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The Psychological Basis of Threat Perception

and its Effect on the Use of Force by US Presidents

by

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A Thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program in Political Science
in the College of Sciences
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Abstract

This thesis creates a new variable for threat perception built upon psychological concepts and then applies this new variable to the question of why leaders use military force in certain situations. The concept of threat perception has a long history in the field in terms of its effect on leaders choosing to use military force. However, while the concept of threat perception is inherently psychological, previous proxies for the variable have included only situational factors, which is highly problematic. By utilizing the Operational Code, this study creates a new threat-perception variable based on cognitive constructs. Using a sample of US presidents, this new variable is tested in two different ways. The first examines three psychological characteristics (need for power, in-group bias, and distrust) from Leadership Trait Analysis that are thought to influence the level of threat perception in a leader. The second examines threat perception as an explanatory variable for the use of force alongside three other important control variables (economic violence, presidential popularity, and US power). The use of force variable is derived from Meernik's Use of Force dataset with each case in the dataset representing an opportunity to use force. The psychological data are derived from the verbal material of US presidents using at-a-distance methods found in the literature. OLS regression and probit are used to model the research questions. The project finds that levels of threat perception are indeed affected by a leader's level of distrust, in-group bias, and need for power. In addition, the new psychologically-derived threat-perception variable is a very good predictor of a president's use of force: presidents with higher levels of threat perception have a much higher probability of using force when the situation presents an opportunity.

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Introduction

The primary focus of this paper is to examine the effect that threat perception has on the decision to use, or not use, military force. In international relations, the topic that has always received the most attention and research has been the area of war and other uses of military force. There are many reasons why this is. War, at a basic level, is devastating to the international system. It can lead to a massive loss of life, the breakup and change of territorial lines, and it can disrupt normal flows of trade and people. While a large amount of the literature is dedicated to the proceedings of war, there is also a large amount of the research that has gone into determining why countries choose to go to war. These explanations range from realist perspectives, to political psychology, to the security dilemma, and many more.

One of the more interesting explanations for why countries choose to go to war is threat perception. This explanation has been in the literature for many years and has had multiple hypotheses as to how threat perception operates. Threat perception is the amount that a leader perceives another country's military strength and intent of action to be threatening to their own territory or strategic interests. While this may seem straight forward, it has been difficult to find a reliable measure, or variable, for threat perception. For that reason, this present study will investigate a way to quantify threat perception in the hopes that a reliable measure can be applied to future cases. Before proceeding to the specifics of this study, it is necessary to further introduce the concepts of threat perception, as well as a few concepts from other aspects of political psychology.

Literature Review

Before moving on to the present study, it is important to understand the development of threat perception in the literature. Threat perception can take on many different meanings depending on how you define it. While earlier studies have dealt with objective measures of threat, later studies have shifted the focus back to perception. For that reason, this review will look at several different studies to understand how the concept of threat perception has changed over time.

While threat perception wasn't formally studied until the 1900s, there are several instances in history where threat perception has been discussed. The first case of the study of threat perception is often linked to the Greek Historian Thucydides, who examined the Peloponnesian War that took place between Sparta and Athens. As he examined the conflict, he noted that "what made war inevitable was the growth of Athenian power and the fear which this caused in Sparta" (Thucydides, 1985). The important part of this statement for threat perception is the process of identification of an opposing power and the emotional response this caused. Sparta perceived an increasing threat from Athens, whether correct or not, and responded with an action they deemed appropriate. In sum, Thucydides introduced an aspect of decision-making that was previously not considered in terms of the study of war.

The next early study of threat perception comes from Machiavelli and his work, The Prince. Throughout his work, Machiavelli stresses the importance of material factors, such as wealth and military strength, in assessing the strength of a country. By this regard, a leader must always be aware of situations that may threaten his or her own wealth, military strength, or interests. Additionally, he argues that leaders should always be prepared for war and pursue any opportunity that may bring monetary gains (Machiavelli, 1532/1981). Put together, Machiavelli

stressed the importance of objective factors and was primarily concerned with preserving and increasing a state's power at any cost.

Moving on from these earlier studies, the first major work in the study of threat perception was done by Singer (1958). In his work, Singer examined the ways in which certain actions can be seen as threatening to other countries. By looking at several case studies, Singer was able to identify a working formula for threat perception as the product of estimated capability and estimated intent. While the first part of the formula is objective, the second part relies on how an action will be perceived. This perception mainly relies on image theory as a military move by an ally may be seen as mutual defense while a similar military move by an enemy may be seen as an indication for an upcoming attack. Though there were some limitations as his study relied on case studies, his work was vitally important to creating and continuing the conversation of threat perception.

Building off of Singer, Pruitt focused his study of threat perception on the initial "predispositions" that a leader may hold of another country. From these predispositions, leaders are able to understand the actions of another more clearly. From there, Pruitt argues that there is "evidence of intent" that can be studied in order to understand threat perception more clearly. The "evidence of intent" involves capability (amount of arms that a state may possess), actions, statements, and conditions faced by other nations (Pruitt, 1965). Though this provides an expanded view of Singer's view, it still has the problem of actually identifying the process of what causes a leader to experience threat perception.

Moving on from Pruitt, Cohen argues that threat perception is a two-step process consisting of observation and appraisal. The first step is objective and involves the basic components of the action that has just happened. The second part is the subject meaning that is

added to the news that informs a person of the intent of the action. The important addition to this understanding of threat perception is that it introduces the presence of active thought within a person (Cohen, 1978; Cohen, 1979). However, this study focuses more on defining actions that can be seen as threatening cues rather than the internal processes of a person's perception. Put another way, the units of measure are actions rather than psychological concepts.

From this point in the literature, the study of threat perception branched out into multiple areas as it became used as a medium in the explanation of other phenomena. While Image theory was mentioned earlier with Singer, another area where threat perception was used is the study of the security dilemma. This concept, developed by Jervis in 1978, argues that a state's need to maintain a balance of power means that any imbalance created by an increase in arms in another state must be met with an increase in your own state. The end result of such an occurrence is that both states are captured in an arms race that greatly increases the likelihood of an eventual outbreak of conflict. Threat perception plays a role in this dilemma as it is possible that a leader may misperceive the amount that an opposing side increases their military or the actual intention for the military buildup. This important distinction can greatly impact the cycle of the security dilemma and can increase the severity of the cycle (Glaser 1997; He, 2012).

Alongside the other examples of threat perception, emotions is another area where threat perception can play a big role. The main emotion that has been examined is fear and the effect that it plays on threat perception (Page, 1931). In multiple cases, it has been shown that fear of an outside state can lead to a heightened sense of threat perception. This, in turn, leads to a subscription to harsher policies to deal with the possibility of a threat (Stein 2013; Obaidi, Kunst, Kteily, Thomsen, and Sidanius, 2018; Semenova and Winter 2019; Dunwoody and McFarland 2018; Riek, Mania, and Gaertner, 2006).

Recently, there is a growing group of studies that examines the existence of threat perception among the general public. This is often encapsulated within studies that examine views of Islam and terrorism. These studies utilize surveys targeted at people in the general population of a country to understand their attitudes and feelings towards other groups. They also focus on the distinction between realistic threats (territory, resources) and symbolic threats (beliefs, values) as the target of a threat may alter a person's reaction to it (Obaidi, et. al 2018; Riek, et. al 2006). Additionally, there is some research to suggest that a person's level of religiosity may affect their threat perception as they view certain events (Hampton, 2013). While it may be interesting to view current levels of threat perception in the general public to understand the support of authoritarian policies, it is important to understand that these people are not directly involved in the decision-making process. Furthermore, it is hard to determine actual psychological levels of threat perception from a survey where people may alter their true answers to please the examiner.

The main point to take away from a review of the threat perception literature is that most studies do not actually study threat perception as it is often conceptualized. Studies will either focus on public opinion or case studies that focus on structural variables that are removed from the leader making the decision. Threat perception is studied through proxy variables that do not actually measure threat perception as a psychological process in a leader. In spite of this, there are still several important things to consider in this review. The first is that threat perception deals with hostile views of opposing countries. Threat perception also involves an understanding that the opposing country will generally impede on a state's strategic interests. Finally, there is a sense that leaders will often view threatening actions as outside of their own immediate control.

Considering these aspects, this present study will attempt to introduce a variable that measures threat perception within leaders.

Profiling Leaders: Leadership Trait Analysis and Operational Code

As mentioned at the beginning, this paper will examine threat perception through the lens of political psychology. Specifically, two areas of political psychology need to be introduced before moving on to the rest of this paper. The first of these methods is Leadership Trait Analysis (LTA) that was developed by Hermann in 1977. Within LTA, there are seven psychological characteristics that are used to provide a description of a leader's psychology. The seven characteristics are need for power, distrust, in-group bias, conceptual complexity, belief in the ability to control events, self-confidence, and task orientation. These characteristics span both personality traits, motives, and cognition of a leader to get a full image of that leader's style of leadership.

The other method of political psychology contained in this paper is Operational Code. Operational Code was developed by Leites (1953) and was then further developed by George (1969). This method deals with a leader's beliefs about himself (instrumental beliefs) and the nature of the political universe (philosophical beliefs). In sum, there are 10 questions identified that draw out the belief system of a leader. By examining these beliefs, we are able to understand how a leader makes a decision in terms of how they will view a potential problem and the best strategies they can employ to overcome the problem.

Though both of these methods seem straightforward, implementation of these methods can be difficult as leaders often can't be reached to take a personality and cognitive test. To get around this problem, both methods use verbal analysis of the leaders in order to glean psychological characteristics. By analyzing the use of certain words and other verbal

constructions, it is possible to understand their core characteristics. The Operational Code uses a method known as Verbs in Context System (VICS), which was developed by Walker, Schafer, and Young in 1998. The Leadership Trait Analysis focuses on words and phrases to ascertain the psychological characteristics of a leader. Since verbal material is going to be used, it is important to consider which kind of speech acts will be used. There are two types of speech acts: spontaneous and prepared. Prepared speeches refer to speeches given at major addresses that are often organized in part by a speechwriter. On the other hand, spontaneous speech acts are given with little to no preparation and are typically found in interview and other question-answer formats. For the purposes of this study, both spontaneous and prepared speeches will be considered for the leaders involved. While there is the question of whether speeches by speechwriters truly represent the leader, it can be argued that speechwriters are hired to write speeches that are typical of the leader they are writing for. Additionally, there have been studies that have shown there is little difference between the results of spontaneous and prepared speeches (Schafer and Crichlow, 2000; Rosati, 2000). Therefore, this study will use both prepared and spontaneous speeches for the analysis of threat perception.

Research Design

The purpose of this study is to examine the effect that threat perception has on the decision to use military force in a given situation. Rather than utilize situational variables for threat perception, this study will use certain parts of the Operational Code as a variable for threat perception. This variable was selected as it will assess the role of psychology of the leader in the decision-making process. Specifically, Operational Code allows us to examine a leader's way of thinking as it relates to him/herself and the international system.

Since threat perception relies on the perception of outside threats, the variable will consist of several measures from the philosophical beliefs of the Operational Code. First, P-1 is a measure that indicates a leader's understanding of the essential nature of political life, whether it be hostile or friendly (George, 1969). This measure is a scale that ranges from -1 to +1, with hostile beliefs existing on the lower end of the scale and friendly beliefs existing on the upper end of the scale (Walker, Schafer, Young, 2003). A leader who views the world as hostile is likely to experience a higher level of threat perception. Conversely, a leader who views the world as friendly is likely to experience a lower level of threat perception. Thus, greater threat perception will be related to the lower end of the P-1 scale, while lesser threat perception will be related to the upper end of the P-1 scale.

The next measure that will be included in the variable for threat perception is P-2. P-2 indicates the leader's expectations (optimistic/pessimistic) for realizing stated goals or objectives (George, 1969). Like P-1, P-2 ranges from -1 to +1, with pessimism relating to the lower end of the scale and optimism relating to the upper end of the scale (Walker et. al, 2003). A leader who experiences a great amount of threat perception is likely to believe that their strategic goals are going to be harder to obtain. On the other hand, a leader who does not experience a great level of

threat perception may believe that it will be easier to achieve goals without the interference of other countries. Thus, greater threat perception will be related to the lower end of the P-2 scale, while lesser threat perception will be related to the upper end of the P-2 scale.

The final measure that will be included in the variable for threat perception is P-4. P-4 indicates a leader's perceived control over events (George, 1969). Put another way, it looks into whether a leader believes he or she has a higher or lower sense of control over political events. This measure is scaled from 0 to +1, with low control over political events relating to the lower end of the scale, and high control over political events on the upper end of the scale (Walker et. al, 2003). Since leaders who score on the lower end believe that they have little control over the flow of political events, a leader is likely to see threats as outside of his or her control. Thus, a leader is likely to have a heightened sense of threat perception. Conversely, a leader who scores on the upper end believes that he or she has high control over the flow of political events. Though a leader may be faced with various threats, he or she will understand these threats and have a firm grasp on how to control future developments. Therefore, greater threat perception will be related to the lower end of the P-4 scale, while lesser threat perception will be related to the upper end of the P-4 scale.

In order to create the variable for threat perception, the three measures from Operational Code will need to be combined. To ensure that there is consistency among the various scales of measurement, each individual score will first be standardized against an overall mean. Once the scores are standardized, the scores will be added together to create one number that represents the level of threat perception experienced by the leader. Finally, the combined score will be multiplied by -1. The reason for this last operation is based on the way that the Operational Code scales are set up in relation to this study. Since the lower end of the three scales are related to

greater threat perception, this final operation will ensure that higher numbers on the combined score relate to a greater level of threat perception. The individual measures will be pulled from the Presidential database of psychological characteristics and will be based on speech analysis of both spontaneous and prepared speech acts given by the leaders selected.

With the threat perception variable created, it is important to make sure that it is represented by psychological characteristics. More specifically, I am interested in understanding the psychological causes of threat perception. I argue that there are deeper psychological factors that predispose a person's level of threat perception. These factors are rooted in personality characteristics that are central to a person's identity. In order to assess the relationship between personality characteristics and threat perception, I will utilize Margaret Hermann's Leadership Trait Analysis. Specifically, the three characteristics that will be assessed are need for power, distrust, and in-group bias.

Need for power is one of the three main motivations identified by Winter (1973). This psychological characteristic denotes a leader's need to establish and maintain their own power and sense of control over events (Hermann 2002). Since leaders with a high need for power would want to exert their dominance over situations, it is likely that they will be more sensitive to situations that would threaten their dominance. Thus, the hypothesis for this relationship can be described as:

H1: A leader with a higher need for power will likely experience a higher level of threat perception.

Distrust is another important psychological characteristic of LTA. Distrust deals with suspicion and doubt of others' intentions and actions (Hermann 2002). As distrustful leaders can

be more inclined to see others' actions as suspect, the relationship to threat perception can be described as:

H2: A leader with a higher level of distrust will likely experience a greater level of threat perception.

Finally, in-group bias is another important psychological characteristic to consider from LTA. In-group bias denotes the level that a leader will hold his own group higher than everyone else (Hermann, 2002). This can be built upon economic, cultural, or military reasons and usually results in the desire to make decisions that benefit the group. As such, the relationship between in-group bias and threat perception can be described as:

H3: A leader with higher levels of in-group bias will likely experience a higher level of threat perception.

After establishing the psychological characteristics that influence threat perception, the rest of the study will examine the effects that threat perception has on the use of force. In terms of the use of force, the dependent variable comes from Meernik's Use of Force dataset (2004) that examines the US's decision to use or not use military force in a given situation. Rather than focus on cases where military force was absolutely required or absolutely not required, this dataset focuses on cases where the leader has the opportunity to use military force. The use of military force is coded as a dummy variable with 1 being the use of force and 0 being no use of force. In his dataset, he was interested in examining the effect of several situational variables, such as presidential approval ratings, economic aid to the targeted country, inflation, and relative power. The dataset ranges from 1948 to 1998 and includes 605 individual cases that were identified as situations that created an opportunity for a leader to use military force. The criteria

for determining if there is an opportunity to use force are defined by Job and Ostrom as possessing one of the following five distinctions:

1. The threat is made to the territorial security of the US, its allies, or proxies

2. There is a danger to US citizens, diplomats, military personnel, or US assets

3. The situation would result in the advancement of ideologies opposed to the US

4. The situation would result in a loss of US influence in a region

5. The situation involved an inter-state dispute or general disruption that could lead to many deaths or threaten the stability of a region (Job and Ostrom 1986).

The unit of analysis for this paper will be based on each opportunity to use force as identified by the Meernik dataset. Each row of the Meernik dataset designates the year and month of the opportunity to use force. To ensure that the study captures the psychology of the president while avoiding endogeneity with the case, the Operational Code measures are taken from the speeches that the leader gave four to six months before the decision was made. For instance, if a leader had an opportunity to use military force in April of 1957, then the Operational Code measures will consist of speeches from October-December of 1956. Based on these selection criteria, the actual number of cases that used for this study is 555.

Overall, the main hypothesis in the study is:

H4: The higher the level of the threat perception, the more likely the leader will use military force.

To further test this new variable, several control variables are included to account for several common explanations in international relations for the use of force. All three of the control variables are a part of Meernik's dataset. The first control is US Power as measured by the Correlates of War Composite Indicator of National Capability (CINC) variable. This variable

measures several aspects of power such as total population, iron and steel production, military

expenditure and personnel that all contribute to measuring a country's share of global power. It is

expected that a country with a greater share of global power will be likely to exercise that power

in multiple situations. Thus, a high CINC score should correlate with a higher probability of the

use of force. The next control variable is presidential popularity as measured by an annual

average of presidential approval ratings. A president who is unpopular may be incentivized to

use force as a distraction from his administration. Thus, I expect lower approval ratings to

correlate with more use of force. Finally, the last control variable is economic violence against

the US. This is a categorical variable that tracks whether a threat is made against US economic

interests. It is expected that a threat made against the economic interests of the US would

incentivize the use of force to protect this vital area (Meernik, 2004).

Results

As this paper is dealing with two main models, the results portion will also be broken up into two separate sections. The first section will look at the ability of psychological characteristics to predispose the level of threat perception a leader may experience. The second section will examine the way in which threat perception may play a role in a leader's decision to use force when given the opportunity.

Before moving on to the models, it is important to ensure that the threat perception variable is properly set up. By properly set up, I mean that there is evidence to support the inclusion of the three Operational Code measures that make up threat perception. In order to test this, I ran a Cronbach's alpha test to determine if there was enough internal consistency between the three Operational Code measures used for the threat perception variable. The result of this test can be seen in Table 4 in the appendix. This test resulted in an alpha of 0.7536, which is greater than the traditional cutoff of 0.70. Though it is possible to improve this score by eliminating one of the operational code variables, I proceeded with the three variables as they cover more dynamic aspects that make up threat perception.

<u>Model 1: LTA and Threat Perception</u>

For the first part of this analysis, I ran a least-squares regression consisting of all three of the Leadership Trait Analysis variables discussed earlier. As a review, the hypotheses for this model are that an increase in need for power, in-group bias, and distrust will lead to an increase in threat perception. Before running the regression, I went through the Pearson correlations to make sure that there were no two variables that correlated highly. The results of this check can be seen in Table 5 in the appendix. While there are significant correlations, none of the

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correlations are large enough to bring concern about using all three of the variables in the regression.

With the correlations check completed, the results of the regression can be seen in Table 1. In terms of the overall model, the global F test is significant. Thus, there is evidence that the level of threat perception is reliant upon deeper psychological characteristics. With the overall model significant, the next step is to examine the individual variables. To begin, the need for power parameter estimate is significant. However, the direction of the parameter estimate is opposite to what was expected. Though I traditionally explain the parameters in terms of 1 unit increases, I will explain the parameters in terms of .1 unit increases as the scales for need for power, in-group bias, and distrust range from 0 to 1. Therefore, for every .1 unit increase in need for power, the level of threat perception would decrease by 1.484. Put another way, a higher need for power leads to a lower level of threat perception. Though this may seem contrary to expectation, I will discuss possible reasons for this result later in the conclusion of this paper.

Table 1: Results of the regression model for LTA characteristics and Threat Perception

Variable	Estimate	p
Need for Power	-14.8444*** (4.45)	0.0009
In-Group Bias	5.669+ (3.5572)	0.1116
Distrust	27.796*** (2.2956)	<0.0001

Key: + = p<0.2, * = p < 0.1, ** = p < 0.05, *** = p < 0.01
R^2= 0.2491, F-value = 60.93***, Standard Error in parentheses

After need for power, the parameter for in-group bias is close to significance at an alpha level of 0.10. Even though this result is not significant, the parameter is in the direction that was expected. For every .1 unit increase in in-group bias, threat perception increases by .567. Therefore, a higher level of in-group bias leads to a higher level of threat perception. Finally, the

parameter for distrust is in the direction that was expected and is highly significant. For every .1 unit increase in distrust, threat perception will increase by 2.78. This means that a higher level of distrust leads to a higher level of threat perception.

Before finishing up this section, it is important to consider the goodness-of-fit of this model. The $R2$ value for this regression is 0.2491, which means that approximately 24.9% of the variation in the threat perception variable can be explained by the three LTA variables. Though this is just one measure of a goodness-of-fit, this result suggests that need for power, distrust, and in-group bias do have a large role in determining the level of threat perception when compared with the typical 10% benchmark used in other studies (Falk and Miller, 1992). Overall, there is evidence that the new threat perception variable is rooted in psychological characteristics: higher levels of in-group bias and distrust seem to relate positively with threat perception, while need for power has a negative relationship with threat perception.

Model 2: Threat Perception and the Use of Force

Now that the origins of threat perception have been investigated, the rest of this analysis will examine threat perception as an explanatory variable for the use of force. In essence, I argue that a higher level of threat perception will increase the chances that a leader will use force. The following section will be divided into two subsections. The first model looks at threat perception as the only independent variable. By doing so, the effect of threat perception can be isolated and examined. The second model includes several control variables that were mentioned in the research design. This model will investigate the effects of threat perception while controlling for other common explanations of the use of force.

Since the use of force is a categorical variable, a probit model is utilized. While there are many differences between regular regression and probit, the main thing to note is the

interpretation of the parameter estimate. Rather than represent an increase or decrease in the dependent variable, the parameter estimates in probit models represent an increase or decrease in the z-score based on a normal curve. This result then translates into the probability that an event will occur when considering the value of the independent variable. If the parameter in a model is +1.0, this would then correspond to a z-score of 1.0. Referencing a normal cure, we can then say that there is an 84% chance that the outcome will occur based on the value of the independent variable.

To begin, the results of the first model with threat perception as the only independent variable are shown in Table 3. With a p-value of .052, at an alpha level of 0.10, there is evidence to support my hypothesis. According to the parameter estimate, a one unit increase in threat perception increases the z-score by 0.0435. Put another way, when threat perception is 1, the likelihood of the use of force is 51.57%. When threat perception is -1, the likelihood of the use of force is 48.43%. In addition to the parameter estimate, it is important to consider how often this model will accurately predict the correct response. For that reason, I use the c-value as it gives a percentage related to the number of times that the model works correctly, or matches up with the actual response. For instance, the model is correct if a higher value corresponds to the use of force. On the other hand, the model also works if a lower values corresponds to no use of force. The c-model takes all the cases where the model works properly and divides them by the total number of cases. For this model, the c-value is 0.554. This means that the model will predict the correct response 55.4% of the time, which is slightly better than random 50-50 selection. Thus, this model shows that threat perception does have a role in the decision to use force. A higher level of threat perception makes the use of force more likely.

Table 2: Probit model for Threat Perception and the Use of Force

Variable	Estimate	p
Threat Perception	0.0435* (0.0224)	0.0523

Key: + = p<0.2, * = p < 0.1, ** = p < 0.05, *** = p < 0.01
c=0.554, Standard Error in Parentheses

While threat perception has been shown to be a significant predictor of the use of force on its own, it is important to consider it in terms of other variables from the field of international relations that can be important in determining the use of force. For this purpose, the control variables that will be tested are US Power, President Popularity, and Economic Violence. Before running this model, it is important to make sure that there is no possibility of threat perception being closely tied to any of the other variables in the model. As the new variable for threat perception should be different from previous measures of threat perception, it is important to make sure the variables in the model are not correlated in any major way. The results of the Pearson correlation check can be seen in Table 6 in the appendix. While there is some significance between threat perception and US Power, the relationship is not large enough to warrant any caution. Other than threat perception, the main relationship that could be concerning is the significant correlation between US power and Presidential popularity. Though it is significant, the relationship is again not very strong. Thus, it is acceptable to use these variables in the same model without the possibility of an independent variable affecting another independent variable.

The results of the second model can be seen in Table 4. First off, the threat perception variable is significant at the 0.05 alpha level. Based on the estimate, a one unit increase in threat perception will lead to a 0.0525 increase in the z-score. This means that an increase in threat perception will increase the likelihood of a president using force in a given situation, similar to

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the previous result. Though not the main interest of this study, Presidential popularity and Economic violence are also significant predictors of the use of force. For Presidential popularity, a greater average annual approval rating leads to an increase in the likelihood of the use of force, which is opposite of the diversionary effect that was predicted. Though this may be contradictory, there is further evidence from James and Oneal (1991) that would suggest that an increase in Presidential popularity would increase the likelihood of the use of force. A possible reason for this may be that a President who is popular may feel that he has the support necessary to explore different opportunities by using force. Moving on, the presence of economic violence also increases the likelihood of the use of force. This result is understandable as an economic interest that is threatened is likely to bring a swift response. Finally, the CINC variable, as represented by power, is not significant and did not go in direction that was expected. Though it is not significant, the estimate suggests that a high CINC score will relate to a lower likelihood of the use of force. While this may seem contradictory, it is important to remember that CINC is based on the global share and is subject to the diffusion of power concentration as we move from the end of World War 2 through to the post-Cold War world. Overall, there is evidence that threat perception is a significant predictor of the use of force. A higher level of threat perception makes the use of force more likely.

Table 3: Probit model for Threat Perception and control variables for the Use of Force

Variable	Estimate	p	%Change in Predicted Probabilities
Threat Perception	0.0525** (0.0299)	0.0217	16.93%
US Power	-1.5458+ (1.1033)	0.1612	-10.41%
Presidential Popularity	0.00835* (0.00438)	0.0567	14.37%
Economic Violence	0.7583** (0.2413)	0.0017	15.62%

Key: + = p<0.2, * = p < 0.1, ** = p < 0.05, *** = p < 0.01
c=0.606, Standard Error in Parentheses

As with the previous model, another key area to consider with this model is how well it predicts actual behavior. Again, this check will rely on the c-value, which is listed in table 4. The c-value indicates the percentage of cases where the model accurately predicts the response. For this model, 60.6% of the cases are predicted correctly, which is better than the previous model. This increase is the result of the inclusion of more variables, which allow for a better prediction model. Thus, this model is worthwhile as it is better at predicting the correct response than random 50-50 selection.

Though it is important to make sure that the model is a good fit for predicting behavior, it is important to be sure that threat perception is actually making a meaningful difference in the likelihood of using force. To understand this effect, a predicted probabilities check on the threat perception variable can help visualize how a change in the variable affects the probability of using force while holding the other variables constant. Table 3 shows the result of this check with threat perception ranging from its minimum value to its maximum value. When threat perception is at its minimum, there is a 70.21% chance that the leader will use force. When threat perception is at its maximum, there is an 87.14% chance that the leader will use force. This means that there is a 16.93% increase in the chance of the use of force as the threat perception

changes from its minimum to its maximum. In order to judge how much of a change in probability this is, I also ran the same check with the other variables in the model. The result of this check can also be seen in Table 3, which shows the percent change, and in Tables 7-10, which show the breakdown for each variable, in the appendix. Additionally, the percent change is visualized in Figure 1. When Presidential Popularity changes from its minimum to its maximum, there is a 14.37% increase in the probability to use force. When Economic Violence changes from its minimum to its maximum, there is a 15.62% increase in the probability to use force. Finally, when US Power changes from its minimum to its maximum, there is a 10.41% decrease in the probability to use force. Thus, threat perception is able to increase the likelihood of the use of force at a greater degree than common explanations for the use of force. Overall, there is evidence from this model that threat perception is able to substantively increase the likelihood of the use of force.

Figure 1: Graph of the Predicted Probabilities for all variables, ranging from their minimum to their maximum.
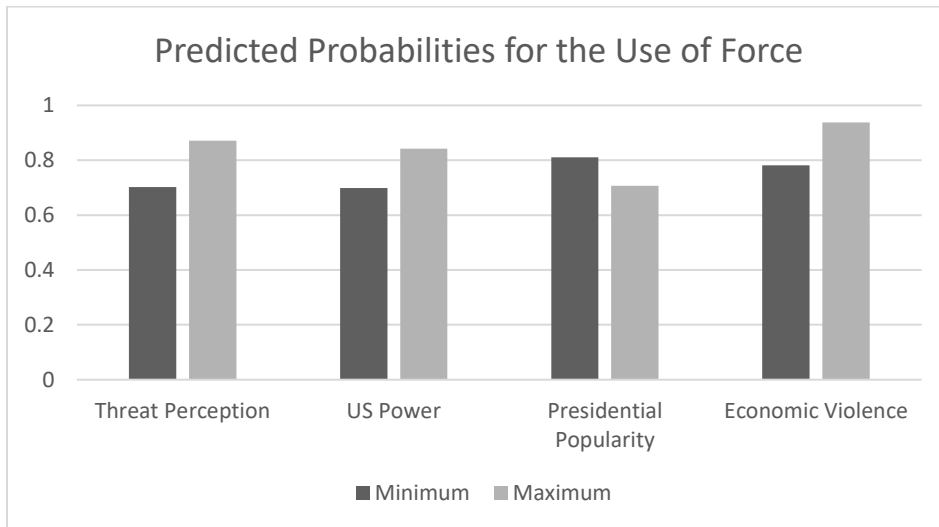
Conclusion

At the start of this project, the main objective was to investigate the effect of threat perception on the use of force. However, it became apparent after a review of the various types of proxies for threat perception, that there was not a single variable that actually measured threat perception as a psychological variable. While situational factors should certainly be considered, none of the previous variables for threat perception were built with reference to threat perception as a psychological concept. For that reason, this project also had an objective to create a new variable for threat perception. This new variable was derived from three measures of the Operational Code to reflect active cognitions that a leader holds in terms of his world view. With this new variable, this project split into two parts. The first part was to investigate the effect of other psychological variables on threat perception, essentially asking if certain other psychological characteristics predispose a leader to a higher level of threat perception. The second part then went on to test the new variable and its ability to explain the use of force.

For the first part of the research, I looked at different psychological characteristics that could influence the level of threat perception. Out of the possible characteristics that are part of the Leadership Trait Analysis, I hypothesized that need for power, in-group bias, and distrust as my explanatory variables would affect the level of threat perception. These variables represent deeper personality traits that appear to be at the heart of threat perception. After running the models, I found mixed results for these variables. Distrust was the most significant variable and followed the direction as set out by my hypothesis: a higher level of distrust would lead to a higher level of threat perception. In-group bias was found to be close to significance and in the same direction as Distrust. A higher level of In-group bias would lead to a higher level of threat perception.

While the previous two variables operated in the direction that was predicted in my hypotheses, need for power acted in a different way. Though it was significant, a higher need for power would lead to a lower level of threat perception. This result was surprising and forced me to consider why this variable would operate in the way it did. To try and find an answer, I went back to Hermann's overview of the Leadership Trait Analysis characteristics to see how need for power was defined and coded. According to Hermann:

> "Need for power indicates a concern for establishing, maintaining, or restoring one's power or, in other words, the desire to control, influence, or have an impact on other persons or groups. It is coded by instances when the speaker (1) proposes or engages in a strong, forceful action such as an assault or attack, a verbal threat, an accusation, or a reprimand; (2) gives advice or assistance when it is not solicited; (3) attempts to regulate the behavior of another person or group; (4) tries to persuade, bribe, or argue with someone else so long as the concern is not to reach agreement or avoid disagreement; (5) endeavors to impress or gain fame with an action; and (6) is concerned with his or her reputation or position." (Hermann, 2002)

From this definition, we can see that need for power does not translate only to aggression. While aggression is certainly a part of it, need for power is made up of other actions that are utilized to establish and maintain one's power. An extension of these actions would be that these leaders are adept at negotiation and understanding how to obtain stated goals through multiple methods. Because of this, leaders with a high need for power may be able to approach threatening situations in a different way. Rather than go immediately for using force, leaders with a high need for power may find different ways to manipulate a situation to fit their own goals for maintaining power. Additionally, their ability to negotiate effectively could allow these leaders to work out peaceful solutions rather than the alternative.

In addition, there may be other factors at work here. While only three LTA characteristic were examined in this study, there is an additional characteristic that is closely related to need for power and helps determine leadership style. This characteristic is belief in the ability to control

events. As the name suggests, this characteristic reflects a leader's belief that he or she is able to control the situation as it unfolds. Hermann has noted a few patterns of leadership style depending on how these two variables interact. If belief in the ability to control events is lower than need for power, then the leader should be able to implement effective strategies to maintain power. On the other hand, if belief in the ability to control events is higher than the need for power, the leader would want to control everything but would be unable to do it effectively. The latter scenario is of interest for this study as a leader who is unable to control situations effectively may be more likely to use force. For that reason, a follow up study can look at the relationship between these two characteristics and the role that they play in threat perception.

For the second part of this research, I looked at the ways in which threat perception can play a role in determining the use of force. The thinking here is that an increase in the level of threat perception will increase the likelihood that a leader will opt to use force in a given situation. On the whole, this proposition was supported in the analysis. On its own, threat perception was a significant predictor of the use of force. This result was then further supported when control variables were added to the model. In the end, the predicted probabilities showed that when threat perception went from its minimum to its maximum, the chance of the use of force increased by nearly 17%.

Overall, this project accomplished what it set out to do. A new variable for threat perception was created by utilizing three parts of the Operational Code. This variable was shown to be related to deeper psychological concepts that predispose the level of threat perception. Finally, there is evidence, with and without controls, that higher levels of threat perception increase the likelihood of the use of force.

The only thing left to consider is what is next. In terms of the constructions of the threat perception variable, there can be further investigations into what different psychological aspects go into it. Belief in the ability to control events was mentioned earlier, but there are more factors in LTA and outside of LTA that could play a part. A leader low in Cognitive complexity (sees the world as black and white, rather than gray) may be more inclined towards the use of force rather than seeking out other solutions. Outside of LTA, need for affiliation may play a role as a leader high in this motive would most likely opt for more peaceful resolution rather than the use of force. By looking at more characteristics, we can then determine which characteristics are crucial in the development of threat perception.

In terms of using threat perception as an explanatory variable, there are many different avenues of research where it could apply. Going back to the study of war, it may be possible to improve on the current results by shortening the dead time period between the time the opportunity to use force is open and when the collection of speeches occurs. Through shortening this period, it will be possible to bring the measure of threat perception more in tune with what is occurring. Threat Perception can also be used in studies of Civil War. Elsewhere, this variable can be used to explain other research areas. Such research areas could be in domestic politics by examining a president's relationship with Congress. Other areas could be in examining trade relations or studies in alliance formation. Finally, Comparative Politics could play a role by examining the ways in which threat perception may change from country to country. While this present study of threat perception is concluded, there remain many opportunities for the advancement of threat perception and political psychology.

Appendix: Additional Tables

Table 4: Cronbach's alpha result for Threat Perception Variable

Deleted Variable	Raw Variables		Standardized Variables	
	Correlation with Total	Alpha	Correlation with Total	Alpha
P1	0.834364	0.382982	0.767745	0.412423
P2	0.829488	0.389131	0.7114	0.486877
P4	0.303942	0.914542	0.298575	0.945638

Table 5: Pearson Correlations for LTA variables

	Need for Power	In-Group Bias	Distrust
Need for Power	1	0.11907 (0.005)	-0.15834 (0.0002)
In-Group Bias	0.11907 (0.005)	1	0.0987 (0.02)
Distrust	-0.15834 (0.0002)	0.0987 (0.02)	1

Prob > lrl under H0: Rho=0 in parentheses

Table 6: Pearson Correlations for Threat Perception and Control Variables

	Threat Perception	Presidential Popularity	Economic Violence	US Power
Threat Perception	1	-0.04813 (0.2576)	-0.04263 (0.3161)	0.08795 (0.0383)
Presidential Popularity	-0.04813 (0.2576)	1	-0.00651 (0.8784)	0.16629 (<0.0001)
Economic Violence	-0.04263 (0.3161)	-0.00651 (0.8784)	1	-0.0955 (0.0245)
US Power	0.08795 (0.0383)	0.16629 (<0.0001)	-0.0955 (0.0245)	1

Prob > lrl under H0: Rho=0 in parentheses

Table 7: Predicted probabilities for threat perception, ranging from -4.76 to +6.73. All other variables held constant at their mean values.

Contrast	Estimate	Standard Error	Confidence Limits	
Minimum	0.7021	0.0902	0.5082	0.8509
Maximum	0.8714	0.0613	0.7126	0.9559

Table 8: Predicted probabilities for Presidential popularity, ranging from 24 to 82. All other variables held constant at their mean values.

Contrast	Estimate	Standard Error	Confidence Limits	
Minimum	0.699	0.0961	0.4923	0.8560
Maximum	0.8427	0.0648	0.6836	0.9375

Table 9: Predicted probabilities for US Power, ranging from 0.1355 to 0.3536. All other variables held constant at their mean values.

Contrast	Estimate	Standard Error	Confidence Limits	
Minimum	0.8108	0.0674	0.6527	0.9145
Maximum	0.7067	0.1030	0.4829	0.8708

Table 10: Predicted probabilities for Economic Violence, ranging from 0 to 1. All other variables held constant at their mean values.

Contrast	Estimate	Standard Error	Confidence Limits	
Minimum	0.7815	0.0711	0.6197	0.8944
Maximum	0.9377	0.0588	0.7244	0.9933

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