attacks, attacks by individuals, domestic attacks by individuals, international attacks by individuals, group attacks, domestic group attacks, international group attacks, all group attacks (included the generic group names previously discussed such as "right wing fundamentalists"), domestic all group attacks, international all group attacks, attacks by "unknown" perpetrators, attacks with one perpetrator, domestic attacks with one perpetrator, and international attacks with one perpetrator. All of these

counts were recorded for both then entire 1970-2013 time period and separately for the 1997-2013 time period. As mentioned before, to account for the different amounts of terrorist activity that countries experience, the dependent variable was percentage of attacks by a certain type of actor. To find this, the number of attacks by perpetrator was just the count of each type of attack divided by the total number of attacks in that time period. This process resulted in all of the necessary terrorism data for analysis.

Individualism scores were taken directly from Hofstede's dataset and no modification was necessary. Original scores were recorded first and then scores that included regional scores and later additions of country scores were recorded as well to compare the two and verify the later scores could be accurately used for analysis. Kulch and Vaux's analysis used the scores including regional scores and later additions, providing helpful research precedent for using them. Control variable were also added to the dataset but none needed modification.

Dataset Summary Statistics

Table 1. Dataset Summary Statistics:

Variable Name	Observations	Min.	Mean	Max	Std. Dev.
Individualism Score	66	6	41.636	91	23.224
Individualism Score with Additions	100	6	38.4	91	20.617
Democracy Level	162	1.08	5.454	9.8	2.22
GDP	205	0	3.863	150.8	12.291
Freedom Score	181	0	57.746	100	29.555
State Religion	175	0	0.457	1	0.498
% of Indiv. Attacks	205	0	0.013	0.333	0.0428
% of Indiv. Attacks ‘97	205	0	0.04	1	0.0627
% of One Perp. Attacks	205	0	0.06	.875	.117
% of One Perp. Attacks ‘97	205	0	.112	1	.124
% of Group Attacks	205	0	.316	1	.264

Chapter 4

Results and Discussion

Results will be presented in 6 tables organized by changes in the independent and dependent variables. These tables will be discussed individually and relative to one another and then an overarching discussion of the collective results will be presented afterwards. The first table uses the original individualism scores determined by Hofstede as the independent variable and the percentage of attacks committed by individuals throughout the entire time period (1970-2013) and serves as a baseline for comparison to the subsequent tables. The additional tables use individualism scores with the later additions as an independent variable, percentage of attacks committed by one perpetrator as a dependent variable, and adjust the time period of the analysis to be 1997-2013. The final table includes the analysis for individualism score (with and without additions) to explain the percentage of attacks committed by groups. For additional results, including those discussed but not presented, see Appendix A.

Table 2. Percent of Attacks by Individuals (All Years) Model:

The effect of individualism score, democracy, GDP, freedom and religion on percent of attacks committed by individuals.

	(1)	(2)	(3)	(4)
Individualism Score	0.0004 (.002)*	0.0002 (.000)	0.0004 (.000)**	0.0004 (.000)**
Democracy Level		0.0086 (.006)		
GDP		0.0001 (.000)	0.0001 (.000)	
Freedom Score		-0.0004 (.000)		
State Religion				0.0077 (.009)
Constant	-0.0047 (.009)***	-0.0292 (.016)*	-0.0048 (.009)	-0.0085 (.010)
Observations	66	66	66	65
Chi-Square	353.87**	295.38**	426.32**	277.23**
R-square	0.0784	0.1377	0.0873	0.0884

	(5)	(6)
Individualism Score with Additions	0.0004 (.000)**	0.0004 (.000)*
Democracy Level		0.0013 (.005)
GDP		0.0001 (.000)
Freedom Score		-0.0001 (.000)
Constant	-0.0032 (.009)	-0.0027 (.013)
Observations	99	97
Chi-Square	1131.5**	1123.1**
R-square	0.0406	0.0454

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.
* indicates significance at the 0.1 level.

These first results provide an important foundation for comparison of results found during later regressions using slightly different variables or time periods. Comparing models (1) and (2), it is clear that with the addition of several control variables, the significance of the country's individualism score on the percentage of attacks committed by individuals disappears. Throughout all of the analyses, the relationship remains positive which agrees with the presented theory. Individualism score does become more significant when only GDP or State Religion are controlled for, an interesting result given that religion is generally seen as one of the foundational elements of the individualism level of a society. Most religions are also associated with a collectivist society, so it is notable that this relationship is positively correlated with attacks by individuals (though it was not run directly against individualism scores in this analysis).

Models (5) and (6) differ from the first because it uses the expanded individualism score data (with the regional estimates and countries coded at a later date) and provides a larger sample size. Compared with regression (1), regression (5) differs on the standard error of the independent variable and it becomes more significant as more countries are added to the analysis. Interestingly, the R-squared value of the regression decreases with the larger sample size, reducing the overall impact of implications that can be drawn from the higher level of significance. The significance also remains when control variables are added, though decreases. This is one of only two regressions where the individualism score remains significant when three control variables are added which again limits the conclusions that can be drawn from the significance.

Table 3. Percent of Attacks by One Perpetrator (All Years) Model:

The effect of individualism score including regional and late addition scores and religion on percent of attacks committed by individuals.

	(7)	(8)
Individualism Score	0.0012 (.000)*	
Individualism Score with Additions		0.0010 (.000)**
Constant	0.0163 (.031)	0.0279 (.029)***
Observations	66	99
Chi-Square	415.06**	762.99**
R-square	0.0475	0.0245

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.
* indicates significance at the 0.1 level.

Table 3 changes the dependent variable slightly to look at the percentage of attacks committed by one perpetrator, but the results remain consistent. Model (7) retains the same level of significance as Model (1) and Model (8) shows similar results to Model (4) where the individualism score is significant when only controlled by state religion. Model (9) follows the same trends as Model (5) when only Individualism scores with addition are used and there are no control variables. All in all, Table 3 shows that the usage of “One Perpetrator” as compared to “Individual” does not make a sizeable difference in the results of this analysis, even in the period when attacks by individuals were not as well coded (pre-1997). One notable difference is that when only GDP is controlled for using one perpetrator instead of individual, the individualism score is not significant, as seen with the initial regressions. Individualism score does still remain significant when only state religion is controlled for.

Table 4. Percent of Attacks by Individuals (Post-1997) Model:

The effect of individualism score, GDP, and religion on percent of attacks committed by individuals.

	(9)	(10)
Individualism Score	0.0014 (.001)**	
Individualism Score with Additions		0.0014 (.001)***
Constant	-0.0126 (.027)	-0.0157 (.023)
Observations	65	98
Chi-Square	222.26**	598.15**
R-square	0.0897	0.0716

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.
* indicates significance at the 0.1 level.

Table 4 limits the time period of the analysis to attacks that occurred post-1997. During this time, not only were attacks by individuals better recorded but there was also the aforementioned increase in lone wolf type attacks. This theorized impact is seen slightly in Models (9) and (10) as compared to Models (1) and (5) respectively. The smaller time period shows a slight increase in the significance that the individualism score (with and without control variables. The pattern of significance when controlling for GDP or State Religion but not Democracy or Freedom Score was also found in the results of the analysis of the post-1997 period.

Further analysis was done using the amount of one perpetrator attacks as the dependent variable in the post-1997 period. Similar to Table 3, it does not diverge from the comparable table using the “Individual” dependent variable except in the post-1997 model, the amount the attacks increase based on the individualism score increases to a level that is noticeably greater

than first seen (Model (1) has a individualism score value of .0004 while the comparable regression using one perpetrator has increased to .0034). The R-squared values have also increased slightly so individualism scores now account for 10-11% of the variation seen in the percentage of attacks committed by one perpetrator.

Table 5. Percent of Attacks by Groups (All Years) Model:

The effect of individualism score, democracy, GDP, and freedom on percent of attacks committed by individuals.

	(11)	(12)
Individualism Score	-0.0001 (.001)	-0.0010 (.001)
Individualism Score with Additions		
Democracy Level		-0.0480 (.035)
GDP		0.0002 (.001)
Freedom Score		0.0051 (.003)*
Constant	0.3684 (.053)***	0.3648 (.095)***
Observations	66	66
Chi-Square	2.601	0.458
R-square	0.0003	0.0693

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.
* indicates significance at the 0.1 level.

Table 5 includes a sample of results from the analysis done to test the second hypothesis that a lower individualism score, signifying a more collectivistic society, would lead to a higher percentage of attacks committed by groups (excluding generic groups). Even in the instances where a relationship was found for individualism and individual attacks, there was no relationship found for collectivism and group attacks. No regressions presented any level of significance between these two variables and thus the null hypothesis that there is no relationship

cannot be rejected, leaving no policy implications to be drawn from this side of the research question but certainly room for further research.

Overall, there were results that showed a relationship between a higher individualism score in a country and a higher percentage of terrorist attacks in that country that were committed by individuals. This relationship, although a small increase in the percentage, is significant at various levels dependent on the exact variables used. Even with slight modifications of both the independent and dependent variables (e.g. including additional individualism scores and looking at "one perpetrator" rather than "individual" attacks) very similar patterns were found and the same results remained significant. This relationship also stood in situations with various control variables, though not all of them. It was consistently found to varying degrees of significance when only GDP or only the presence of an official state religion was controlled for, but no relationship was found when the level of democracy or level of freedom was controlled for either individually or in conjunction with each other or other control variables. This may be because individualism is highly correlated with democracy and in this instance, the freedom score uses similar criteria to establish scores. Even a simple regression using this dataset shows significance at the .001 level when looking at the relationship between individualism and democracy. This same degree of significance is not found between individualism scores and GDP or state religion.

The results are somewhat consistent with the other literature discussed in this paper, most of which found intermittent relationships between individualism and levels or types of terrorism. For Kulch and Vaux (2017), individualism was only found to have an impact on the lethality rather than the overall amount of terrorism in a country. These same intermittent results are found in this paper where individualism is shown to have a relationship with the percentage of attacks committed by individuals, but collectivism is not found to have a relationship with the

percentage of attacks committed by groups. As Kulch and Vaux (2017) point out in their research, many of the studies that found significant results when looking at different cultural dimensions in Hofstede's dataset used a narrower focus when they found their results. Their conclusion from this was that "casting a wide net, as done in the present study, appears to have hidden rather than revealed relationships." (334). In this research, the effects of this were mitigated to some extent by the testing of two different time periods. The limitation of the time period to post-1997 attacks strengthened the previous relationships found but did not reveal any new significant results. These significant results that were found were found multiple times across several different adjustments, showing the robustness of the results and bringing more credibility to the implications drawn from these results.

Chapter 5

Conclusion

This research shows support for the theory that a higher level of individualism in a country signals a higher likelihood that terrorists attacks in that country will be committed by individuals. The goal of this research was to help refine state's policies on combatting terrorism and this could provide an important basis for changes in policy. States with a lower individualism score do not need to focus on mitigating attacks by individual actors as much as individualistic countries should. In some states where terrorism is a larger problem, this may not make as much of a difference, but for countries that only experience a few terrorist attacks who are better able to concentrate their counterterrorism efforts, this view may be able to be effectively adopted. This policy implication is not limited by a country's GDP or the presence of a state religion.

These results are not without their flaws. The analysis is limited by the amount of information that can be collected through the open sources used by the GTD. In some countries, even those with high levels of terrorism, over 80% of attacks are listed as being committed by unknown actors. This research attempted to mitigate the effects of this drawback by looking at those unknown attacks that were committed by one perpetrator, but unsurprisingly there are also high numbers of attacks where the number of perpetrators was unknown. This analysis is also limited by the number of countries assigned scores by Hofstede's research. There are only 101 countries given individualism scores even when additional scores are included. Some important countries, such as Afghanistan are excluded from this analysis. While these 101 countries are only half of the total countries in the GTD, they do account for approximately 82% of attacks committed. In the beginning, this research intended to account for transnational terrorism by

separating the counts and percentages of attacks committed by each type of actor based on the GTD's classification of domestic and international attacks. However, due to the lack of information, there were only a handful for individual attacks that could be classified as domestic or international. Because of this, one drawback of the results is that terrorist actors could belong to a collectivist country but attack an individualistic country or vice versa and this analysis has no ability to exclude these types of incidents. This research is also impacted by the extended time period and the selection and use of control variables. Many of the countries included have had significant changes in democracy level, freedom levels, and GDP between 1970 and 2013. Future research would benefit from better controlling for these variables over a longer time.

There are many openings for additional analysis to be done comparing cultural dimensions and terrorist actors. It would be interesting to see if Hofstede's other four cultural dimensions have any relationship with the prevalence of attacks by individuals or groups. Other research has shown significant relationships between these other dimensions and certain aspects of terrorism, so there is reason to believe that they may also help to refine where certain actors are more likely to commit attacks which could further refine policies implemented to combat terrorism. It would also be beneficial to separate domestic and international attacks in this research. Given that the goal of this research was to help refine counterterrorism policy, this was not as crucial of a component because the results hold for where attacks were committed and that is generally the target of a state's counterterrorism policy, finding data for where individual actors originated in could help in finding a terrorist profile and eliminating these threats earlier on the timeline of an attack. Finally, though one there was evidence to support the individual-individualism hypothesis, it would be beneficial for future research to look further into the group-collectivism hypothesis. It was the original intent of this research to see if attacks by large

groups were more prevalent in collectivist societies, but the classification of groups into large and small was not feasible. Any results supporting or further disproving this half of the theory would also allow countries to better refine their counterterrorism policy.

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Appendix A

All Regression Results

Percent of Attacks by Individuals (All Years) Model. The effect of individualism score, democracy, GDP, freedom and religion on percent of attacks committed by individuals.

	(1)	(2)	(3)	(4)
Individualism Score	0.0004 (.002)*	0.0002 (.000)	0.0002 (.000)	0.0004 (.000)**
Democracy Level		0.0086 (.006)	0.0039 (.002)	
GDP		0.0001 (.000)		0.0001 (.000)
Freedom Score		-0.0004 (.000)		
Constant	-0.0047 (.009)***	-0.0292 (.016)*	-0.0234 (.014)	-0.0048 (.009)
Observations	66	66	66	66
Chi-Square	353.87**	295.38**	262.18**	426.32**
R-square	0.0784	0.1377	0.1143	0.0873

	(5)	(6)	(7)	(8)
Individualism Score	0.0003 (.000)	0.0004 (.000)**		
Est. Individualism			0.0004 (.000)**	0.0004 (.000)*
Democracy Level				0.0013 (.005)
GDP				0.0001 (.000)
Freedom Score	0.0002 (.000)			-0.0001 (.000)
State Religion		0.0077 (.009)		
Constant	-0.0137 (.012)	-0.0085 (.010)	-0.0032 (.009)	-0.0027 (.013)
Observations	66	65	99	97
Chi-Square	306.36**	277.23**	1131.5**	1123.1**
R-square	0.0945	0.0884	0.0406	0.0454

Percent of Attacks by One Perpetrator (All Years) Model. The effect of individualism score, democracy, GDP, freedom and religion on percent of attacks committed by one perpetrator.

	(9)	(10)	(11)	(12)
Individualism Score	0.0012 (.000)*	0.0005 (.001)	0.0009 (.001)	0.0009 (.001)
Democracy Level		0.0062 (.021)	0.0070 (.009)	
GDP		0.0012 (.000)*		0.0012 (.001)*
Freedom Score		0.0002 (.002)		
Constant	0.0163 (.031)	-0.0241 (.056)	-0.0172 (.053)	0.0151 (.031)
Observations	66	66	66	66
Chi-Square	415.06**	312.84**	369.16**	376.77**
R-square	0.0475	0.1066	0.0567	0.0924

	(13)	(14)	(15)	(16)
Individualism Score	0.0009 (.001)	0.0011 (.001)*		
Est. Individualism			0.0010 (.001)**	0.0009 (.001)
Democracy Level				-0.0047 (.015)
GDP				0.0011 (.001)
Freedom Score	0.0004 (.001)			0.0002 (.001)
State Religion		-0.0077 (.031)		
Constant	-0.0059 (.044)	0.0206 (.036)	0.0279 (.029)***	0.0422 (.041)
Observations	66	65	99	97
Chi-Square	361.77**	397.81**	762.99**	718.02**
R-square	0.0553	0.0478	0.0245	0.0500

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.

* indicates significance at the 0.1 level.

Percent of Attacks by Individuals (Post-1997) Model. The effect of individualism score, democracy, GDP, freedom and religion on percent of attacks committed by individuals.

	(17)	(18)	(19)	(20)
Individualism Score	0.0014 (.001)**	0.0006 (.001)	0.0008 (.001)	0.0012 (.001)**
Democracy Level		0.0284 (.001)	0.0140 (.007)*	
GDP		0.0008 (.001)		0.0007 (.001)
Freedom Score		-0.0011 (.001)		
Constant	-0.0126 (.027)	-0.0989 (.047)**	-0.0799 (.044)*	-0.0134 (.027)
Observations	65	65	65	65
Chi-Square	222.26**	167.36**	149.48**	272.12**
R-square	0.0897	0.1786	0.1400	0.1112

	(21)	(22)	(23)	(24)
Individualism Score	0.0010 (.001)	0.0014 (.001)**		
Est. Individualism			0.0014 (.001)***	0.0010 (.001)
Democracy Level				0.0101 (.012)
GDP				0.0006 (.001)
Freedom Score	0.0007 (.001)			-0.0004 (.001)
State Religion		0.0137 (.027)		
Constant	-0.0471 (.037)	-0.0193 (.031)	-0.0157 (.023)	-0.0368 (.033)
Observations	65	64	98	96
Chi-Square	180.52**	198.27**	598.15**	603.87**
R-square	0.1151	0.0917	0.0716	0.0957

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.

* indicates significance at the 0.1 level.

Percent of Attacks by One Perpetrator (Post-1997) Model. The effect of individualism score, democracy, GDP, freedom and religion on percent of attacks committed by one perpetrator.

	(25)	(26)	(27)	(28)
Individualism Score	0.0034 (.001)***	0.0015 (.001)	0.0018 (.001)	0.0032 (.001)**
Democracy Level		0.0558 (.039)	0.0357 (.016)**	
GDP		0.0013 (.001)		0.0010 (.001)
Freedom Score		-0.0015 (.003)		
Constant	0.0050 (.059)	-0.1942 (.103)*	-0.1664 (.096)*	0.0039 (.060)
Observations	65	65	65	65
Chi-Square	118.41**	80.166**	72.500**	129.64**
R-square	0.1069	0.1919	0.1727	0.1165

	(29)	(30)	(31)	(32)
Individualism Score	0.0022 (.001)	0.0034 (.001)***		
Est. Individualism			0.0038 (.001)***	0.0027 (.001)*
Democracy Level				0.0238 (.026)
GDP				0.0008 (.001)
Freedom Score	0.0021 (.001)*			-0.0004 (.002)
State Religion		0.0372 (.059)		
Constant	-0.0940 (.081)	-0.0120 (.069)	-0.0130 (.051)	-0.0879 (.072)
Observations	65	64	97	96
Chi-Square	79.537**	101.97**	239.75**	213.69**
R-square	0.1490	0.1097	0.1016	0.1311

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.

* indicates significance at the 0.1 level.

Percent of Attacks by Groups (All Years) Model. The effect of individualism score, democracy, GDP, freedom and religion on percent of attacks committed by one perpetrator.

	(33)	(34)	(35)	(36)
Individualism Score	-0.0001 (.001)	-0.0010 (.001)	-0.0007 (.001)	-0.0002 (.001)
Democracy Level		-0.0480 (.035)	0.0134 (.015)	
GDP		0.0002 (.001)		-0.000 (.001)
Freedom Score		0.0051 (.003)*		
Constant	0.3684 (.053)***	0.3648 (.095)***	0.3039 (.090)***	0.3684 (.054)***
Observations	66	66	66	66
Chi-Square	2.601	0.458	2.554	2.624
R-square	0.0003	0.0693	0.0128	0.0004

	(37)	(38)	(39)	(40)
Individualism Score	-0.0012 (.001)	-0.0003 (.001)		
Est. Individualism			0.0004 (.001)	0.0000 (.001)
Democracy Level				-0.0075 (.024)
GDP				-0.0000 (.001)
Freedom Score	0.0018 (.001)			0.0013 (.002)
State Religion		0.0299 (.052)		
Constant	0.2852 (.073)***	-0.3656 (.060)***	0.3289 (.047)***	0.3039 (.067)***
Observations	66	65	100	98
Chi-Square	1.769	3.232	4.475	4.077
R-square	0.0407	0.0068	0.0014	0.0135

*** indicates significance at the 0.01 level. ** indicates significance at the 0.05 level.

* indicates significance at the 0.1 level.

Academic Vita

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Education

Masters of International Affairs Graduating May 2017

Pennsylvania State University: School of International Affairs, University Park, PA

- International Security Studies Concentration
- Coursework in U.S. Policy in the Middle East, Quantitative Economics, International Law, Diplomacy, Government and Politics in South Asia, Democracy in Asia

Bachelor of Arts in International Politics Graduating May 2017

Pennsylvania State University: University Park, PA

- Member of the Schreyer Honors College, College of Liberal Arts Paterno Fellow
- Minors in French Lanugage, Arabic Language
- Coursework in International Economics, Quantitative Analysis, International Relations Theory, Terrorism

Work Experience

Data Analyst and Office Manager at GDA Corp. August 2016-Present

- Assist company geospatial research by collecting and consolidating multiple open source agricultural data sets of 2000-75000 entries, work with international data in original languages
- Execute day to day office management including payroll, ordering, records keeping, and trademark filing

Graduate Research Fellow at the Climate Institute and Mictrotron June-August 2016

- Created deliverables for Clean and Secure Grid Initiative including one pagers, a video summary, and website content
- Wrote informational paper for Mictrotron Rick-e to explain complex technical information to a non-technical audience
- Attended Intersolar Middle East conference in Dubai to promote Microtron products; explained innovative energy storage technology to international potential investors

Intern with the United States Department of State

U.S. Embassy Manila: Cultural Affairs Section May-August 2015

- Wrote grant proposals, cables, media advisories, & briefing checklists for use by higher-ups (up to the Ambassador level)
- Coordinated programming for 45+ students including exchange pre-departures, info fair promoting U.S. universities
- Assisted coordination of 7 community outreach events focused on Muslim minority areas, poverty stricken areas and persons with disabilities

- Reviewed 100+ applications and interviewed 30+ candidates for two different Embassy sponsored exchange programs

Bureau of Public Affairs: U.S. Diplomacy Center May-August 2014

- Developed the U.S. Diplomacy Center's social media strategy from internship until Center opening (approx. 1½ years)
- Wrote content for "Discover Diplomacy" educational outreach website, created animated homepage graphic
- Met with officials from various agencies (DoE, USDA, BBG, etc.) to present the project and discuss their inclusion
- Assisted with handling press for two major conferences: Our Oceans 2015 and the U.S.-Africa Leaders Summit

Research Assistant in the Penn State Dept. of Political Science Sept. 2013-May 2015

- Open source research on Mauritania and Kenya looking for evidence of non-governmental actors who control territory
- Wrote code sheets detailing each found group's history and characteristics over time

Leadership and Volunteer Work

- Member of the Penn State Presidential Leadership Academy
- Teaching and grading assistant for Sociology 119, Economics 333
- Rules and Regulations, Supply Logistics, and Social Media Captain for the Penn State Dance Marathon (THON)
    - Led committee of 40 students, designed and taught lessons on proper security procedures, organized entrance of first 10,000 spectators into the event
    - Managed all THON social media accounts (from 2013-2014), acquired in-kind donations by cold calling potential donors and cultivating relationships with past donors
- Dog Care Shift Leader, New Volunteer Trainer at Centre County PAWS