

## ABSTRACT

Title of Thesis:

THE INFLUENCE OF SOCIETAL NORMS  
ON LEADER CATEGORIZATION

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Leadership prototypes, cognitive structures representing organized knowledge about the ideal leader, are central to the process of leader categorization. Culture is believed to influence the content and structure of leadership prototypes, however the majority of existing research centered on the influence of cultural values. The purpose of this research was to incorporate societal norms, specifically cultural tightness-looseness, the strength of norms and acceptance for deviance in a society, into the study of leadership prototypes. Drawing from literatures on Leader Categorization Theory, leadership prototypes, and cultural tightness-looseness, the current research investigated the influence of tightness-looseness on the structure and content of leadership prototypes across cultures. Study 1 examined the structure of leadership prototypes as a function of cultural tightness within a country using a large archival data set. It suggested that individuals in tighter cultures were less discriminating in the attributes they valued in leadership prototypes than individuals in looser cultures. Study 2 utilized a policy capture methodology to evaluate the influence of tightness-looseness on the importance of singular attributes in leadership prototypes. Results indicated that individuals who endorsed tighter norms were more willing to categorize individuals as leaders than individuals who endorsed looser norms. Implications of these findings for understanding leader categorization and its relationship to cultural tightness-looseness in particular are discussed.

THE INFLUENCE OF SOCIETAL NORMS ON LEADER CATEGORIZATION

by

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## **The Influence of Societal Norms on Leader Categorization**

In 1998, the German auto manufacturer Daimler-Benz merged with the American auto manufacturer Chrysler (Ball & Miller, 2000; Mateja, 2007). Initially hailed as the unification of two of the auto world's giants, faultlines soon emerged. Though a variety of factors played a role, many noted that cultural differences significantly contributed to driving the two companies apart. Daimler could be described as conservative, efficient, safe, and the pinnacle of luxury. Chrysler on the other hand, was daring and diverse, and concretely blue collar. Although initially billed as a merger of "equals" Daimler employees did not want to associate with the "lower status" Chrysler brand, and Chrysler employees rejected Daimler values. Although Daimler assumed sole control of both companies, employees on both sides resisted the merger and the opposing side's upper management. Ultimately, leadership on neither side was able to reconcile the controversies and the two companies never found a way to work together. This was a failure of leadership at every level. Daimler paid close to \$40 billion for Chrysler in 1998, but was only able to sell them for \$7 billion in 2007, a historic loss. Although catastrophic for the companies involved, this unsuccessful merger highlights the enormous impact of culture on perceptions of effective leaders in an organization, and that those perceptions are likely to differ between cultures.

Leaders are central figures in determining the fate of organizations through their decisions, strategies, and influence, (Kaiser, Hogan, & Craig, 2008). Leadership is a dynamic influencing and motivational process that contributes to effectiveness and success across multiple organizational levels (Day & Antonakis, 2012; Graen & Uhl-Bien, 1995; House et al., 1997; Kaiser et al., 2008; Lord & Brown, 2004). An important consideration in theories of leadership concerns the extent to which individuals perceive another as a leader. As exemplified

by the opening anecdote, simply being appointed as a formal leader does not necessarily mean an individual will be considered a leader capable of influence and effectively organizing the efforts of others. Much of the empirical research in this area has been guided by Leader Categorization Theory, which claims that individuals form and use leadership prototypes - mental abstractions containing the traits, attributes, behaviors and characteristics of ideal leaders - to categorize others as leaders or non-leaders (Lord et al., 1982). As illustrated by work from Lord and colleagues (1984), such prototypes have been shown to guide individuals' predictions of behaviors expected from leaders as well as influence ratings of leader effectiveness.

Research has also demonstrated that the perceptions of effective leadership can differ greatly as a result of cultural differences (House et al., 2004). Culture can be defined as a system of basic assumptions, shared behavioral norms, and underlying beliefs and values, (Hofstede et al., 1990; Schein, 1990; Zohar and Hofmann, 2012). It is historically determined, difficult to change, and shapes the way of doing things in an organization and in societies. Recent empirical studies have found evidence linking specific values espoused within a culture and perceptions of effective or desirable leadership (Aktas, Gelfand, & Hanges, 2015; Aycan, Schyns, Sun, Felfe, & Saher, 2013; Dorfman, Javidan, Hanges, Dastmalchian, & House, 2012; Paris, Howell, Dorfman, & Hanges, 2009; Yan & Hunt, 2005). However, the majority of existing streams of research have focused almost exclusively on the role of cultural values (Gelfand, Nishii, & Raver, 2006). In addition, the nature and impact of societal culture on the structure of leadership prototypes is largely unknown.

The current set of studies seeks to contribute to this research domain by incorporating societal Tightness-Looseness (T/L) into the study of leadership prototypes. T/L describes the strength, clarity, and pervasiveness of social norms within a culture as well as the degree to



which there is tolerance for deviance from those norms within societies (Gelfand, Nishii, & Raver, 2006). Previous research has indicated that variability in T/L greatly influences behavior (Gelfand et al., 2011). However, little is known about how variability in social norm tolerance impacts the formation and structure of individual's leadership prototypes. The purpose of this thesis is to further leadership prototype research by integrating existing leader categorization perspectives with research on cultural norms, specifically tightness-looseness. In order to illustrate the impact of norms (tightness-looseness) on leadership prototypes, this paper will first outline leader categorization theory; summarize the existing research linking cultural values to leadership prototypes, and present differences in tightness-looseness as a complementary or supplementary explanation for variability in individuals' preference for different types of leaders across countries and cultures.

### **Leader Categorization Theory**

The foundation of Leadership Categorization Theory derives from work on object recognition and categorization (Rosch & Mervis, 1975, Rosch & Lloyd, 1978). Rosch and colleagues maintained that human beings organize knowledge objects into categories to preserve as much information with as little effort as possible. Importantly, members of the same category do not all possess a single set of identical attributes. Instead, they vary according to a family resemblance structure, a pattern of overlapping similarities between category members. Rosch's work also included one of the first mentions of the term "prototype" in relation to categorization theories of memory. A prototype is described as an abstraction representing the clearest example of category membership (i.e., an object possessing the highest degree of categorical resemblance).

Following from Rosch's work, Lord et al. (1982) proposed that individuals make categorization determinations based upon who is perceived as a leader in a given environment. Categorization theory proposes the prototype view as the means for classifying people as leaders and non-leaders. The prototype view states that new stimuli are classified as category members based upon their degree of fit with characteristics common to the category (Lord et al., 1982). Prototypes define those characteristics. New stimuli are classified by comparison to the mentally held prototype (e.g., U.S. Presidents as tall, personable, strong) rather than a concrete example (e.g., John F. Kennedy). Prototypes are also often conceptualized as Implicit Leadership Theories (ILTs) (Lord, 1985), or people's lay theories about the traits and abilities of ideal leaders. ILTs provide a cognitive basis and structure for organizational members to categorize, interpret, and respond to the behaviors of organizational leaders.

Prototypes are also closely related to schemas, which are cognitive structures that represent organized knowledge about a given stimulus and rules that direct information processing (Lord & Foti, 1986). A schema provides individuals with a knowledge base that guides the interpretation of information, actions and expectations. In short, they help people simplify and manage information. Schemas are thought to be essential pieces of the sense making process (Epitropaki & Martin, 2005; Weick, 1995; Lord & Kernan, 1987; Lord & Mather, 2002; Phillips & Lord, 1982). They are stored in memory in an abstract general form. Importantly, they are not a record of every encounter with a specific categorical type of person. Instead they represent the defining features of different categories.

### *Hierarchy of Categorization*

Similar to more general object categorizations, leader categorization is posited to be hierarchically structured and vary along both a vertical and horizontal dimension (See Figure 1

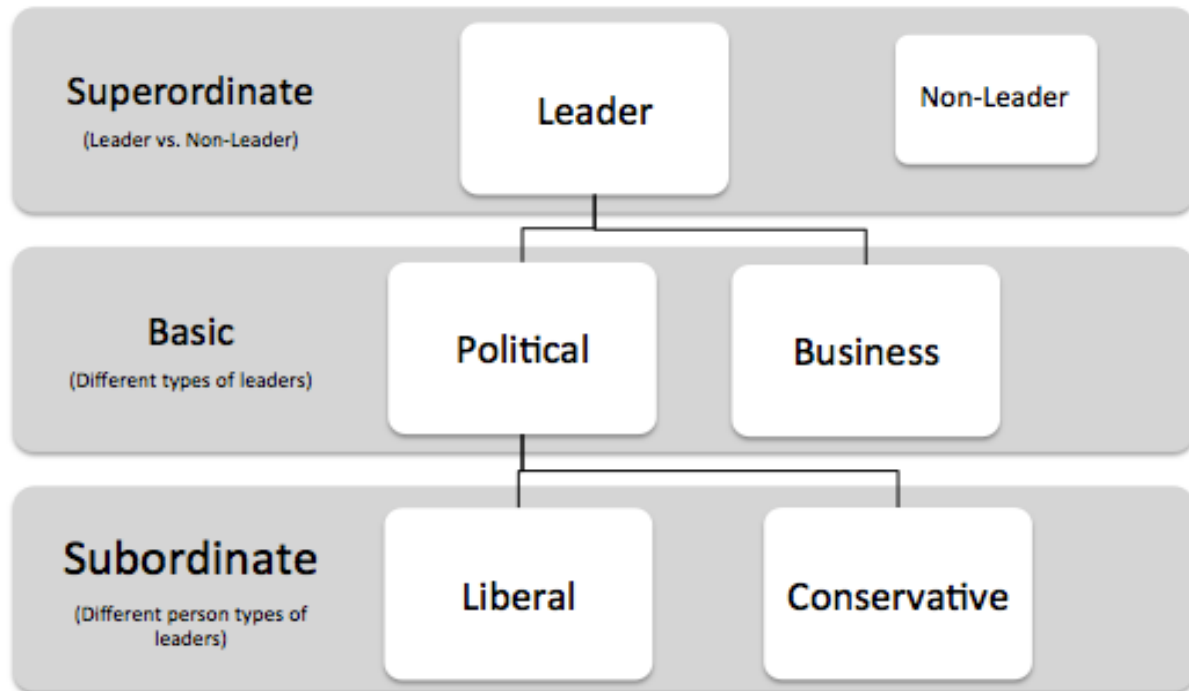


Fig 1. Hierarchy of leader categorization, adapted from (Lord et al., 1984)

modeled after Lord et al., 1984. The vertical dimension consists of three hierarchical levels (superordinate, basic, subordinate) and defines the number of different kinds of objects that can be classified at the same level. Each level distinguishes the degree of inclusivity with which objects are classified. The superordinate level is the broadest, followed by the basic and subordinate levels. For example, furniture would be categorized at the superordinate level, table at the basic, and a kitchen table at the subordinate level. Within each vertical level, horizontal distinctions are made. The horizontal dimension at each vertical level distinguishes the degree to which levels vary. At the superordinate level, the horizontal distinction classifies a stimulus person as a leader or non-leader, which is the main focus of this paper. Different types of leaders are horizontally differentiated at the basic level, and person types of leaders are horizontally differentiated at the subordinate level. The superordinate category is the most inclusive and is

therefore at the top of the vertical structure. It includes a core set of attributes common to all leaders, and those attributes should overlap very little with the contrasting non-leader category.

### *Support for Categorization Theory*

When testing their theory of leader categorization, Lord et al. (1982), found that individuals could easily form judgments about stimulus people and generate traits/behaviors that fit their prototypes of ideal leaders, but had trouble listing traits of non-leaders. They could also easily rate the extent to which a given trait or behavior fit their prototypical image of a leader. Their findings also supported the family resemblance model that differentiates individuals at the superordinate level. There are no critical signs that differentiate all leaders from all non-leaders. However, there is still a clear distinction between the best leader (prototype) and the non-leader. Therefore, a stimulus person is categorized as a leader or non-leader, by comparing the stimulus person to the superordinate level prototype. Lord, Foti, and De Vader (1984) also conducted a series of studies designed to test leader categorization theory. The authors argued that categorization theory is a general information processing theory that describes how leadership perceptions can be formed in a complex organizational environment; how being perceived as a leader and the content of leadership categories biases ratings of past behaviors; and explains raters' judgments of leader effectiveness. The researchers found that highly prototypical attributes were most useful in distinguishing category members from non-members, suggesting that items with higher prototypicality ratings were more easily accessible in memory. Additionally, descriptions of individuals who met an observer's prototypes were rated as having more responsibility and ability to cause outcomes.

### *Content of Prototypes*

There is also extensive research detailing the content of leadership prototypes (Lord & Mayer, 1991). Of relevance to the present study, researchers from the Global Leadership and Organizational Behavior Effectiveness project (GLOBE) identified six, culturally endorsed leadership theories (CLTs) that appear to describe high-level characteristics present in the leadership prototypes of individuals surveyed around the world (House et al., 2004). The CLTs were derived from a list of 112 attributes, which were collapsed into 21 primary leadership dimensions, from which the six CLTs were factor analyzed (these attributes and dimensions are presented in Appendix A).

The 112 individual attributes represent specific leader characteristics that are likely to be found in the prototypes of individuals in a society. GLOBE's CLTs, on the other hand, were aggregated to the societal level and intended to identify more descriptive leadership styles. Consequently, they are less representative of the leadership prototypes held by individuals, but are more representative of societal level leadership prototypes. Therefore, to examine between cultural differences in leadership prototypes at the individual and societal levels, this research will focus on the specific attributes (i.e., GLOBE's 112 leader attributes) contained in prototypes, as well as the attribute aggregates and dimensions (the 21 primary leadership dimensions and the CLTs).

### **Culture and Prototype Research**

The impact of culture on leadership prototypes has been investigated by a number of different researchers (Aycan, Schyns, Sun, Felfe, & Saher, 2013; Den Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999; Dorfman, Javidan, Hanges, Dastmalchian, & House, 2012; Epitropaki & Martin, 2005; Hunt, Boal, & Sorenson, 1990; Shondrick, Dinh, & Lord, 2010; Shondrick, & Lord, 2010). For example, researchers have found that leadership prototypes vary

by the respondent's home country (Gerstner and Day, 1994), individual expectations of leadership vary by culture (Hanges & Dickson, 2004; House et al., 2004), and national culture influences leadership behaviors through a society's expectations of a leader's behavior (Dorfman et al., 2012). Research has also demonstrated that cultural values appear to influence the content of leadership prototypes (Chong & Thomas, 1997; Dorfman et al., 2004; Gerstner & Day, 1994; Javidan, House & Dorfman, 2004; Lord & Mayer, 1991). Shaw (1990) and House et al. (1999) argue that culture is a major determinant of the commonality found in leadership prototypes for individuals within the same cultural group. More specifically, Shaw (1990) outlined three effects that culture could have on leadership prototypes – the attributes believed to be typical of leaders (prototype content), the degree of cognitive complexity and differentiation among content (prototype structure) and the level of automaticity involved in processing leadership encounters. Research in this area has mainly focused on examining the first of these effects concerning the content of prototypes (Hanges, Dorfman, Shteynberg, & Bates, 2006).

Categorization theory (Lord et al., 1984; Lord et al., 1982) elucidates both the content and structure of prototypes, and as noted above is an information-processing framework applied to leadership. Information processing models have been used extensively as a lens through which the effect of culture on the content of leadership prototypes has been observed (Lord & Brown, 2001; Lord & Maher 1991; Shaw 1990). In essence, these information-processing models have been used to understand how culture moderates perceptions of leader effectiveness (Hanges, et al., 2006). Generally, understanding the characteristics of a prototype is believed to be important because the content determines who is perceived as a leader and who is not (Dorfman, 1998; House, Wright, & Aditya, 1997). Categorization theory describes one possible framework for this determination process. Once a person is categorized as a leader, the label

“leader” triggers causal attributions and assumptions of the person’s ability to motivate and direct others (Konst, Vonk, & Van Der Vlist, 1999).

Previous research has identified that socio-cultural events and leader behaviors can affect individual emotions, self-identities and attitudes (Avolio & Bass, 1995; Erez & Earley, 1993; House et al., 2004; Hanges et al., 2006). The shared exposure to repeated and continuous socio-cultural environmental stimuli leads to the formation of similar prototype structures and content (Hanges, et al., 2006). Although the content of individual prototypes in a society should be similar, Hanges et al., (2006) argue that prototype structure is more important than content because an understanding of structure will inherently capture content. Knowledge of prototype content is also insufficient to both predict and understand behavior, while an understanding of the structure of prototypes furthers our understanding of behavior. Therefore, the studies outlined below will focus on the structure and content of leadership prototypes to better understand how prototypes are impacted by societal culture.

### **Cultural Tightness-Looseness**

According to Schein (1990), culture manifests at three different levels of analysis: observable artifacts, values, and underlying assumptions. Artifacts include statements of philosophy and how individual members interact. They are easily identifiable, but lack explanatory power. Underlying assumptions exist at the most fundamental level and determine thought processes, feelings and behaviors. Although they offer high explanatory power they are often difficult to identify. Values represent cross-situational principles that guide an individual’s life (Schwartz, 1994) and are positioned at the meso-level of the hierarchy along with norms and ideologies. Values are often used to explain why observable artifacts exist and persist, and why certain behaviors are observed. As such, values were the first widely researched cross-cultural

difference because they exhibited variability across societies, were more easily measurable, and provided a useful lens for interpreting observable behavioral phenomena (Schein, 1990).

In contrast to cultural values, Tightness-Looseness (T/L) is a cultural dimension consisting of two key components: (1) the strength of social norms or how clear and pervasive norms are within societies, and (2) the strength of sanctioning or how much tolerance there is for deviance from norms within societies (Gelfand et al., 2006). Although it shares some similarities to other cultural dimensions (i.e. Hofstede's, 1998), T/L introduces an explicit and distinct focus on normative strength into conceptualizations of societal culture (Gelfand et al., 2006). Pelto (1968) was the first to theorize on Tightness-Looseness, arguing that societies differed on their adherence to social norms, which could be tight (clear) or loose (lack of formality). The T/L construct was proposed to supplement previous research on societal culture that primarily relied on values as the sole explanation of cultural differences. According to Gelfand et al. (2006), the focus on values moved cross-cultural research forward where previously geography was used as a proxy for culture. However, the reliance on cultural values as the primary distinction among social groups has been criticized for their lack of explanatory power and failure to account for environmental considerations. Importantly, even espoused values do not always reflect a culture's underlying assumptions (Schein, 1990) and a focus on internal values largely ignores external influences on behavior such as cultural norms (Gelfand et al. 2006). It is also possible for a group to hold conflicting values that manifest themselves in inconsistent behavior while having complete consensus on underlying assumptions.

The development and level of adherence to societal norms have been linked to many historical determinants and have been shown to exert a distinct impact on behavioral outcomes and attitudes at the individual level. For example, Gelfand et al., (2006) proposed that individuals



in tight and loose societies differ in their willingness to conform versus act in deviant ways, engage in risk-taking and innovative behaviors, and in their tolerance of change versus stability. Importantly the researchers also noted that the less rigidly shared perceptions of loose societies also fostered a wider range of acceptable behavioral scripts. In support of these propositions, a recent empirical study revealed that individuals in tighter cultures tended to report higher levels of trait conscientiousness, lower creativity, lower trait openness, and an overall greater restriction in the range of acceptable behaviors endorsed by individuals (Harrington and Gelfand, 2014).

In their multi-level study across 33 nations, Gelfand and colleagues (2011) demonstrated that nations could vary extensively on T/L. The researchers also found many different environmental markers of both tight and loose societies. For example, tight cultures have greater population density, a dearth of natural resources (for example more food deprivation), greater environmental threats (such as a higher propensity of natural disasters), and greater health vulnerabilities (including higher infant mortality and more lives lost to diseases). In such environments, clear norms and strict norm enforcement are adaptive mechanisms for survival, as they help ameliorate the scarcity of resources, environmental pressures, and prevalence/spread of disease. Gelfand et al. (2011) also found that tightness–looseness is related to the strength of socio-political institutions and constraint in everyday situations. In sum, cultural norms and the degree of adherence to those norms greatly impact societies and the everyday lives of their individual members.

### **The Current Studies**

Leadership prototypes are an integral component in determining who will be categorized as a leader. Furthermore, culture is believed to have a large impact on the formation, content and structure of leadership prototypes and the leadership perceptions of individuals. However, the

majority of previous research on the relationship between culture and leadership prototypes has focused only on cultural values. The aim of this paper is to expand upon this line of research and investigate differences in leadership prototypes between societies with strong norms and little acceptance of deviance (tight cultures) and those with weak norms (loose nations). It was proposed that differences in the tolerated variability of behaviors and expectations between tight and loose countries would manifest as distinct differences in the structure and content of leadership prototypes. This proposition was examined across two studies designed to probe unique aspects of this problem space. The first study utilized archival data from the GLOBE research project (House et al., 2004), containing ratings of leadership attributes, and Gelfand and colleagues (2011), containing country level tightness scores, to examine the structure of leadership prototypes as a function of tightness. In the second study, a policy capture approach was used to examine whether tightness potentially moderated the relationship between specific leader attributes and perceptions of effective leadership.

Prior research demonstrating distinct differences between tight and loose societies, as well as the individuals who inhabit those cultures, can potentially explain why members of tight and loose cultures would express different preferences in terms of their ideal leaders and the attributes of those leaders. Chan, Gelfand, Triandis, & Tzeng, (1996) illustrated that tightness is a determinant of (a) social behavior (normative pressure from society as a whole drives the adherence to specific behaviors); (b) sanctioning systems (systems resulting in stronger punishments for norm deviation); and (c) the development of specific values (e.g., tight societies characterized by formality, structure, and order, loose cultures endorse tolerance, risk taking, and variety). It is postulated that these distinct differences in acceptable types of behaviors and values influence the preferences of individuals in these societies. For example, since tight

cultures value formality and structure, it follows that individuals from tight cultures might prefer leaders who do not emphasize risk-taking and change, two hallmarks of looser cultures.

Research examining the relationship between tightness and leadership preferences is still in its emerging stages. A study by Aktas, Gelfand, and Hanges (2015) examining the attributes of leaders seen as effective across different countries provided preliminary evidence that cultural tightness appears to influence leadership preference above and beyond other cultural dimensions. Specifically, the researchers found that tightness was positively related to the endorsement of autonomous leadership and negatively related to the endorsement of charismatic and team leadership. Their research provides support for the assertion that tightness is related to the endorsement of specific types of leadership. The two studies outlined below seek to build on this research by further investigating the relationship between tightness and leadership preferences as reflected in leadership prototypes.

### **STUDY 1**

The GLOBE research team found that regions of the world characterized by distinctive cultures valued different leadership styles (Koopman, Den Hartog, Konrad, et al., 1999) and that leadership behaviors and outcomes were impacted by societal cultural values (House et al., 2004). Additionally, Brodbeck and colleagues (2000) found that European countries with similar values also tended to hold similar concepts regarding effective leadership. However, this previous research has focused almost exclusively on cultural values and has not considered the degree to which differences in norm strength are likely to influence these perceptions.

Strong cultural norms are more likely to develop in situations where ecological and human made threats increased the need for unambiguous norms and punishment of deviant behaviors in the service of social coordination for survival (Gelfand et al., 2011). On the other

hand, nations with fewer threats tend to have a much lower need for order and social coordination, allowing greater latitude and weaker social norms. At the societal level, these pressures tend to become reflected in various institutional and organizational policies (Gelfand et al., 2011). For example, tight nations are more likely to have more laws and controls, greater monitoring and severe punishment, media that restricts content, and regulatory systems that suppress dissent. Tighter nations also tend to be more religious, thereby reinforcing rules that facilitate social order and coordination. Consequently, challenges to societal institutions are believed to be far less common in tight societies than in loose societies (Gelfand et al., 2011).

Differences in the degree of social regulation in tight and loose nations are often mirrored by the amount of self-regulation exhibited at the individual level. For example, individuals in tight cultures tend to have more of a prevention focus, higher self-control, and greater self-monitoring, whereas individuals in loose cultures have more of a promotion focus, and less self-control and self-monitoring ability (Gelfand et al., 2006). These differences often manifest in the degree of restriction in everyday thoughts and actions among individuals.

Due to these differences in restriction, it is hypothesized that the degree of variability in leadership prototype structures will be attenuated as cultural tightness increases. Individuals in looser cultures have greater latitude to express divergent thoughts and engage in divergent behaviors. Therefore, in looser cultures a wider range of acceptable implicit leadership theories should be free to emerge. In contrast, the restriction of thought and reduced tolerance for deviance in tighter cultures should result in fewer distinct leadership profiles held by individuals in a tighter culture. It is thus predicted that:

**Hypothesis 1:** *The degree of variability in leadership prototype structures will be related to cultural tightness. More specifically, there will be less variability in prototype structure as cultural tightness increases.*

Gelfand et al's. (2011) findings suggest that the psychological characteristics of each member of a society are attuned to and supportive of the degree of constraint or latitude in the larger cultural context. This further suggests that as nations become tighter, individuals in those societies should rely more heavily on a similar set or range of attributes to distinguish leaders from non-leaders (e.g., Gelfand, 2012). In contrast, individuals in looser cultures should be more likely to entertain a wider range of leadership attributes. It is posited that these differences should be reflected in the degree of within-attribute variation observed across individuals in a given culture. Specifically, individuals from tighter cultures should exhibit greater agreement in how they evaluate the effectiveness of any given leadership attribute (lower within-attribute variation), while individuals in looser cultures will rate attributes more dissimilarly to one another (higher within-attribute variation).

Need for cognitive closure, defined as the desire for a definite answer to a question and the avoidance of ambiguity (Kruglanski & Webster, 1996), provides an explanation for the different preferences of individuals in tight and loose cultures. In response to ambiguous stimuli, such as the situation where individuals are asked to determine how important a series of attributes are to effective leadership, individuals with a higher need for closure will respond by increasing their reliance on implicit theories derived from acculturation (Chiu et al., 2000). More specifically, need for closure influences the accessibility of knowledge structures received from culture. Additionally, individuals with higher need for closure have been found to desire quick

resolutions to ambiguous decisions, and then stick with their decision without considering alternatives (Ford & Kruglanski, 1995; Kruglanski & Webster, 1996; Webster & Kruglanski, 1994). Similarly, Hogg and colleagues (Grieve & Hogg, 1995; Hogg, 2000) have demonstrated that a desire to reduce uncertainty leads people to turn to their group memberships, because the shared social reality provided by group memberships may potentially reduce uncertainty. Additionally, this effect is believed to be stronger for individuals with higher need for closure (Pierro et al., 2005). Therefore, individuals from tighter cultures should be more likely to rely on and remain within group norms, while individuals in looser cultures have more leeway to deviate from those norms and hold different perceptions or beliefs. It is thus hypothesized that differences in need for closure expressed in tighter versus looser cultures will be observable as differences in the degree of within-attribute variability expressed by individuals in different cultures.

**Hypothesis 2:** *Cultural tightness will be negatively related to the degree of within attribute variability in individual level ratings of effective leadership characteristics.*

Hypothesis 2 predicted that the degree of within-*attribute* variance reported by individuals within a country would be negatively related to the degree of tightness. However, one might also expect the degree of within-*person* variance in attribute ratings within a country to also be associated with tightness. As described previously, tighter cultures are stricter in the regulation and reinforcement of social norms, and it is therefore believed that individuals in tighter cultures rely more heavily and stick more closely to those cultural norms due to the degree of situational constraint and high need for closure experienced by individuals in tighter

cultures (Gelfand et al., 2011; Gelfand, 2012; Peirro et al., 2015). Prior research has demonstrated that tightness is positively related to the degree of restriction in everyday life, as well as the degree of situational constraint (Gelfand et al., 2011). Individuals from tighter cultures therefore exhibit a greater degree of overall restriction in their thoughts, behaviors, and actions to conform to and uphold strict societal norms (Gelfand, 2012). Furthermore, it is believed that the psychological characteristics of each member of a society are attuned to and supportive of the degree of constraint or latitude in societal contexts. More simply, tighter cultures are stricter in the regulation and reinforcement of social norms, than looser cultures.

Norms powerfully influence the way in which individuals perceive their environment, including attributes and behaviors that are perceived as acceptable, desirable, and most effective. Consequently, tighter cultures with stronger norm regulation should result in societal members adopting similar views of the world, including the efficacy of various leadership attributes. In looser cultures, where norms tend to be less rigid and more open to interpretation, individuals should not be as strongly compelled to hold similar perceptions. Thus a greater diversity of opinions regarding the attributes of effective leaders could arise. This is believed to manifest itself in the degree of within-person variability in ratings of leadership attributes. Individuals in tighter cultures should value a distinct set of attributes, reinforced by the strong norms and large degree of constraint in their societies, while individuals in looser cultures have the flexibility to value a larger range of attributes. Therefore, it is believed that individuals in tighter cultures will be more discriminating in the attributes they include in their leadership prototypes (i.e., the attributes thought to be indicative of effective leadership), while individuals in looser cultures may value a larger range of attributes.

Information processing (IP) theories offer one perspective for why individuals from tighter cultures would value a smaller range of attributes (Hanges, Dorfman, Shteynberg, & Bates, 2006). Such frameworks posit that once a person is categorized as a leader, the label “leader” triggers causal attributions and assumptions of the person’s ability to motivate and direct others (Konst, Vonk, and Van Der Vlist, 1999). Given that culture has been identified as a major determinant of the specific attributes individuals associate with typical leaders (prototype content) and the manner by which those attributes are interrelated (House et al., 1999; Shaw, 1990), individuals from the same culture should be more likely to share similar prototypes due to the constant and continuous bombardment of socio-cultural environmental stimuli. The continuous exposure creates similar structures between individuals. This further suggests that in situations of strong norm reinforcement, such as those characterized by tight cultures, individuals should be more likely to possess similar leadership prototypes and value attributes more similarly to one another. However, when a singular pattern is not consistently reinforced, which may occur if individuals are permitted to deviate from norms, individuals would not be expected to share as similar leadership prototypes and may differentially value specific attributes.

It is proposed that individuals in tighter cultures will therefore have a larger degree of within-person variance compared to individuals in looser cultures. In simpler terms, it is believed that individuals in tighter cultures will be more *discriminating* in the attributes they include in their leadership prototypes (i.e., endorse a smaller number of attributes as prototypical of leaders). Individuals from tighter cultures will value a smaller range of attributes that are in line with their strict norms. Therefore, their within-person ratings across all leadership attributes will have more variation (few attributes will be rated highly, the remaining attributes will be rated lower) than individuals from looser cultures.



**Hypothesis 3.:** *Cultural tightness will be positively related to the degree of within person variability in individual level ratings of effective leadership characteristics.*

## **Methods**

Study 1 was designed to test Hypotheses 1-3. The hypotheses refer to the structure and content of leadership prototypes across nations with varying levels of cultural tightness. Specifically, Study 1 investigated the relationship between tightness and the degree of variability in prototype structures across cultures. The relationship between tightness and within-person and within-attribute variances in leader attribute ratings was also examined. An archival dataset was used to test these predictions incorporating data from the GLOBE study on individual-level perceptions of outstanding leadership (House et al., 2004) and country-level tightness scores from Gelfand et al. (2011). In the GLOBE studies (House et al., 2004), individuals across 62 countries rated the extent to which 112 attributes contributed to outstanding leadership. Attributes were rated on a 1-7 scale representing their importance in outstanding leadership. In the Gelfand et al. (2011) data, tightness-looseness was measured on a six-item Likert scale that assessed the degree to which social norms are pervasive, clearly defined, and reliably imposed within nations.

### **Participants**

The Gelfand et al. (2011) tightness data consisted of 6,823 participants from 33 nations. In the 2004 GLOBE study, data were collected from 15,247 middle-level managers in 62 societies. There were 27 matching countries across the two data sets; thus the final dataset for the analyses contained fewer observations than the full GLOBE dataset, though the total number of

individual level observations was 6,681. The number of participants per country ranged from a 44 (East Germany) to 543 (Israel), with a mean of 247 participants per country.

### **Data Preparation**

The GLOBE data contained missing data as well as placeholders signifying missing data (the numbers 0 and 9). The scale responses for all leader attribute items ranged only from 1-7, so any numbers greater than 7 or less than 1 for these data were replaced with “NA” prior to data analyses signifying that responses for these items were not available. Listwise deletion was then used to handle missing data cases such that participants who were missing data on any variables of interest were not included in the final dataset used for analysis. The total number of participants used to test each hypothesis is reported alongside the accompanying analyses.

Additionally, in order to correct for response biases across cultures, where certain cultures are more likely to utilize different points on response scales (Smith, 2004), a within subject correction was utilized on the archival dataset (Leung & Bond, 1989). To compute a within subject correction, each participant’s mean response score was calculated by averaging their responses on all survey items. The standard deviation in each participant’s responses across all survey items was also calculated. For each person, their mean response score was subtracted from every individual item score and then that new score was divided by that specific persons standard deviation. This procedure was conducted separately for each participant across all of their leadership attribute ratings to derive scores that were free of acquiescent bias and could be compared across cultural samples (Smith, 2004).

The most important procedural decision when evaluating archival data involves selecting and justifying the variables that will be used to test study predictions. As described previously, the GLOBE dataset contains a variety of different variables (e.g., 112 leadership attributes, 21

primary leadership dimensions, 6 aggregate CLTs) that could be used to examine the primary study predictions. To test Hypotheses 2 and 3, participants' ratings of all 112 leadership attributes were used since the focus of interest involved examining the variation of within-attribute and within-person ratings of specific individual leader attributes. However, to examine Hypothesis 1 and identify unique configural patterns among leadership prototype structures, alternative operationalizations within the data were also explored. Construction of these alternative datasets was guided by three criteria: (1) utilizing a manageable number of attributes; (2) ensuring that the reduced set of attributes still contained variability among attribute ratings; and (3) maintaining diversity among the attributes with respect to the conceptual leadership framework identified in the GLOBE dataset. These decision criteria led to the evaluation of four data subsets described below. The number of attributes used for each country was identical in each subset of the data, as were the specific attributes and dimension used in each data set. Hypothesis 1 was tested using each of these four datasets. All GLOBE dimensions and attributes are listed in Appendix A.

**Leader Attributes.** The 112 leader attributes represent individual level leadership prototypes, rather than societal level leadership prototypes. Each participant in the GLOBE dataset rated the extent to which all 112 individual leader attributes contributed to effective leadership on a 1-7 scale. Although the 112 leader attributes do not meet the first criteria, obtaining a smaller number of attributes, they represent the full range of attributes contained in individual-level leadership prototypes. Therefore, the 112 attributes meet criteria two and three, in that they contain the largest degree of variation and diversity with respect to the higher-level dimensions as possible. Using the 112 attributes presented a trade-off between reducing the overall number of attributes and maintaining variation and diversity in leadership dimensions.

**Primary Leadership Dimensions:** The primary leadership dimensions are a set of 21 first-order aggregates composed of the 112 leader attributes. Each participant had one score on each dimension (information on the creation of these ratings provided in House et al., 2004). These aggregates represent societal level leadership prototypes, but with more diversity in the specific types of leadership behaviors than the CLTs. Each of the 21 dimensions consists of 3-6 leader attributes, effectively capturing their substance. Therefore, they meet all three criteria in that they sufficiently reduce the number of attributes, while maintaining a large degree of variation and draw evenly across the higher order dimensions of the GLOBE dataset. However, they are no longer attributes since they are aggregates of attribute ratings, and therefore are most likely more representative of the societal level leadership prototypes, rather than individual level prototypes.

**CLTs.** The six CLTs represent six dimensions of societal level leadership prototypes - charismatic, team, self-protective, participative, humane, and autonomous leadership. Every participant had one score on all CLT dimensions. The CLTs are composites created from aggregates of the set of 21 primary leadership dimensions they each subsume. Each CLT is represented by a different subset of the 21 primary leadership dimensions; typically 4-5 primary leadership dimensions are housed in each CLT (see Appendix A; construction of the CLT scores is described in House et al., 2004). The six CLTs also meet all three criteria, in that they sufficiently reduce the number of attributes, while maintaining a large degree of variation and diversity in GLOBE's higher order leadership dimensions. However, they are even further removed from individual attributes, since they are created from aggregates of the 21 primary leadership dimensions, and are therefore only representative of the societal level leadership prototypes, not individual level leadership prototypes.

**Sample attributes from CLTs.** Lastly, instead of using the six CLTs, one representative leader attributes, from the full set of 112 attributes, was sampled from within each of the CLT dimensions. This resulted in six leader attributes, one representing each CLT dimension. To identify the representative attributes, the CLT composites for each participant were correlated with ratings for each of the leader attributes contained in that CLT dimension, across the entire data set. As illustrated in Appendix A below, the 112 leader attributes are all housed in one of the six CLT dimensions. The highest correlated individual attribute in each dimension was chosen to represent their CLT dimension. The six attributes were Confidence Builder (Charismatic), Intelligent (Team), Secretive (Self-protective), Individually Oriented (Participative), Compassionate (Humane), and Independent (Autonomous). All six attributes remained the same for each country. This approach allowed the analysis to utilize individual level leadership attributes, as opposed to societal level dimensions, while significantly reducing the overall number of attributes included in the analyses. The six attributes also ensured diversity with respect to the CLTs since they were each drawn from one CLT dimension. However, one drawback is that this subset did not address range restriction, since many of the representative attributes were most likely highly rated across the data set.

### **Analysis Plan**

All hypotheses and tests are summarized in Table 1. To test Hypothesis 1, a series of latent profile analyses (LPAs) were conducted to extract the total number of unique prototype structures within each country. LPA is a type of latent variable mixture model (McLachlan and Peel, 2004; Vermunt and Magidson, 2002; Pastor, Barron, Miller, Davis, 2007). The term latent refers to the latent variable of cluster membership. Mixture reflects the notion that the data are being sampled from a population that cannot be described by a single probability distribution.

Instead, each cluster is characterized by its own unique distribution and set of parameters. In LPAs, the researcher can specify the total number of profiles to extract from a given set of variables (e.g., five profiles) and then test whether extracting more or fewer profiles offers a better fit to the data. Using this procedure, the total number of unique profiles that best fit each subset of the data from each country were determined. This country-level value served as the dependent variable and was regressed on to each country's tightness scores. The regression coefficient summarizing the relationship between tightness and number of profiles was examined. A significant negative relationship would indicate that the number of unique profiles within a country decreases as tightness increases and offer support for Hypothesis 1. A separate

Table 1.

*Hypotheses and statistical tests utilized to evaluate Study 1 hypotheses*

Hypothesis	Statistical Test
<b>H1:</b> <i>The degree of variability in leadership prototype structures will be related to cultural tightness. More specifically, there will be less variability in prototype structure as cultural tightness increases.</i>	Simple Regression: Regress number of profiles on tightness scores
<b>H2:</b> <i>Cultural tightness will be negatively related to the degree of within attribute variability in individual level ratings of effective leadership characteristics.</i>	Simple Regression: Regress average within item variance in item ratings on tightness
<b>H3:</b> <i>Cultural tightness will be positively related to the degree of within person variability in individual level ratings of effective leadership characteristics.</i>	Multilevel Regression: Regress within person variability in item ratings on tightness

LPA was conducted for every country in the data set with each unique subset of the data, resulting in 108 LPAs (four LPAs for each of the 27 countries in the data set).

Hypothesis 2 utilized data from each participant containing ratings on all 112 leader attributes. Within each country, and for each attribute, variance in the ratings across all

individuals in that country were computed resulting in a within-attribute variance score for every attribute in each country. With 112 attributes across 27 countries, this resulted in 3024 unique within-attribute variances. To explain more specifically, each individual was represented by a row in the dataset and each attribute was represented by one column. The analyses for Hypothesis 2 utilized data from each column across all individuals in each country. In every country, the within-attribute variances for each item were then aggregated to create one average country level within-item variance. The country level average within-item variance served as the dependent variable and was regressed on each country's tightness scores. The regression coefficient summarizing the relationship between tightness and average within-attribute variance was examined. A significant negative relationship would indicate that the country level variance decreases as tightness increases and offer support for Hypothesis 2.

For Hypothesis 3, variance across the 112 leader attribute ratings within each person in each country was of primary interest. Within each country and for each person, variance in the ratings across all 112 leader attributes was calculated. This resulted in one within-person variance score for each person, in every country. Across all individuals in the dataset, this resulted in 6,465 unique variances. To explain more specifically, each individual was represented by a row in the dataset, and each attribute was represented by one column. The analyses for Hypothesis 3 utilized data from each row across all attributes (columns) in each country. The within-person variances, a person-level variable, served as the dependent variable. To examine the influence of cultural tightness (a societal-level variable) on within-person variability in attribute ratings (a person level variable), the same two-level hierarchical linear model was used as in Equation 1.

$$\text{Level 1: } Y_{ij} = B_{0i} + r_{ij} \quad (1)$$

$$\text{Level 2: } B_{0i} = \lambda_{00} + \lambda_{01}\text{Tightness}_i + u_{0i},$$

where  $Y_{ij}$  indicates the variance in leadership ratings for person  $i$  in country  $j$ ,  $B_{0i}$  is the person-level intercept for variance in leadership ratings,  $\lambda_{00}$  is the overall sample intercept, and  $\lambda_{01}$  is the influence of the country-level predictor (tightness) on the individual-level outcome. The primary evaluation of interest is the significance and direction of  $\lambda_{01}$ ; a positive relationship between tightness scores and within-person variances would offer support for Hypothesis 3.

## Results

Hypothesis 1 examined the relationship between cultural tightness and leadership prototype structures. Specifically, it was predicted that cultural tightness would be negatively related to the degree of variability in leadership prototypes across individuals. The degree of variability in leadership prototypes within a country was operationalized by the number of unique profiles extracted from LPAs conducted on the leadership ratings provided by individuals for each country. Countries whose data were best described by more leadership prototypes reflected greater variability in leadership prototype structures than countries in which fewer leadership profiles were extracted.

As noted above, four sets of LPAs were run on different subsets of leader attribute variables and aggregates to examine the relationship between tightness and variability in prototype structures. LPAs were performed on each country's data separately to identify the number of unique leadership prototypes (i.e., profiles) observed across individuals within a single country. The LPAs were conducted using the *mclust* package in R (R Core Team, 2017). *mclust* applies a Gaussian mixture model to identify latent profile patterns from the data as well as compute fit statistics for each extracted solution. To determine the number of leadership



prototypes reflected in each country's data, the best fitting latent profile solution was identified by selecting the model solution producing the lowest BIC (Fraley et al., 2017). Descriptive statistics for each data subset, including range of profiles, mean profile number, and variance in number of profiles per country, are presented in Table 2. Additionally, a summary of the number of profiles per country and fit statistics are presented in Tables 3-6.

Table 2.

*LPA Descriptive statistics reflecting the number of profiles in each data subset*

Data-subset	Range	Mean	Variance
CLTs	1 - 6	2.8	1.59
Highest Cor.	1 - 9	4.55	4.72
21 Primary	2 – 7	3.67	1.77
All 112	1 - 3	1.55	0.33

*Note:* CLTs refers to Culturally endorsed Leadership Theory, Highest Cor. refers to the six highest correlated leader attributes, 21 Primary refers to the 21 Primary Leadership Dimensions, and All 112 refers to the 112 leader attributes.

Table 3.

*CLT data subset: Latent Profile Analyses Results and Fit Statistics*

Country	TL Score	Profile Number	Log- Likelihood	N	DF	BIC
England	6.9	2	-2233.55	435	35	-4679.75
Italy	6.8	5	-1005.49	218	59	-2328.67
India	11	2	-2395.70	399	35	-5001.01
Venezuela	3.7	3	-1783.89	325	43	-3816.52
Singapore	10.4	1	-346.67	79	27	-811.32
Hong Kong	6.3	2	-718.44	160	39	-1634.82
Mexico	7.2	2	-3748.07	585	40	-7751.02
Israel	3.1	3	-3774.21	712	43	-7830.84
Hungary	2.9	1	-1214.07	287	27	-2580.95
South Korea	10	4	-3129.67	645	51	-6589.27
Portugal	7.8	1	-346.67	79	27	-811.32
China	7.9	2	-718.44	160	39	-1634.82
Japan	8.6	2	-1009.50	195	34	-2198.29
Turkey	9.2	2	-1677.49	289	35	-3553.32
Poland	6	2	-1710.74	278	40	-3646.59
Spain	5.4	1	-1869.87	360	27	-3898.57
Austria	6.8	1	-735.32	169	27	-1609.16
Netherlands	3.3	1	-1214.07	287	27	-2580.95
France	6.3	3	-634.01	182	51	-1533.46
Australia	4.4	1	-1582.70	344	27	-3323.11
Greece	3.9	1	-1220.29	234	27	-2587.88
Brazil	3.5	2	-1296.58	263	39	-2810.48
New Zealand	3.9	2	-462.57	184	35	-1107.68
Malaysia	11.8	2	-624.85	121	35	-1417.56
East Germany	7.5	1	-178.75	44	27	-459.67
West Germany	6.5	2	-1748.44	412	40	-3737.72
USA	5.1	2	-1745.14	398	40	-3729.72

*Note:* TL is tightness-looseness (scores ranged from 0 – 13, higher scores indicated tighter countries), BIC is the Bayesian Information Criterion. CLT refers to the six Culturally Endorsed Leadership Theories.

Table 4.

*Six highest correlated attributes: Latent Profile Analyses Results and Fit Statistics*

Country	TL Score	Profile Number	Log- Likelihood	N	DF	BIC
England	6.9	4	-1366.55	166	36	-2917.13
Italy	6.8	2	-2237.18	259	25	-4613.29
India	11	7	-2170.72	221	60	-4665.45
Venezuela	3.7	3	-604.56	77	51	-1430.66
Singapore	10.4	4	-1837.93	211	36	-3868.53
Hong Kong	6.3	4	-1577.76	168	33	-3324.61
Mexico	7.2	4	-2662.93	292	63	-5683.54
Israel	3.1	9	-3676.34	528	203	-8625.31
Hungary	2.9	2	-1341.40	179	39	-2885.11
South Korea	10	2	-2124.56	233	35	-4439.97
Portugal	7.8	2	-691.78	79	25	-1492.8
China	7.9	3	-1454.59	159	43	-3127.15
Japan	8.6	2	-1820.30	191	20	-3745.66
Turkey	9.2	5	-2203.43	276	75	-4828.40
Poland	6	7	-2061.06	268	159	-5011.10
Spain	5.4	8	-2893.7	354	61	-6145.42
Austria	6.8	6	-1112.87	166	87	-2670.49
Netherlands	3.3	4	-2459.81	284	36	-5122.98
France	6.3	7	-655.98	159	159	-2117.92
Australia	4.4	5	-2357.38	328	40	-4946.48
Greece	3.9	3	-2118.98	233	28	-4390.59
Brazil	3.5	6	-1438.18	256	137	-3636.05
New Zealand	3.9	4	-720.14	179	93	-1922.71
Malaysia	11.8	5	-1013.83	116	44	-2236.80
East Germany	7.5	1	-378.85	42	12	-802.55
West Germany	6.5	8	-2335.43	404	181	-5757.12
USA	5.1	6	-1576.91	394	137	-3972.58

*Note:* TL is tightness-looseness (scores ranged from 0 – 13, higher scores indicated tighter countries), BIC is the Bayesian Information Criterion.

Table 5.

*21 primary leadership dimensions: Latent Profile Analyses Results and Fit Statistics*

Country	TL Score	Profile Number	Log- Likelihood	N	DF	BIC
England	6.9	2	-8440.24	431	275	-18548.68
Italy	6.8	2	-3980.78	216	294	-9541.91
India	11	3	-8888.78	397	298	-19560.81
Venezuela	3.7	2	-6991.72	324	295	-15688.78
Singapore	10.4	4	-1501.07	79	111	-3487.16
Hong Kong	6.3	5	-3392.58	160	130	-7444.93
Mexico	7.2	3	-13857.36	576	338	-29863.09
Israel	3.1	7	-12567.95	707	504	-28442.65
Hungary	2.9	4	-5353.45	287	108	-11318.12
South Korea	10	3	-11857.92	643	298	-25642.75
Portugal	7.8	4	-1501.08	79	111	-3487.16
China	7.9	5	-3392.58	160	130	-7444.93
Japan	8.6	5	-4036.26	192	134	-8777.02
Turkey	9.2	7	-6438.98	286	180	-13896.06
Poland	6	5	-6675.94	274	214	-14553.09
Spain	5.4	2	-6678.98	358	295	-15092.73
Austria	6.8	5	-3142.85	169	134	-6973.118
Netherlands	3.3	4	-5353.45	287	108	-11318.12
France	6.3	6	623.52	179	1412	-6077.53
Australia	4.4	2	-6103.96	344	275	-13814.1
Greece	3.9	4	-5013.15	234	111	-10631.84
Brazil	3.5	4	-5508.80	261	171	-11969.14
New Zealand	3.9	9	-2185.89	184	226	-5550.361
Malaysia	11.8	7	-2317.17	119	180	-5494.59
East Germany	7.5	3	-766.92	43	88	-1864.83
West Germany	6.5	2	-7052.08	410	275	-15758.61
USA	5.1	2	-7037.12	397	295	-15839.52

*Note:* TL is tightness-looseness (scores ranged from 0 – 13, higher scores indicated tighter countries), BIC is the Bayesian Information Criterion.

Table 6.

*All 112 Leader Attributes: data subset: Latent Profile Analyses Results and Fit Statistics*

Country	TL Score	Profile Number	Log- Likelihood	N	DF	BIC
England	6.9	3	-25723.69	163	450	-53739.57
Italy	6.8	4	-38481.94	244	563	-80058.78
India	11	5	-32112.77	162	676	-67664.76
Venezuela	3.7	3	-12998.42	77	452	-27960.24
Singapore	10.4	4	-30186.64	193	563	-63336.18
Hong Kong	6.3	7	-25917.46	158	902	-56401.39
Mexico	7.2	2	-43321	231	449	-89085.65
Israel	3.1	4	-79990.73	489	563	-163467.8
Hungary	2.9	4	-25659.98	159	563	-54173.75
South Korea	10	3	-36966.04	226	450	-76371.32
Portugal	7.8	2	-10978.05	72	338	-23401.62
China	7.9	2	-25720.06	149	338	-53131.45
Japan	8.6	2	-32070.78	184	337	-65899
Turkey	9.2	3	-44530.2	252	450	-91548.65
Poland	6	2	-46152.92	238	337	-94150
Spain	5.4	6	-45461.16	293	789	-95403.97
Austria	6.8	1	-24099.23	157	224	-49331.05
Netherlands	3.3	6	-38690.67	263	789	-81777.77
France	6.3	1	176746.6	129	6440	322196
Australia	4.4	1	-49351.34	316	224	-99991.97
Greece	3.9	3	-36749.58	225	450	-75936.41
Brazil	3.5	1	-39674.08	230	224	-80566.29
New Zealand	3.9	2	-22787.57	177	449	-47899.22
Malaysia	11.8	5	-16900.42	104	680	-36959.02
East Germany	7.5	2	-5827.12	38	338	-12883.74
West Germany	6.5	3	-57148.24	382	450	-116971.9
USA	5.1	6	-57594.23	382	789	-119879.4

*Note:* TL is tightness-looseness (scores ranged from 0 – 13, higher scores indicated tighter countries), BIC is the Bayesian Information Criterion.

The results of the regression tests examining Hypothesis 1 are presented in Table 7.

Overall, the results across all four data subsets were similar. Contrary to predictions, cultural tightness did not significantly predict the degree of variability in leadership prototypes reported by individuals in a country when measured using the CLT data (data subset 1;  $\beta = .09$ ,  $p = .389$ ), the most strongly correlated leaders attributes (data subset 2;  $\beta = -.11$ ,  $p = .51$ ), the primary

Table 7.  
*Results of LPA regression tests for all four data subsets*

Data Subset	$\beta$	95% CI	n-level 1	n-level 2	t	p
CLT	.09	(-0.11, 0.28)	6417	27	.88	.38.
Highest correlated	-.11	(-0.46, 0.23)	6222	27	-.67	.51
21 Primary	-.10	(-0.38, 0.29)	6417	27	-.97	.34.
All 112	.04	(-0.04, 0.13)	5693	27	.98	.34.

*Note:* n-level 1 represents the person level sample size utilized in the calculation of profiles after missing data was removed, n-level 2 represents the country level sample size; Data subsets: CLT refers to the six Culturally endorsed Leadership Theories, Highest Correlated refers to the six highest correlated leader attributes in each CLT dimension, 21 Primary refers to the 21 Primary leadership dimensions, and All 112 refers to all 112 leader attributes.

leadership dimensions (data subset 3;  $\beta = -0.10$ ,  $p = .34$ ), or the full set of 112 leadership attributes (data subset 4;  $\beta = .04$ ,  $p = .34$ ). Thus, Hypothesis 1 was not supported.

Hypothesis 2 predicted that cultural tightness would be negatively related to the degree of within-attribute variability in individual level ratings of effective leadership characteristics. That is, it was predicted that individuals from tighter cultures would demonstrate stronger agreement (i.e., lower variability) in their evaluation of any given leadership attribute. After removing missing responses, 27 country level average item variances were included in the analysis across the 27 countries. The fixed and random effects for Hypothesis 2 are presented in Table 8 and Table 9. The results of this analysis revealed a significant positive relationship between cultural tightness and the degree of variability in attribute ratings across people within the same country ( $\beta = .02$ , 95% CI = [.001, 0.03],  $t = 2.189$ ,  $p = 0.039$ ), while controlling for mean item score in each country. Thus Hypothesis 2 was not supported. However, the results suggest that, as tightness increased there was less agreement within countries on the importance of specific leadership attributes in leadership prototypes.

Table 8.  
*H2 Random effects:*

	Variance	Std.Dev.
Country (Intercept)	0.21	0.47
Residual	0.54	0.74

Level 1 sample size = 3024 items, Level 2 sample size = 27 countries

Table 9.  
*H2 Fixed Effects:*

	Estimate	Std. Error	df	t	p
Intercept	0.35	0.13	24.0	2.76	.011 *
TL	0.02	0.01	24.0	2.19	.039 *
Means	3.87	4.07	24.0	.953	.35

Sig. codes:  $p < .01$  ‘\*’

Means indicates average country level mean score across all items

Hypothesis 3 predicted that cultural tightness would be positively related to the degree of within-person variability in their ratings of effective leadership characteristics. More specifically, it was predicted that individuals from tighter cultures would be more discriminating in their evaluation of attributes that constitute effective leaders (e.g., effective leaders must exhibit attribute 1, but attributes 2 and 3 do not matter). Therefore, individuals from tighter cultures should demonstrate greater variability in their ratings across all attributes since some attributes should be rated very highly, the attributes leaders must exhibit, while other attributes, the attributes they do not value, will be rated lower. After removing missing responses, 6465 within-person variances were included in the analysis across the 27 countries. Additionally, the within person data correction was not utilized for this analysis since it would have removed the within-person variance being examined. Instead, in order to control for response bias, person means, each participant’s average score across all survey items, were controlled for in the analysis. The fixed and random effects from the analysis for Hypothesis 3 are presented in Table 10 and Table

11. Using Satterthwaite's approximation to compute the degrees of freedom for testing the statistical significance of the multilevel regression coefficients, in direct opposition to predictions, results of this analysis revealed that tightness was negatively related to the degree of within-person variance across leadership attribute items, ( $\beta = -.085$ , 95% CI = [-0.16 -0.01],  $t = -2.25$ ,  $p = .034$ ).

Table 10.

*H3 Random effects:*

	Variance	Std.Dev.
Country (Intercept)	0.23	0.47
Residual	1.69	1.3

Level 1 sample size = 6465 individuals, Level 2 sample size = 27 countries

Table 11.

*H3 Fixed effects:*

	Estimate	Std. Error	df	t	p
(Intercept)	4.93	0.29	71.00	8.85	4.27e-13 ***
TL	-0.09	0.04	25.00	-2.25	.034 *
Person Mean	0.44	0.05	6453.00	8.71	2e-16 ***

Sig. codes:  $p < .0001$  '\*\*\*',  $p < .01$  '\*\*'

Person means indicates the variable that included each participants overall mean across all items in the survey.

The evidence is supportive of a negative effect of tightness on within-person variance such that as a country's cultural tightness increased, individuals within a given country tended to provide more similar ratings across all leadership attributes and were thus less discriminating in their perceptions of effective leadership characteristics. This pattern of results fails to support Hypothesis 3.

## Discussion

The purpose of Study 1 was to examine the structure of leadership prototypes as a function of cultural tightness within a country using a large archival data set. Hypothesis 1



sought to examine the degree to which cultural tightness influenced the number of leadership prototypes present in a country. Prior research reported that tightness is related to the degree of restriction in everyday life (Gelfand et al., 2011), and thus individuals from tighter cultures tend to exhibit a greater degree of overall restriction in their thoughts, behaviors, and actions. Therefore, it was hypothesized that the thoughts of individuals in tighter nations should be more restricted than the thoughts of individuals in looser nations. Furthermore, this restriction of thought was believed to impact the number of acceptable profiles in tighter countries, and it was specifically postulated that tighter cultures would have a smaller number of acceptable leadership prototypes (profiles in the analyses), as compared to looser nations. However, this assertion was not supported, and tightness was not related to the number of distinct leadership prototypes found in each country. Researchers have previously examined how individuals' preferences for different leadership prototypes differ between cultures as well as how the content of leadership prototypes varies across cultures (House et al., 2004). That research, focusing on cultural values, also found that similar societies could be clustered together in terms of their leadership prototypes (Gupta & Hanges, 2004), and that meaningful differences could be found in the content of their prototypes (Dorfman, Hanges, & Brodbeck, 2004). However, this was the first attempt to examine the number of distinct groups of prototype preferences within countries and to link the number of prototypes in a country to tightness-looseness.

Hypothesis 2 examined the relationship between tightness and the degree of within-attribute variability in individual level ratings of effective leadership characteristics. Gelfand et al. (2011) suggested that the psychological characteristics of each member of a society are attuned to and supportive of the degree of constraint or latitude in societal contexts. Furthermore, tightness is related to a greater degree of constraint in societies, indicating that individuals in

tighter societies should share more similar beliefs and values (Gelfand, 2012). Need for closure (Kruglanski & Webster, 1996) provides an explanation for the different preferences of individuals in tight and loose cultures. More specifically, need for closure influences the accessibility of knowledge structures received from culture (Chiu et al., 2000). Additionally, a desire to reduce uncertainty leads people to turn to their group memberships, because the shared social reality provided by group memberships may potentially reduce uncertainty (Grieve & Hogg, 1995; Hogg, 2000), and this effect is believed to be stronger for individuals with higher need for closure (Pierro et al., 2005).

It was therefore proposed that as nations became tighter, individuals in those societies would tend to rely more heavily on a smaller range of attributes to distinguish leaders from non-leaders, due to their increased need for closure, and that there would be a large degree of agreement on those highly valued attributes in tighter cultures. This was hypothesized to manifest itself in a smaller degree of within-attribute variation in attribute ratings in tighter cultures than in looser cultures. In looser cultures, where individuals do not have an as extensive need for closure and more divergent thoughts are acceptable, it was postulated that attributes would be more likely to have more varied ratings across individuals, resulting in a greater degree of within-attribute variance than in tighter cultures. However, this hypothesis was not supported. Instead, the results indicated the opposite. As tightness increased, individuals within the same country rated items more dissimilarly to one another.

Hypothesis 3 postulated that individuals in tighter cultures would be more discriminating in the attributes included in their leadership prototypes, and therefore their within-person ratings of leadership attributes would have more variation than individuals in looser cultures. This was believed to occur because individuals in tighter cultures were hypothesized to value a smaller

range of attributes, in line with their strict norms, that would be vitally important in their leadership prototypes. The remaining attributes would be rated lower, resulting in a higher degree of within-person variance in attribute ratings. Information processing frameworks suggest that in situations of strong norm reinforcement, such as those characterized by tight cultures, individuals will have similar leadership prototypes and value attributes more similarly to one another due to the constant bombardment of socio-cultural stimuli (Hanges, Dorfman, Shteynberg, Bates, 2006). However, when a singular pattern is not consistently reinforced, which may occur when individuals deviate from norms, a hallmark of looser cultures, individuals will not share as similar leadership prototypes. However, the results from Hypothesis 3 indicated the opposite. Tightness was negatively related to the degree of within-person variation in ratings of leader attributes, suggesting that individuals in tighter cultures gave more similar ratings to all leadership attributes than individuals in looser cultures. The null results in Hypothesis 1, and results in the opposite direction for Hypotheses 2 and 3 could be attributable to a number of explanations.

First, these analyses combined two archival data sets, one containing ratings of leadership attributes, and a second containing country level tightness scores. The country level tightness scores were applied to each individual from a given country rather than collecting tightness data from each person. This analytic strategy runs the risk of an ecological fallacy in which inferences about the nature of individuals are deduced from inferences about the group to which those individuals belong. Although there is nothing wrong with drawing conclusions about aggregates or larger groups, if a researcher desires to make those same conclusions about individuals, then they must conduct analyses at the appropriate level (e.g. the individual level). It is thus possible, and indeed likely, that this approach does not capture the inherent variability in individual level

tightness scores which may have been apparent had tightness scores been obtained from each individual participant. Although tightness is conceptualized as a country level phenomenon, it also operates at the individual level, and an individual's perceptions of cultural tightness can be vitally important to understanding tightness's relationship to psychological variables of interest. For example, in a study examining the relationship between cultural tightness and situational constraint, Realo and colleagues (2015) found significant variation in the type and degrees of situational constraint exhibited within and across tight cultures. Such findings illustrate that although country-level aggregates are descriptively useful, they lose information about the individual variation in constructs of interest.

Additionally, one possible limitation may have been the relatively small Level-2 sample size used in the analyses. Although the GLOBE data set contained leadership ratings in over 60 countries, data on cultural tightness was only available for 27 of those countries. As future research continues to collect additional data on cultural tightness across new countries, it would be desirable to reevaluate predictions related to differences in prototype structure with a larger sample. In sum, although the results were not supportive of the predicted relationship between cultural tightness and leadership prototype structure nor the relationship between tightness and within-attribute or within-person variance, these questions remain intriguing directions for future research.

Previous research has illustrated that tighter cultures are stricter in the regulation and reinforcement of social norms (Gelfand, 2012; Gelfand et al., 2011). Norms strongly influence the way in which individuals perceive their environment, including attributes and behaviors that are perceived as acceptable, desirable, and most effective. Consequently, tighter cultures with stronger norm regulation should result in societal members adopting similar views of the world,

including the efficacy of various leadership attributes. In looser cultures, where norms tend to be less rigid and more open to interpretation, individuals should not be as strongly compelled to hold similar perceptions. Thus a greater diversity of opinion regarding the attributes of effective leaders could arise. However, the results of Hypotheses 2 and 3 suggest the opposite. Individuals in tighter cultures were less discriminating in the attributes they valued in leadership prototypes than individuals in looser cultures and rated attributes more dissimilarly to one another. This appears to be inconsistent with the existing tightness literature. However, it could be the case that there exists meaningful variation in tightness at the individual level that diverges from societal level findings and needs to be further examined in future research studies. Additionally, since tightness is often studied at the societal level, the majority of existing research frequently aggregates individual tightness scores to the societal level (Gelfand et al., 2011; Harrington & Gelfand, 2014; Ozeren, Ozmen, & Appolloni, 2013). Furthermore, this is one of the first explicit tests of tightness in relation to variance, which potentially presents a new lens through which tightness can be understood; namely, the degree of acceptable variance in beliefs, thoughts, and ideas in a society. Since this finding was contrary to prior theoretical understanding, future research should be directed first at replicating this finding, and then at better understanding the relationship between tightness and variance, as well as how tightness impacts individual's ratings of leader attributes in leadership prototypes.

## **Study 2**

Study 1 sought to examine the influence of cultural tightness on the structural differences of leadership prototypes between countries using survey data from large archival data sources. It suggested that individuals in tighter cultures were less discriminating in the attributes they valued in leadership prototypes than individuals in looser cultures. Study 2 attempted to build

upon these findings by focusing on prototype content. Specifically, it was designed to further investigate the relationship between tightness and specific leadership dimensions contained in leadership prototypes.

Contextual factors, differentiating characteristics that influence prototype structure, content and fit, are often overlooked and under researched (Antonakis et al., 2004). However they are beginning to feature more prominently in the leadership prototype literature (Foti, Hansbrough, Epitropaki, & Coyle, 2017). The most common contextual factors include leader, follower, organizational, and task characteristics, and culture (Junker & van Dick, 2014). The GLOBE research team conducted the most significant investigation into the impact of culture, specifically cultural values, on leadership prototypes. The researchers were able to demonstrate that culturally similar societies, as defined by similarly held cultural values, can be clustered together (Gupta & Hanges, 2004). In their investigation of 62 countries, ten distinct societal clusters were identified, each encompassing a number of countries. Notably, the ten clusters exhibited meaningful differences in the content of their societal level leadership profiles (Dorfman, Hanges, & Brodbeck, 2004; Dickson, Castaño, Magomaeva, & Den Hartog, 2012).

Cultural values influence not only the content of leadership prototypes, but also prototype activation and prototype fit (Zacher, Rosing, Henning, & Frese, 2011). However, values are only one dimension of culture. Norms also play an important role in shaping thoughts, behaviors, and perceptions of individuals (Gelfand et al., 2006; Gelfand et al., 2011). Even though researchers have continued to demonstrate that clusters of countries distinguished by shared cultural values share similar leadership prototypes (Foti, Hansbrough, Epitropaki, & Coyle, 2017), only one study to date has investigated the impact of cultural norms on the content of leadership prototypes (Aktas, Gelfand, & Hanges, 2015). Aktas, Gelfand, and Hanges (2015) identified a

positive relationship between tightness and the endorsement of autonomous leadership and a negative relationship between tightness and the endorsement of team and charismatic leadership, three of the six CLT dimensions. Previous research utilizing cultural values and the findings of Aktas and colleagues (2015) suggest that culture, and more specifically cultural norms, may influence the content of leadership prototypes. Therefore, the purpose of Study 2 was to further investigate the impact of cultural norms, specifically cultural tightness, on the content of leadership prototypes to determine if tightness moderated the relationship between leadership characteristics and perceptions of effective leadership. Due to the nascent nature of this stream of research it was not prudent to predict a direction for this relationship prior to conducting the analyses. Instead, this set of analyses functioned in a more exploratory fashion to examine potential interactions between tightness and leader attributes to predict perceptions of effective leadership.

**Hypothesis 4:** *Tightness will moderate the relationship between leader attributes and perceptions of effective leadership.*

## **Method**

Study 2 was designed to explore Hypothesis 4 and to determine how leader prototypicality decisions differ between individuals from tight and loose cultures as well as to determine if tightness is related to the endorsement of specific leader attributes. This study involved a controlled computer-based experiment utilizing a policy capture methodology. Policy capturing is a methodological approach designed to identify how individuals differentially weight the importance of information cues (Aiman-Smith, Scullen, & Barr, 2002; Karren & Barringer, 2002). For the purposes of this study, a series of vignettes were created that described

hypothetical leaders. The six GLOBE CLTs were utilized to describe hypothetical leaders in the vignettes. The CLTs were chosen because they represent a large diversity in leadership attributes, while reducing the overall number of attributes included in the vignettes. Each CLT was presented across vignettes at two levels—present (the hypothetical individual displays this characteristic) or absent (the hypothetical individual does not display this characteristic). All levels of each CLT were completely crossed, resulting in the creation of 64 vignettes (see Appendix B) containing all possible combinations of each CLT. The CLT's were also chosen since use either the full 112 leader attributes or the 21 primary leadership dimensions would result in too large a number of vignettes to realistically expect participants to complete (cf., Aiman-Smith et al., 2002; Karren & Barringer, 2002). The order in which these vignettes were presented was randomized for each participant. In order to determine how individuals made their leader prototypicality decisions, participants were asked to rate the prototypicality of the hypothetical individual described in each vignette. The level of each attribute, present or absent was varied so that its importance in leader prototypicality decisions could be evaluated.

### **Participants**

309 participants were recruited online through Qualtrics. 154 individuals were recruited from India, a historically tight culture, and 155 individuals were recruited from the United States, a historically loose culture. Participants were recruited from two cultures in order to obtain a significant degree of variation and representation from tight and loose home cultures. Participants were all working adults who ranged in age from 22 to 65 years old, with a mean age of 38 years old, and were 49 % male, 44% Caucasian and 43% Asian-Indian. All participants received \$10.00 for completion of the experiment.

### **Procedure**



Participants responded remotely and completed the survey online through Qualtrics' website. Each person completed the survey individually. The survey began by obtaining a participant's, age, gender, and home country. Participants were informed that they would read a series of descriptions of hypothetical individuals at work. It was also explained that each vignette represented a different person and that they would be asked to rate the extent to which they believed each hypothetical individual was a leader or not. After informed consent was obtained, participants read the 64 vignettes describing hypothetical individuals. Once they had finished reading and rating the vignettes, demographic information was recorded and participants also completed a series of measures relating to potential covariates, as well as a measure of tightness-looseness (Gelfand et al., 2011). All measures, including the vignettes, are listed in Appendix B.

### **Analysis Plan**

For the purposes of Hypothesis 4, the profiles of hypothetical individuals were manipulated resulting in profile ratings nested within individuals. Consequently, multilevel regression was used to test the hypothesis. The dependent variable was a person's leadership effectiveness rating for each profile (each of the 64 vignettes). The Level 1 predictors were the attributes contained in the profile and were represented by dummy codes (1 = attribute present in vignette, 0 = attribute absent from vignette). Each person's cultural tightness score was calculated, and at Level 2, these scores were inputted into the equations predicting each of the Level-1 slope coefficients. The final regression model resembled the following:

$$\text{Level 1: } Y_{ij} = B_{0j} + B_{1j}(X_{1ij}) + \dots + B_{nj}(X_{nij}) + r_{ij} \quad (3)$$

$$\text{Level 2: } B_{0j} = \lambda_{00} + \lambda_{01}\text{Tightness}_j + u_{0i}$$

$$B_{1j} = \lambda_{10} + \lambda_{11}\text{Tightness}_j + u_{1j},$$

...

$$B_{nj} = \lambda_{n0} + \lambda_{n1} \text{Tightness}_j + u_{nj},$$

where  $Y_{ij}$  indicates the mean leadership rating of vignette  $i$  for person  $j$ ,  $B_{0j}$  is person  $j$ 's overall mean leadership rating across vignettes,  $B_{1j}$  through  $B_{nj}$  is the change in leadership rating attributable to the presence of leadership attribute  $1 \dots n$  for person  $j$  on each vignette,  $\lambda_{00}$  is the overall mean of the sample on the dependent variable,  $\lambda_{01}$  is the main effect of tightness on the dependent variable,  $\lambda_{10} \dots \lambda_{n0}$  are the main effects of leadership attribute  $1 \dots n$  on leadership ratings, and  $\lambda_{11} \dots \lambda_{n1}$  is the interaction between the tightness score for person  $j$  and leadership attribute  $1 \dots n$  on leadership ratings. For the purposes of Hypothesis 4, the primary prediction was that a person's tightness score would impact the degree to which they differentially weigh the presence of particular leadership attributes in their ratings of effective leadership. Therefore, this analysis centered on the Level 2 coefficients representing the cross-level interaction (e.g.,  $\lambda_{11} \dots \lambda_{n1}$ ). A significant interaction, whether positive or negative, between tightness and any of the leader attributes, would indicate support for Hypothesis 4.

## Results

Hypothesis 4 predicted that tightness would moderate the relationship between leader attributes and ratings of effective leadership. Table 12 presents the results of the final analysis. In order to remove the influence of vignette length and home country on the relationships in question, the word count of each vignette and participants home country was controlled for in the regression. A three level HLM where items were nested within participants nested within countries was not utilized, because when running a three level HLM, the country level residuals equaled zero. Consequently, country was incorporated as a control variable in the two level HLM

described below. Using Satterthwaite's approximation to compute the degrees of freedom for testing the statistical significance of the multilevel regression coefficients, there was a direct effect of all six leadership characteristics - Charismatic leadership, Team leadership, Self Protective leadership, Participative leadership, Humane leadership, and Autonomous leadership - on leadership perceptions. Indicating that vignettes in which an individual displayed any one of the leadership characteristics were rated as more prototypical of leaders. Additionally, there was also a direct effect of tightness on leadership perceptions, ( $\beta = .26$ , 95% CI = (.05, .48),  $t = 2.48$ ,  $p = .02$ ), suggesting that as individuals became tighter they were more likely to indicate that someone was more of a leader.

Table 12.  
*Hypothesis 4 regression output*

Parameter	B	Std. Error	df	t	p	95% Confidence Interval
Intercept	3.13	.41	403	7.72	0.0***	(2.34, 3.92)
Char	.7	.12	1.95e+04	5.82	0.0***	(0.46, 0.93)
Team	.57	.12	1.95e+04	4.73	0.0***	(0.33, 0.80)
Self	.8	.12	1.95e+04	6.42	0.0***	(0.55, 1.04)
Part	.37	.12	1.95e+04	3.03	0.002**	(0.13, 0.6)
Hum	.39	.12	1.95e+04	3.27	0.001**	(0.16, 0.63)
Auto	.67	.12	1.95e+04	5.53	0.0***	(0.43, 0.90)
TL	.26	.077	413	3.41	.0007***	(0.11, 0.41)
Words	-.046	.004	1.95e+04	-13.12	0.0***	(-0.05, -0.04)
Country	.06	.1	306	.62	.54	(-0.13 0.25)
Char # TL	-.0007	.02	1.945e+04	-0.03	0.98	(-0.05, 0.04)
Team # TL	.02	.02	1.945e+04	1.02	0.31	(-0.02, 0.07)
Self # TL	.02	.02	1.945e+04	0.82	0.41	(-0.03, 0.06)
Part # TL	.06	.02	1.945e+04	2.62	0.01**	(0.02, 0.11)
Hum # TL	.03	.02	1.945e+04	1.47	0.14	(-0.01, 0.08)
Auto # TL	-.09	.02	1.945e+04	-4.06	.00***	(-0.14, -0.05)

*Note:* Char is short for Charismatic Leadership, Team is short for Team Leadership, Self is short for Self-Sacrificing Leadership, Part is short for Participative Leadership, Hum is short for Humane Leadership, Auto is short for Autonomous Leadership, and TL is short for tightness-looseness. Words indicates word count in the vignette and Country denotes the home country variable. The “#” indicates an interaction between two variables, and the DV was perceptions of

effective leadership.

Sig. codes:  $p < .0001$  ‘\*\*\*’,  $p < .001$  ‘\*\*’

In line with predictions, tightness significantly interacted with two leadership characteristics, participative leadership, ( $\beta = .06$ , 95% CI= [.02, .11],  $t = 2.62$ ,  $p=.01$ ) suggesting that as participants increased in tightness and individuals in the vignettes displayed participative behaviors those participants were more likely to view the hypothetical individual as a leader, and autonomous leadership ( $\beta = -.09$ , 95% CI= [-.14, -.05],  $t = -4.06$ ,  $p=0.0$ ) suggesting that as participants increased in tightness and individuals in the vignettes displayed autonomous behaviors those participants were less likely to view the hypothetical individual as a leader. Thus, Hypothesis 4 was partially supported.

### **Discussion**

The purpose of Study 2 was to evaluate the importance of singular attributes in leadership prototypes by experimentally manipulating the levels of specific leadership attributes expressed in descriptions of leader behavior. The study focused on the six GLOBE CLTs (charismatic, team, self-protective, participative, humane, and autonomous leadership), and it was predicted that an individual’s self-reported tightness would moderate the relationship between leader attributes and perceptions of leader effectiveness. Contextual factors, such as cultural values (Junker & van Dick, 2014), had been previously shown to contribute to meaningful differences in the content of societal level prototypes (Dorfman, Hanges, & Brodbeck, 2004; Dickson, Castaño, Magomaeva, & Den Hartog, 2012; Gupta & Hanges, 2004), as well as prototype activation and prototype fit (Zacher, Rosing, Henning, & Frese, 2011). However, values are only one dimension of culture and also norms play an important role in shaping thoughts, behaviors, and feelings of individuals (Gelfand et al., 2006; Gelfand et al., 2011). Even though researchers have continued to utilize values in their investigations of leadership prototypes (see, Foti,

Hansbrough, Epitropaki, & Coyle, 2017), only one study had previously investigated the impact of cultural norms on the content of leadership prototypes (Aktas, Gelfand, & Hanges, 2015). The purpose of Study 2 was to build on the findings of Aktas and colleagues (2015) and to further investigate the impact of cultural tightness on the content of leadership prototypes. Specifically, Study 2 examined if tightness moderated the relationship between leadership characteristics and perceptions of effective leadership. The hypothesis was partially supported as two interactions, between tightness and the GLOBE CLT dimensions of participative and autonomous leadership, were observed.

The findings can be interpreted in a number of different ways. For one, perhaps this indicates that individual level tightness is only related to specific leader dimensions. Alternatively, tightness may indeed be related to other leader attributes in addition to participative and autonomous leadership, as findings from Aktas et al., (2015) would suggest, and the null finding in the current study could have resulted from range restriction in the degree tightness reported by the sample. The sample across both countries had a high mean tightness score of 5.04 with a standard deviation of .46 on a 7-point scale, indicating that overall the participants in the sample reported coming from more tight cultures than loose cultures. It's possible that the large degree of tightness in the sample skewed the moderation results and may be the cause of the non-significant results.

As noted above, findings from Aktas, Gelfand, and Hanges (2015) illustrate that differences in tightness-looseness accounted for unique variance in perceived effectiveness of leadership attributes, above and beyond other cultural dimensions. Specifically, the researchers found that tightness was positively related to the endorsement of autonomous leadership and negatively related to the endorsement of charismatic and team leadership (Aktas et al., 2015).

Their research provides support for the assertion that tightness is related to the endorsement of specific leadership attributes, and types of leaders. However, the current study failed to replicate their findings. Interactions between tightness and charismatic leadership and tightness and team leadership were not observed. Additionally, the negative interaction between autonomous leadership and tightness is in the opposite direction of the previously observed relationship. This may have resulted from the differences in the operationalization of tightness between the two studies. Aktas and colleagues used country level tightness scores to investigate this relationship. As in the current Study 1, the Aktas et al. (2015) study assigned the same tightness score to all individuals within the same and thus may also have been at similar risk of committing an ecological fallacy in interpretations of this data. The current study attempted to counteract this potential limitation by collecting tightness data at the individual level. It is possible that the relationship documented by Aktas and colleagues only holds at the societal level, and when looking across individuals, there is enough variation within and across people to simultaneously uncover new relationships between tightness and specific dimensions of leadership and eliminate others.

Interestingly, the results of Study 2 did indicate that irrespective of an individual's tightness, charismatic leader behaviors increased overall leadership perceptions. This finding diverges from earlier work suggesting that tightness was negatively related to charismatic leadership (Aktas et al., 2015). In addition, the direct effect of tightness on leadership effectiveness indicated that individuals with higher self-reported tightness were more willing to endorse individuals as leaders in general. This may be suggestive that individuals in tighter cultures realize the importance of leaders in terms of a leader's ability to provide structure and direction, both of which are vital in times of threat (the historical foundation of tight cultures).

Individuals from tighter cultures may therefore be less discriminating in terms of who they categorize as leaders, and who they will follow, since they believe they need a leader to provide direction and structure their environment. This potentially leads them to be less “choosy” overall, as they simply want leaders in place. Whereas individuals in looser cultures believe they have more flexibility and leeway, since their cultures developed in the absence of threats, and can overall be “choosier” in terms of leader categorization since they do not feel the same pressure to find leaders immediately. This is also consistent with the findings from Study 1, which suggested that individuals in tighter cultures were less discriminating in the attributes they valued in leadership prototypes than individuals in looser cultures. This point will be returned to later in the General Discussion.

Perhaps one other possible reason for this finding is the rigidity in tight cultures. The rigidity and history of threats in tight cultures leads individuals to have a high need for closure and thus work quickly to remedy uncertain situations. Understanding who is, and who is not, a leader qualifies as an uncertain situation. In order to quickly remedy that uncertainty, individuals from tighter nations may be more likely overall to categorize others as leaders than individuals from looser nations who are better able to endure uncertainty, and have more time to evaluate the merits of individuals and search for characteristics they value in leaders.

One significant limitation of Study 2 was the attributes included in the policy capture vignettes. Due to the nature of a policy capture, where key pieces of information are presented at different levels (in the case of Study 2 leader attributes were present or absent from vignettes), the number of attributes included was severely limited. The CLTs were chosen to represent the full range of leadership behaviors, while significantly reducing the number of included attributes. However, since the CLTs represent societal level leadership prototypes, not individual level

prototypes, it is possible that if a subset of attributes had been chosen that was more representative of individual level prototypes, tightness would have been found to be related to other leader characteristics. The most thorough test would have been to include all 112 leader attributes, which represent individual level leadership prototypes, in a series of vignettes. However, including all 112 attributes at two levels would have resulted in the creation of over 4,000 vignettes. The power of a policy capture rests in the individual participants' ability to see and rate all combinations of stimulus information, ideally in one sitting. It simply is not possible, nor recommended (Aiman-Smith, Scullen, & Barr, 2002; Karren & Barringer, 2002) to include more than 100 vignettes per sitting. Future research may therefore work to identify a novel solution that would allow for the inclusion of a larger number of individual level leadership attributes in a similar type of study.

A second limitation was the small degree of variation in participant tightness, even though participants were drawn evenly from two cultures that historically differ in their cultural tightness. Across all 309 participants, tightness scores ranged from 2.0 to 6.5 on a 1-7 scale with higher scores indicating greater tightness. The variance in individual tightness scores was small, 0.46, and the mean of the entire sample was 5.04, indicating that the majority of the sample endorsed tighter norms. The means and variances were also similar when broken down by country. The variance in the US sample in tightness scores was .44, and the mean was 4.9. While in the India sample, variance in tightness scores was .46, with a mean of 5.1. This similarity in tightness between the two samples was surprising. Perhaps due to the evaluative nature of the experiment, all individuals were more likely to endorse tighter norms. However, this still presents a need for future research to reevaluate these findings with a sample that captures a larger degree of variance in tightness scores across participants.



## GENERAL DISCUSSION

The purpose of this thesis was to incorporate societal tightness-looseness into the study of leadership prototypes. It was proposed that differences in the tolerated variability of behaviors and expectations between individuals from cultures of varying degrees of tightness would manifest as distinct differences in the structure and content of leadership prototypes. This was also one of the first attempts to incorporate societal norms into the study of leadership prototypes. Study 1 examined the influence of cultural tightness on the structural differences of leadership prototypes between countries using survey data from large archival data sources. Although the results did not indicate differences in the structures of leadership prototypes between countries, the findings suggested that individuals in tighter cultures were less discriminating in the attributes they valued in leadership prototypes and rated attributes more dissimilarly to one another than individuals in looser cultures. Study 2 built upon those findings by focusing on prototype content. Specifically, it investigated the moderating influence of tightness on the relationship between leadership attributes and perceptions of effective leadership. Moderation was supported by the results of Study 2, as two interactions between tightness and the GLOBE CLT dimensions of participative and autonomous leadership were observed.

The most unexpected result from these studies (Hypothesis 3 and Hypothesis 4) suggests that as cultural tightness increased, individuals tended to be less discriminating in their evaluation of attributes that constitute effective leadership. In Study 1, the results indicated a small/weak negative effect of tightness on within-person variance, suggesting that individuals from tighter cultures rated all attributes more similarly than individuals from looser cultures. Similarly, results from Study 2 indicated that as a whole, individuals who endorsed tighter norms

were more willing to categorize individuals as leaders than individuals who endorsed looser norms. Contrary to the hypothesized relationship between tightness and leader categorization, these two results suggest that as tightness increased, individuals exhibited less discriminability across leaders and leader attributes.

Importantly, this research utilized an individual level model of tightness not a cultural level model. The current research therefore captured individuals' perceptions of their social environment. Cultural researchers often aggregate across variability at the individual level to examine societal level differences, resulting in the loss of information at the individual level. However, even though culture strongly influences individuals, a singular person may not accurately represent their cultural mean. Therefore, it is often important to also investigate individual level differences with respect to cultural variables of interest. The results of Study 1, which intimated that individuals in tighter cultures were less discriminating in the attributes they valued or included in their leadership prototypes, suggested that investigating tightness at the individual level would be important to our understanding of the relationship between tightness and leadership prototypes. In Study 2, tightness was measured at the individual level, and the results diverged from previous findings, suggesting that individuals who reported more tightness were more willing to endorse any stimulus person as a leader than individuals from looser cultures.

The current research potentially uncovered differences in tightness's relationship to societal versus individual level leadership prototypes. Overall, individuals in tighter cultures may be more willing to categorize others as leaders. Since leaders often provide structure and direction, these findings possibly derive from the desires of individuals in tighter cultures who have a high need for closure and seek leaders that can reduce uncertainty and ambiguity in

response to threatening situations. Although these findings deviate from previous work, they are not contradictory. When looking at societies as a whole, tightness is related to societal level leadership dimensions (Aktas et al., 2015). However, no study had previously investigated individuals and their preferences in those societies. Therefore, it is perfectly reasonable to expect deviation from societal means. Individuals in tighter cultures may be less discriminating in terms of who they categorize as leaders, since they understand the need for a leader in their threatening environment, potentially influencing them to be less selective overall. In a sense, Study 2 illustrated that as tightness increased, individuals simply had a greater desire to find a leader, but it did not suggest that individuals in tighter cultures did not care about leader attributes.

These findings contribute to the general tightness literature. Tightness is believed to impact behavior and perceptions (Gelfand et al., 2006; Gelfand et al., 2011) and the current research illustrated that tightness influenced the preferences and beliefs of individuals when making leader categorization decisions. In addition, as noted earlier, this study is only the second attempt to examine the relationship between tightness and leadership prototypes. Aktas, Gelfand, and Hanges, (2015) identified that tightness was positively related to the endorsement of autonomous leadership and negatively related to the endorsement of charismatic and team leadership. Although this provided preliminary support for the assertion that tightness was related to the inclusion of different leader characteristics in leadership prototypes, little was known about how variability in social norm tolerance impacted the formation and structure of individual's leadership prototypes. The current studies built upon their findings to extend this line of research and suggest a more complex, multi-level relationship between tightness and the characteristics included in leadership prototypes.

In addition, these findings contribute to the leadership prototype literature. Current theoretical developments in leadership prototype research have attempted to capture the inherent dynamic, complex nature of leadership prototypes allowing for change at different levels of analysis (Lord & Shondrick, 2011). However, this is often ignored in empirical studies (Foti et al., 2017). Previous research has demonstrated that there is variation in prototypes at the individual level (Bray et al., 2014; Foti et al., 2012). Although, the current research presented one of the first attempts to experimentally investigate the impact of culture on individual-level leadership prototypes. This is a useful extension that can be utilized as a foundation to guide future research into multilevel examinations of leadership prototypes. These findings also extend leadership prototype literature's trend towards focusing on contextual factors (Dorfman, Hanges, & Brodbeck, 2004; Zacher, Rosing, Henning, & Frese, 2011). Illustrating that an understanding of context is vital to fully understand leadership prototypes. Furthermore, the results of these studies suggest that more attention must be paid to aspects of culture outside of cultural values, such as cultural norms, to better understand the impact of culture on leadership prototypes.

### **Limitations**

This set of studies had some limitations. Notably, Study 1 used a relatively small Level-2 sample size in the analyses, which could have contributed to the preponderance of null and relatively weak empirical findings. Additionally, since the tightness scores were obtained from a separate dataset, every participant in the same country received the same tightness score and likely obscured important variation in individual perceptions of tightness-looseness. This analytic strategy ran the risk of an ecological fallacy in which inferences about the nature of individuals are deduced from inferences about the group to which those individuals belong. Although useful for drawing conclusions about aggregates or larger groups, if a researcher

desires to make those same conclusions about individuals, then they must conduct analyses at the appropriate level (e.g. the individual level). It is thus possible that this approach did not capture the inherent variability in individual level tightness scores, which may have been apparent had tightness scores been obtained from each individual participant.

In Study 2, only the six GLOBE CLTs were included in the policy capture vignettes, which are societal rather than individual level leader characteristics. Additionally, the data set suffered from a small degree of variation in tightness between individuals, and although there was a large range of tightness scores in the dataset, the mean tightness of the dataset was high. Lastly, Study 2 was conducted exclusively online, where participants may not have paid close attention to the manipulation and were potentially more motivated to finish quickly in order to start another online study than to provide accurate responses.

### **Future Directions and Conclusions**

One of the first priorities of researchers conducting future work investigating the relationship between tightness and leadership prototypes at the individual level should be to replicate these findings. Previous information processing research (Hanges et al., 2006), as well as research involving need for closure (Grieve & Hogg, 1995; Hogg, 2000) suggested and identified that individuals who share cultural backgrounds also share similar perceptions and similar leadership prototypes. Additionally, this effect is believed to be stronger for individuals with a higher need for closure (Pierro et al., 2005), or more specifically individuals in tighter cultures than individuals in looser cultures. However, neither of the current studies found support for this relationship. In order to advance future work, researchers could also include a measure of need for closure (Kruglanski & Webster, 1996) to determine if individuals with increased perceptions of tightness also have an increased need for closure; and if overall those tighter

individuals with a higher need for closure are more willing to categorize anyone as a leader than individuals from looser cultures with a smaller need for closure.

Future research should also investigate the relationship between individual perceptions of tightness and individual level leadership characteristics, rather than societal level characteristics, as was the case in Study 2. The findings from Study 1 and Study 2 appear to suggest that individuals in tighter cultures are less discriminating when looking for a leader and that those individuals care more about finding a leader than about the leader's characteristics. As noted above, current theoretical developments allow for change in leadership prototypes at different levels of analysis (Lord & Shondrick, 2011), but these changes have yet to be evaluated through empirical studies (Foti et al., 2017). Previous research has demonstrated that there is variation in prototypes at the individual level (Bray et al., 2014; Foti et al., 2012), and the findings from the current studies also support those assertions. Therefore, it's likely that researchers who focus on individual leadership prototypes and utilize individual leader attributes in future research will be better able to understand the relationship between tightness and specific leader characteristics.

One of the more recent additions to implicit leadership theories research are implicit follower theories (IFTs). Implicit leadership theories (ILTs - analogous to leadership prototypes) represent raters' subjective views of leaders (Lord & Maher, 1991). IFTs represent leaders' subjective views of followers (Junker & van Dick, 2014). Sy (2010) demonstrated that leader's IFTs were related to followers' trust in the leader, satisfaction, and overall liking of the leader. Additionally, IFTs are related to how leaders perceive subordinates and how they rate follower performance (Scullen et al., 2000; Whiteley, Sy, & Johnson, 2012). Although IFTs have only recently garnered significant attention, understanding the perceptions of both leaders and followers is critical to advancing our understanding of the cognitive processes underlying these

perceptions (DeRue & Ashford, 2010; Shondrick & Lord, 2010). Culture significantly impacts these perceptions (see Foti et al., 2017). However, little is known about how culture impacts IFTs. Future research should therefore incorporate cultural norms into the study of IFTs, as well as continue to incorporate cultural norms into the study of ILTs, to better understand the cognitive processes underlying categorization.

Overall, this thesis provided important foundational work that incorporated tightness-looseness into the study of leadership prototypes. The findings offered some important starting points for future work, and broadened our conceptualization of tightness as well as our understanding of how culture influences leader categorization. The two studies represent one of the first attempts to investigate the relationship between tightness and leadership prototypes. They were also the first to investigate the relationship between tightness and person level leadership prototypes rather than societal level prototypes. This thesis advanced our understanding of the cognitive processes underlying leader categorization. Moreover, the findings identified a possibly new relationship between tightness and individual level leadership prototypes that has the potential not only to further future research endeavors, but to also contribute to our theoretical understanding of tightness-looseness and leadership prototypes.

## Appendices

### APPENDIX A GLOBE Dimensions

*GLOBE CLT Dimensions, Primary Leadership Dimensions, and Individual Attributes  
From (House et al., 2004)*

CLTs	Primary Leadership Dimensions	Leader Attributes
Charismatic	Charismatic 1: visionary	Non-egalitarian
	Charismatic 2: inspirational	Convincing
	Charismatic 3: self-sacrifice	Self Sacrificial
	Integrity	Motive arouser
	Decisive	Confidence builder
	Performance oriented	Motivational
		Dynamic
		Positive
		Enthusiastic
		Encouraging
		Morale booster
		Foresight
		Intellectually Stimulating
		Future Oriented
		Inspirational
		Anticipatory
		Plans Ahead
		Prepared
		Visionary
		Able to Anticipate
		Honest
		Sincere
		Trustworthy
		Just
		Non-delegator
		Willful
		Intuitive
		Logical
		Performance-oriented
		Excellence-oriented
		Improvement- oriented
		Risk Taker
		Decisive
Team Oriented	Team 1: collaborative team orientation	Group-oriented
	Team 2: team integrator	Collaborative
	Diplomatic	Loyal
	Malevolent	Mediator
	Administratively competent	Consultative
		Fraternal
		Team builder



		Coordinator Communicative Informed Subdued Integrator Dishonest Cynical Hostile Dependable Egotistical Non-cooperative Intelligent Vindictive Irritable Worldly Diplomatic Intra-group conflict avoider Win/win problem- solver Effective bargainer Administratively skilled Orderly Organized Good administrator Clear
Self-Protective	Self-centered Status conscious Conflict inducer (internally competitive) Face saver Procedural (bureaucratic)	Status-conscious Class conscious Self-interested Asocial Non-participative Willful Normative Secretive Intra group competitor Indirect Avoids negatives Evasive Ritualistic Formal Procedural Habitual Cautious Loner
Participative	Autocratic Non-participative	Bossy Autocratic Arrogant Elitist Ruler Dictatorial Micro-manager Non-delegator

		Non-egalitarian
		Individually-oriented
		Domineering
Humane Oriented	Modesty	Compassionate
	Humane orientation	Generous
		Modest
		Calm
		Patient
		Self-effacing
Autonomous	Autonomous	Autonomous
		Independent
		Unique
		Individualistic

## APPENDIX B

### Study 2 Measures

#### List of Measures

1. Demographics/Background .....	19 items
2. Tightness – Looseness .....	6 items
3. Policy Capture Vignettes.....	<u>64 items</u>
	89 items

#### 1. Demographics/Background

1. What is your gender?
  - A. Female
  - B. Male
  - C. Other (please specify) \_\_\_\_\_
2. What is your race/ethnic background?
  - A. American Indian or Alaska Native
  - B. Asian or Asian American
  - C. Black or African American
  - D. Hawaiian or Other Pacific Islander
  - E. Hispanic or Latino
  - F. Non-Hispanic White or Caucasian
  - G. Multi-Racial (specify \_\_\_\_\_)
  - H. Other (specify \_\_\_\_\_)
3. What is your age? \_\_\_\_\_
4. What is your current overall GPA? \_\_\_\_\_
5. What was your highest ACT or SAT score? (answer one):
  - A. ACT: \_\_\_\_\_
  - B. SAT: \_\_\_\_\_
6. What is your current class standing?
  - A. Freshman
  - B. Sophomore
  - C. Junior
  - D. Senior
7. How many years have you been enrolled in college (including any time spent in college not at UMD)? \_\_\_\_\_ years
8. Have you ever lived in an on-campus college dormitory?
  - A. No
  - B. Yes

*If Yes to #8:*

9. How long did you live there? \_\_\_\_\_ years
10. Have you ever lived with roommates?
  - A. No
  - B. Yes
11. Please indicate whether you have been a member of or actively participated in any of the following groups on a college campus (check all that apply):
  - A. Fraternity/sorority
  - B. Campus-sponsored student organization
  - C. Intramural sports team
  - D. Intercollegiate athletic team

*If any items checked in #11:*

12. Have you ever held a leadership position in any of these groups?
  - A. No
  - B. Yes
13. How long have you worked for your current employer?  
\_\_\_\_\_
14. Have you ever held a leadership position in your company?
  - A. No
  - B. Yes
15. If Yes to 14 – How long have you held a leadership position?  
\_\_\_\_\_
16. What is the highest level of education you have completed?
  - a. Less than High School
  - b. High school/GED
  - c. Some College
  - d. Associates degree/ 2 year college
  - e. Bachelors degree/4 year college
  - f. Masters Degree
  - g. Doctoral Degree
  - h. Professional Degree (J.D., M.D., etc.)
17. When you consider the income level of people in your country, to which group do you and your family belong?
  - a. Low income group
  - b. Lower-middle income group
  - c. Middle-income group
  - d. Upper-middle income group
  - e. High income group

18. What best describes your religious affiliation?

- a. Christian
- b. Buddhist
- c. Hindu
- d. Muslim
- e. Jewish
- f. Sikh
- g. Agnostic
- h. Atheist
- i. None
- j. Other (enter \_\_\_\_)

19. What is your home country?

\_\_\_\_\_

## 2. Tightness-Looseness

Gelfand, M.J., Raver, J.L., Nishii, L., Leslie, L.M., Lun, J., et al. (2011). Differences between tight and loose cultures: A 33-nation study. *Science*, 332, 1100-1104.

*Please indicate whether you agree or disagree with the following statements using the scale below. Note that the statements sometimes refer to "social norms," which are standards for behavior that are generally unwritten.*

1	2	3	4	5	6	7
<b>Strongly Disagree</b>	<b>Moderately Disagree</b>	<b>Slightly Disagree</b>	<b>Neither Agree nor Disagree</b>	<b>Slightly Agree</b>	<b>Moderately Agree</b>	<b>Strongly Agree</b>

1. I believe there are many social norms or standards that people are supposed to follow.
2. I believe there are very clear expectations for how people should act in most situations.
3. I believe that people agree upon what behaviors are appropriate versus in appropriate in most situations.
4. I believe people have a great deal of freedom in deciding how they want to behave in most situations.
5. I believe that if someone acts in an inappropriate way, others will strongly disapprove.
6. I believe that people almost always comply with social norms or standards.

### 3. Policy Capture Vignettes:

The following vignettes describe a series of individuals at work. Each vignette represents a separate individual. Based upon the description of their behaviors you will be asked to determine if this person is a leader, or not, based upon your own conceptualization of leadership and leader behaviors.

On a scale from 1-7, based upon the description of this individual's behavior, to what extent do you see this person as a leader?

1	2	3	4	5	6	7
Not at all			Somewhat			Greatly

1. Charismatic

This individual inspires and motivates others.

2. Team

This individual emphasizes effective team building practices.

3. Self

This individual ensures the safety and security of individual group members.

4. Participative

This individual includes others in their decision-making process.

5. Humane

This individual is considerate and supportive of others.

6. Autonomous

This individual acts independently and doesn't rely on others.

7. Charismatic Team

This individual inspires and motivates others. They also emphasize effective team building practices.

8. Charismatic Self

This individual ensures the safety and security of individual group members. They also inspire and motivate others.

9. Charismatic Participative

This individual inspires and motivates others. In addition, they also include others in their decision-making process.

10. Charismatic Humane

This individual inspires and motivates others. Additionally, they are considerate and supportive of others.

11. Charismatic Autonomous

This individual acts independently and doesn't rely on others. Also, they inspire and motivate others.

12. Team Self

This individual emphasizes effective team building practices and ensures the safety and security of individual group members.

13. Team Participative

This individual emphasizes effective team building practices and includes others in their decision-making process.

14. Team Humane

This individual is considerate and supportive of others. They also emphasize effective team building practices.

15. Team Autonomous

This individual emphasizes effective team building practices. Additionally, they act independently and don't rely on others.

16. Self Participative

This individual ensures the safety and security of individual group members. They also include others in their decision-making process.

17. Self Humane

This individual ensures the safety and security of individual group members. Additionally, they are considerate and supportive of others.

18. Self Autonomous

This individual ensures the safety and security of individual group members. They also act independently and don't rely on others.

19. Participative Humane

This individual is considerate and supportive of others and includes others in their decision-making process.

20. Participative Autonomous

This individual includes others in their decision-making process, acts independently and doesn't rely on others.

21. Humane Autonomous

This individual is considerate and supportive of others. They also act independently and don't rely on others.

22. Autonomous Humane Participative

This individual includes others in their decision-making process. They are considerate and supportive of others. Lastly, they act independently and don't rely on others.

23. Autonomous Humane Self

This individual ensures the safety and security of individual group members and is considerate and supportive of others. They also act independently and don't rely on others.

24. Autonomous Humane Team

This individual emphasizes effective team building practices and is considerate and supportive of others. Additionally, they act independently and don't rely on others.

25. Autonomous Humane Charismatic

This individual inspires and motivates others. They are considerate and supportive of others, and act independently and do not rely on others.

26. Autonomous Participative Self

This individual ensures the safety and security of individual group members. In addition, they include others in their decision-making process, act independently and do not rely on others.

27. Autonomous Participative Team

This individual includes others in their decision-making process. In addition, they emphasize effective team building practices, act independently and do not rely on others.

28. Autonomous Participative Charismatic

This individual includes others in their decision-making process. They also inspire and motivate others. Lastly, this individual acts independently and doesn't rely on others.

29. Autonomous Self Team

This individual emphasizes effective team building practices. They ensure the safety and security of individual group member and they act independently and do not rely on others.

30. Autonomous Self Charismatic

This individual inspires and motivates others. They also ensure the safety and security of individual group members. In addition, this individual acts independently and doesn't rely on others.

31. Autonomous Team Charismatic

This individual inspires and motivates others. They also emphasize effective team building practices, act independently and do not rely on others.

32. Humane Participative Self



This individual ensures the safety and security of individual group members. They include others in their decision-making process and are considerate and supportive of others.

### 33. Humane Participative Team

This individual emphasizes effective team building practices and includes others in their decision-making process. They are also considerate and supportive of others.

### 34. Humane Participative Charismatic

This individual inspires and motivates others. They include others in their decision-making process, and are considerate and supportive of others.

### 35. Humane Self Team

This individual emphasizes effective team building practices. In addition, they ensure the safety and security of individual group members, and they are considerate and supportive of others.

### 36. Humane Self Charismatic

This individual inspires and motivates others. They ensure the safety and security of individual group members. This individual is also considerate and supportive of others.

### 37. Humane Team Charismatic

This individual inspires and motivates others. They also emphasize effective team building practices, and are considerate and supportive of others.

### 38. Participative Self Team

This individual emphasizes effective team building practices, and ensures the safety and security of individual group members. In addition, they include others in their decision-making process.

### 39. Participative Self Charismatic

This individual inspires and motivates others. They also ensure the safety and security of individual group members. In addition, this individual includes others in their decision-making process.

### 40. Participative Team Charismatic

This individual inspires and motivates others and includes others in their decision-making process. In addition, they emphasize effective team building practices.

### 41. Self Team Charismatic

This individual emphasizes effective team building practices and ensures the safety and security of individual group members. They also inspire and motivate others.

### 42. Charismatic Team Self Participative

This individual inspires and motivates others. In addition, they emphasize effective team building practices and ensure the safety and security of individual group members. This individual also includes others in their decision-making process.

#### 43. Charismatic Team Self Humane

This individual emphasizes effective team building practices and inspires and motivates others. They are also considerate and supportive of others, and ensure the safety and security of individual group members.

#### 44. Charismatic Team Self Autonomous

This individual emphasizes effective team building practices and ensures the safety and security of individual group members. They also inspire and motivate others, and act independently and do not rely on others.

#### 45. Charismatic Team Participative Humane

This individual includes others in their decision-making process and is considerate and supportive of others. They inspire and motivate others. Additionally, this individual emphasizes effective team building practices.

#### 46. Charismatic Team Participative Autonomous

This individual inspires and motivates others and emphasizes effective team building practices. In addition, they include others in their decision-making process. They also act independently and do not rely on others.

#### 47. Charismatic Team Humane Autonomous

This individual inspires and motivates others. In addition, they emphasize effective team building practices and are considerate and supportive of others. This individual also acts independently and doesn't rely on others.

#### 48. Charismatic Self Participative Humane

This individual includes others in their decision-making process and is considerate and supportive of others. In addition, they inspire and motivate others. This individual also ensures the safety and security of individual group members.

#### 49. Charismatic Self Participative Autonomous

This individual includes others in their decision-making process and ensures the safety and security of individual group members. Additionally, they inspire and motivate others. They also act independently and do not rely on others.

#### 50. Charismatic Self Humane Autonomous

This individual ensures the safety and security of individual group members and is considerate and supportive of others. Additionally, they inspire and motivate others, and act independently and do not rely on others.

#### 51. Charismatic Participative Humane Autonomous

This individual inspires and motivates others. Additionally, they include others in their decision-making process and are considerate and supportive of others. This individual also acts independently and doesn't rely on others.

#### 52. Team Self Participative Humane

This individual emphasizes effective team building practices and ensures the safety and security of individual group members. Additionally, this individual includes others in their decision-making process and is considerate and supportive of others.

#### 53. Team Self Participative Autonomous

This individual emphasizes effective team building practices and includes others in their decision-making process. Additionally, they ensure the safety and security of individual group members. This individual also acts independently and doesn't rely on others.

#### 54. Team Self Humane Autonomous

This individual emphasizes effective team building practices and is considerate and supportive of others. They also act independently and do not rely on others. Additionally, this individual ensures the safety and security of individual group members.

#### 55. Team Participative Humane Autonomous

This individual emphasizes effective team building practices and includes others in their decision-making process. They are considerate and supportive of others. Additionally, this individual acts independently and doesn't rely on others.

#### 56. Self Participative Humane Autonomous

This individual ensures the safety and security of individual group members. They include others in their decision-making process and are considerate and supportive of others. This individual acts independently and doesn't rely on others.

#### 57. Charismatic Team Self Participative Humane

This individual inspires and motivates others. Additionally, they emphasize effective team building practices and ensure the safety and security of individual group members. This individual also includes others in their decision-making process and is considerate and supportive of others.

#### 58. Team Self Participative Humane Autonomous

This individual emphasizes effective team building practices and ensures the safety and security of individual group members. Additionally, they include others in their decision-making process and are considerate and supportive of others. This individual also acts independently and doesn't rely on others.

#### 59. Charismatic Team Self Participative Autonomous

This individual emphasizes effective team building practices and acts independently and doesn't rely on others. They ensure the safety and security of individual group members and include others in their decision-making process. This individual also inspires and motivates others.

#### 60. Charismatic Team Self Humane Autonomous

This individual emphasizes effective team building practices and inspires and motivates others. Additionally, they ensure the safety and security of individual group members and are

considerate and supportive of others. This individual also acts independently and doesn't rely on others.

61. Charismatic Team Participative Humane Autonomous

This individual includes others in their decision-making process and is considerate and supportive of others. They also inspire and motivate others. In addition, they emphasize effective team building practices, and act independently and do not rely on others.

62. Charismatic Self Participative Humane Autonomous

This individual inspires and motivates others and ensures the safety and security of individual group members. They also include others in their decision-making process and are considerate and supportive of others. This individual also acts independently and doesn't rely on others.

63. Charismatic Team Self Participative Humane Autonomous

This individual inspires and motivates others. They also emphasize effective team building practices. In addition, this individual ensures the safety and security of individual group members, and includes others in their decision-making process. They are also considerate and supportive of others. Lastly, this individual acts independently and doesn't rely on others.

64. This individual drinks coffee and watches the news. They also read and watch television.

*\*Vignette 64 represents the absence of all GLOBE leader characteristics and was written to provide as little information on the hypothetical individual's leadership ability as possible.*

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