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### Cultural Tightness-Looseness and Optimal Distinctiveness: Examining the Influence of Culture on the Need to Belong and the Need to be Different

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Cultural Tightness-Looseness and Optimal Distinctiveness:  
Examining the Influence of Culture on the Need to Belong and the Need to be  
Different

by  
Hairong Jiang

A dissertation submitted to the College of Psychology and Liberal Arts of  
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in  
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“Cultural Tightness-Looseness and Optimal Distinctiveness:  
Examining the Influence of Culture on the Need to Belong and the Need to be  
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# Abstract

Title: Cultural tightness-looseness and optimal distinctiveness: examining the influence of culture on the need to belong and the need to be different

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This study investigates the influence of cultural tightness-looseness on optimal distinctiveness motives and group identification, examining the moderating roles of self-construal, global orientation, and tightness/looseness match. Participants (N=465) from the United States and China were randomly assigned to tight or loose conditions and numerically majority or minority group conditions. Experimental manipulation of tightness-looseness did not significantly affect optimal distinctiveness needs. Cultural match, operationalized as alignment of tightness/looseness between participants' own culture and experimental condition, significantly moderated the relationship between culture conditions and need to belong. Individuals with high cultural match showed higher need to belong in tight conditions, while those with low match exhibited higher need to belong in loose conditions. These findings contribute to our understanding of optimal distinctiveness as a culturally flexible universal and highlight the importance of cultural match in shaping psychological needs. The study's limitations, including ineffective culture priming and measurement issues, are discussed, along with implications for future cross-cultural research and practical applications in diverse settings.

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# Chapter 1 Introduction

Culture is like oxygen. It surrounds us and sustains our social and psychological existence, but we may not always be consciously aware of its presence. From the moment we are born, we are immersed in cultural contexts that influence every aspect of our lives, shaping our identities, values, beliefs, and behaviors (Hall, 1976). As we grow up, we learn about cultural norms and values through multiple channels, such as interactions with friends and families, formal learning in educational institutions, and exposure to mass media (Matsumoto & Juang, 1996; Rogoff, Paradise, Arauz, Correa-Chávez & Angelillo, 2003). Through socialization, we internalize cultural norms, practices, and values, and develop our own cultural lens to understand and make sense of ourselves and the world around us (Heine & Ruby, 2010; Matsumoto & Juang, 2016).

The influence of culture is so subtle that even the language we speak carries significant cultural meanings (Wierzbicka, 1997). For instance, the grammatical structure and vocabulary of a language can influence our perceptions of time (Boroditsky, 2001), color (Winawer et al., 2007), social hierarchy (Ide, 1989), our self-concepts (Kashima & Kashima, 1998; Markus & Kitayama, 1991) and identity (Bucholtz & Hall, 2004). Communication styles and norms also reflect cultural values and indicate the appropriate ways of interacting with others (Hall, 1976). For instance, East Asians tend to use more indirect and ambiguous language to avoid conflict and maintain harmony, while many Western cultures tend to be more direct and straightforward (Sanchez-Burks et al., 2003; Yum, 1988).

Culture influences our basic human needs in terms of how they are expressed, prioritized, and fulfilled (Maslow, 1943). This includes our most fundamental physiological needs. The types of food we eat, shelters we build, and the rituals and traditions associated with eating and living are greatly impacted by a society's culture (Counihan & Van Esterik, 2013; Worthman & Melby, 2002). How we perceive and respond to threats is culturally relevant. For instance, cultural tightness and looseness influences the level of control and sanctioning used to maintain social order and security (Gelfand et al., 2011). Culture also impacts the higher-order self-actualization needs. For instance, individualistic cultures tend to emphasize autonomy and self-expression, leading to higher prioritization of individual goals and achievements; on the other hand, collectivistic cultures tend to emphasize social harmony and interdependence, leading to higher prioritization of collective goals and achievements (Triandis, 2018).

Culture plays a crucial role in shaping our social needs and influences the way we interact with others (Oyserman & Lee, 2008). Our self-concepts are derived from our membership in social groups; therefore, we have an innate need to be accepted and connected to others (Tajfel, 1978; Turner, 2011). At the same time, we seek to establish a unique identity and be different from others (Tajfel et al., 1979).

Therefore, we constantly strike for an optimal balance between the need to conform and belong and the need to maintain uniqueness and individuality (Brewer, 2011; Brewer & Pickett, 1999).

The need to belong and the need to be different are both universal human needs, but the way they are expressed and fulfilled vary across cultures (Baumeister & Leary, 1995). Research has shown that collectivistic societies tend to prioritize the need for assimilation and belonging over individual needs and desires (Triandis, 1995). Therefore, people living in collectivistic societies tend to develop an interdependent self-construal, defining themselves in terms of relationships and group memberships (Feitosa, Salas & Salazar, 2012; Markus & Kitayama, 1991). Individualistic societies, on the other hand, tend to prioritize individual achievements and distinctiveness over collective outcomes (Triandis, 1995). Therefore, people living in individualistic societies tend to develop an independent self-construal, defining themselves in terms of their unique traits, abilities, and achievements (Feitosa, Salas & Salazar, 2012; Markus & Kitayama, 1991).

The majority of studies looking at the cultural influences on the need to belong and the need to be different have primarily examined culture with the individualism-collectivism framework (Baumeister & Leary, 2017; Triandis & Gelfand, 1998). For instance, Becker and colleagues (2012) demonstrated that distinctiveness is a universal motive but is satisfied by different ways in different cultures. In individualistic cultures, distinctiveness is achieved through individual attributes or accomplishments; while in collectivistic cultures, distinctiveness is achieved through social roles, relationships, and contributing to group goals. Kim and Markus (1999) found that European Americans who are individualistic showed greater preference for uniqueness and a greater avoidance of conformity compared

to East Asians who are collectivistic. While the individualistic-collectivistic framework provides valuable insights on the cross-cultural differences in these fundamental social needs, it is important to recognize that culture is complex, dynamic, and multi-dimensional, and cannot be fully captured by any single dimension (Taras, Steel & Kirkman, 2016). There is a call to move beyond the East-West dichotomy and explore other cultural nuances and frameworks in understanding psychological processes and behaviors (Vignoles et al., 2016).

A cultural dimension that captures important cultural variations beyond individualism-collectivism is cultural tightness-looseness. This theory suggests that cultures can be examined by their strength of social norms and degree of tolerance for deviations (Gelfand et al., 2011). Tight cultures are characterized by strong social norms and low tolerance for deviant behavior; while loose cultures are characterized by weaker social norms and high tolerance for deviant behavior (Gelfand, Nishii & Raver, 2006). Tightness-looseness is related to individualism-collectivism, but they are two distinct constructs and describe different aspects of cultural variation. This is supported by Gelfand and colleagues' (2011) study on 33 nations, which found that individualism-collectivism and tightness-looseness are moderately correlated ( $r = -.47$ ), but the association is not strong enough to indicate the two constructs are redundant. Although many collectivistic countries (e.g., South Korea) tend to be tighter and many individualistic countries (e.g., New Zealand) tend to be looser. Carpenter (2000) also found that collectivistic cultures

tend to have tighter norms and less tolerance for deviation compared to individualistic cultures.

Extended research has shown that cultural tightness-looseness influences a wide range of psychological processes and outcomes, such as self-regulation (Gelfand et al., 2011), creativity (Gedik & Ozbek, 2020), emotion expressions (Vishkin et al., 2023), and job satisfaction and commitment (Di Santo et al., 2021). Therefore, it is worthwhile to examine the influence of the tightness-looseness cultural framework and study its impact on the expression and balancing of the competing needs for belongingness and distinctiveness.

Individuals from tight cultures may have different expectations and preferences compared to those from loose cultures, such as a greater need for structure and conformity. Culture tightness and looseness may also influence one's flexibility and adaptability when switching between situations that differ in the level of tightness and looseness. Changes in tightness and looseness can lead to a change in the degree of freedom on norm obedience and rule conformation, impacting the balance between the need to belong and the need to be different. Since individuals strive to achieve a balance between these two needs, any change will disrupt the optimal balance, thereby heightening the threatened need (Brewer, 1991).

Achieving optimal distinctiveness is a dynamic process in which individuals constantly navigate the tension between these two competing needs. Therefore, it is important to understand how cultural tightness-looseness plays a role in this process. By examining the interplay between tightness-looseness and optimal

distinctiveness needs, we can gain additional insights into how individuals adapt to different cultural contexts, how they balance their needs for belonging and differentiation, and how culture impacts these relationships.

The current study aims to explore the influence of cultural tightness-looseness on optimal distinctiveness motives. In particular, this study will examine the activation of the need to belong and the need to be different under tight versus loose conditions, and the influence of these heightened needs on individual's identification with their social group. Moderating factors that may influence these relationships will also be examined. Individual's own cultural background will likely play a role that when there is alignment between the situation and the individual's own culture's tightness and looseness, there will be less disruption to the optimal distinctiveness needs. Individuals who are culturally competent with a global orientation may be more adaptive and flexible, therefore may be less likely to be influenced by changes in cultural variations. Therefore, individuals' dependent and interdependent self-construal as well as global orientation will be examined as moderators to the relationship between tightness-looseness and optimal distinctiveness motives.

By integrating the perspectives of cultural psychology and social identity theory, this research seeks to provide a more nuanced understanding of how culture influences the fundamental human needs for belonging and distinctiveness, and how these needs influence individuals' social behavior and well-being. This study extends the current research by exploring a less-studied yet highly important

cultural dimension, shedding light to the complex interplay between culture and our basic needs. The study also helps identify the boundary conditions and moderating factors that shape these relationships. Chapter 2 of this article will provide a comprehensive literature review on the main theories and constructs examined in this study; Chapter 3 will present the research model and discuss the proposed hypotheses. Chapter 4 will lay out the research methodology and describe the study procedures and measurements to be used. Chapter 5 will discuss analysis methods and strategies as well as predicted results and findings. Once data is collected and analyzed, a separate analysis section will be included to present detailed analysis results. Lastly, chapter 6 will provide a general discussion on the main findings, highlighting the contribution of this study, and will discuss the study limitations as well as potential directions for future studies.

## Chapter 2 Literature Review

### Optimal distinctiveness: key constructs and foundations

#### The need to belong

We humans, as social animals, have an innate need to belong to social groups (Dunn, 2008). In the paleolithic era, our ancestors were hunters and gatherers and lived a nomadic lifestyle in small groups (Groeneveld, 2016). Being part of a group had significant survival value and social purposes (Romano, Lozano & Fernández-López de Pablo, 2020). Although membership in a social group is now less of a literal “life-and-death” matter, sense of belongingness continues to have a significant impact on one’s psychological and physical wellbeing (Baumeister & Leary, 2017). Meta-analytics of 148 studies on human mortality and social relationships found that people with stronger social ties tend to live longer and have a 50% increased likelihood of survival (Holt-Lunstad, Smith & Layton, 2010). According to self-determination theory, relatedness, the inherent desire to be connected to others, is essential for psychological growth and well-being (Deci & Ryan, 2000). We are innately wired to develop and maintain positive and stable interpersonal relationships.

Part of our self-concept comes from the social groups we belong to and identify with, and people are motivated to adhere to ingroup norms (Markus & Kitayama, 1991). Congruence between the self and group norms leads to higher levels of physical well-being and experience of more positive affect (Sassenberg, Matschke

& Scholl, 2011). The need to belong is associated with a wide range of important outcomes. Satisfying belongingness needs leads to better psychological well-being, such as higher self-esteem, life satisfaction, more positive affect, and lower likelihood of depression (Baumeister & Leary, 2017; Cacioppo et al., 2011; Pickett, Gardner & Knowles, 2004). It improves mental and physical health outcomes, such as lower stress, less loneliness, better sleep quality, and even longevity (Holt-Lunstad, Smith & Layton, 2010; Steptoe et al., 2004). Belonging to social groups also improves motivation and achievement, social skills, and prosocial behaviors (Walton & Cohen, 2007; Deci & Ryanm 2000; Pavey, Greitemeyer & Sparks, 2011). The need to belong is so fundamental to us that even the prospect of future acceptance into a group influences individual behaviors (DeWall, Baumeister & Vohs, 2008). In DeWall and colleagues' (2008) study, participants performed significantly better on tasks that indicated they would get along with others in the group, supporting that the motivation to be accepted by others is a powerful drive.

When the need to belong is not satisfied, it is difficult to fulfill other higher-level goals such as self-fulfillment (Maslow, 1943). A lack of belongingness can lead to cognitive, emotional, behavioral, and health consequences (Baumeister, 2012).

When people experience identity denial, situations when one is not recognized as a member of the ingroup, they overclaim prototypical traits and behaviors as an attempt to regain acceptance (Cheryan & Monin, 2005). When ignored or excluded in the social group, individuals are willing to be more compliant to group norms and are more susceptible to others' influences (Carter-Sowell, Chen & Williams,

2008). Severe instances of lack of belongingness such as social exclusion and rejection can even lead to self-destructive behaviors like substance abuse and disorder eating (Blackhart et al., 2009).

### The need to be different

At the same time, we have an innate need to be unique and different from others (Vignoles, 2011). From an evolutionary perspective, being different and standing out from the group is a desirable characteristic when attracting mates, increasing one's reproductive success (Gangestad & Simpson, 2000). Positive differentiation from the group also enhances survival chances by having a competitive advantage in resource allocation and acquisition (Buss, 1991). Uniqueness theory specifically examines the need for differentiation and proposes that individuals are driven to establish a distinct and differentiated sense of self (Lynn & Snyder, 2002). This need can be fulfilled through acquisition of unique traits, opinions, and experiences that differentiate oneself from others (Snyder & Fromkin, 1977).

Satisfying the need for differentiation and uniqueness leads to higher levels of self-esteem (Fromkin, 1972), enhanced innovation and creativity (Imhoff & Erb, 2009), and higher levels of psychological well-being and life satisfaction (Pinel et al., 2006). Differentiation motives also predict consumer behaviors such as stronger preference for unique and scarce products and willingness to accept a significantly higher price for rare items (Maimaran & Simonson, 2011; Simonson & Nowlis, 2000). However, pursuing differentiation at the cost of belongingness needs can

lead to negative outcomes, such as social isolation, rejection from valued groups, and a lack of interpersonal connection (Fromkin & Snyder, 1980; Leonardelli & Loyd, 2016).

## Social identity theory

Since humans possess an inherent need for both belonging and differentiation, it is crucial to understand the psychological processes underlying these two competing needs. Social identity theory explores how individuals derive self-concepts from their membership in social groups and provides a theoretical perspective in understanding this issue (Abrams & Hogg, 2006; Tajfel, 1978). Individuals have the fundamental need to establish a sense of self, that is, an understanding of who we are as an individual and who we are in relation to others (Turner & Onorato, 2014). Therefore, one's self concept comprises of both a personal identity and a social identity. Through the process of self-categorization, individuals mentally categorize themselves and others into different groups based on perceived similarities and differences (Turner, 2011). Membership in a group in turn influences how people perceive and define themselves and shapes the development of the sense of self (Abrams & Hogg, 1988; Hogg, 2000). Individuals with a salient social identity tend to conform to the norms, attitudes, and behaviors of the in-group, depersonalizing their unique individual identity in favor of the group identity (Hogg, 2001). Alignment with the group's prototypes and norms helps maintain a positive social identity, and within-group assimilation positively relates to group inclusion (Sheldon & Bettencourt, 2002; Terry & Hogg, 1996). Group

members also tend to engage in ingroup favoritism, as they are motivated to evaluate their ingroup more positively compared to the outgroup (Fu et al., 2012; Jetten, Spears & Manstead, 1998). As a result, group identification shapes individuals' behaviors, self-perception, and self-concept (Hogg & Terry, 2000).

While individuals derive part of their self-concept from membership in social groups, satisfying the need for belongingness, they also seek to establish a distinct identity through intergroup and intragroup differentiation (Hinkle et al., 1989; Tajfel et al., 1979). One way of maintaining distinctiveness is to increase the differentiation from related outgroups by defining oneself in terms of the ingroup norms and characteristics (Turner, Brown & Tajfel, 1979). Another way is to engage in intragroup differentiation by being different from other ingroup members on the group's valued dimensions, such as favorable traits and skills (Hornsey & Jetten, 2004). This enables distinctiveness while still adhering to group norms. For example, in an organizational context, employees may differentiate themselves from those of competitive companies by strongly identifying with and adhering to their own company's unique culture and values. Within the company, they may also maintain distinctiveness by highlighting unique skills or expertise that set them apart from other coworkers. Satisfying both the need to belong and the need to be different leads to positive outcomes, such as stronger group identification, higher commitment, more positive group attitudes, and enhanced personal well-being (Hornsey & Jetten, 2004; Pickett, Gardner & Knowles, 2004; Sleebos, Ellemers & de Gilder, 2006). On the other hand, failure to satisfy one of the needs leads to

negative outcomes, such as reduced group identification and higher likelihood of exiting the group (Ethier & Deaux, 1994; Prentice, Miller & Lightdale, 1994).

Social identity theory addresses the need to conform and belong as well as the need to be different and unique. This dyad of competing needs ties to our self-identity and defines who we are in the social group (Tajfel et al., 1979). However, social identity theory does not fully address the dynamic interplay of these two needs when they are examined in conjunction (Leonardelli, Pickett & Brewer, 2010). Social identity theory and self-categorization theory focus mainly on cognitive processes and they lack a motivational component in understanding the processes. To fill this gap, optimal distinctiveness theory (ODT) was proposed (Brewer, 1991; Brewer, 2011). ODT focuses primarily on the balance between the competing needs of inclusion/assimilation and differentiation/distinctiveness (Brewer, 1991). It proposes that individuals are motivated to achieve the optimal level of identification by satisfying both needs at the same time. This is when one feels inclusive enough to belong to a group yet distinct enough to possess individual attributes (Leonardelli, Pickett & Brewer, 2010).

### Optimal distinctiveness theory

Developed with the foundation in research on social identity and individual self-construal, ODT specifically examines the dynamic interplay between two fundamental human needs: the need to conform and belong to a group and the need to maintain uniqueness and individuality (Brewer, 1991; Brewer & Pickett, 1999).

It provides an integrative framework for understanding the balancing of the opposing needs for assimilation and differentiation. While the term “assimilation” has been used in other theories and may carry different meanings, in the OD field, it has been used interchangeably with “belongingness”, and refers to the desire to be part of a group, to be accepted, and to be similar to others in the group (Brewer, 1991). The broader construct of belongingness describes the subjective feeling of being an integral part of a social group. It encompasses a behavioral component of assimilation and seeking social inclusion as well as an emotional component of feeling connected and valued (Baumeister & Leary, 1995; Hagerly et al., 1992). However, for the purpose of this paper, “need for assimilation” will be used interchangeably with “need to belong” and “need for belongingness” when discussing ODT.

ODT proposes that there is an optimal balance between the two needs that we strive to achieve (Brewer, 2011). Powers and Diaz (2023) defined it as “a sense of belonging balanced with an appreciation for what makes us unique.” Too much assimilation can lead to loss of identity, while too much differentiation can result in social isolation (Hornsey & Hogg, 1999). An imbalance leads individuals to heighten the need for the insufficient need. For instance, those who did not feel distinct in a highly inclusive superordinate group tend to look for subgroup differentiation (Hornsey & Hogg, 1999).

One way of achieving optimal balance is through membership in moderately distinctive social groups (Brewer, 1991; Leonardelli, Pickett & Brewer, 2010). This

satisfies the need to belong by being part of a social group, and simultaneously satisfies the need to be different by possessing the unique qualities of this moderately distinctive group that differentiates oneself from those in other groups. Optimal distinctiveness is achieved with the need for assimilation satisfied with ingroup identification and the need for differentiation satisfied with intergroup differentiation (Brewer, 1991). Therefore, OD is conceptualized at the individual level and achieved through group-level processes.

#### *Basic premises of ODT*

ODT is built upon a number of premises (Brewer, 1991; Leonardelli, Pickett & Brewer, 2010). Firstly, the need to belong and the need to be different are independent and operate in opposite directions. However, they are not and should not be mutually exclusive. The need to belong drives individuals towards joining valued ingroups, seeking acceptance, and conforming to group norms. Conversely, the need to be different drives individuals towards distinguishing themselves from others, resisting conformity, and asserting their uniqueness. They coexist in a dynamic tension and can be simultaneously satisfied by membership in groups perceived to provide a balance of inclusiveness and distinctiveness from other groups (Brewer & Roccas, 2015). When there is a threat to one of the needs, individuals will be motivated to seek more of the threatened need to restore equilibrium between inclusion and differentiation (Brewer, 2011).

Secondly, optimal distinctiveness is not fixed. It is an emergent state produced by the dynamic interplay of the opposing motives. The activation of the motives varies

and can be influenced by group properties, contextual factors, individual differences, and cultural influences (Becker et al., 2012). Therefore, optimality is a dynamic equilibrium that is highly context specific. Excessive individualization will activate the need for inclusion, while excessive deindividualization will activate the need for differentiation. Failure to satisfy either assimilation or differentiation needs motivates people to restore the balance through a change in behaviors or attitudes (Brewer, 2011). Brewer's study (1991) found that belonging to a majority group diminishes one's individuality, when individuals are merely perceived as a member of the group. This excessive deindividualization led to a preference for a more distinctive identity. When the individual stood out too much from the group, excessive individualization then led to a preference for a social identity instead of the personal identity.

Thirdly, optimal distinctiveness is achieved at the group level. This sets ODT apart from other motivational theories at the individual level such as uniqueness theory (Snyder & Fromkin, 2012) and theories on individuation (Maslach, Stapp & Santee, 1985; Zimbardo, 1969). ODT posits that the need to belong is satisfied within the group and the need to be different is satisfied through distinctions with the outgroup. This dynamic promotes identification with optimally distinct groups to fulfill both motives.

### *Implications of ODT*

ODT has broad implications in many aspects, such as membership identification and preference, social cognition, intergroup behaviors (Leonardelli, Pickett & Brewer, 2010).

ODT influences people's preference on which groups they chose to join and identify with. Studies have found that group inclusiveness (often conceptualized in group size in research studies) yields an inverted U-shaped curvilinear effect on group identification (Hornsey & Jetten, 2004; Leonardelli & Brewer, 2001; Leonardelli, Pickett & Brewer, 2010). Compared to numerically majority and minority groups, individuals are more likely to identify with moderately inclusive groups, as the former groups tend to be less optimally distinct (Brewer, 1991). Numerically large groups can be too inclusive to satisfy needs for differentiation, and very small groups can be too exclusive to meet inclusion needs. Therefore, moderately sized groups are more appealing as they optimally balance inclusion and differentiation.

ODT influences people's perception of themselves and their groups. The process of maintaining optimal distinctiveness influences one's cognition and judgments (Leonardelli, Pickett & Brewer, 2010). Pickett and Brewer (2001) found that the need for assimilation and differentiation influences the perceived homogeneity of ingroups and outgroups. When inclusion needs were activated, members perceived their ingroup to be more homogenous to increase assimilation, and when differentiation needs were activated, members perceived the outgroup to be more

homogenous to increase their own distinctiveness. Members may also mentally change their perception of the ingroup and the outgroup to maintain inclusion and enhance group distinctiveness (Brewer, 2011).

ODT influences people's attitudes and behaviors in the ingroup and towards the outgroups. Pickett, Bonner, and Coleman (2002) experimentally manipulated the needs for assimilation and differentiation and found when there is threat to the needs, individuals tend to engage in more self-stereotyping. Self-stereotyping involves greater endorsement and internalization of the stereotypical traits, behaviors, and attitudes associated with the group one belongs to (Katz & Braly, 1933). It is a mechanism to restore optimal distinctiveness, as it enhances intragroup assimilation, satisfying the need to belong, and enhances intergroup differentiation, satisfying the need to be different (Hog & Turner, 1987). Those highly identifying with the group were even willing to endorse negative stereotypes to fulfill threatened needs (Pickett, Bonner & Coleman, 2002). Not only did the public image align more with the group prototype, but there was also a change in the private self-image. ODT also plays a role in ingroup favoritism, the tendency to evaluate one's own group more positively than other groups (Hewstone, Rubin & Willis, 2002; Tajfel et al., 1971). Ingroup favoritism was found to be stronger among minority group members, compared to majority group members (Mullen, Brown & Smith, 1992). ODT provides a theoretical explanation for this phenomenon. Minority groups tend to be smaller in size, providing a higher degree of exclusiveness that satisfies the need for differentiation, while also inclusive

enough to meet belongingness needs (Brewer, 1991). This optimal level leads to stronger identification, cohesion, as well as ingroup bias. Minority group members are also motivated to maintain this optimal level, exhibiting ingroup favoritism as an expression of membership preference and support (Leonardelli, Pickett & Brewer, 2010). While majority group members also engage in ingroup favoritism, it stems from a different mechanism. Substantially large and inclusive groups tend to blur individuality, raising the need for differentiation (Brewer, 1991). Ingroup favoritism and discrimination against outgroups therefore serve as a means to strengthen distinctiveness by differentiating themselves from the outgroups (Leonardelli & Brewer, 2001).

ODT has practical implications as motivation to restore and maintain the optimal balance leads to cognitive, attitudinal, and behavioral changes (Leonardelli, Pickett & Brewer, 2010). Optimal distinctiveness motives influence self-regulation and task performance (DeWall, Baumeister & Vohs, 2008; Gray & Rios, 2012). To maintain a desired social identity, individuals engage in actions that promote the fulfillment of the threatened need. For instance, Gray and Rios (2012) found that participants exerted more effort and had better performance on tasks that were believed to indicate positive qualities in line with the optimal distinctiveness need they desire. ODT has been applied in marketing strategies and used in drug prevention ads (Comello, 2011). When non-drug-users were characterized as a distinctive social group, people felt greater identification with the non-user group, successfully decreasing the willingness to use drugs. It also has political

implications that minority political parties may attract members and enhance commitment by leveraging their benefits in providing a meaningful and distinct social identity (Abrams, 1994).

#### *Cultural implications of ODT*

Optimal distinctiveness and related theories on social identity are developed and tested primarily in Western, individualistic contexts. Therefore, the results and implications may not be as generalizable to non-Western contexts. This western bias has been pervasive in cross-cultural research, and studies have shown that people may engage in different experiences in other cultures. For instance, Kitayama and Markus (2000) studied the individual experience of happiness in US and Japan and found the need for belonging is more salient and prioritized in collectivistic cultures. Günsoy and colleagues' (2015) study on conflict response styles also provided support that individuals in non-Western societies engage in different strategies and psychological processes.

Since optimal distinctiveness theory is developed in Western contexts, where individuality and distinctiveness are highly valued, results from a Western sample may be skewed. Individuals from collectivistic cultures that highly value group membership and interdependence may place a higher emphasis on the need to belong compared to the need to be different. People's differences in self-construal may also influence the relative importance of assimilation and differentiation needs, and the ways in which optimal distinctiveness is achieved.

A study on 21 cultural groups provided support on the universality of the distinctiveness motive (Becker et al., 2012). This study found evidence that the need to establish and maintain a sense of distinctiveness generalize to cultural contexts beyond the West. However, the way it is expressed and satisfied differs across cultures. In individualistic cultures, distinctiveness is achieved through personal uniqueness and individual differentiation. In collectivistic cultures, distinctiveness is achieved through social roles and relationships, such as being a valued member of a distinctive group or having a unique role within the group. Therefore, in cultures that prioritize the group, distinctiveness is not only satisfied at the individual level, but also at the group level through social roles and relationships.

Becker and colleagues' (2012) study highlights the role of culture in understanding psychological processes and supports the concept of "culturally flexible universals". Culturally flexible universals refer to the concept that psychological motives or processes are present in all cultures (the universal part) but the way they are expressed and satisfied vary across cultures (the flexible part; Vignoles, 2009; Vignoles, 2011). The needs for belongingness and distinctiveness are also culturally flexible universals. Cultural values and norms influence the extent to which individuals seek differentiation and assimilation with others and the way they express and satisfy the two needs.

In individualistic cultures, uniqueness (compared to conformity) has more positive connotations and is associated with freedom and independence, while in

collectivistic cultures, conformity (compared to uniqueness) has more positive connotations and is associated with cohesion and harmony (Kim & Markus, 1999). Individualistic cultures emphasize individual achievements and independence. Therefore, the motive to attain a distinctive identity tends to be stronger in those socialized in individualistic cultures. Collectivistic cultures, on the other hand, prioritize group goals and interdependence. Therefore, people from collectivistic cultures tend to prioritize assimilation and conformity over distinctiveness (Oyserman, Coon & Kimmelmeier, 2002).

This cultural difference on assimilation and differentiation needs stems from different construal of the self (Markus & Kitayama, 1991; Vignoles et al., 2016). Self-concept encompasses an individual's overall understanding of the self, and self-construal is a more specific component focusing on how individuals perceive and make sense of the self in relation to others (Cross, Hardin & Gercek-Swing, 2011). Self-construal is conceptualized along a continuum from independent to interdependent. Independent self-construal is characterized by a tendency to define oneself in terms of one's own unique characteristics and values and tend to view oneself independently from others (Markus & Kitayama, 1991). Individuals with an independent self-construal prioritize personal goals, individual achievements, and individualistic expressions (Singelis, 1994). In contrast, interdependent self-construal is characterized by a tendency to define oneself in relation to one's social relationships and group memberships (Markus & Kitayama, 1991). Individuals

with an interdependent self-construal prioritize interpersonal relationships, group goals, and group cohesion (Cross, Hardin, & Gercek-Swing, 2011).

Individualistic societies promote a more independent self-construal, whereas collectivistic societies foster a more interdependent self-construal. However, some studies have found contradictory results. When the perceived risk is low, Liang and He (2012) found that individuals from collectivistic cultures were more likely to make unique choices. A study on the distinctive motivation across 21 cultural groups found individuals from collectivistic cultures demonstrated higher need for distinctiveness (Becker et al., 2012). Their findings revealed that what constitutes feelings of distinctiveness differ across cultures. In individualistic cultures, distinctiveness relates to difference and variation, while in collectivistic cultures, distinctiveness relates more specifically to differences in social position and status. How distinctiveness is conceptualized is important. For instance, individuals with a collectivistic orientation may approve of achieving distinctiveness through higher power status but may frown upon idiosyncratic behaviors. This is consistent with Markus and Kitayama's (1991) findings that Westerners tend to express uniqueness through personal achievements, and East Asians tend to express uniqueness through relationships and social connections.

Since the need to belong and the need to be different are central components of ODT, it is essential to consider the cultural implications of optimal distinctiveness. Culture influences the optimal level of balance between the two competing needs and determines their relative emphasis and prioritization. Based on research in

individualistic and collectivistic cultures, it is reasonable to argue that the need for assimilation strikes a heavier weight in collectivistic cultures, while the need for differentiation strikes a heavier weight in individualistic cultures.

## Culture tightness and looseness

### Study of culture

As mentioned previously, culture is like oxygen. It penetrates all areas of life and influences every aspect of what we do and how we do things (Hall, 1976; Hofstede, Hofstede & Minkov, 2005). Yet, it is so inconspicuous that many times people overlook the effect of culture and do not fully account for cross-cultural differences. It wasn't until the early twentieth century when scientists began to systematically study and examine cultural concepts and frameworks (Triandis, 1994).

Anthropologist Franz Boas was one of the pioneers in proposing the concept of cultural relativism, that culture can only be understood in their own context (Škorić, 2016; Stocking, 1966). He posits that each culture is unique, and differences between cultures are a result of historical, societal, and environmental influences. Rather than biological differences, culture and the environment shape human behaviors, thoughts, languages, and even physical characteristics (Boas, 1911; Boas, 1912). This point of view challenged notions of racial superiority and social Darwinism at that time and laid the foundation for future studies of culture in the field of social sciences.

Culture is a complex and multifaceted concept. It is commonly defined as the collective programming of the mind that differentiates members of one group from another on attitudes, values, beliefs, languages, and behaviors (Hofstede, 2011; Triandis, 1994). Culture is a shared system of meanings, where patterns of thinking, feeling, and behaviors are learned and transmitted within a social group. It influences individual and collective behaviors, and provides a framework for societal functioning (Schwartz, 2014).

### Approaches to culture

With the rise in cross-cultural research, two broad approaches to the study of culture emerged: the culture-general approach and the culture-specific approach (Triandis, 1996). These two approaches differ in the way researchers conceptualize and examine cultural phenomena (Bhawuk, 1998). The culture-general approach focuses on psychological processes and principles that are universal and can be applied across cultural contexts, although the magnitude or extent of the effect may vary (Berry, 2002). For example, research under this approach have examined the five-factor model of personality traits (McCrae & Costa, 2013), universal facial expression of emotions (Ekman & Oster, 1979), culture-general adaptation strategies (Berry, 1992), and universal principles in language structures (Chomsky, 2005).

The culture-specific approach, on the other hand, focuses on the unique aspects of each culture, such as culture-specific norms, values, behaviors, and practices

(Schwartz & Sagiv, 1995). This emic approach to culture was able to address limitations of the universalistic assumptions and furthered understanding of the nuances of each culture (Berry, 2002). For example, research under this approach have studied different cognitive processing styles (de Oliveira & Nisbett, 2017; Han, 2010), variations in how individuals conceptualize the self (Markus & Kitayama, 2003), distinctions of honor, face, and dignity cultures (Aslani et al., 2016; Leung & Cohen, 2011), and culture-specific emotion regulation and expressions (Butler, Lee & Gross, 2007; Mandal & Ambady, 2004).

While these two approaches lead to different streams of research, they are not incongruent with each other, and an integrated approach combining both perspectives should be taken for a more comprehensive understanding of cultural phenomena (Berry, Poortinga & Pandey, 1997; Greenfield, 2000; Miyamoto, Nisbett & Masuda, 2006). While we all look through a cultural lens, each of our lenses differs a bit. What we see, feel, and think is a result of the interplay between the universal functioning as well as specific features of our lenses.

## Cultural frameworks

To conceptualize and make sense of the impact of culture, various frameworks have been developed. One of the most well-known and widely used is Geert Hofstede's work on cultural dimensions theory (Orr & Hauser, 2008). This effort originated when Hofstede worked at IBM to understand cultural differences and impact on international business and management (Hofstede, 1980). Large-scale

data collected from global IBM employees indicated that certain cultural factors consistently influenced workplace behaviors and attitudes. Factor analysis on the initial studies revealed four value dimensions that differentiated one culture from the other (Hofstede, 1980). Later work with other researchers improved the framework and led to the current six fundamental dimensions of culture (Bond, 1991; Hofstede, 1980; Hofstede, 2011; Hofstede & Minkov, 2010): 1). Power distance; 2). Individualism versus collectivism; 3). Masculinity versus femininity; 4). Uncertainty avoidance; 5). Long versus short-term orientation; and 6). Indulgence versus restraint.

Building on Hofstede's cultural dimensions theory, a longitudinal and multi-phase cross-cultural research collaboration ((the Global Leadership and Organizational Behavior Effectiveness (GLOBE)) project examined the effect of cultural dimensions on leadership and organizational behaviors (House et al., 2004). Results of the GLOBE study led to the identification of 9 cultural dimensions that differentiate societies and organizations (power distance, uncertainty avoidance, institutional collectivism, in-group collectivism, gender egalitarianism, assertiveness, future orientation, performance orientation, and humane orientation) and 6 global leadership styles (charismatic/value-based, team-oriented, participative, humane-oriented, autonomous, and self-protective; Dorfman et al., 2012). The GLOBE study also grouped countries into ten cultural clusters based on their standings on the cultural dimensions, allowing a better understanding of commonalities and differences across regions (Gupta, Hanges & Dorfman, 2002).

In addition to Hofstede's culture dimensions theory and the GLOBE project, many other frameworks with the aim to understand, explore, and dissect cultural differences were proposed. For example, Shalom Schwartz's (1992; 2006) Culture Values Model that identified 10 core universal values, Fons Trompenaars' (1996) seven-dimensional model of cultural differences that focused on cultural dilemmas and conflicts (Trompenaars & Hampden-Turner, 1996), and Harry Triandis' (2018) theory on Individualism-Collectivism that studied cultural variations on prioritization of individual versus group goals (Triandis & Gelfand, 1998).

While these cultural models and frameworks have their own limitations and flaws, one thing in common is that they show a major gap in the field of cross-cultural research. That is, the vast majority of theories and models used values and values alone to explain cultural differences (Earley & Mosakowski, 2002; Gelfand, Nishii & Raver, 2006). Values are ingrained beliefs and principles that guide people's behaviors, thoughts, and attitudes (Schwartz, 1992). The significance of values in cross-cultural research is undeniable, and values unarguably provide incredible insights to understanding cultural differences across all levels of analysis (Knafo, Roccas & Sagiv, 2011). However, value alone does not fully explain cross-cultural differences and it has its own limitations and flaws (Leung, Bond & Schwartz, 1995). Exclusively focusing on values could oversimplify culture, overlooking situational factors and dynamic changes (Bond, 1997). Some scholars critiqued the subjective nature of values, which could cause studies on culture to be constrained by the individuals' subjective perceptions (Orr & Hauser, 2008). Methodologically

it is also challenging to measure values accurately and objectively, especially across cultures, given the differences in language, response styles, and cultural nuances that can affect the validity and reliability of cross-cultural assessments (Brislin, 1986; Kashima & Kashima, 1998; Javidan et al., 2006).

Studying culture with any single construct would inevitably simplify the multifaceted nature of culture (Bond, 1997). However, this simplification does not diminish the value of exploring novel dimensions, and it reinforces the importance for a more integrative approach that incorporates multiple perspectives. Thus, the field calls to move beyond values in cross-cultural research and to explore new perspectives and psychological constructs with a multilevel approach to theory building (Earley & Mosakowski, 2002; Kozlowski & Klein, 2000; Mowday & Sutton, 1993).

### Theory of cultural tightness and looseness

Amidst this call to go beyond the dominated land of values, renewed attention was drawn to the theory of tightness-looseness, reinvigorating its development and application. Tightness/looseness is a cultural dimension that on one end describes the uniformity and strength of social norms, and the other end describes the expected consequences and level of tolerance when deviation from the norms occurs (Pelto, 1986; Triandis, 1989; Gelfand, Nishii & Raver, 2006). Before formally theorized, early studies in anthropology, sociology, and cultural psychology described societies by tightness and looseness (Boldt, 1978; Pelto,

1968). Agricultural societies required higher levels of structure, coordination, and conformity to cultivate farmlands, thus are more tightly structured, emphasizing order and rule abidance. Hunting and gathering societies, on the other hand, are more loosely structured, have fewer rigid norms, and accept more exploration and existence of differences (Boldt, 1978; Boldt & Roberts, 1979). Over time, societies develop different tolerance thresholds for the acceptable level of variation in norms, values, and behaviors (Triandis, 1989). Homogeneous cultures (e.g., Japan) tend to be tight. They have clear norms and rules that all members are expected to internalize and follow. Deviation from the group norm is not accepted and will be sanctioned with strict punishments. Heterogeneous societies (e.g., Thailand), on the other hand, tend to be loose. They encompass more variation in values and behaviors, and therefore have a higher degree of tolerance in norm disobedience.

Building on the foundational concepts of cultural tightness and looseness, Gelfand, Nishii, and Raver (2006) extended this framework to the organizational context. They developed a novel theory on culture tightness and looseness that applied these cultural dimensions specifically to workplace dynamics and organizational behavior. Cultural tightness refers to the degree to which a society has strong social norms and a low tolerance for deviations (Gelfand et al., 2011). In tight cultures, there are clear expectations of appropriate behaviors, and individuals will face strong sanctions when violating these norms. Cultural looseness, on the other hand, refers to the degree to which a society has weak social norms and a high tolerance

for deviations. In loose cultures, there is a greater acceptance of individuality, autonomy, and social expectations are more relaxed (Gelfand et al., 2011).

Consistent with the prior discussions, Gelfand and colleagues (2011) propose that cultural tightness-looseness is influenced by various ecological and historical factors, such as population density, resource scarcity, and threats to survival.

Societies facing greater threats and challenges tend to develop tighter norms, and vice versa. Studies on tightness and looseness across 33 nations revealed significant variability across countries (Gelfand et al., 2011). Countries like Malaysia and Singapore were found to be tighter, while countries like Ukraine and Hungary were found to be looser. Research has also demonstrated wide variation across different states within the United States (Harrington & Gelfand, 2014). Tighter cultures positively relate to lower crime rates, higher social order, and higher degrees of discrimination against outsiders; while looser cultures are associated with lower incarceration rates, lower discrimination and inequality, and higher satisfaction and happiness (Harrington & Gelfand, 2014; Gelfand et al., 2011).

The theory of cultural tightness and looseness offers a multilevel perspective on the impact of societal tightness-looseness at the organizational and individual levels, examining the relationships in top-down, bottom-up, and cross-level processes (Gelfand, Nishii & Raver, 2006). Societal-level cultural tightness-looseness shapes organizational and individual-level processes. In tighter societies, organizations tend to have more hierarchical structures, centralized decision-making, and restricted access to resources and information (Gelfand et al., 2011). At the

individual level, in tighter cultures, individuals tend to develop greater self-regulation, higher conformity, and closer adherence to social norms; while in looser cultures, individuals tend to develop greater creativity, higher openness to change, and higher tolerance for diversity (Chua, Roth & Lemoine, 2015; Gelfand, Nishii & Raver, 2006). Alternatively, individual and organizational-level factors can also shape societal-level cultural tightness-looseness. Personality traits and values can aggregate to exert influence on the overall tightness-looseness of a group or society (Carpenter, 2000). Similarly, organizational practices and norms can contribute to the maintenance or change of societal tightness-looseness over time (Gelfand, Nishii & Raver, 2006). Toh and Leonardelli (2012) studied leadership emergence and cultural tightness and looseness. They found that organizational egalitarian practices that treat all genders equally resulted in more women leaders in loose cultures compared to tight cultures.

Tightness or looseness is not a fixed property. Perceived levels of tightness and looseness can vary based on the situation and context. Societal cultural tightness and looseness tend to be relatively stable over time as it is largely shaped by ecological and historical factors (Gelfand et al., 2011). When tightness/ looseness describes cultural properties of communities, groups, or organizations, it can vary across situations and contexts. The strength of the situation, the degree to which a situation is structured and sanctioned, influences the expression of tightness-looseness (Gelfand et al., 2011). For instance, companies that work in high-risk industries tend to have a tighter culture, where protocols are followed closely, such

as nuclear plants and aircraft manufacturers. Organizations may have a tightness-looseness culture that differs from that of the country it operates in (Chan, 1996). Situational factors, such as threats or crises, can create a shift in tightness/looseness in larger societies. The most recent and significant change stems from the COVID-19 pandemic, which largely transformed, and is still transforming, how people live and work (Dubey et al., 2020). The theory of tightness and looseness has been applied to understand cultural differences in the spread of COVID-19 and the level of adherence to public health guidelines (Gelfand et al., 2021; McLamore et al., 2023). Globally, stricter health protocols were implemented, and people had higher levels of expectation on adhering to norms and rules such as wearing masks in public. Studies found that counties with tighter cultures had higher levels of protective public health behaviors, were more successful in controlling cases, and had fewer death per millions (Gelfand et al., 2021; Gilliam et al., 2022; McLamore et al., 2023).

## Cultural competence and global orientation

### Globalization

As we live in an increasingly diverse, global, and mobile society, it is easy and common for individuals to experience multiple cultures (Nguyen & Benet-Martínez, 2013). Globalization refers to the increasing interconnectedness and interdependence of societies, economies, and cultures around the world (Arnett, 2002; Sera, 1992). It is a process that blurs national and organizational boundaries,

making these boundaries less restricting, and enhances interconnectivity in the flow of people, goods, services, information, and ideas (Hermans & Dimaggio, 2007; Parker, 2005). Therefore, globalization is characterized by interconnectedness, rapid change, diverse groups of participants, and high complexity (Beck, 2018).

Globalization increases the flow of transboundary businesses and promotes international population mobility, leading to increased heterogeneity in our societies (World Bank, 2018). According to the latest report from the international migration database (OECD, 2021), most countries have seen a gradual increase in the number of foreign-born population (people who migrated from their country of birth to the current country of residence). For instance, in 2019, 13.6% of the United States population were foreign-born, a steady increase compared to the 2010 statistics of 10.5%. And it is estimated that by 2050, almost one in every five Americans (19%) will be an immigrant (Passel & D’Vera Cohn, 2008). This leads to an increasingly diverse and multicultural environment. Societies became more heterogeneous thanks to migration, international trade, and cultural exchange. This diversity is not only reflected in the presence of different ethnic, racial, and religious groups, but also in the coexistence of diverse values, beliefs, and practices (Schwartz et al., 2010).

### Cultural competence and multiculture-identity

To effectively navigate in this culturally diverse landscape, cultural competence became a necessity (Caligiuri, 2023). Cultural competence refers to the ability to

understand, appreciate, and effectively interact with individuals from diverse cultural backgrounds (Garran & Werkmeister Rozas, 2013; Griffith et al., 2016). It is not an innate trait, but a set of knowledge, attitudes, and skills that can be learned and developed over time (Campinha-Bacote, 2002; McCalman, Jongen & Bainbridge, 2017). Besides training programs, exposure to different cultures and immersion in diverse contexts also greatly enhance cultural competence (Caligiuri & Caprar, 2023; Kirmayer, 2012). It is an ongoing process of continuous learning, self-reflection, and adaptation.

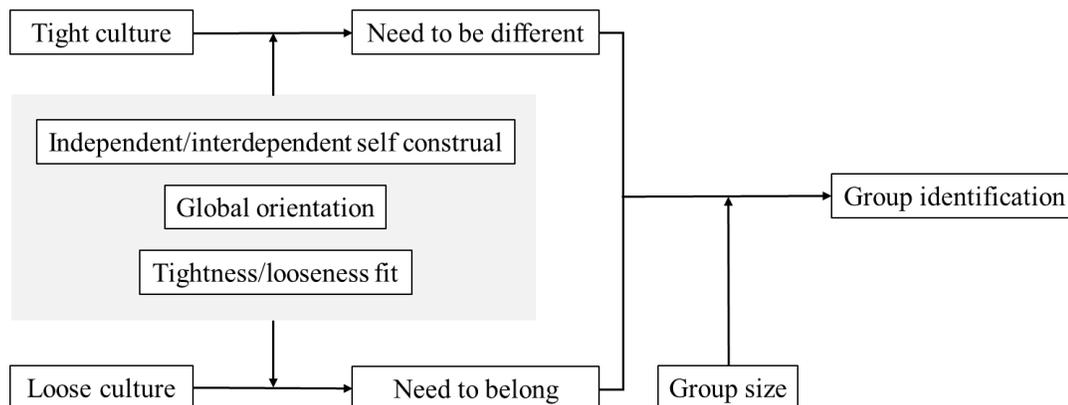
When individuals internalize and identify with multiple cultures, they integrate different cultural identities into their self-concept, developing a sense of connectedness to various cultural groups (Benet-Martínez & Haritatos, 2005). Research has shown that a strong multicultural identity has beneficial outcomes such as better cultural adjustment and flexibility, higher cultural competence, and better ability to navigate in different cultural contexts (Hong, Morris, Chiu & Benet-Martín, 2000; Nguyen & Benet-Martínez, 2013). Although a multicultural identity greatly facilitates one's understanding of cultural nuances and complexities, and enhances acceptance and appreciation of differences, individuals can possess cultural competence without necessarily identifying with multiple cultures. The majority of people with a single culture identity can also effectively handle different cultural contexts and embrace a global orientation.

## Global orientation

Global orientation refers to one's openness towards diverse cultures and willingness to engage in and learn from different cultural perspectives (Leung et al., 2008). It encompasses a general and inclusive mindset that embraces and values cultural diversity (Shokef & Erez, 2008). Employees working in multicultural organizations tend to develop a global identity with global orientation that enhances cross-cultural communication, coordination, and shared understandings (Erez & Shokef, 2008). Individuals with a strong global orientation display greater openness to experience, a tendency to seek out and adapt to novel and diverse experiences (Caligiuri, 2000). Global orientation also enhances creativity and innovative thinking as it strengthens cognitive flexibility and problem-solving skills (Leung et al., 2008). In organizational settings, global orientation and multicultural competence positively associate with organizational commitment and reduce the intention to leave in culturally diverse work settings (Froese, Kim & Eng, 2016). Overall, individuals with a strong global orientation are better able to adapt to changing situations and can more effectively navigate in different cultural contexts.

## Chapter 3 Research Model and Hypotheses

This study examines optimal distinctiveness in a cultural context. In particular, this study looks into the effect of cultural tightness and looseness on one's need for inclusion and need for differentiation and examines the outcome on group identification. Changes in the tightness and looseness of the situation will elicit motivational changes that would influence one's level of identification with the ingroup (*Figure 1*). Several moderating variables (i.e., independent and interdependent self-construal, global orientation, and group size) will be examined to understand their influence on the strength of the proposed relationships.



*Figure 1. Model of influence of cultural tightness and looseness on optimal distinctiveness motives and group identification*

### Effect of culture conditions on optimal distinctiveness needs

Culture tightness and looseness will influence the activation of one's assimilation and differentiation needs. Tight cultures are characterized by strict adherence to

rules and severe consequences on deviant behaviors (Gelfand, Nishii & Raver, 2006). When placed in a tight culture, individuals are expected to conform to the group's social norms and may be threatened with undesirable consequences when rules are not followed. The pressure to fit in and adhere to group expectations greatly fulfills assimilation needs and poses a threat to differentiation needs. Therefore, one's need to be different and unique will be heightened.

Loose cultures are characterized by a higher level of individuality, autonomy, and acceptance of different behaviors (Gelfand, Nishii & Raver, 2006). When placed in a loose culture, individuals tend to have greater leeway to express their uniqueness and have more freedom in rule adherence. Therefore, the need for differentiation will likely be satisfied, and to an extent leading to a higher desire to fulfill one's belongingness needs.

Therefore, the first two hypotheses examine the effect of culture conditions (loose or tight) on optimal distinctiveness needs (the need to belong or the need to be different:

Hypothesis 1. Individuals in a tight culture condition will have a higher need to be different compared to those in a loose condition

Hypothesis 2. Individuals in a loose culture condition will have a higher need to belong compared to those in a tight condition

## Effect of optimal distinctiveness needs on group identification

Changes in optimal distinctiveness, leading to a heightened need for belongingness or need for differentiation, will influence one's level of group identification. In general, heightened need for belongingness will lead to a higher level of group identification, and heightened need for distinctiveness will lead to a lower level of group identification.

Group identification refers to the extent to which individuals define themselves in terms of their membership in a particular social group and feel a sense of attachment to that group (Tajfel et al., 1979). It is a central concept in social identity theory that people derive a sense of self-worth and self-definition from their memberships in social groups (Tajfel & Turner, 2004). Group identification involves a cognitive component and an affective component (Ashforth & Mael, 1989). Cognitively, members engage in a self-categorization process, where they perceive themselves as members of a particular social group and recognize their similarities with other group members. Affectively, members attach significant emotions to their group, including feelings of pride, loyalty, and commitment to the group. Higher levels of group identification have been associated with increased cooperation and prosocial behaviors (Identity, 2009), greater adherence to group norms and values (Terry & Hogg, 1996), and enhanced motivation and performance on group tasks (Ellemers, De Gilder & Haslam, 2004).

A variety of factors influence one's level of group identification, such as the salience of group membership, the perceived status and distinctiveness of the group, and the extent to which the group satisfies individuals' social and psychological needs (Ashforth & Mael, 1989; Ellemers, Spears & Doosje, 2002). In particular, studies have shown that when individuals have a strong need for interpersonal connections and belongingness, they are more eager to identify with a group and attach emotional significance to group membership (Baumeister & Leary, 1995; Sheldon & Bettencourt, 2002). Therefore, it is proposed that individuals with a heightened need for belongingness will have higher levels of group identification because they are motivated to form and maintain positive relationships with others and to be accepted as part of a group. On the other hand, individuals with a heightened need for differentiation will have lower levels of group identification since they are more motivated to establish and maintain a sense of uniqueness and individuality (Snyder & Fromkin, 1980). For them, strong group affiliation may be perceived as a potential threat to their uniqueness, potentially compromising their sense of individuality. Therefore, group identification may not be desirable as they strive for a distinctive identity.

Therefore, the third and fourth hypotheses examines the effect of optimal distinctiveness needs (the need to be different or the need to belong) on group identification:

Hypothesis 3. The need to belong will lead to a higher level of group identification.

Hypothesis 4. The need to be different will lead to a lower level of group identification.

## Moderating effect of group size

Properties of the group, such as the numerical group size, will moderate the relationship between optimal distinctiveness motives and group identification.

Numerically smaller groups tend to be more exclusive and exhibit greater differentiation from other groups (Brewer, 1991; Slater, 1958). Numerically larger groups tend to be more inclusive and have a higher level of norm adherence (Brewer, 1991). Therefore, group size (majority vs. minority groups) influences individual's choices in group affiliation based on their distinct psychological needs. This numerical minority/majority distinction differs from societal minority/majority status, which involves power dynamics and cultural representation. While there may be overlap, the psychological processes described here primarily pertain to the numerical size of groups rather than their societal status.

Individuals with a stronger need for differentiation may prefer to identify with a numerically minority group rather than a majority group. Adopting the values and prototypes of the minority group allows them to satisfy their differentiation need through distinction with other outgroups. On the other hand, when individuals have a stronger need for belongingness, they may prefer to identify with a numerically majority group over a minority group. The majority group tends to be more inclusive and can better provide a sense of acceptance and belongingness. Group

identification is a complex interaction between individual motives and group characteristics. Therefore, a high level of group identification can be achieved when the optimal distinctiveness motives are balanced, and this balance is influenced by group size.

Membership in the minority or majority group influences one's level of optimal distinctiveness. Research on optimal distinctiveness commonly elicits the need to belong and the need to be different through randomly assigned membership in numerically majority or minority groups (Brewer, 1991). Membership in a majority group tends to heighten the need for differentiation due to de-individualization, while membership in a minority group tends to heighten the need for inclusion due to over-individualization. For instance, Pickett and colleagues (2002) manipulated activation of the needs by informing participants whether they were more or less different from their group on a test performance.

Therefore, the fifth and sixth hypotheses examine the moderating effect of group condition (minority or majority) on the relationship between optimal distinctiveness needs and group identification:

Hypothesis 5. Group size moderates the relationship between heightened need to be different and group identification, such that a heightened need to be different will lead to a higher level of group identification when the ingroup is the numerically minority group, and a heightened need to be

different will lead to a lower level of group identification when the ingroup is the numerically majority group.

Hypothesis 6. Group size moderates the relationship between heightened need to belong and group identification, such that a heightened need to belong will lead to a higher level of group identification when the ingroup is the numerically majority group, and a heightened need to belong will lead to a lower level of group identification when the ingroup is the numerically minority group.

### Moderating effect of self-construal

The influence of cultural tightness-looseness on assimilation and differentiation needs may be moderated by individual-level factors, such as self-construal (Markus & Kitayama, 1991). Individuals with interdependent self-construal define themselves in relation to the groups they belong to and have a stronger emphasis on inclusion and belongingness. When placed in a loose culture with a heightened need for assimilation, there will be a stronger relationship between looseness and the need to belong. Individuals with independent self-construal on the other hand tend to have a stronger emphasis on individuality and uniqueness expressions. When placed in a tight culture with heightened need for belongingness, there will be a stronger relationship between tightness and the need to be different.

Therefore, the next two hypotheses concern the moderating effect of independent and interdependent self-construal on the relationship between culture conditions and optimal distinctiveness needs:

Hypothesis 7. Interdependent self-construal moderates the relationship between culture conditions (tight or loose) and the need for belongingness, such that the positive effect of tight culture on the need for belongingness is stronger for individuals with an interdependent self-construal compared to those with an independent self-construal.

Hypothesis 8. Independent self-construal moderates the relationship between culture conditions (tight or loose) and need for distinctiveness, such that the positive effect of loose culture on the need for distinctiveness is stronger for individuals with an independent self-construal compared to those with an interdependent self-construal.

## Moderating effect of global orientation

Individual's global orientation will influence the extent to which cultural tightness/looseness affects their assimilation and differentiation motives.

Individuals with a strong global orientation are more likely to have exposure to and experience with diverse cultures, which may attenuate the effects of their own culture's tightness or looseness on their assimilation and differentiation motives. These individuals are more adaptable and open to different cultural norms and expectations (Gupta & Govindarajan, 2002), making them less susceptible to the

pressures of conformity in tight cultural situations or the emphasis on uniqueness in loose cultural situations. On the other hand, individuals with a lower global orientation may be more affected by their own culture's tightness and looseness and will experience stronger motivational changes when placed in a changed cultural situation.

Therefore, the next hypothesis examines the moderating effect of global orientation on the relationship between culture conditions and optimal distinctiveness needs:

Hypothesis 9. Global orientation moderates the relationship between culture conditions (tight or loose) and optimal distinctiveness needs (need for belongingness and need for distinctiveness), such that the effect of culture conditions on optimal distinctiveness needs is weaker for individuals with high levels of global orientation compared to those with low levels of global orientation.

### Moderating effect of tightness/looseness match

The alignment between an individual's accustomed level of tightness/looseness and the situation's tightness/looseness may impact how they adapt to new situations.

When there is congruence between an individual's cultural background and the new cultural context, individuals could readily apply existing cultural schemas and cognitive frameworks in navigating the new situation (Nishida, 2005). This sense of familiarity would make one feel more comfortable and at ease. Culture distance refers to the extent to which cultures differ in terms of values, norms, and practices

(Shenkar, 2015). Research in this area has demonstrated that smaller perceived culture distances between the home and host cultures lead to more positive adjustment outcomes and less psychological distress (Suanet & Van de Vijver, 2009). Research also found that smaller cultural distance intensifies the effect of tightness-looseness on individual outcomes such as creativity (Chua, Roth & Lemoine, 2015). When there is significant culture distance between the innovator and the audience country, individuals from tight cultures are less likely to engage in creative tasks. This line of research supports the hypothesis that the alignment of tightness-looseness between the situation and participants' home country could affect the strength of the relationships of interest. Research in person-environment fit also supports that individuals performed better and are more satisfied when there is a good match between their personal characteristics and the environment (Edwards, Caplan & Harrison, 1998).

Therefore, it is reasonable to argue that the level of alignment between an individual's cultural tightness/looseness and the tightness/looseness of the situation would influence the relationship between culture conditions and optimal distinctiveness motives. It would be beneficial to look into the impact of the four culture matches: participants from a tight culture in a tight condition, participants from a tight culture in a loose condition, participants from a loose culture in a loose condition, and participants from a loose culture in a tight condition.

In this study, the term "T/L match" (tightness/looseness match) will be used to refer to the level of alignment between a participant's home country

tightness/looseness and the experimental tightness/looseness condition. There is low T/L match when participants from a tight country are placed in a loose culture condition, or participants from a loose country are placed in a tight culture condition. This incongruence may lead to heightened self-awareness and a stronger motivation to resolve the discrepancy (Higgins, 1987), strengthening the impact of culture on optimal distinctiveness motives.

There is high T/L match when participants from a tight country are placed in a tight situation, or participants from a loose country are placed in a loose situation. This cultural alignment leads to a sense of familiarity and less perceived threat of the new situation, leading to a weaker impact of the culture conditions on optimal distinctiveness needs.

Therefore, this hypothesis explores how the T/L match, congruence or incongruence between an individual's cultural background and the experimental tightness/looseness condition, influences the impact of culture conditions on optimal distinctiveness motives:

Hypothesis 10. T/L match moderates the relationship between culture conditions and optimal distinctiveness motives, such that when there is high T/L match, the relationship between culture conditions and optimal distinctiveness motives will be weaker; whereas when there is low T/L match, the relationship between culture conditions and optimal distinctiveness motives will be stronger.

In summary, this study investigates the impact of culture conditions (tight or loose) on optimal distinctiveness needs (the need for belongingness and the need for distinctiveness), with individual-level self-construal and global orientation as moderating variables. It is hypothesized that tight cultures will trigger a stronger need for differentiation and loose cultures will trigger a stronger need for belongingness. This study further examines how optimal distinctiveness needs affect group identification under numerical majority or minority group conditions. Data is collected from both the U.S. and China to examine the moderating effect of T/L match on the impact of culture on optimal distinctiveness motives, and to conduct other cross-cultural comparisons. This study contributes to the understanding of optimal distinctiveness theory under the tightness-looseness framework, and findings will offer a new perspective on how cultural context shapes individual needs and experiences.

## Chapter 4 Methodology

This study employed a cross-cultural, experimental design to investigate the influence of cultural tightness-looseness on optimal distinctiveness motives and group identification, while also examining the moderating effects of individual differences (self-construal, global orientation) and contextual factors (group size, tightness/looseness match). The study utilized online surveys to collect data from participants in two culturally distinct countries: the United States and China. All measures were translated into Chinese with a team-based back-translation approach to ensure linguistic and conceptual equivalence. At the beginning of the study, participants were randomly assigned to either a tight or loose culture condition using cognitive priming techniques. After responding to the surveys, participants were assigned to either a numerically majority or minority group condition with an image selection task, following the principles of the minimal group paradigm. The dependent variable of group identification was lastly assessed through a behavioral measure where participants chose whether to remain with their current group or switch to a different group for a subsequent task. Various statistical techniques including independent samples t-tests, logistic regression, moderated multiple regression, and simple slopes analysis were utilized to test the hypotheses.

## Procedural

### Cross-cultural data collection

Participants were recruited through online data collection platforms.

CloudResearch was used to recruit U.S. based participants, and WJX.cn was used to recruit Chinese participants with a translated Chinese survey.

The study collected data from 2 countries that significantly differ from each other on multiple culture dimensions: China and the U.S. China is considered a tight society high on collectivism, while the U.S. is considered a loose society high on individualism. Optimal distinctiveness is a culturally flexible universal and collecting data from two cultures enables investigation of how culture influences their strength and manifestation. For instance, culture may influence individuals' baseline levels of optimal distinctiveness, and will likely influence the extent to which individuals respond to a disruption in the balancing of the two needs. The majority of research focused on the cultural dimension of individualism-collectivism, and this study offers a new perspective by examining the dimension of tightness-looseness. Cross-culture data collection allowed for a more comprehensive understanding of the interplay between culture and individual motives by going beyond the East-West dichotomy (Vignoles et al., 2016).

Once agreed to the informed consent, participants responded to demographic questions in areas such as gender, age, nationality, ethnicity, education level, and employment status (*Appendix V*). The survey was set to recruit a generalizable

sample that is representative of different demographics. In addition, information on one's multicultural experience was collected, including overseas travel experience, foreign languages spoken, and number of friends in other countries. One's multicultural experience is a key component and positive indicator of global orientation (Leung et al., 2008). An individual's exposure to diverse cultures also serves as a contextual variable that may moderate the impact of cultural tightness and looseness on their need for optimal distinctiveness.

### Tightness-looseness manipulation

Tightness and looseness can be used to describe the culture of a nation, society, group, or situation. When applied to specific situations, a tight situation is one in which there are strong expectations for appropriate behavior and little tolerance for deviation from these expectations. Alternatively, a loose situation is one in which there is more flexibility and acceptance of a wider range of behaviors.

This study utilized priming and experimental manipulations to randomly assign participants to either a tight cultural condition or a loose cultural condition.

Intentionally manipulating the experimental conditions allows better observation of the effect of the controlled independent variables on the dependent variables, and allows researchers to establish causal relationships (Cook, Campbell & Shadish, 2002). Priming involves exposure to specific stimuli, such as words, images, or instructions, to activate certain mindsets or schemas that will influence one's thoughts and behaviors (Bargh & Chartrand, 2000; Molden, 2014).

Cognitive manipulations have commonly been used in research studies to create experimental conditions (Bargh & Chartrand, 2000). For instance, Mok and Morris (2012) used a word-search task and a writing task to prime the Asian or American cultural identity. In the word search task participants were instructed to read a paragraph and click on proper nouns that referred to Asian culture or American culture (i.e., “Shanghai” in the Asian prime condition and “Chicago” in the American prime condition). Results showed significant interaction of the cultural prime and bicultural identity integration ( $F(1, 21) = 4.35, p < .05$ ). In a follow-up study, Mok and Morris (2012) changed the culture prime manipulation and asked participants to write about either Asian or American culture traditions. Results again showed a significant interaction effect of culture and bicultural identity integration on extraversion ( $F(1, 22) = 7.26, p < .05$ ). Therefore, cognitive manipulation through wording in instructions would be able to induce the intended experimental conditions.

In this study, cultural tightness/looseness was experimentally induced through verbiage in the instructions. Instruction to the survey in the tight culture condition repeatedly emphasized verbiages such as “you must” and “strict adherence to these guidelines is necessary”, priming participants to a tight culture that emphasizes rules, consequences, and adherence to norms. Instruction in the loose culture condition repeatedly emphasized verbiages such as “instructions are simply provided as suggestions” and “just be yourself”, priming participants to a loose culture that emphasizes freedom, individuality, and acceptance of differences. In

addition, only paragraphs under the tight condition are numbered and bulleted. Structured and organized formats influence cognitive processing, indicating strong norms and clear rules, and can facilitate the perception of orderliness that is associated with tight cultures (Gelfand, Nishii & Raver, 2006; Lorch, 1989). To ensure the effectiveness of the priming and to ensure the tight and loose cultural manipulations indeed worked, a pilot test was conducted with a separate sample (N=30) prior to the main study.

### Self-report measures

After random assignment to the tight or loose experimental conditions, participants responded to self-report survey measures on need to be different, need to belong, independent and interdependent self-construal, global orientation, and an individual measure of cultural tightness and looseness. All survey items were randomized to minimize the influence of order effects, which is when prior items impact one's responses to subsequent items, as well as other response biases such as primacy and recency effects (Krosnick & Alwin, 1987). Randomization also improves data quality by preventing a pattern of response and ensures generalizability that the results are not subjective to a certain item order (Goodman, Cryder & Cheema, 2013; Rossi, Wright & Anderson, 2013).

### Minimal group paradigm

The minimal group paradigm is an experimental design that explores the minimal conditions required for discrimination to occur between groups (Tajfel et. al.,

1971). Numerous studies on the minimal group paradigm have demonstrated that even random and meaningless group differences can lead to one's perception of in-group and out-group (Diehl, 1990; Tajfel et al., 1971). In social research, participants have been randomly assigned to one of two or more groups based on trivial or arbitrary criteria, such as preference for one type of abstract art over another (Tajfel et al., 1971), or by the toss of a coin (Billig & Tajfel, 1973). These arbitrarily created groups had no history of interaction, no shared goals, and no conflicts of interest, and participants did not interact with each other during the experiments.

In this study, after completing the surveys, participants were randomly assigned to either a majority group condition or a minority group condition using an image selection task. As mentioned previously, this numerical minority/majority distinction refers to the size of the group and is different from societal minority/majority status. This practice follows the minimal group paradigm, that the mere act of categorizing people into groups, even arbitrary groups, is sufficient to create intergroup bias and discrimination (Diehl, 1990; Tajfel et al., 1971). Participants were asked to indicate their preference for two abstract paintings. Those in the majority group condition were informed that they made the same choice as the majority (86%) of participants. Those in the minority group condition were informed that they made the same choice as the minority (14%) of participants.

## Behavioral measure of group identification

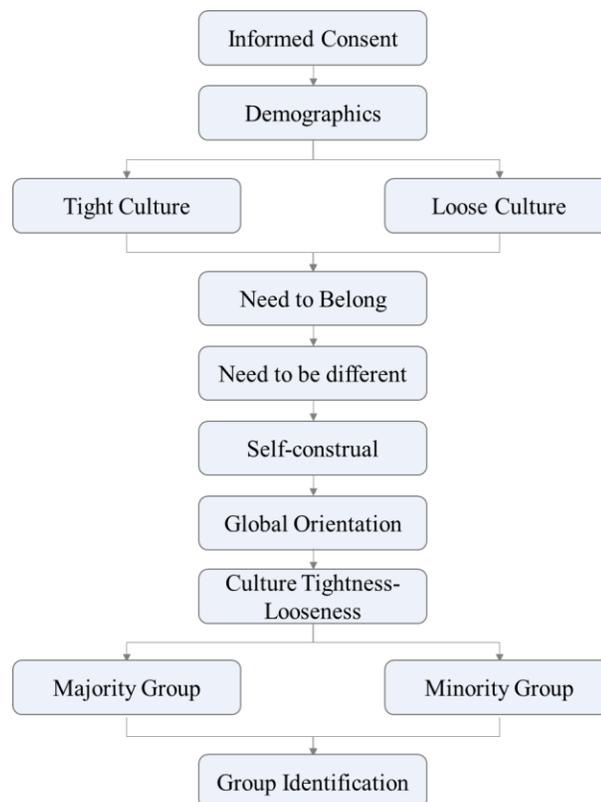
Group identification refers to an individual's sense of belonging and attachment with their membership in a social group (Tajfel & Turner, 2004). The strength of group identification depends on the salience of the group one belongs to, the context of intergroup relations, as well as individual differences (Doosie et. al., 1999). People can identify with multiple social groups, and the salience and importance of each group membership changes based on the situation (Roccas & Brewer, 2002).

Group identification is influenced by both the need for belongingness and the need for uniqueness. It is the dependent variable of interest and was assessed with a behavioral measure. This behavioral measure goes beyond self-reported measures of attitudes or beliefs and focuses on objective behaviors that demonstrate an individual's commitment to and preference for their group (Abrams & Hogg, 1999). Using a behavioral measure can capture actual actions, which could reflect underlying psychological processes more directly than self-reported attitudes and intentions (Baumeister, Vohs & Funder, 2007). Using a different type of measurement for the dependent variable also helps mitigate common method bias that can occur when all variables are measured with the same self-report scales (Podsakoff et. al., 2003). In addition, a behavioral choice may better reflect real-world decision-making processes and may be less susceptible to social desirability bias compared to explicit self-report measures of group identification (Fisher & Katz, 2000).

In this study, after informing participants of the size of their group, eliciting their mindset either in a numerically minority or majority group, participants were asked to make a choice on group membership. They were asked that in the subsequent collaborative task, whether they would like to work with their current group or with the other group. The choice to stay with one's own group would indicate a stronger sense of identification and attachment to the group, while the decision to work with the other group would indicate a weaker group identification.

Once participants made the decision, they will be briefed and thanked, and the research will be concluded. No subsequent collaborative tasks were performed.

*Figure 2. Research Procedural Flow*



## Survey platforms

### CloudResearch

All data were collected through online surveys. Online surveys and crowdsourcing platforms have been widely used in research data collection, and the data collected has proven to be at least as valid and reliable as data collected through traditional in-person methods (Buhrmester, Kwang & Gosling, 2011; Crump, McDonnell & Gureckis, 2013; Paolacci, Chandler & Ipeirotis, 2010). Some studies even showed online surveys produced higher quality data with higher pass rates on attention check items, compared to subject pool participants (Hauser & Schwarz, 2016). In addition to having equivalence in psychometric properties, online data collection also elicits similar levels of social responses and impression management as paper-and-pen methods (Booth-Kewley, Edwards & Rosenfeld, 1992). Furthermore, online data collection can address the issue of the *WEIRD* sample (*sample from Western, Educated, Industrialized, Rich, and Democratic societies*; Henrich, Heine & Norenzayan, 2010) often seen in traditional methods, through its ability to reach out to more diverse populations (Behrend, Sharek, Meade & Wiebe, 2011).

This study collected online data through CloudResearch (formerly TurkPrime), a participant recruitment and sourcing platform that collects quality data through a diverse pool of vetted participants. It ensures data quality through a system of participant reputation scores and quality checks, where inadequate responses will be filtered out. It also allows researchers to set demographic criteria to better target

desired population for the purpose of the research studies. Although a relatively new data collection platform, increasingly more studies have utilized CloudResearch due to its focus on academic research as well as data quality control. A good number of studies have demonstrated the use of CloudResearch in collecting valid and reliable data (Litman et al., 2021). CloudResearch consistently provided high data quality on measures of attention, comprehension, honesty, and reliability (Eyal et al., 2021). Comparing data quality from CloudResearch to other online platforms, Behrend and colleagues (2011) found CloudResearch participants performed better on manipulation checks and had fewer careless responding. Although CloudResearch does have limitations and drawbacks, such as issues on sample representativeness, study environments, and participant inattention, these limitations apply to most research methodologies, and should not prevent researchers from utilizing CloudResearch (Douglas, Ewell & Brauer, 2023; Lowry et al., 2016).

## WJX.cn

To reach the Chinese population, the Chinese survey was administered through WJX.cn, a Chinese online survey platform that provides access to research participant panels. WJX has partnered with multiple universities and research institutes across China and is known for data collection for academic research. Similar to CloudResearch, Wenjuanxing has built-in methods to ensure data quality, including attention check questions, IP address checking, and demographic criteria setting. Since WJX is not widely used in the West, very few studies

published in English have examined its validity and reliability. However, based on research published in Chinese and studies utilizing WJX to collect data, it is reasonable to argue that WJX is a reliable and valid data collection platform (Cao et al., 2020; Liu et al., 2022; Qi et al., 2020).

## Translating the survey items

To ensure the translated survey instruments maintain linguistic equivalence, conceptual equivalence, as well as measurement equivalence, a team-based back translation technique was utilized (Brislin, 1970; Klotz, Swider & Kwon, 2023; Mohler et al., 2016).

### Back translation

Back translation is a scientifically rigorous process in cross-cultural research that helps ensure that the psychometric properties of an established scale can be maintained in the translation (Van de Vijver & Leung, 2021). This approach also maximizes semantic accuracy and cultural relevance of the translated items (Geisinger, 1994). Compared to direct translation where only one individual translates the items, back-translation usually results in higher validity and reliability (Acquadro et al., 2008).

All items were translated into the target language (i.e., Chinese) and then back to the source language (i.e., English) by two independent translators. Discrepancies between the original items and the back-translated version were reviewed, evaluated, and discussed by an expert panel. The expert panel is made up of the

researcher and two translators proficient in both Chinese and English and have expert knowledge the subject area. Both translators have obtained at least a master's degree in industrial organizational psychology. The first translator translated the original English survey into Chinese, and the second translator, without knowledge of the original items, then translated the Chinese-version back to the source language. The back-translated version was compared to the original items, and any discrepancies or changes in meaning were evaluated by the expert panel. Refinements were made to the translated items if the wording or intent shifted from the original items. To resolve all discrepancies and reach mutual agreement, the expert panel met multiple times and engaged in an iterative process of translation, back-translation, and discussion (Klotz, Swider & Kwon, 2023).

### Team-based translation approach

The *Guidelines for Best Practices in Cross-Cultural Surveys* recommended a team-based translation approach to back-translation (Mohler et al., 2016). They stated that a team-based approach leverages knowledge and expertise from the team, and through discussion, produces translated surveys that convey the same meanings and measure the same constructs across populations. The researcher agreed with their view and followed the recommended TRAPD (Translation, Review, Adjudication, Pretesting, and Documentation) team translation model (Vujcich et al., 2021). The expert panel worked together in comparing the back-translated items to the original items, evaluating the discrepancies, reviewing the translated items, and refining the items. This process would ensure that the constructs measured are conceptually

equivalent in both cultures, and in addition, that all wording and expressions are culturally appropriate and relatable to the Chinese population (Forsyth et al., 2007). The discussions helped identify and address any cultural nuances or misunderstandings and ensured that the translations captured the intended meaning of the original survey. It also ensured that participants would interpret and respond to the translated items as intended, allowing for meaningful comparisons of data across the two cultural groups (Harkness, Villar & Edwards, 2010). Following the procedural in Vujcich and colleagues' (2021) study, where the researchers documented their application of the TRAPD method, the finalized translated items will be pretested with a small sample of participants fluent in Chinese. The researcher will gather feedback on whether they had trouble understanding any items, whether they find it difficult to answer any items, and whether they noticed any errors. Any issue emerged from the pretest will be reviewed and discussed by the expert panel, and revisions to the final items will be made as necessary.

## Measurements

### Need to belong

The need to belong was measured by the 10-item Need to Belong Scale (NTBS). The NTBS assesses individuals' fundamental need to belong and connect with others (Leary, 2010). It has been used in many studies and has consistently demonstrated good internal reliability (*Cronbach's alpha* > .80; Leary et al., 2013; Gardner et al., 2005). It has been examined in a nomological network and has

demonstrated construct validity by positively correlated to but also distinct from related constructs such as sociability, need for affiliation, and attachment styles (Leary et al., 2013). Example items include “I try hard not to do things that will make other people avoid or reject me” and “I need to feel that there are people I can turn to in times of need” (*Appendix I*). Some items were reverse coded, and all items were evaluated on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*extremely*).

### Need to be different

The need to be different was measured by the 4-item self-attributed need for uniqueness scale (NFU, Lynn & Harris, 1997). This scale is a self-reported measure capturing individuals' subjective perceptions of their desire for uniqueness. This scale addresses the limitations of the widely used need for uniqueness scale developed by Snyder and Fromkin (1977), which has a heavy focus on the socially unacceptable or risky aspects of uniqueness. Lynn and Harris's NFU scale is a more direct and concise measure of an individual's need for uniqueness. The scale has good internal reliability ( $\alpha=.80$ ), even in cross-cultural samples (France and Switzerland), and has demonstrated convergent validity with other similar measures such as Snyder and Fromkin's need for uniqueness scale (Lalot et. al., 2017; Lynn & Harris, 1997). An example item is “Being distinctive is important to me” (*Appendix II*). All items were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

## Self-construal

The independent and interdependent self-construal were measured by the 12-item self-construal scale developed by Yamawaki (2008). 5 items measured interdependent self-construal, and 7 items measured independent self-construal. One of the items in the original scale was removed due to its low-level of relatedness in China (“If my brother or sister fails, I feel responsible”). This scale has been used in cross-cultural studies and has shown internal reliability in samples in the U.S. (*Cronbach’s alpha* > .78), Japan (*Cronbach’s alpha* > .71), and China (*Cronbach’s alpha* > .76; Guan et al., 2015; Yamawaki, 2008). An example item for the interdependent self-construal is “It is important for me to maintain harmony within my group”, and an example item for the dependent self-construal is “I enjoy being unique and different from others in many respects” (*Appendix III*). All items were evaluated on a 9-point Likert scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*).

## Global orientation

Global orientation was measured by the Global Orientation Scale (GOS) developed by Chen and colleagues (2016). The 16-item shortened GOS only includes items that have a factor loading above .50 on the 2 factors assessed: multicultural acquisition and ethnic protection ( $\alpha = .89$  and  $.82$ , respectively). This scale has been used in different cultures and has demonstrated good internal reliability across all samples ( $\alpha > .70$  in *Canadian and Chinese samples*). This scale has also been tested among a nomological network, demonstrating discriminant validity and

predictive validity (Chen et al., 2016). Example items include “It is important to recognize differences among various cultural groups” and “I find living in a multicultural environment very stressful” (*Appendix VI*). All items were evaluated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

### Group identification

Group identification was measured through a behavioral measure. Participants were asked to indicate whether they would like to remain in their group or work with a different group in a subsequent task. Those indicating a change in group membership were identified as low group identification, and those remaining in the same group were identified as high group identification.

### Culture tightness-looseness

Culture tightness-looseness was measured by the 6-item Tightness-looseness scale developed by Gelfand and colleagues (2011). This measure is designed to assess the strength of social norms and the degree of tolerance for deviance from those norms within a culture. This scale has demonstrated good reliability ( $\alpha = .85$ ) and good validity through its structural equivalence across nations (Gelfand et. al., 2011). The scale demonstrated construct validity with an exploratory factor analysis revealing a clear one-factor solution that accounted for 62% of the variance. It has also established divergent validity, indicating it is a unique measure of social norms and tolerance of deviance that is different from other cultural values and beliefs. In addition, the scale has exhibited factor validity and

measurement equivalence across 33 nations, indicating that it performs consistently across diverse cultural contexts.

An example item is “People agree upon what behaviors are appropriate versus inappropriate in most situations in this country” (*Appendix V*). Participants responded to each item on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher scores on the scale indicate a tighter culture, characterized by strong social norms and low tolerance for deviant behavior. Lower scores suggest a looser culture, where norms are more relaxed and there is greater acceptance of individual differences.

## Chapter 5 Data Analyses

### Power analysis

Prior to data collection, power analysis was conducted to determine the appropriate sample size needed to detect a meaningful effect with the desired level of power and significance levels (Cohen, 1992). The level of significance was set at the generally recommended level of .05, allowing a 5% probability of committing a type I error (rejecting the null hypothesis when it is true). The statistical power is set at the typical level of .80, indicating an 80% probability of rejecting the null hypothesis when it is indeed false. The effect size is a standardized measure of the magnitude of an effect in F tests, independent of the sample size, and can be interpreted as small, medium, and large ( $f = .10, .25, \text{ and } .40$ , respectively) to indicate the practical significance of the findings (Cohen, 1992).

Power analysis software G\*Power (version 3.1.9.7) was utilized to compute the effect size for this study (Faul et al., 2007; Faul et al., 2009). Results from the power analysis showed that a minimum sample size of 251 participants would be required to detect a medium effect size ( $f = 0.25$ ) with 80% power at a significance level of  $\alpha = .05$ .

### Pilot study

A pilot study was conducted to examine the effectiveness of the culture tightness/looseness manipulation. Participants were randomly presented with either

the survey instruction verbiage that primes the tight culture condition, or the verbiage that primes the loose culture condition. Then, participants were asked to write down their overall impression and thoughts while reading the verbiage. The researcher developed four items to assess whether the priming indeed activated tightness or looseness. Participants were asked to rate their level of agreement on the four items: 1). There are clear expectations for appropriate behaviors; 2). There are serious consequences if instructions are not followed; 3). There is a strong emphasis on following rules when responding to the survey; and 4). Participants are free to respond to the survey in any way they like. Individuals in the tight culture prime, compared to those in the loose culture prime, are expected to provide higher ratings on clear expectations, serious consequences, emphasis on rules, and a lower rating on freedom in responding. Independent samples t-tests were conducted to compare the mean scores on the manipulation check items between tight and loose culture conditions. Effect size was measured with Cohen's  $d$  on the magnitude of the difference between the two means relative to the pooled standard deviation to assess the practical significance of the difference (Cohen, 1992).

## Hypothesis testing

### Hypotheses 1 and 2

Hypotheses 1 and 2 concern the effect of culture condition (tight or loose) on optimal distinctiveness needs (the need to be different or the need to belong).

Hypothesis 1 states that individuals in a tight culture condition would have a higher

need to be different compared to those in the loose condition; while hypothesis 2 states that individuals in a loose culture condition would have a higher need to belong compared to those in the tight condition.

Normality and homogeneity of variance were tested to check the assumptions. Hypotheses 1 and 2 were tested with independent samples t-tests, comparing the absolute difference in the need to belong and the need to be different respectively between tight and loose conditions. The absolute difference is calculated by taking the absolute value after subtracting the mean score from each need score. The absolute difference in the needs was used since the focus is on whether culture condition influences optimal distinctiveness. If it does, one would be motivated to restore the balance by engaging in higher levels of the impacted need. The absolute value of difference in the need to belong or need for uniqueness operationalizes this magnitude of difference. If the t-tests are significant, the direction will then be examined.

### Hypotheses 3 and 4

Hypotheses 3 and 4 state that optimal distinctiveness motives will influence one's level of group identification, such that the need to belong will lead to stronger group identification, and the need to be different will lead to lower group identification. Since the dependent variable of group identification is measured by a categorical behavioral outcome of either remaining with the group (high group

identification) or switching to a different group (low group identification), these two hypotheses were tested by logistic regressions.

## Hypotheses 5 and 6

Hypotheses 5 and 6 state that group size will moderate the relationship between optimal distinctiveness motives and group identification.

Specifically, hypothesis 5 predicts that group size will moderate the relationship between need to be different and group identification, such that a heightened need to be different will lead to a higher level of group identification when the ingroup is the numerically minority group, and a heightened need to be different will lead to a lower level of group identification when the ingroup is the numerically majority group. Hypothesis 6 predicts that group size moderates the relationship between need to belong and group identification, such that a heightened need to belong will lead to a higher level of group identification when the ingroup is the numerically majority group, and a heightened need to belong will lead to a lower level of group identification when the ingroup is the numerically minority group.

Moderated logistic regression analysis was used to test this hypothesis. Interaction terms between group size and the assimilation/differentiation needs were created and added to the logistic regression model (Hayes, 2014). Dummy variables were created for group size (minority group and majority group conditions). If results were significant, follow-up simple slopes analysis would be conducted to further

understand the relationship at different levels of the moderator (Baron & Kenny, 1986).

## Hypotheses 7 and 8

Hypotheses 7 and 8 state that self-construal moderates the relationship between tight/loose culture and optimal distinctiveness motives. Specifically, interdependent self-construal moderates the relationship between culture conditions (tight or loose) and the need for belongingness, such that the positive effect of tight culture on the need for belongingness is stronger for individuals with an interdependent self-construal compared to those with an independent self-construal; whereas independent self-construal moderates the relationship between culture conditions (tight or loose) and need for distinctiveness, such that the positive effect of loose culture on the need for distinctiveness is stronger for individuals with an independent self-construal compared to those with an interdependent self-construal.

To test this set of hypotheses, a moderated multiple regression analysis was conducted (Aiken, West & Reno, 1991). To reduce multicollinearity when creating the interaction term, both independent and interdependent self-construal were centered by subtracting the mean from each score. Interaction terms between culture condition and centered self-construal were created. For interdependent self-construal and independent self-construal respectively, two separate moderated multiple regression analyses were conducted, one with the need to belong as the dependent variable, and one with the need to be different as the dependent variable.

## Hypothesis 9

Hypothesis 9 is that global orientation moderates the relationship between tight/loose culture and optimal distinctiveness such that individuals with a higher global orientation will be more flexible and tolerant in changes in assimilation/differentiation needs, leading to a weaker relationship. To test this hypothesis, a moderated multiple regression analysis was conducted. To reduce multicollinearity, global orientation was centered by subtracting the mean from each score. Interaction terms between culture group and centered global orientation were created. Two separate analyses were conducted, one with the need to belong as the dependent variable, and one with the need to be different as the dependent variable.

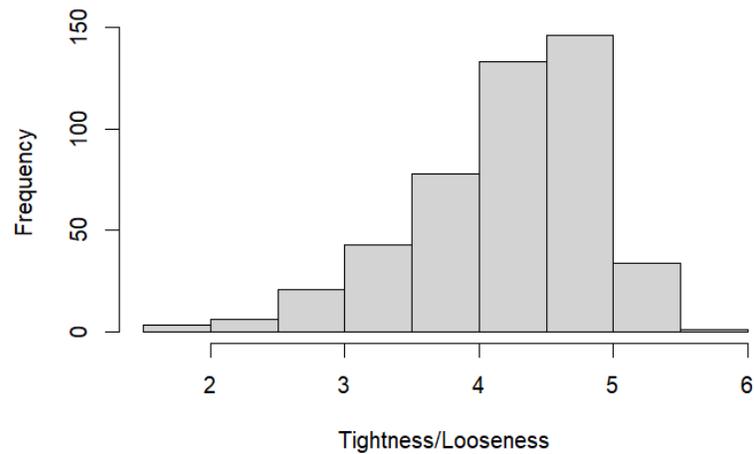
## Hypothesis 10

Hypothesis 10 explores the alignment between an individual's tightness/looseness and the situation's tightness/looseness (T/L match). It is hypothesized that T/L match moderates the relationship between culture conditions and optimal distinctiveness motives, such that a high T/L match will weaken the relationship between culture conditions and optimal distinctiveness motives, whereas a low T/L match will strengthen the relationship between culture conditions and optimal distinctiveness motives.

T/L match was operationalized in two approaches. The first approach compares the individual's response on the tightness/looseness scale to the induced experiment

tight/loose condition. Responses to the tightness/looseness scale (M=4.27, Mdn=4.33, SD=0.68, Min=1.83, Max=5.83) were aggregated and categorized into “tight”, “medium” and “loose” based on the percentile. Categorizing the continuous variable makes the results easier to interpret and mirrors the dichotomous nature of the experimental conditions. *Figure 3* illustrates the frequency distribution of the aggregated responses on the Tightness/looseness measure.

*Figure 3. Distribution of the tightness/looseness scale*



Note: This figure illustrates the frequency of aggregated responses on the Tightness/looseness measure that uses a 6-point Likert scale. The x-axis shows the aggregated response, and higher scores indicate a tighter culture whereas lower scores indicate a looser culture.

The T/L match index was created based on the alignment between the individual’s tight/loose category and the experiment culture condition. A high alignment (individuals from a tight country under a tight condition, or individuals from a loose country under a loose condition) was categorized as high T/L match. A low alignment (Individuals from a tight country under a loose condition, or individuals

from a loose country under a tight condition) was categorized as low T/L match.

Medium T/L match was categorized when individuals from countries that fall in the middle of the tight-loose spectrum are under either tight or loose conditions.

The second approach compares the individual's country's tightness/looseness to the induced experiment tight/loose condition. Participants' country of origin was extracted from the survey demographics, and those from China were categorized as "tight" and those from the U.S. were categorized as "loose". The mean scores on the tightness/looseness scale between Chinese and U.S. participants were computed to verify the sample collected matches the country tight/loose level. To differentiate from the previous approach of generating the T/L match index, this approach's index will be named "T/L match by country". The T/L match by country index was created based on the alignment between the individual's country categorization and the experiment culture condition. When there was high alignment (individuals from a tight country under tight condition, or individuals from a loose country under loose condition), it was categorized as high T/L country match. When there was low alignment (individuals from tight countries under loose condition, or individuals from loose culture under tight condition), it was categorized as low T/L country match.

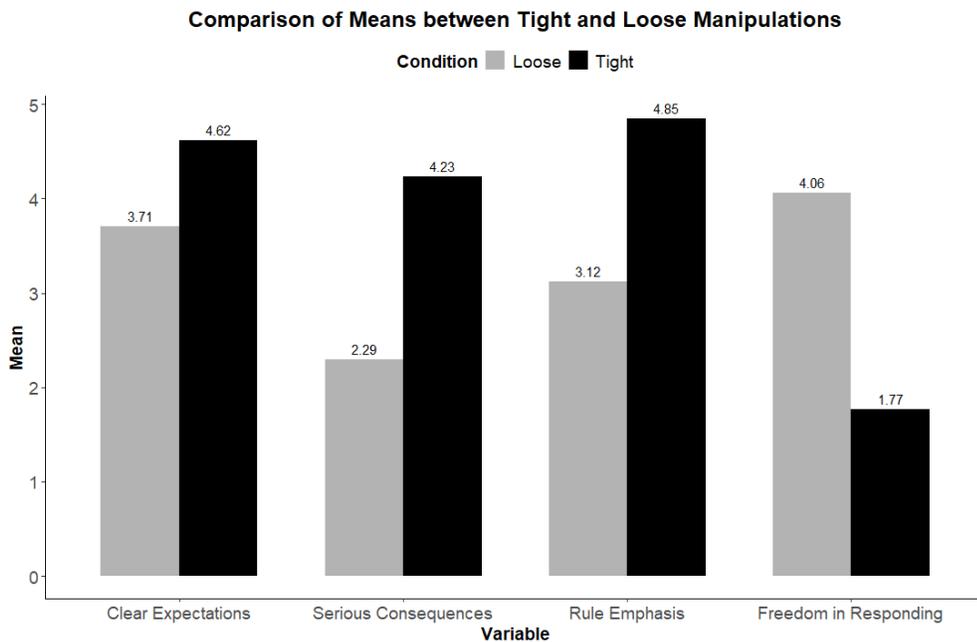
Moderated multiple regression analyses were performed to test this hypothesis with the two T/L match indexes as the moderating variables.

## Chapter 6 Results

### Pilot study

A total of 30 participants (9 female and 21 male) from the United States completed the pilot study. The age distribution of the participants is: 7 (23.3%) were under 30 years old, 18 (60.0%) were between 30 and 50 years old, and 5 (16.7%) were above 50 years old.

*Figure 4. Comparison of means between Tight and Loose Manipulations in Pilot Study*



Results from independent samples t-tests indicated a significant and meaningful difference between the tight and loose conditions in all four areas: clear expectations ( $t(28) = 2.75$ ,  $p = .01$ , 95% CI [0.23, 1.59],  $d = -1.01$ ), serious consequences ( $t(28) = 4.30$ ,  $p < .001$ , 95% CI [1.01, 2.86],  $d = -1.58$ ), rule

emphasis ( $t(28) = 3.68, p = .001, 95\% \text{ CI } [0.77, 2.69], d = -1.36$ ), and freedom in responding ( $t(28) = -6.54, p < .001, 95\% \text{ CI } [-3.01, -1.57], d = 2.41$ ). An illustration of the means of the four items between the two culture conditions is presented in *figure 4*.

*Table 1. Responses to impression of the tight/loose manipulation verbiages*

Condition	Impression of the verbiage
Tight culture	<p>“the instructions seem strict, serious, and punitive if you don’t follow the directions”</p> <p>“detailed instructions”</p> <p>“thorough and easy to understand”</p> <p>“there is a pretty stern tone within the instructions but they are reasonable”</p>
Loose culture	<p>“very thorough and strict”</p> <p>“easy-going, tolerant of varying circumstances”</p> <p>“the instructions were very relaxed and informal”</p> <p>“loose and free flowing”</p> <p>“gave the participant a chance to not feel pressured or worried”</p> <p>“they seem kind-hearted and understanding, they are not very demanding”</p>

An open-ended question asked participants to describe their overall impression and thoughts after reading the instruction. The responses were aligned with the results from the survey items. Individuals in the tight manipulation felt a sense of strictness and emphasis on adherence to directions, while individuals in the loose condition more relaxed with higher levels of freedom. *Table 1* presents some responses on the tight and loose conditions.

Overall, the results confirmed the effectiveness of the tight and loose culture manipulations.

## Data cleaning

A total of 516 responses were collected (259 from the U.S. and 257 from China). After examining responses by response time, attention check items, and response pattern, 51 unqualified responses were removed, and a total of 465 responses (223 from the U.S. and 242 from China) were retained in the analysis.

## Response time

The mean and standard deviation of the response times for the overall survey were calculated across all participants. Response time significantly shorter than the mean indicates the respondent did not read the items carefully or was responding carelessly and randomly. Responses from participants who completed the survey under 300 seconds (5 minutes) were removed from the dataset. The cutoff was set based on the mean and standard deviation of all participants' response times to remove the outliers. This removed a total of 45 responses.

## Attention check items

Two attention check items were included in the survey (“Please select somewhat disagree for this item”). After removal of flagged participants based on significantly short response time, the remaining 471 participants were checked on the attention check items, and all have passed.

## Missing data

6 participants did not finish the survey and quit midway. Their responses were removed. All other participants have responded to all items in the survey.

## Response pattern

Participants' response patterns were examined to identify any individuals selecting the same response option for all items or alternating between two response options. No participant was flagged during the response pattern check.

## Descriptive statistics

### Demographics

A total of 465 participants completed the study, with 223 (48%) from the United States and 242 (52%) from China. The sample was approximately balanced in terms of gender, with 216 (46.5%) male participants and 244 (52.5%) female participants. The majority of participants (75.2%) were between 25 and 44 years old. Regarding ethnicity, the U.S. sample was predominantly White/Caucasian (66.8%), while all participants in the Chinese sample identified as Asian. Most participants had completed a bachelor's degree or higher (68.2%), and the majority were employed (87.1%). Detailed demographic information is presented in *Table 2*.

Participants were randomly assigned to either tight ( $n = 236$ ) or loose ( $n = 229$ ) culture conditions. The distribution of participants across these conditions was balanced in terms of country of origin, with 48.3% of participants in the tight

condition and 47.6% in the loose condition from the U.S. Age and education levels were also similarly distributed across conditions, as shown in *Table 3*.

Table 2. Demographics by country

Characteristic	U.S. Sample		Chinese Sample		Full Sample	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender						
Male	118	52.9	98	40.5	216	46.5
Female	100	44.8	144	59.5	244	52.5
Non-binary/Other	5	2.2	0	0	5	1.1
Age						
18-24	23	10.3	19	7	42	9.0
25-34	74	33.2	134	49.30	208	44.7
35-44	74	33.2	68	25	142	30.5
45-54	37	16.6	16	16.90	53	11.4
Over 54	15	6.7	5	1.80	20	4.3
Ethnicity						
White/Caucasian	149	66.8	0	0	149	32.0
Black/African	26	11.7	0	0	26	5.6
American						
Hispanic/Latino	21	9.4	0	0	21	4.5
Asian	23	10.3	242	100	265	57.0
Native American	2	0.9	0	0	2	0.4
Other	2	0.9	0	0	2	0.4
Nationality						
American	207	92.8	0	0	207	44.5
Chinese	5	2.2	242	100	247	53.1
Mexican	3	1.3	0	0	3	0.6
Other	8	3.5	0	0	8	1.7
Education level						
Less than high school	1	0.4	1	0.4	2	0.4
High school graduate	32	14.3	6	2.5	38	8.2
Some college	50	22.4	3	1.2	53	11.4
Associate's degree	22	9.9	33	13.6	55	11.8
Bachelor's degree	81	36.3	167	69.0	248	53.3
Master's degree	27	12.1	32	13.2	59	12.7
Doctoral degree	6	2.7	0	0	6	1.3
Professional degree	4	1.8	0	0	4	0.9
Employment status						
Employed	176	78.9	229	94.6	405	87.1
Unemployed	23	10.3	2	0.8	25	5.4
Retired	10	4.5	9	3.7	19	4.1
Student	9	4.0	2	0.8	11	2.4
Other	5	2.2	0	0	5	1.1
Total	223		242		465	

Table 3. Demographics by experiment control: tight versus loose condition

Characteristic	Tight Condition		Loose Condition		Full Sample	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Country data collected						
U.S.	114	48.3	109	47.6	223	48
China	122	51.7	120	52.4	242	52
Gender						
Male	95	40.3	121	52.8	216	46.5
Female	137	58.1	107	46.7	244	52.5
Non-binary/Other	4	1.7	1	0.4	5	1.1
Age						
18-24	15	6.4	27	11.8	42	9.0
25-34	98	41.5	110	48.0	208	44.7
35-44	82	34.7	28	12.2	142	30.5
45-54	30	12.7	23	10.0	53	11.4
Over 54	11	4.7	29	12.7	20	4.3
Ethnicity						
White/Caucasian	76	32.2	73	31.9	149	32.0
Black/African American	17	7.2	9	3.9	26	5.6
Hispanic/Latino	7	3.0	14	6.1	21	4.5
Asian	135	57.2	130	56.8	265	57.0
Native American	1	0.4	1	0.4	2	0.4
Other	0	0	2	0.9	2	0.4
Nationality						
American	102	43.2	105	45.9	207	44.5
Chinese	126	53.4	121	52.8	247	53.1
Mexican	0	0	3	1.3	3	0.6
Other	8	3.4	0	0	8	1.7
Education level						
Less than high school	2	0.9	0	0	2	0.4
High school graduate	13	5.5	25	10.9	38	8.2
Some college	27	11.4	26	11.4	53	11.4
Associate's degree	30	12.7	25	10.9	55	11.8
Bachelor's degree	129	54.7	119	52.0	248	53.3
Master's degree	30	12.7	29	12.7	59	12.7
Doctoral degree	5	2.1	1	0.4	6	1.3
Professional degree	0	0	4	1.8	4	0.9
Employment status						
Employed	205	86.9	200	87.3	405	87.1
Unemployed	12	5.1	13	5.7	25	5.4
Retired	6	2.5	12	5.2	19	4.1
Student	8	3.4	4	1.8	11	2.4
Other	5	2.1	0	0	5	1.1
Total	236		229		465	

## Internal consistency

To assess the internal consistency of each measure, Cronbach's alpha was calculated. *Table 4* presents the Cronbach's alpha for each scale, both overall and separately for the U.S. and Chinese samples.

*Table 4. Internal consistency of measures with Cronbach's alpha*

Measure	Internal Consistency ( $\alpha$ )		
	Overall	U.S.	Chinese
Need to belong	0.82	0.85	0.74
Need for uniqueness	0.85	0.85	0.86
Self-construal (SC)	0.60	0.56	0.63
<i>Independent SC</i>	<i>0.62</i>	<i>0.70</i>	<i>0.54</i>
<i>Interdependent SC</i>	<i>0.67</i>	<i>0.64</i>	<i>0.68</i>
Global orientation	0.81	0.83	0.81
Tightness/Looseness	0.71	0.74	0.23
Tightness/Looseness Excluding item #4	0.79	0.79	0.49

Most measures demonstrated acceptable to good internal consistency ( $\alpha > .70$ ) in the overall sample and the U.S. sample. The need to belong scale ( $\alpha = .82$  overall, .85 U.S., .74 Chinese), the need for uniqueness scale ( $\alpha = .85$  overall, .85 U.S., .86 Chinese), and the global orientation scale ( $\alpha = .81$  overall, .83 U.S., .81 Chinese) showed good reliability across all samples. However, the self-construal scale showed lower reliability ( $\alpha = .60$  overall, .56 U.S., .63 Chinese), with the

independent ( $\alpha = .62$  overall) and interdependent ( $\alpha = .67$  overall) subscales also showing acceptable reliability.

The tightness/looseness scale showed adequate reliability in the overall sample ( $\alpha = .71$ ) and the U.S. sample ( $\alpha = .74$ ), but poor reliability in the Chinese sample ( $\alpha = .23$ ). Further analysis revealed that one item (i.e., item #4) was negatively correlated with the first principal component in the Chinese sample. After removing this item, the reliability improved but remained suboptimal ( $\alpha = .49$  for Chinese sample,  $\alpha = .79$  for U.S. sample). This suggests that while most measures performed adequately, there may be issues with the cross-cultural applicability of the self-construal and tightness/looseness scales, particularly in the Chinese sample.

Due to the unsatisfactory results with Cronbach's alpha, McDonald's omega ( $\omega$ ) was also calculated to better understand the scales' internal consistencies. Unlike Cronbach's alpha, omega does not assume tau-equivalence that there are equal factor loadings for all items (Dunn et al., 2014). It is suggested to provide a more robust and accurate assessment of reliability, especially for cross-cultural studies, multidimensional scales, or when item factor loadings are unequal. Omega is also less likely to over or underestimate reliability compared to alpha, especially when the assumptions of alpha are violated (Revelle & Zinbarg, 2009).

*Table 5* presents the omega of each scale, both overall and separately for the U.S. and Chinese samples. Overall, the internal reliability of most scales improved when calculated by omegas instead of alphas, although at a slight degree. The internal

consistency of the tightness/looseness scale is still unsatisfactory, despite a slight improvement (e.g.,  $\alpha = .49$  to  $\omega = .54$  in the Chinese sample).

*Table 5. Internal consistency of measures with McDonald's omega*

Measure	Internal Consistency ( $\omega$ )		
	Overall	U.S.	Chinese
Need to belong	0.82	0.86	0.76
Need for uniqueness	0.85	0.86	0.87
Self-construal (SC)	0.62	0.67	0.65
<i>Independent SC</i>	<i>0.63</i>	<i>0.71</i>	<i>0.56</i>
<i>Interdependent SC</i>	<i>0.70</i>	<i>0.68</i>	<i>0.70</i>
Global orientation	0.83	0.86	0.83
Tightness/Looseness	0.74	0.76	0.54
Tightness/Looseness Excluding item #4	0.79	0.79	0.50

The examination of both Cronbach's alpha and McDonald's omega adds confidence in interpreting the internal consistency of the scales and confirms the potential cross-cultural applicability issue of the self-construal and tightness/looseness scales.

### Correlations

The need to belong showed a moderate positive correlation with interdependent self-construal ( $r = .48$ ,  $p < .01$ ), suggesting that individuals who define themselves more in terms of relationships and group memberships tend to have a stronger need

to belong. This aligns with theoretical expectations, as interdependent self-construal emphasizes connectedness and harmony with others.

The need to belong showed weak negative correlations with both independent self-construal ( $r = -.06, p < .01$ ) and need for uniqueness ( $r = -.06, p < .01$ ). This indicates that individuals who view themselves as more independent and distinct from others tend to have slightly lower needs to belong. The negative correlation between need to belong and need for uniqueness is expected since they are two opposing needs.

The need for uniqueness was moderately positively correlated with independent self-construal ( $r = .46, p < .01$ ). This aligns with theoretical findings that the more autonomous and independent individuals tend to have a stronger desire for distinctiveness. Need for Uniqueness also showed a weak positive correlation with Interdependent Self-Construal ( $r = .01, p < .01$ ). although the correlation is very small.

Culture exposure showed a moderate positive correlation with Global Orientation ( $r = .33, p < .01$ ) and a weak negative correlation with tightness/looseness ( $r = -.14, p < .01$ ). This suggests that individuals with more cultural exposure tend to have higher global orientation and perceive their culture as slightly looser. Global orientation and tightness/looseness scale did not significantly correlation with any other scales.

Most variables were measured on a 1-5 Likert scale, except for Tightness/Looseness (1-6 Likert scale) and Culture Exposure (sum of 3 items on different scales, ranging from 3-11). The means and standard deviations indicate that responses were generally in the mid-range of the scales, with Global Orientation showing the least variability ( $SD = 0.56$ ) and Need for Uniqueness showing the most variability ( $SD = 0.96$ ). *Table 5* presents the descriptive statistics and correlations for the main variables.

Table 6. Descriptive statistics and correlations for study variables

Variable	<i>n</i>	<i>Max</i>	<i>Min</i>	<i>Med</i>	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6
1. Need to belong	465	5	1	3.10	3.08	0.73	–					
2. Need for uniqueness	465	5	1	3.25	3.14	0.96	-0.06**	–				
3. Interdependent self-construal	465	5	1.6	3.80	3.64	0.67	0.48**	0.01**	–			
4. Independent self-construal	465	5	2	3.71	3.70	0.59	-0.06**	0.46**	0.03*	–		
5. Global orientation	465	5	1.6	3.69	3.67	0.56	0.07	0.07	0.15	0.32	–	
6. Tightness looseness	465	5.8	1.8	4.33	4.27	0.68	0.23	0.07	0.31	0.24	0.11	–
7. Culture Exposure	465	11	3	5	5.148	2.11	-0.08	0.08	-0.05	0.03	0.33**	-0.14**

\* $p < .05$ . \*\* $p < .01$ .

Note: Need to belong, need for uniqueness, interdependent self-construal, independent self-construal, and global orientation measured on 1-5 Likert scale; Tightness looseness on 1-6 scale. All scales aggregated to item means. Culture Exposure is the sum of 3 items (two 4-point, one 3-point scales).

## Frequency distribution with data visualization

The frequency distribution of responses for each item across all participants was examined to detect any unusual patterns or potential issues. A heat map of the frequency distributions was created with items on the y-axis and Likert-scale response options on the x-axis. The percentage of responses was represented by the color intensity. Darker shades indicate higher percentages, while lighter shades indicate lower percentages. The six items measuring tightness and looseness uses a 6-point Likert-scale, while the remaining items all use a 5-point Likert-scale.

The heat map is displayed in *figure 5*. Overall, each item-response frequency ranges from 0.43% to 53.12%. Most items exhibit a similar distribution of responses, with the highest percentages concentrated in the middle to end response options. There is no indication of any unusual response pattern.

The frequency ranges for the Chinese and US groups were examined separately for any cross-cultural differences (*Figure 6*). The frequency range for the U.S. Sample is 0.89% to 59.64%, and for the Chinese sample is 0.41% to 61.16%. No significant difference between the two countries on response frequencies was observed.

Figure 5. Heat map of frequency distribution of responses for each item across all participants

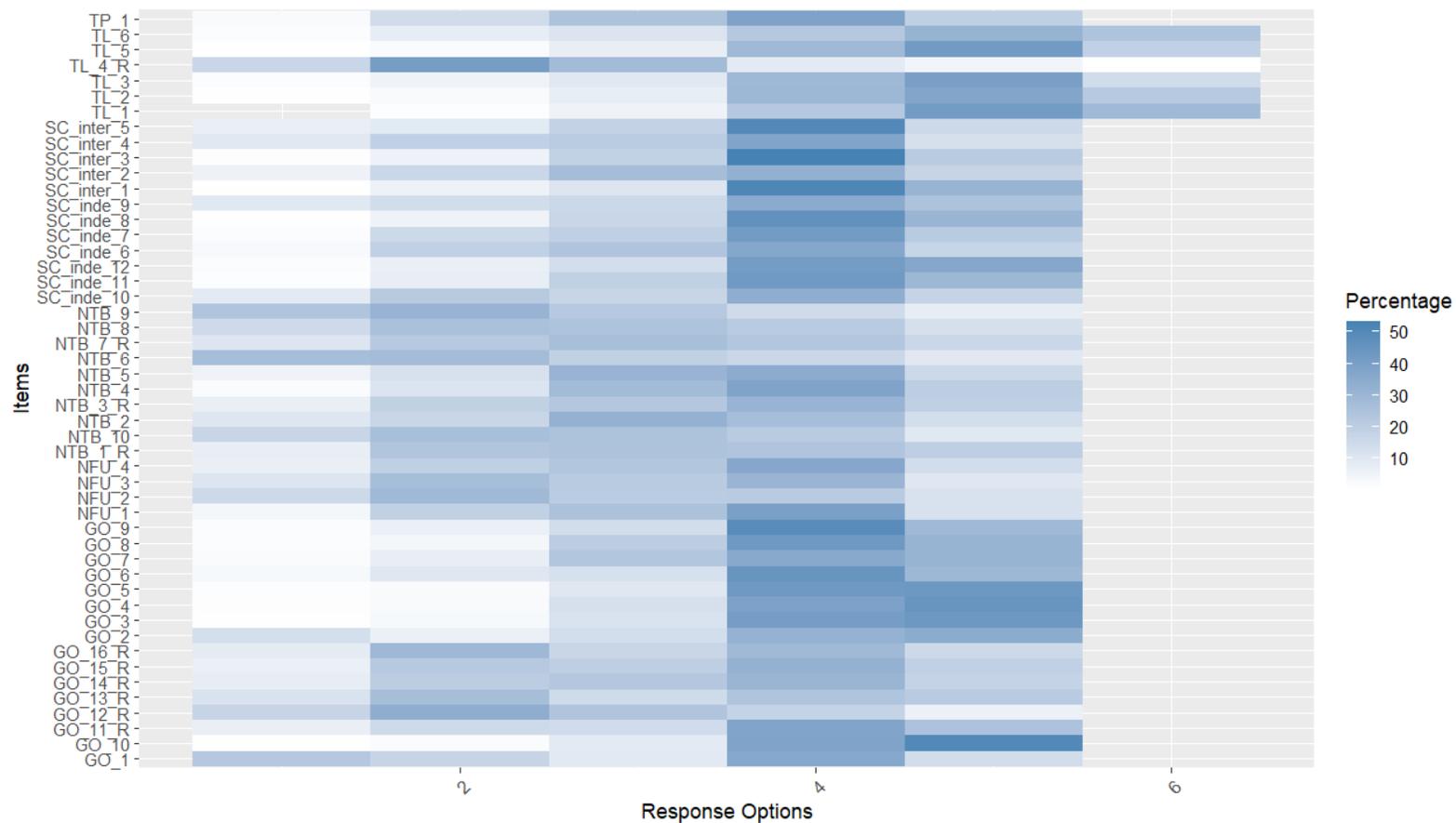
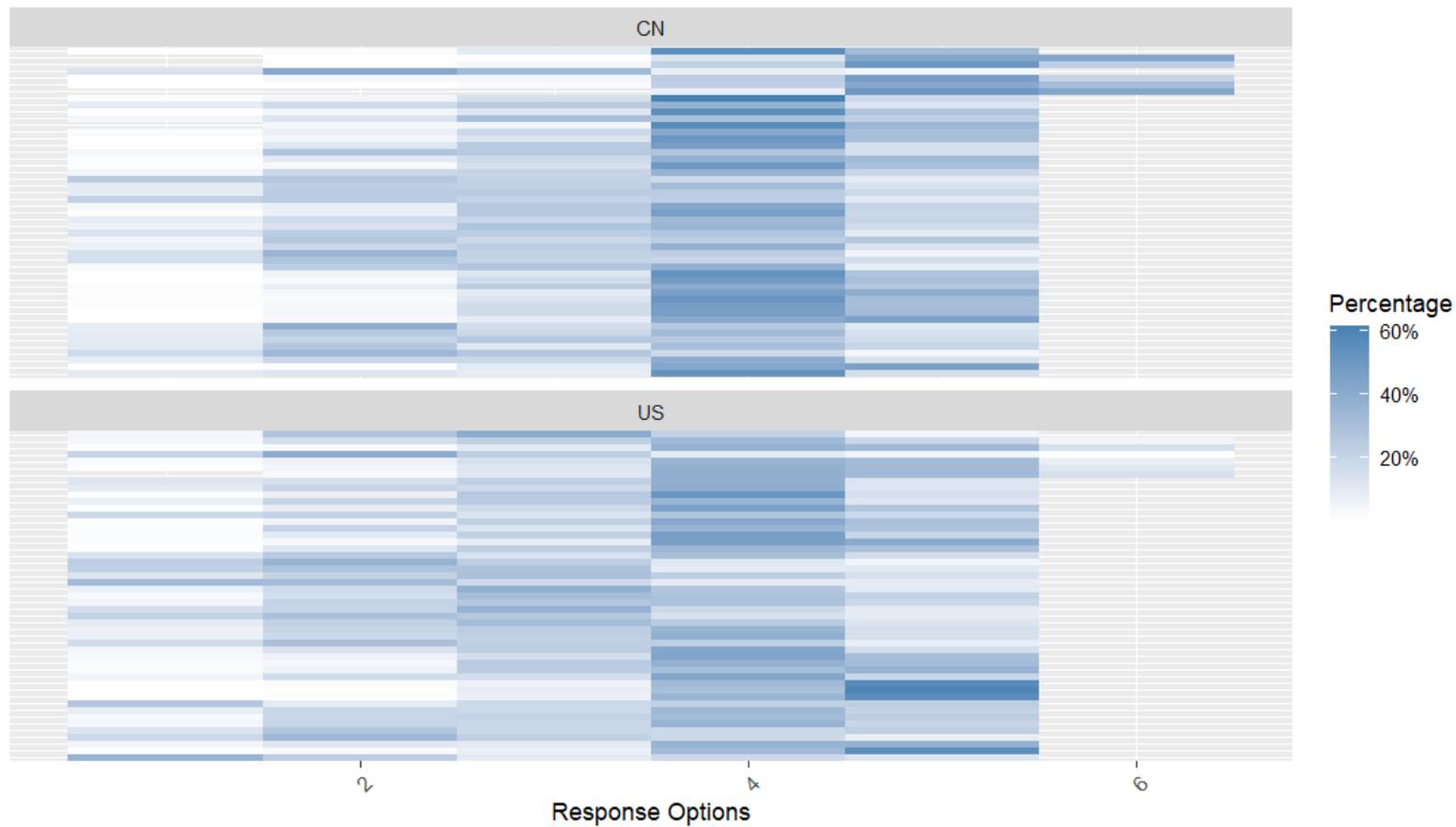


Figure 6. Comparison of heat map of frequency distribution of responses for each item between U.S. and Chinese samples



## Results on hypotheses

Overall, the experimental manipulation of culture tightness-looseness did not yield the expected effects on optimal distinctiveness needs (H1 and H2). The predicted relationships between optimal distinctiveness motives and group identification were not statistically significant (H3 and H4). Most of the proposed moderating effects, including group size, independent and interdependent self-construal, and global orientation, were not supported (H5-H9). However, a marginally significant interaction was found between need for uniqueness and group size on group identification (H5). The most notable findings emerged from the analysis of the tightness/looseness culture match (H10). Significant interactions were shown between tightness/looseness and both need for uniqueness and need to belong with T/L match by country index. These results suggest that while many of the initial hypotheses were not supported, the study revealed important insights into the role of tightness/looseness match in shaping optimal distinctiveness motives. The next sections will present detailed results on each hypothesis. *Table 6* presents a summary overview of the hypotheses tested, the analysis used, and the key findings for each hypothesis.

Table 7. Summary of results on all hypotheses

Hypothesis	Analysis Method	Results	Supported?
1 Individuals in a tight culture condition will have a higher NFU compared to those in a loose condition	Independent samples t-test	No significant difference in NFU between tight (M = 0.84, SD = 0.65) and loose (M = 0.79, SD = 0.61) conditions, $t(453.17) = 1.02, p = .311$	Not supported
2 Individuals in a loose culture condition will have a higher NTB compared to those in a tight condition	Independent samples t-test	No significant difference in NTB between tight (M = 0.57, SD = 0.46) and loose (M = 0.61, SD = 0.48) conditions, $t(460.53) = -0.91, p = .363$	Not supported
3 NTB will lead to higher group identification	Logistic regression	Positive but non-significant effect (B = 0.23, SE = 0.16, $z = 1.48, p = 0.14$ )	Not supported
4 NFU will lead to lower group identification	Logistic regression	Negative but non-significant effect (B = -0.05, SE = 0.12, $z = -0.42, p = 0.67$ )	Not supported
5 Group size will moderate the relationship between NFU and group identification	Moderated logistic regression	Marginally significant interaction (B = 0.43, SE = 0.24, $z = 1.81, p = 0.07$ )	Partially supported
6 Group size will moderate the relationship between NTB and group identification	Moderated logistic regression	Non-significant interaction (B = -0.21, SE = 0.31, $z = -0.66, p = 0.51$ )	Not supported
7 Interdependent self-construal will moderate relationship between culture conditions and NTB	Moderated multiple regression	Non-significant interaction (B = -0.07, SE = 0.09, $t = -0.76, p = 0.45$ )	Not supported
8 Independent self-construal will moderate relationship between culture conditions and NFU	Moderated multiple regression	Non-significant interaction (B = -0.01, SE = 0.14, $t = -0.07, p = 0.95$ )	Not supported
9 Global orientation will moderate the relationship between culture conditions and optimal distinctiveness needs	Moderated multiple regression	Non-significant interactions for both NTB and NFU	Not supported
10 T/L match will moderate the relationship between culture conditions and optimal distinctiveness motives	Moderated multiple regression	Significant interactions of T/L match by country with NTB (B = 0.68, SE = 0.13, $t = 5.15, p < 0.001$ )	Supported

Note: NFU = Need for Uniqueness, NTB = Need to Belong, T/L match = Tightness/looseness match

## Hypotheses 1 and 2

The Shapiro-Wilk test and Bartlett's test were conducted to check the assumptions of normality and homogeneity of variances for the independent samples t-tests.

The Shapiro-Wilk test indicated significant deviations from normality for the absolute difference in need for belonging and need for uniqueness in both tight ( $W=0.91, 0.96$ , respectively,  $p < .001$ ) and loose conditions ( $W=0.93, 0.93$ , respectively,  $p < .001$ ). Bartlett's test indicated that the assumption of homogeneity of variances between the tight and loose conditions was met for both need to belong ( $K\text{-squared} = 0.43, p = .512$ ) and need for uniqueness ( $K\text{-squared} = 3.20, p = .074$ ).

To test hypothesis 1, an independent samples t-test was conducted to compare the absolute difference in need for uniqueness (NFU) between tight and loose culture conditions. Results showed no significant difference in NFU scores between the tight condition ( $M = 0.84, SD = 0.65$ ) and the loose condition ( $M = 0.79, SD = 0.61$ ),  $t(453.17) = 1.02, p = .311, 95\% \text{ CI } [-0.05, 0.14]$ . The findings do not support Hypothesis 1, which stated that individuals in a tight culture condition will have a higher need to be different compared to those in a loose condition

To test hypothesis 2, an independent samples t-test was conducted to compare the absolute difference in need to belong (NTB) between tight and loose conditions. The results showed no significant difference in NTB scores between the tight condition ( $M = 0.57, SD = 0.46$ ) and the loose condition ( $M = 0.61, SD = 0.48$ ),

$t(460.53) = -0.91, p = .363, 95\% \text{ CI } [-0.12, 0.04]$ . These findings do not support Hypothesis 2, which proposed that individuals in a loose culture condition will have a higher need to belong compared to those in a tight condition.

Since the normality assumption is violated, the Mann-Whitney U test was conducted as an alternative since it does not assume normality and is more robust to data that deviates from this assumption. The Mann-Whitney U test confirmed these results and showed no significant difference in the absolute difference in need for uniqueness ( $W=29076, p=0.16$ ) and need to belong ( $W = 25810, p = 0.40$ ) between the culture conditions.

Therefore, hypotheses 1 and 2 are not supported. Primed cultural conditions did not lead to a significant difference in the need for uniqueness and need to belong.

Additional independent samples t-tests were conducted to compare the actual levels of need to belong and need for uniqueness (rather than the absolute difference from the mean between tight and loose conditions). Results indicate that participants in the tight condition ( $M = 3.14, SD = 0.88$ ) did not have a higher overall need for uniqueness compared to those in the loose condition ( $M = 3.13, SD = 0.87$ ),  $t(462.8) = 0.11, p = .913, 95\% \text{ CI } [-0.17, 0.19]$ ; and those in the loose condition ( $M=3.10, SD=0.63$ ) did not have a higher overall need to belong compared to those in the tight condition ( $M=3.05, SD=0.62$ ),  $t(459.63) = -0.71, p = 0.48, 95\% \text{ CI } [-0.18, 0.09]$ . A paired-samples t-test was also conducted to compare the need to

belong mean to the need for uniqueness mean across all participants, however results indicated no difference  $t(464)=-1.10$ ,  $p=0.27$ , 95% CI [-0.18, 0.05].

### Hypotheses 3 and 4

Logistic regression was conducted to test the influence of the need to belong and the need for uniqueness on group identification (Hypotheses 3 and 4).

Results show a positive coefficient for need to belong ( $B = 0.23$ ,  $SE = 0.16$ ), suggesting a positive relationship between need to belong and group identification. However, this effect is not statistically significant ( $z = 1.48$ ,  $p = 0.14$ ). The model's intercept ( $B = 0.61$ ,  $SE = 0.48$ ) was not significantly different from zero ( $p = 0.21$ ). The inclusion of NTB as a predictor did not significantly reduce the deviance of the model compared to the null model with only the intercept ( $\chi^2(1) = 2.18$ ,  $p > 0.05$ ,  $AIC=483.35$ ). Results indicate there is no sufficient evidence to support that need to belong predicts stronger group identification. Hypothesis 3 was not fully supported.

Results show a negative coefficient for need for uniqueness ( $B = -0.05$ ,  $SE = 0.12$ ), suggesting a negative relationship between need for uniqueness and group identification. However, this effect is not statistically significant ( $z = -0.42$ ,  $p = 0.67$ ). The model's intercept ( $B = 1.46367$ ,  $SE = 0.39015$ ) was statistically significant ( $p = 0.000176$ ), meaning that the log odds of high group identification are significantly different from zero when NFU is zero. This indicates a baseline tendency towards group identification without considering the effect of NFU. The

inclusion of NFU as a predictor did not significantly reduce the deviance of the model compared to the null model with only the intercept ( $\chi^2(1) = 0.17, p > 0.05, AIC=485.36$ ). Results indicate there is no sufficient evidence to support that need for uniqueness predicts lower group identification. Hypothesis 4 was not fully supported.

In summary, while there is evidence supporting the predicted direction of hypotheses 3 and 4, the effects were not statistically significant.

### Hypotheses 5 and 6

Moderated logistic regression analyses were conducted to examine whether group size moderates the relationship between need for uniqueness/need to belong and group identification.

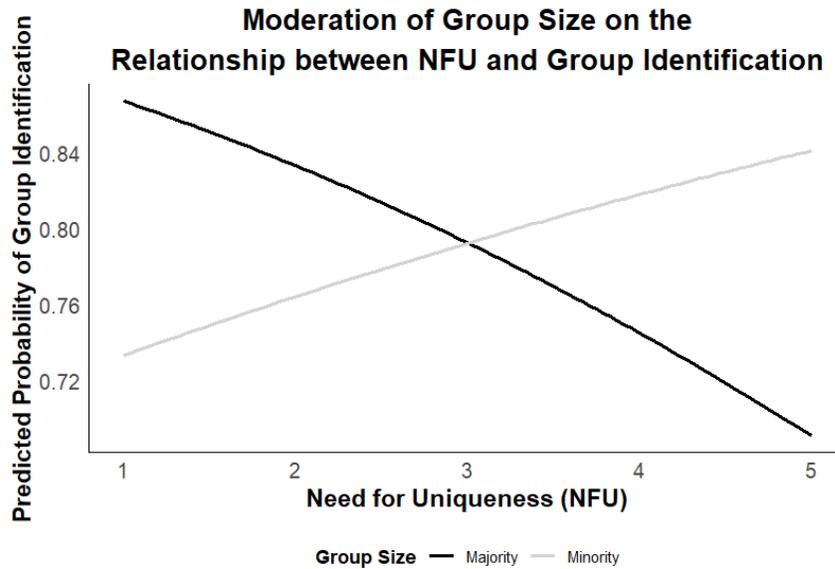
The results showed a marginally significant main effect of NFU ( $B = -0.70, SE = 0.38, z = -1.84, p = 0.07$ ) and a marginally significant main effect of group size ( $B = -1.30, SE = 0.79, z = -1.65, p = 0.10$ ). The interaction term between NFU and group size was also marginally significant ( $B = 0.43, SE = 0.24, z = 1.81, p = 0.07$ ).

Results indicate that the need for uniqueness negatively relates to group identification, and that group identification is lower for minority group compared to the majority group. Results support the moderating effect of group size on the relationship between need for uniqueness and group identification (Figure X).

However, the model's fit, assessed by the reduction in deviance from the null model ( $\chi^2(3) = 3.56, p > 0.05, AIC=485.97$ ), does not show a substantial improvement

over the model without the interaction term. Therefore, hypothesis 5 is partially supported.

Figure 7. Moderation effect of group size



Note. The y-axis shows the predicted probabilities of high group identification for each group size (majority and minority) based on the moderated logistic regression model.

In testing hypothesis 6, results showed no significant main effects of NTB ( $B = 0.54$ ,  $SE = 0.49$ ,  $z = 1.10$ ,  $p = 0.27$ ) or group size ( $B = 0.70$ ,  $SE = 0.97$ ,  $z = 0.72$ ,  $p = 0.47$ ). The interaction term between NTB and group size was also not significant ( $B = -0.21$ ,  $SE = 0.31$ ,  $z = -0.66$ ,  $p = 0.51$ ). The model's fit ( $\chi^2(3) = 2.73$ ,  $p > 0.05$ ,  $AIC=486.8$ ) did not indicate a substantial improvement over the model without the interaction term. The relationship between need to belong and group identification does not significantly differ based on group size. Hypothesis 6 is not supported.

## Hypotheses 7 and 8

Moderated multiple regression analyses were conducted to examine the hypotheses that interdependent self-construal/independent self-construal moderate the relationship between tight/loose culture and optimal distinctiveness motives. The moderating variables (independent self-construal and interdependent self-construal) were centered to reduce multicollinearity.

Results showed no significant main effect of tight/loose culture on NFU ( $B = -0.01$ ,  $SE = 0.09$ ,  $t = -0.12$ ,  $p = 0.91$ ), no significant main effect of interdependent self-construal on NFU ( $B = 0.10$ ,  $SE = 0.09$ ,  $t = 1.00$ ,  $p = 0.32$ ), and the interaction term between tight/loose culture and interdependent self-construal was also not significant ( $B = -0.17$ ,  $SE = 0.13$ ,  $t = -1.30$ ,  $p = 0.19$ ). Fit statistic ( $R^2_{adj} = -0.003$ ) indicates the model explains little to no variance in need for uniqueness. Therefore, interdependent self-construal does not moderate the relationship between tight/loose culture and need for uniqueness.

The moderated multiple regression model with NTB as the outcome variable showed a significant main effect of interdependent self-construal ( $B = 0.56$ ,  $SE = 0.06$ ,  $t = 8.74$ ,  $p < 0.001$ ), indicating that higher levels of interdependent self-construal are associated with higher levels of need to belong. However, the main effect of tight/loose culture was not significant ( $B = 0.01$ ,  $SE = 0.06$ ,  $t = 0.19$ ,  $p = 0.85$ ). The interaction term between tight/loose culture and interdependent self-construal was also not significant ( $B = -0.07$ ,  $SE = 0.09$ ,  $t = -0.76$ ,  $p = 0.45$ ). Fit

statistic ( $R^2_{adj} = 0.2287$ ) indicates that the model explains approximately 22.87% of the variance in need to belong. However, this is primarily attributed to the main effect of interdependent self-construal rather than the moderation effect.

In terms of independent self-construal, results showed a significant main effect of independent self-construal ( $B = 0.76$ ,  $SE = 0.10$ ,  $t = 7.96$ ,  $p < 0.001$ ), indicating that higher levels of independent self-construal are associated with higher levels of need for uniqueness. However, the main effect of tight/loose culture was not significant ( $B = -0.03$ ,  $SE = 0.08$ ,  $t = -0.38$ ,  $p = 0.71$ ). The interaction term between tight/loose culture and independent self-construal was also not significant ( $B = -0.01$ ,  $SE = 0.14$ ,  $t = -0.07$ ,  $p = 0.95$ ). With need to belong as the outcome variable, results show no significant main effects of culture ( $B = 0.05$ ,  $SE = 0.07$ ,  $t = 0.74$ ,  $p = 0.46$ ) or independent self-construal ( $B = -0.04$ ,  $SE = 0.08$ ,  $t = -0.49$ ,  $p = 0.63$ ). The interaction term between tight/loose culture and independent self-construal was also not significant ( $B = -0.07$ ,  $SE = 0.12$ ,  $t = -0.61$ ,  $p = 0.54$ ). The model explains little to no variance in need to belong ( $R^2_{adj} = -0.0009$ ).

In summary, results did not support that independent and interdependent self-construal moderate the relationship between culture condition and optimal distinctiveness motives, failing to support hypotheses 7 and 8. However, results do show that a higher level of interdependent self-construal is associated with a higher level of need to belong, and a higher level of independent self-construal is associated with a higher level of need for uniqueness, but the relationships are independent of the tight/loose culture context.

## Hypothesis 9

Results showed a marginally significant main effect of global orientation on NFU ( $B = 0.19$ ,  $SE = 0.11$ ,  $t = 1.72$ ,  $p = 0.09$ ), suggesting that higher levels of global orientation are associated with higher levels of need for uniqueness. However, the main effect of culture conditions was not significant ( $B = -0.01$ ,  $SE = 0.09$ ,  $t = -0.16$ ,  $p = 0.88$ ). The interaction term between culture conditions and global orientation was also not significant ( $B = -0.15$ ,  $SE = 0.16$ ,  $t = -0.92$ ,  $p = 0.36$ ). Fit statistic ( $R^2_{adj} = 0.0003$ ) indicates that the model explains little to no variance in need for uniqueness.

Regarding the need to belong, results showed no significant main effects of culture conditions ( $B = 0.05$ ,  $SE = 0.07$ ,  $t = 0.67$ ,  $p = 0.51$ ) or global orientation ( $B = 0.05$ ,  $SE = 0.08$ ,  $t = 0.64$ ,  $p = 0.53$ ) on need to belong. The interaction term between culture conditions and global orientation was also not significant ( $B = 0.08$ ,  $SE = 0.12$ ,  $t = 0.62$ ,  $p = 0.54$ ).

As a result, global orientation does not moderate the relationship between culture conditions and need for uniqueness/need to belong. There is a marginally significant positive association between global orientation and the need for uniqueness, regardless of culture conditions.

## Hypothesis 10

Hypothesis 10 explores the alignment between an individual's tightness/looseness and the situation's tightness/looseness (T/L match). T/L match was operationalized

in two approaches: 1). comparing the individual's response on the tightness/looseness scale to the induced experiment tight/loose condition (T/L match index); and 2). comparing the individual's home country's tightness/looseness to the induced experiment tight/loose condition (T/L match index by country).

Results from the moderated multiple regression analyses on NTB showed a significant main effect on low ( $B = -0.55$ ,  $SE = 0.17$ ,  $t = -3.30$ ,  $p = 0.001$ ) and medium ( $B = -0.24$ ,  $SE = 0.15$ ,  $t = -1.66$ ,  $p = 0.09$ ) levels of T/L match. This suggests that participants with low and medium T/L match tend to have lower levels of need to belong compared to those with high match. The main effect of culture conditions was not significant ( $B = 0.09$ ,  $SE = 0.08$ ,  $t = 1.19$ ,  $p = 0.23$ ,  $R^2_{adj} = 0.02$ ).

When analyzing the T/L match index as the moderator, results from the moderated multiple regression analyses on NFU did not show significant main effects of culture conditions ( $B = 0.08$ ,  $SE = 0.10$ ,  $t = 0.78$ ,  $p = 0.44$ ) and T/L match levels ( $B = 0.31$ ,  $SE = 0.20$ ,  $t = 1.57$ ,  $p = 0.12$ ). Due to singularities, the analysis was unable to estimate the interaction effects between culture conditions and T/L match.

Results only showed a significant main effect of T/L match on need to belong, with low and medium match associated with lower levels of need to belong compared to high match.

When analyzing the T/L match index by country as the moderator, results from the moderated multiple regression analysis with NFU as the outcome showed a significant interaction effect between culture conditions and T/L match by country ( $B = -0.38$ ,  $SE = 0.18$ ,  $t = -2.13$ ,  $p = 0.03$ ). The main effect of culture conditions was not significant ( $B = 0.18$ ,  $SE = 0.13$ ,  $t = 1.43$ ,  $p = 0.15$ ), but the main effect of T/L match by country was marginally significant ( $B = 0.21$ ,  $SE = 0.12$ ,  $t = 1.65$ ,  $p = 0.10$ ). Participants with low T/L match by country index tended to have higher levels of need for uniqueness compared to those with a high match under the tight condition. This model explains a small proportion of the variance in need for uniqueness ( $R^2_{adj} = 0.003$ ).

Results from the moderated multiple regression analyses on NTB showed a significant interaction effect between culture conditions and T/L match by country index ( $B = 0.68$ ,  $SE = 0.13$ ,  $t = 5.15$ ,  $p < 0.001$ ). The main effect of culture conditions was significant ( $B = -0.29$ ,  $SE = 0.09$ ,  $t = -3.13$ ,  $p = 0.001$ ), indicating that participants in the loose condition had lower levels of need to belong compared to those in the tight condition. The main effect of T/L match by country index was also significant ( $B = -0.37$ ,  $SE = 0.09$ ,  $t = -3.96$ ,  $p < 0.001$ ), suggesting that participants with low match had lower levels of need to belong compared to those with high match under the tight condition. This model explains a modest proportion of the variance in need to belong ( $R^2_{adj} = 0.0498$ ).

Both regressions showed significant interaction effect, indicating the relationship between culture conditions and optimal distinctiveness needs differ depending on

the level of match between one's home country's tightness/looseness and the situational condition. Results indicated that T/L match by country index moderates the relationship between culture conditions and optimal distinctiveness motives, supporting hypothesis 10.

To further explore the significant interaction effects, simple slopes analysis was conducted. While there were no significant differences in NFU based on culture conditions or T/L match by country index, the analysis revealed significant differences in NTB.

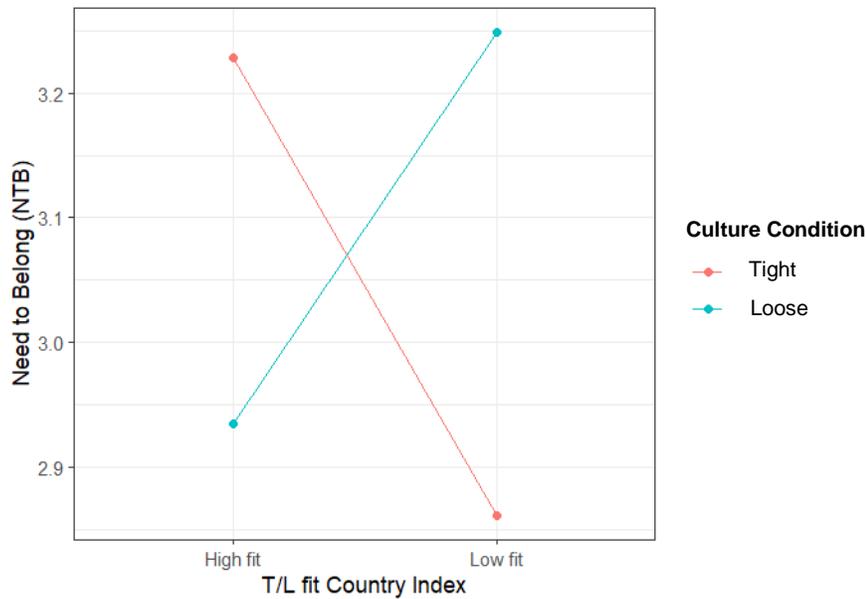
Significant differences between the tight and loose conditions at both levels of T/L match by country were found when examining the effect of culture conditions on NTB. When there is a high match, participants in the tight condition had significantly higher levels of NTB compared to those in the loose condition (estimate = 0.29,  $p < 0.0001$ ). When there is a low match, participants in the tight condition had significantly lower levels of NTB compared to those in the loose condition (estimate = -0.39,  $p < 0.0001$ ).

The mean tightness/looseness scores of U.S. and China were computed, and their tightness/looseness level is consistent with general research findings that China is a tighter country ( $M=4.62$ ) compared to the U.S ( $M=3.89$ ; Gelfand et. al., 2011).

In examining the effect of T/L by country index on NTB, there were significant differences between high and low match at both levels of culture conditions. Under tight condition, participants with high match had significantly higher levels of NTB

compared to those with low match (estimate = 0.37,  $p < 0.0001$ ). Under a loose condition, participants with high match had significantly lower levels of NTB compared to those with low match (estimate = -0.31,  $p < 0.0001$ ). The interaction plot illustrates how the relationship between culture conditions and NTB varies depending on the level of T/L match by country index (*figure 8*).

*Figure 8. Moderation effect of T/L match by country index on the relationship between culture conditions and need to belong*



## Cross-cultural comparisons

Additional independent t-tests were conducted to test hypotheses 1 and 2 by country, that whether culture condition (tight or loose) impacts optimal distinctiveness needs in the U.S. and Chinese samples respectively.

In the Chinese sample, results showed a marginally significant difference on NTB between tight and loose conditions. The mean absolute difference in NTB for the

tight condition ( $M = 0.47$ ,  $SD = 0.36$ ) was lower than the mean absolute difference in NTB for the loose condition ( $M = 0.56$ ,  $SD = 0.45$ ),  $t(229.59) = -1.82$ ,  $p = 0.07$ , 95% CI [-0.19, 0.01]. The magnitude of difference in NTB tends to be higher in loose conditions. However, no significant difference was found in the absolute difference of need to be different (NFU) between the two conditions ( $t(237.84) = 1.63$ ,  $p = 0.10$ , 95% CI [-0.02, 0.23]).

There were no significant differences in the U.S. sample in the absolute difference of NTB ( $t(220.13) = 0.42$ ,  $p = 0.68$ , 95% CI [-0.09, 0.15]) and NFU ( $t(212.4) = -0.20$ ,  $p = 0.84$ , 95% CI [-0.16, 0.13]) between tight and loose conditions.

In sum, the impact of cultural tightness-looseness on optimal distinctiveness needs, particularly the need to belong, may be more pronounced within the Chinese population compared to the U.S. population.

## Chapter 7 Discussion

### Main findings

This study investigated the interplay between cultural tightness/looseness, optimal distinctiveness motives, and group identification, exploring the moderating roles of self-construal, global orientation, group size and cultural match. The findings provide insights into these relationships, although many of the initial hypotheses were not supported.

Contrary to the expectations, results did not show significant differences in the optimal distinctiveness motives (need for uniqueness and need to belong) between tight and loose culture conditions (hypothesis 1 and 2). Unfortunately, the experimental manipulation did not work as expected. The relationships between optimal distinctiveness motives and group identification (Hypotheses 3 and 4) were not statistically significant, although the directions of the relationships aligned with the predictions. This indicates that while need for uniqueness and need to belong may influence group identification tendencies, their effects might be more subtle and context dependent.

The examination of group size as a moderator (Hypotheses 5 and 6) showed that the relationship between need for uniqueness and group identification was influenced by group size. There was marginal support on the moderating effect of group size on the relationship between need for uniqueness and group identification. The negative relationship between need for uniqueness and group

identification was more pronounced in minority groups compared to majority groups. For individuals in minority groups, as their need for uniqueness increased, their level of group identification tended to decrease more compared to those in majority groups. Minority group members might already feel distinct due to their group's relatively small size. If they also have a high need for uniqueness, identifying strongly with the minority group might not satisfy their need to be different, as they're already part of a distinctive group. Smaller groups may be harder for members to further differentiate themselves through subgroup differentiation, leading to a lower group identification. Results did not support the moderating effect on the relationship between the need to belong and group identification.

Contrary to hypotheses 7 and 8, neither independent nor interdependent self-construal moderated the relationship between cultural tightness-looseness and optimal distinctiveness motives. However, results showed main effects indicating that higher levels of interdependent self-construal were associated with higher need to belong, and higher levels of independent self-construal were associated with higher need for uniqueness. These findings suggest that one's self-construal may directly influence optimal distinctiveness motives, regardless of the cultural context.

Global orientation (Hypothesis 9) did not moderate the relationship between culture conditions and optimal distinctiveness motives as predicted. However, there was a marginally significant positive association between global orientation and need for

uniqueness. It is likely that individuals with a higher need for uniqueness may be more open to exploration and new experiences, developing a more global mindset. It is also possible that a more open attitude may enhance one's individuality, leading to a higher need for uniqueness.

The most interesting findings came from the examination of T/L match (hypothesis 10). The results for this hypothesis were mixed and depended on how T/L match was operationalized. The T/L match index comparing the alignment between participants' home country tightness/looseness with the experimental condition showed significant interactions between culture conditions and T/L match. Under tight conditions, individuals with high T/L match showed significantly higher levels of need to belong compared to those with low fit. Under loose conditions, individuals with high T/L match showed significantly lower levels of need to belong compared to those with low fit.

This suggests that the impact of culture tightness-looseness on one's need to belong depends on how well an individual's cultural background aligns with the current cultural context. In tight cultural conditions, individuals from tight cultures (high fit) showed a stronger need to belong, indicating that when the situational norms match one's cultural background, it may activate or enhance the need for social connection and group membership. When individuals encounter cultural norms similar to their background, they might feel more comfortable expressing needs that align with those norms. Therefore, we saw a stronger expression of the need to belong as tight cultures emphasize group cohesion and conformity.

Interestingly, the pattern reversed in loose cultural conditions, that individuals from loose cultures (high fit) showed a lower need to belong while individuals from tight cultures (low fit) showed a higher need to belong. In loose situations, those accustomed to it might feel less pressured to fit in, while those from tighter cultures might experience a heightened need for social connection in response to the unfamiliar, looser norms. Low culture match might induce stress or discomfort, and for those from tight cultures in loose situations, strengthening social bonds and increasing the need to belong might be a coping strategy. These findings indicate that cultural match plays a key role in how individuals experience and express their need to belong in different cultural settings.

Results on the other T/L match index that is based on individual responses to the tightness/looseness scale were inconclusive due to statistical issues, particularly singularities in the model that did not allow an estimation of the interaction effects. This might be due to the measurement issues of the individual-level tightness/looseness scale, which will be discussed in detail in latter sections.

In summary, most of the initial hypotheses were not supported by the data, with only partial support for hypothesis 5 and mixed results for hypothesis 10. These outcomes highlight the complexity of cultural influences on optimal distinctiveness processes and suggest the need for further theoretical refinement and methodological improvements in this area of research.

## The ineffectiveness of culture priming

This study failed to find differences in optimal distinctiveness motives between tight and loose culture conditions. This study primed culture tightness-looseness through cognitive manipulations and linguistic instructions. Participants in the tight culture condition were exposed to language emphasizing strict adherence to rules and clear expectations, while those in the loose culture condition were exposed to language emphasizing flexibility and individual expression. Additionally, the tight condition instructions were structured with numbered and bulleted formats to reinforce the perception of rules and orders associated with tight cultures. Despite these carefully designed manipulations, which showed efficacy in our pilot study (N=30), the main study failed to produce significant differences in optimal distinctiveness needs between the tight and loose conditions.

The study utilized semantic priming, which exposes participants to words or concepts related to the target construct. Research has found semantic priming generally reliable for short-term cognitive effects (Lucas, 2000). Although the culture priming worked well and showed intended effects in the pilot study, the manipulations may not be sensitive and robust enough to bring out measurable changes in the main study. Meta-analytical studies summarize that the effect sizes of priming studies tend to be smaller than expected, usually from small to moderate ( $r = 0.1 - 0.3$ ; Lakens, 2017; Weingarten et. al., 2016). The brief exposure to tight or loose experimental manipulation may be insufficient to cause changes in one's ingrained cultural norms and values. As it is often difficult for brief interventions to

produce significant changes on complex psychological constructs (Yeager & Walton, 2011).

In addition to the strength and duration of priming, contextual factors may also play a role. The online survey setting may have impacted the ecological validity of the culture primes (Schmuckler, 2001). Tightness/looseness is often experienced in real-world contexts with actual consequences, which may be difficult to replicate in experimental conditions (Gelfand et al., 2011). In a large-scale replication project of social priming effects, although researchers did not find lab versus online experiment conditions influencing priming effect magnitudes, they emphasized the importance of identifying moderators and boundary conditions (Klein et. al., 2014).

The individual characteristic and cultural background of the participants may also influence their responsiveness to the priming. For instance, if participants were primarily from one cultural context, they might be less susceptible to primes of the opposite cultural orientation (Hong et al., 2000). However, this is less likely the case in the current study, since the sample consisted of almost equal representation of individuals from a tighter culture (China) and a looser culture (the U.S.).

The replicability and robustness of priming effects in experimental studies have raised growing concerns in the field (Cesario, 2014). Known as the “replication crisis”, researchers found many well-known priming effects failed to replicate in new studies (Doyen et al., 2012). Known as the “file drawer problem”, publication bias may have also inflated the perceived robustness of priming effects, with

insignificant results often going unpublished (Rosenthal, 1979). While cognitive manipulations through priming do have effects, they are often weak, context-dependent, and less robust than initially expected (Molden, 2014). Therefore, the ineffectiveness of the priming effect in the current study may be due to the genuine fragility of such effects.

To enhance priming effects, future studies with priming manipulations should utilize more rigorous methods, larger sample sizes, and a stronger theoretical foundation to support the priming mechanisms. Researchers may also consider innovative ways of priming with the assistance of technology, such as through immersive virtual reality experiences or longitudinal designs that allow for more prolonged exposure to targeted cultural norms.

However, it is necessary to consider other explanations beyond methodological limitations. Results from the pilot study showed that the priming manipulation was successful in activating the intended cultural context. The construct of optimal distinctiveness might be too distal from cultural tightness/looseness to be impacted by the brief priming. While some aspects of culture may be more readily activated through priming, some such as tightness/looseness may be more ingrained and resistant to short-term influences. It is plausible that the lack of findings is due to theory misspecification rather than weaknesses in priming methodology. More malleable traits or cultural concepts may be more susceptible to the priming effects observed in the pilot study. Future studies could explore a broader range of outcome variables, both proximal and distal, to better examine the influence of

cultural priming. Longitudinal designs can also be helpful in capturing any delayed effects of priming on more stable psychological constructs.

## Measurement of optimal distinctiveness

Another reason for the lack of significant findings in this study may be due to the measurement of optimal distinctiveness, that the items may not be sensitive and robust enough to capture changes in optimal distinctiveness needs. While the theory of optimal distinctiveness has received much attention and research in recent years, it is still challenging to adequately measure optimal distinctiveness. The center piece of the theory concerns the balancing of the two competing social needs, the need to belong and the need for uniqueness (Brewer, 1991). This optimal balance is highly context-dependent and varies across individuals and situations (Leonardelli & Brewer, 2001). The dynamic interplay makes it difficult to quantify and operationalize the extent of the “optimal balance” under different situations. Therefore, it has been challenging to capture optimal distinctiveness in a single, straightforward measure that is sensitive to contextual factors. Understandably, there is not yet a valid and standardized measure of optimal distinctiveness.

Alternatively, researchers have used various approaches to measure optimal distinctiveness. The most common approach is to measure the need to belong and the need for uniqueness separately with existing measures as in the current study (Sheldon & Bettencourt, 2002). However, this approach is unable to adequately capture the dynamic balance between these needs that is central to this theory.

While the scales measuring the two needs are robust and valid as stand-alone scales, they may not carry the same psychometrical properties in measuring the combined construct of optimal distinctiveness. Optimal distinctiveness is a complex and dynamic construct that is more than simply the combination of need to belong and need for uniqueness. This approach of using separate scales to measure the two needs may be assessing the more static personal traits and preferences, rather than the dynamic, context-dependent aspects of optimal distinctiveness. The items are worded in a way that may have prompted participants to respond based on their overall self-concept and general tendencies instead of the immediate, situation-specific experiences. This may wash out the variability we expected to observe in the dynamic processes involved in optimal distinctiveness. One way to address this issue and to better reflect the dynamic nature of optimal distinctiveness is through changing the way the items are framed. Instead of framing the items in lines of “is this true of you?”, the wording can be modified to emphasize the more immediate, contextual experiences, such as “is this true of you right now?” or “is this true of you in this context?”. This could better capture the more dynamic aspects of optimal distinctiveness. Subtle wording changes in items are able to effectively shift participants’ frame of reference, leading to a change in responses (Schwarz et. al., 2012).

The other common approach of measuring optimal distinctiveness is to manipulate group size and measure participants' identification with the group as an indicator of optimal distinctiveness (Leonardelli & Brewer, 2001). It assumes that smaller

groups satisfy the need for distinctiveness, while larger groups fulfill the need for inclusion. However, this approach is also unable to capture the complex interplay between the two needs and does not measure optimal distinctiveness directly.

In addition to being context dependent, optimal distinctiveness is also temporal dependent. The optimal balance between assimilation and differentiation fluctuates over time, even within the same individual. A robust measurement of optimal distinctiveness will need to have the ability to capture both contextual and temporal dynamics (Brewer & Gardner, 1996).

A recent study on optimal distinctiveness strategies within the context of short-term rental properties provided insights on the measurement issue (Zhang, Zach & Xiang, 2024). Although their conceptualization and operationalization of optimal distinctiveness relates to rental properties, and is very different from that of our study, their findings shed light on the multifaceted nature of optimal distinctiveness. They found a U-shaped relationship for functional distinctiveness and an inverted U-shaped relationship for aesthetic distinctiveness, suggesting non-linear relationships in optimal distinctiveness. Since optimal distinctiveness is likely curvilinear, linear measurement approaches can be limited and flawed, that linear relationships may not be able to adequately represent and capture the dynamic balancing between belongingness and uniqueness needs.

While the theory of optimal distinctiveness has provided valuable theoretical and practical insights, developing a valid measurement is crucial for future research

endeavors. Researchers could explore innovative measurement approaches that can better capture the dynamic nature of optimal distinctiveness across cultural contexts. For instance, experience sampling methods, where participants report their feelings of belongingness and distinctiveness after critical events over an extended period. This could capture the temporal fluctuations in optimal distinctiveness and provide a deeper understanding of how the optimal balance restores itself. Since the balance between belongingness and uniqueness needs fluctuates over time and across situations, longitudinal designs would be desirable.

Measuring optimal distinctiveness across different cultural contexts also presents unique challenges. The conceptualization of optimal distinctiveness may vary across cultures. In tight cultures, the “optimal” balance may lean more towards conformity, while in loose cultures, it may lean more towards uniqueness. The expression of belongingness and uniqueness needs may also differ across cultures. For instance, individualistic cultures might emphasize personal uniqueness, while collectivistic cultures might focus on group-level distinctiveness. Therefore, it is important that the measure establishes construct equivalence and measurement invariance across different cultures.

## Common method bias

Common method bias, a systematic error variance that is caused by the measurement methods rather than the constructs the measures measure, has always been a significant concern in social science research (Podsakoff et al., 2003;

Spector, 2006). This bias is particularly problematic when data for both predictor and criterion variables are collected from the same people, in the same context, and with the same medium (Lindell & Whitney, 2001). Common method bias can inflate or deflate observed relationships between constructs, leading to Type I or Type II errors.

To address common method bias, the current study utilized multiple data sources, including experimental manipulations for cultural tightness-looseness as well as self-report measures for other variables. This diversity in data sources helps mitigate effects of common method bias (Podsakoff et. al., 2003). The use of experimental conditions (tight vs. loose culture condition) as independent variables and the behavioral measure of the outcome variable allow objective measures that are less susceptible to common method bias than self-report measures alone.

Despite these efforts, this study may be still susceptible to common methods bias since all measures were collected at the same time under the same setting. While the experimental manipulations provide methodological diversity, the majority of the key constructs were assessed via self-report measures, which could lead to inflation or deflation of the observed relationships between constructs. Correlations among the scales show almost near-zero correlations among the theoretically distinct scales, suggesting that responses to the different constructs were not systematically influenced by a common method factor. If common method bias was prevalent, the correlations among all variables would be shown as moderate

(Spector, 2006). Therefore, the current study is not threatened by common method biases.

To further strengthen the study's validity and address common method bias issues, future studies could utilize temporal separation and collect predictor and criterion variables at different time points (Podsakoff et al., 2003). In addition, the marker variable technique could be utilized by including a theoretically unrelated variable in the survey to detect common method bias (Spector, 2006). The correlation between this marker variable and others can then be used to estimate and control for common method variance.

## Sample characteristics

The null findings raise questions about the possibility that the characteristics of the sample may have influenced the outcomes. However, an examination of the sample shows this is unlikely to be the case.

The study had a diverse sample (N=465), with almost equal distribution between participants from the two countries: United States (n = 223, 48%) and China (n = 242, 52%). This adds to the cross-cultural validity of the study and reduces potential biases in responses towards any particular cultural group or perspective.

Demographics showed a good distribution across age groups, with the majority of participants (75.2%) within the 25-44 age range. Individuals in this age range tend to have developed relatively stable cultural values and norms and have had

experience with various tight and loose situations. Participants in the sample had a high education level, with 68.2% with a bachelor's degree or higher. The sample also demonstrated good representation across gender (46.5% male, 52.5% female) and employment status (87.1% employed). All of this suggests that participants of this study are of high quality, capable of understanding the study materials, and are likely experienced in navigating cultural situations.

No significant differences in response patterns were observed between U.S. and Chinese participants. As illustrated in *Figure 6*, the frequency distributions of responses for each item were almost comparable between the two countries. This similarity in response patterns further supports the argument that the null results are not likely due to cultural differences in survey response styles or item interpretation. In addition, participants were randomly assigned to either the tight or loose experimental condition, and results showed an almost equal distribution of participants from each country across conditions. There was no significant difference in experimental assignment between the two culture groups.

Given the unexpected non-significant results, the researcher conducted extensive exploratory analyses to further investigate potential relationships within subsets of the data. These analyses involved separating the data by various demographics including country of origin, gender, level of cultural exposure and experience, and the experimental condition. Despite these efforts, no additional significant findings were found. As a quality check, the tightness/looseness scores for U.S. and Chinese participants were computed based on their responses to the tightness/looseness

scale. Consistent with findings in the field that the U.S. has a tighter culture and China has a looser culture, U.S. participants had significantly higher tightness scores ( $M = 4.62$ ,  $SD = 0.71$ ) compared to Chinese participants ( $M = 3.89$ ,  $SD = 0.59$ ),  $t(463) = 11.84$ ,  $p < .001$ ,  $d = 1.10$  (Gelfand et al., 2011). This supports the validity of the sample in capturing the intended cultural differences.

Overall, the sample collected is robust, diverse, and well-balanced, particularly in terms of cultural representation, age, education, and gender. Further examination of the response patterns and exploratory analyses indicated that sample characteristics were unlikely to have influenced the results.

### Issues with the tightness/looseness scale

The tightness/looseness scale demonstrated significant psychometric issues, particularly in cross-cultural application. The measurement showed acceptable internal consistency in the U.S. sample ( $\alpha = .74$ ) but was unreliable in the Chinese sample ( $\alpha = .23$ ). Further investigation showed one item was negatively correlated with the first principal component of the scale. The problematic item was “People in my country have a great deal of freedom in deciding how they want to behave in most situations (reverse coded).” After removal of this item, the reliability of the Chinese sample increased but was still not ideal ( $\alpha = .49$ ); the internal consistency of the U.S. sample also slightly increased ( $\alpha = .79$ ). When examined with the more robust McDonald’s omega, the internal consistency of the scale improved in both the U.S. sample ( $\omega = .76$ ) and the Chinese sample ( $\omega = .54$ ), although still not ideal.

This indicates potential cultural equivalence issues with the measurement of tightness/looseness. The items may not be culturally equivalent and may elicit different meanings across different cultures. For instance, the concept of “freedom” may carry different connotations and may represent different behaviors in different countries. The Western perception and evaluation of the level of freedom of a country may not align with the nation’s own perception of their level of freedom. This cultural equivalence issue may be present in the other items as well, leading to the scale’s low reliability in the Chinese population. This raises concerns on the scale's ability to consistently measure the tightness/looseness construct across different cultures.

The tightness/looseness scale is also prone to ecological fallacies, when inferences about individual-level processes are made based on aggregate or group-level data (Freedman, 1999). The items in this scale all concern the tightness/looseness of the society and uses “people in my country” as the reference. Respondents were prompted to rate the behaviors and norms of people in their country, rather than their individual behaviors and norms. Individuals within a culture may vary in their perception and internalization of cultural norms. Therefore, it can be problematic to assume an individual from a "tight" culture will exhibit behaviors aligned with a tight culture.

This raises the question of how to conceptualize and measure tightness/looseness at the individual level. The notion that an individual is “tight” or “loose” uses the culture-level construct on individuals and is not correct. At the individual level,

tightness/looseness may be more appropriately conceptualized as one's preference for tight or loose cultural contexts, rather than one's personal characteristics or perceived cultural norms. The development of a scale that measures one's preference for, or comfort with, tight or loose cultural norms and contexts is much needed. This effort would provide theoretical clarity that differentiates culture-level and individual-level tightness/looseness, avoiding falling into ecological fallacies.

The issues around the individual-level tightness/looseness scale strongly urge the need for improvements in measurement. Future research should focus on refining the conceptualization of individual-level tightness/looseness, developing a scale that measures one's tightness/looseness preferences, ensuring items are culturally sensitive, and validating the scale across diverse populations. Adopting a multi-level measurement approach that is capable of capturing both societal and individual-level tightness/looseness would significantly enhance our understanding of how tightness/looseness operates and influences other psychological processes at the individual level.

## Limitations

This study has some limitations that need to be addressed. This study relied on cognitive culture priming, which may not be robust enough to fully elicit the effects of longer-term cultural exposure. To enhance priming effects, future studies could utilize more rigorous methods, larger sample sizes, and a stronger theoretical foundation to support the priming mechanisms.

Although this study moves beyond the East-West dichotomy in studying the influence of culture, it may still not fully capture the diversity and complexity of culture's influence on our psychological needs. Future research could consider incorporating multiple cultural dimensions to understand how they conjunctively impact psychological processes and outcomes. Expanding data collection to a broader range of cultures could also provide a more comprehensive understanding of these processes.

This study relies heavily on self-report measures to assess key constructs, such as the need to belong, the need to be different, self-construal, and global orientation. While self-report measures are commonly used in psychological research, they are susceptible to social desirability biases and response biases, which may affect the validity and reliability of the findings (Beaton et al., 2000; Van de Mortel, 2008). To mitigate this methodological limitation, future studies could employ a mixed-method approach that combines self-report measures with more objective and behavioral measures (Nederhof, 1985). This methodological triangulation could provide convergent evidence and strengthen the robustness of the findings.

The cross-sectional nature of the study restricts its ability to examine causal relationships, making the research findings vulnerable to common method bias, where the variance may be due to measurement methods instead of the constructs being measured (Lindell & Whitney, 2001). This may affect validity by inflating or deflating the observed relationships. This study used objective measures to assess the independent variable of culture tightness/looseness and the dependent variable

of group identification to mitigate the risk of common method bias. Future studies could also consider a longitudinal study design and temporally separate measurements of predictor and criterion variables to further reduce the risk of common method variance (Podsakoff et al., 2003). Longitudinal studies also help establish causal links and examine the direction of the relationships (Polyhart & Vandenberg, 2010).

While the current study aims to draw a representative sample through online recruitment platforms, it is subject to the potential limitations of online sampling. Online samples may not fully reflect the diversity of the population in terms of age, education, socioeconomic status, and cultural background (Paolacci & Chandler, 2014; Paolacci, Chandler & Ipeirotis, 2010). This sampling bias can limit the generalizability of the findings to other populations and cultural contexts. Analysis of the demographics of the participants of this study will present a better view of the actual representation of this study. Future studies could combine online recruitment with more traditional in-person recruitment methods to reach a wider range of participants.

The unexpected null findings for several hypotheses suggest the need for further theoretical refinement. The most crucial is the development of a reliable and valid measurement of optimal distinctiveness. Further work on exploring and defining the “optimal balance” would be tremendously beneficial in understanding this construct. An improved measurement of individual-level tightness/looseness that is more culturally equivalent would also be desirable.

## Research contributions

Although this study did not fully support the initial hypotheses, it makes several important contributions to our understanding of cultural influences on fundamental human needs and social behavior. The findings particularly highlight the importance of cultural match in shaping how individuals respond under tight and loose cultural norms.

Firstly, by examining optimal distinctiveness through the framework of cultural tightness-looseness rather than the typical individualism-collectivism dimension, this research provides novel insights into how societal norms and tolerance for deviance shape the balance between needs for belonging and uniqueness. This approach advances our understanding of optimal distinctiveness as a culturally flexible universal, demonstrating how the strength and expression of these needs can vary across different cultural contexts. The findings suggest that the cultural tightness or looseness of a society may have significant implications for how individuals view their identities and social relationships.

A key contribution of this study is highlighting the critical role of T/L match in shaping psychological needs and social identification. The results show the importance of alignment between an individual's cultural background and the situation's cultural context. This adds nuance to our understanding of cultural adaptation processes, suggesting that the congruence between one's accustomed level of cultural tightness-looseness and the current environment significantly

influences the desired levels of belongingness and uniqueness needs. This has implications for understanding cross-cultural adjustment and the experiences of individuals navigating between different cultural contexts, such as immigrants or international students.

Furthermore, this research integrates multiple theoretical perspectives, bridging optimal distinctiveness theory, cultural tightness-looseness theory, and social identity theory. This interdisciplinary approach offers a more comprehensive framework for understanding the complex interplay between culture, individual needs, and group processes. By examining how cultural norms influence the balance between belongingness and uniqueness needs, and how this affects group identification, the study provides a more holistic view of social identity formation in diverse cultural contexts.

Methodologically, this study advances cross-cultural research by employing experimental manipulation of cultural tightness-looseness with a cross-culture sample. Although the culture priming did not work as intended, this approach demonstrated how cultural variables can be manipulated in experimental settings to examine their causal effects. This study promotes discussions on effective culture priming in future studies.

The findings of this study have important practical implications, particularly in the area of diversity and inclusion. As organizations and societies become increasingly multicultural, understanding how cultural norms influence fundamental needs for

belonging and uniqueness becomes crucial (Holvino, Ferdman & Merrill-Sands, 2004). The field of diversity and inclusion has traditionally focused on belongingness and emphasized the challenges that arise from diversity (Ferdman, 2013; Shore et al., 2011). There has been an increased recognition that uniqueness is also an important component of inclusion (Chung et al., 2020). Organizations need to value the uniqueness of diverse individuals and fulfill both belongingness and distinctiveness needs. Future research in this area can inform more nuanced approaches to creating inclusive environments that balance both needs effectively.

In addition, organizational practices that acknowledge and accommodate varying levels of tightness-looseness preferences among employees may potentially lead to improved job satisfaction, better team dynamics, and increased organizational commitment. In educational settings, these insights could guide the development of more culturally sensitive teaching practices and campus policies that support students from diverse cultural backgrounds.

Finally, this research identifies several areas for theoretical refinement, particularly in the conceptualization and measurement of optimal distinctiveness and cultural tightness-looseness at the individual level. The unexpected null findings for several hypotheses point to the need for a valid and reliable measure of optimal distinctiveness that can capture the dynamic interplay of the need to belong and the need for uniqueness. This opens up important avenues for future research, such as developing more sensitive measures of optimal distinctiveness that can account for cultural variations, or exploring how individual-level tightness-looseness

orientations interact with societal-level cultural norms. These directions for future research could significantly advance our understanding of cultural influences on social psychological processes.

## Chapter 8 Conclusion

This study investigated the influence of cultural tightness-looseness on optimal distinctiveness motives and group identification, integrating perspectives from cultural psychology and social identity theory. While the experimental manipulation of cultural tightness-looseness did not yield the expected effects on optimal distinctiveness needs, the research revealed important insights into the role of cultural match in shaping these fundamental social motives.

Key insights include:

1. **Group size and uniqueness.** The size of the group may influence how one's need to be different relates to the extent of identification with the group. Whether one is in a small or a large group could change how one's desire to stand out influences one's feeling of belonging to that group.
2. **Cultural match and belonging.** Whether one's accustomed cultural norms and values match that of the situation will significantly affect how culture influences the need to belong. Feeling 'in sync' with one's own culture's social norms can change how cultural factors impact one's desire to connect to others.
3. **Self-view and optimal distinctiveness needs.** There are direct links between how people view themselves (as more independent or more interdependent) and their needs for both uniqueness and belonging, regardless of cultural influences. One's self-perception plays a crucial role

in shaping the needs for standing out and fitting in, no matter what culture one is in.

These results contribute to our understanding of optimal distinctiveness as a culturally flexible universal, highlighting how the expression and balance of belongingness and uniqueness needs can vary across cultural contexts. The study also highlights the importance of T/L match in cross-cultural adaptation and social identification processes.

Methodologically, this research advances cross-cultural experimental approaches, despite challenges in culture priming effectiveness. It provides valuable insights into the complexities of manipulating cultural variables and measuring cultural constructs across diverse populations.

The findings have practical implications for managing diversity in multicultural settings, suggesting the importance for addressing both belongingness and uniqueness needs in organizational practices. Results also highlight the impact of the alignment between individual cultural backgrounds and contextual cultural norms.

Future research should focus on developing measures of optimal distinctiveness, refining individual-level measures of cultural tightness-looseness, exploring more effective methods of cultural priming, and further investigating the role of T/L match in psychological processes. Additionally, examining these phenomena across

a broader range of cultures could provide a more comprehensive understanding of how cultural factors shape our fundamental social needs.

In conclusion, this study advances our knowledge of the relationships between culture, identity, and social behavior, providing a foundation for future research in cross-cultural psychology, and offering insights for fostering inclusive environments in our increasingly globalized world.

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# Appendices

## Appendix I. The need to belong scale

Respondents indicate the degree to which each statement is true or characteristic of them on a 5-point scale (1 = not at all, 2 = slightly, 3 = moderately, 4 = very, 5 = extremely). (R) indicates that the item is reverse scored.

1. If other people don't seem to accept me, I don't let it bother me. (R)
2. I try hard not to do things that will make other people avoid or reject me.
3. I seldom worry about whether other people care about me. (R)
4. I need to feel that there are people I can turn to in times of need.
5. I want other people to accept me.
6. I do not like being alone.
7. Being apart from my friends for long periods of time does not bother me.  
(R)
8. I have a strong "need to belong."
9. It bothers me a great deal when I am not included in other people's plans.
10. My feelings are easily hurt when I feel that others do not accept me.

Translated Chinese items:

1. 不被其他人接纳并不会对我造成困扰。(R)
2. 我会尽量不做可能让其他人回避或是不接纳我的事情。

3. 我很少担心其他人是否在乎我。(R)
4. 我需要知道在我有需要的时候有可以寻求帮助的人。
5. 我希望其他人能接纳我。
6. 我不喜欢一个人呆着。
7. 我不会因为要和朋友分开很长一段时间而感到烦恼。(R)
8. 我有强烈的“归属需求”。
9. 当其他人的计划里不包括我时，我会觉得很烦恼。
10. 感觉到其他人不接受我时我会觉得受伤。

## Appendix II. Self-attribute need for uniqueness scale

Participants respond to each item on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

1. I prefer being different from other people.
2. Being distinctive is important to me.
3. I intentionally do things to make myself different from those around me.
4. I have a need for uniqueness.

Translated Chinese items:

请表明您对以下陈述的认同程度（1-强烈不同意，2-有点不同意，3-既不同意也不反对，4-有点同意，5-强烈同意）。

1. 我喜欢与别人不同。
2. 与众不同对我来说很重要。
3. 我有意做一些让自己和周围的人不同的事情。
4. 我有独特性的需求。

### Appendix III. Self-construal scale

5 items for the interdependent self-construal subscale:

1. It is important for me to maintain harmony within my group.
2. I will sacrifice my self-interest for the benefit of the group I am in.
3. It is important to me to respect decisions made by the group.
4. My happiness depends on the happiness of those around me.
5. I should take into consideration my parents' advice when making education/career plans.

7 items for the independent self-construal subscale:

1. I enjoy being unique and different from others in many respects.
2. I prefer to be direct and forthright when dealing with people I've just met.
3. My personal identity independent of others is very important to me.
4. Speaking up during a class is not a problem for me.
5. I am comfortable with being singled out for praise or rewards.
6. I'd rather say 'no' directly than risk being misunderstood.
7. I feel it is important for me to act as an independent person.

Translated Chinese items:

互依自我构建量表:

1. 保持团队的和谐对我而言很重要。
2. 为了团体利益，我愿意牺牲自己的利益。
3. 尊重团体做出的决定对我而言很重要。
4. 我的幸福取决于我身边的人的幸福。
5. 在制定学业/职业计划时，我应该考虑父母的建议。

独立自我构建量表:

1. 我喜欢在许多方面保持独特，不和别人一样。
2. 我喜欢直接坦率地对待刚刚认识的人。
3. 独立且不依附于他人的自我身份认同对我非常重要。
4. 在课堂上发言对我来说不是问题。
5. 当我独自受到表扬或奖励时我不会觉得尴尬不安。
6. 我宁可直接地表达拒绝，也不想有被误解的可能。
7. 对我来说，能独立行事很重要。

## Appendix IV. Global orientations scale

Responses are anchored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

1. I learn and speak languages other than my mother tongue.
2. I travel abroad to gain experiences with other cultures.
3. It is important to recognize differences among various cultural groups.
4. Efforts should be made to understand people from different cultural backgrounds.
5. I am curious about traditions of other cultures.
6. I read books or magazines to obtain knowledge about other cultures.
7. I am eager to make friends with people from different cultural backgrounds.
8. One should actively involve himself or herself in a multicultural environment.
9. I learn customs and traditions of other cultures.
10. I am happy to learn the history and geography of other cultures.
11. I find living in a multicultural environment very stressful.
12. I make friends mostly with people of the same cultural origin as mine.
13. Speaking another language makes me nervous.
14. I feel isolated from people of other cultural groups.
15. The ways that people of different cultural origins think and act often make me confused.

16. I am worried that people from other cultures would not understand my ways of doing things.

Items 1-10 loads on multicultural acquisitions, and items 11-16 loads on ethnic protection.

Translated Chinese items:

1. 我在学习一门外语。
2. 我会为了体验不同文化而出国旅行。
3. 认识到不同文化之间的差异非常重要。
4. 我们应该努力理解来自不同文化背景的人。
5. 我对其他文化的传统感到好奇。
6. 我会通过阅读书籍或杂志获取其他文化的知识。
7. 我渴望和来自不同文化背景的人交朋友。
8. 一个人应该积极融入多元文化的环境中。
9. 我会学习其他文化的习俗和传统。
10. 我乐意了解其他文化的历史和地理。
11. 置身于多元文化环境里会让我感到有压力。
12. 我大多和相同文化背景的人交朋友。
13. 说外语会让我感到紧张。

14. 我觉得和来自其他文化的人之间有隔阂。
15. 我经常对其他文化背景的人的不同思考和行动方式感到困惑。
16. 我担心来自其他文化的人会不理解我的做事方式。

## Appendix V. Tightness-looseness scale

Participants respond to each item on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree).

1. There are many social norms that people are supposed to abide by in my country.
2. In my country, there are very clear expectations for how people should act in most situations.
3. People agree upon what behaviors are appropriate versus inappropriate in most situations in my country.
4. People in my country have a great deal of freedom in deciding how they want to behave in most situations. (Reverse-scored)
5. In my country, if someone acts in an inappropriate way, others will strongly disapprove.
6. People in my country almost always comply with social norms.

Higher scores on the Tightness-Looseness Scale indicate a tighter culture, lower scores suggest a looser culture.

An additional item was added to assess the participant's resemblance to a typical person of their country. Response was on a 5-point Likert scale (1: None at all, 2: A little, 3: A moderate amount, 4: A lot, 5: A great deal)

7. To what extent do you feel you resemble the typical person from your country in terms of your thoughts, behaviors, and values?

Translated Chinese items:

请表明您对以下陈述的认同程度（1-强烈不同意，2-不同意，3-有点不同意，4-有点同意，5-同意，6-强烈同意）。

1. 在我国，有许多应当遵守的社会规范。
2. 在我国，大多数情况下，人们对不同情况下的行为准则有很明确的认识。
3. 在我国，大多数情况下，人们对哪些行为是恰当的以及哪些行为是不恰当的看法一致。
4. 在我国，大多数情况下，人们在决定自己的行为方式时有很大的自由度。（R）
5. 在我国，如果有人以不恰当的方式行事，其他人会表示不满。
6. 在我国，大多数人都会遵守社会规范。
7. 您认为您在思想、行为以及价值观上是否符合一个典型的中国人？

## Appendix VI. Demographic questions

1. Please select your age range:

A. Under 18

B. 18-24

C. 25-34

D. 35-44

E. 45-54

F. 55-64

G. 65 or older

2. I identify my biological sex as:

A. Male

B. Female

C. Prefer not to say

3. Which of the following best describes your ethnicity?

A. White / Caucasian

B. Black / African American

C. Hispanic / Latino

D. Asian

E. Native American / American Indian

F. Pacific Islander

G. Other

*Note: This item will ask about the participant's Chinese racial ethnicity in the Chinese version*

4. Your nationality: \_\_\_\_\_

5. What is the highest level of education you have completed?

A. Less than high school

B. High school graduate or equivalent (e.g., GED)

C. Some college, no degree

D. Associate's degree

E. Bachelor's degree

F. Master's degree

G. Doctoral degree

H. Professional degree (e.g., MD, JD)

6. Which of the following best describes your current employment status?

A. Employed

B. Unemployed

C. Retired

D. Student

E. Other

7. How many times have you travelled outside your home country?

A. Never

B. 1-2 times

C. 3-5 times

D. More than 5 times

8. How many different languages can you speak (at least moderately well)?

A. Only my native language

B. 2 languages

C. More than 2 languages

9. How many people do you currently keep in contact with who are living in different countries?

A. None

B. At least 1 person

C. 2-5 people

D. More than 5 people

Translated Chinese version:

1. 请选择您的年龄段：

A. 18 岁以下

B. 18-24 岁

C. 25-34 岁

D. 35-44 岁

E. 45-54 岁

F. 55-64 岁

G. 65 岁或以上

2. 您的性别是？

A. 男性

B. 女性

C. 不愿回答

3. 您的种族是？

A. 汉族

B. 蒙古族

C. 回族

D. 藏族

E. 维吾尔族

G. 其他

4. 您的国籍是： \_\_\_\_\_

5. 您完成的最高教育程度是？

A. 高中以下

B. 高中毕业

C. 一些大学，但未取得学位

D. 大专学位

E. 学士学位

F. 硕士学位

G. 博士学位

H. 专业学位（例如，医学博士，法学博士）

6. 以下哪种描述最符合您目前的就业状况？

A. 就业

B. 失业

C. 退休

D. 学生

E. 其他

7. 您出国旅行过多少次？

A. 从未

B. 1-2 次

C. 3-5 次

D. 超过 5 次

8. 您能说多少种语言（日常交流水平）？

A. 只会说我的母语

B. 2 种语言

C. 超过 2 种语言

9. 您目前与多少位生活在海外的朋友保持联系？

A. 没有

B. 至少 1 位

C. 2-5 位

D. 超过 5 位

## Appendix VII. Tight/loose manipulations

### **Instruction under the tight culture manipulation:**

Welcome to the study!

Attention: Please read the following instructions carefully and ensure that you fully understand before proceeding with the survey. Strict adherence to these guidelines is necessary to maintain the integrity and validity of the study results.

1. Please read each question thoroughly and provide honest and accurate answers. Any deviation from this requirement, such as providing misleading or incomplete responses, will compromise the study's integrity and lead to serious consequences.
2. The survey must be completed in one uninterrupted sitting. Do not close your browser or navigate away from the survey until you have submitted all your responses. Failure to comply with this instruction will result in the invalidation of your responses.
3. The survey should take approximately 20-30 minutes to complete. You are strictly required to finish the survey within the allotted 60-minute time frame. Exceeding this time limit will result in the automatic exclusion of your responses from the study.

By clicking "Next," you formally acknowledge that you have carefully read, fully understood, and agree to adhere to these instructions without exception. Any failure to comply with these instructions will directly and negatively impact the project's success.

We value your perspective and appreciate your contribution to this study.

### **Instruction under the loose culture manipulation:**

Welcome to the study!

The following instructions are simply provided as suggestions to guide you through the survey process, but feel free to approach the questions in a way that feels most authentic and comfortable to you. There's no need to stress about strictly following any rules or expectations – just be yourself and share your honest opinions and beliefs.

Take as much time as you need to read each question and reflect on your experiences. We encourage you to provide responses that genuinely resonate with you, even if they might seem unconventional or outside the box. Remember, there are no right or wrong answers here.

The survey is designed to be completed in around 20-30 minutes, but please don't feel pressured to finish within a specific timeframe. If you need more time to think about your answers or take a break, feel free to step away and come back whenever you're ready. Your participation is completely voluntary.

When you're ready to begin, click "Next" to start the survey. We value your perspective and appreciate your contribution to this study.

Chinese version:

**Instruction under the tight culture manipulation:**

欢迎参与本研究！

注意：请仔细阅读以下说明，确保在开始问卷前完全理解这些要求。严格遵守对确保研究结果的完整性和有效性非常重要。

1. 请仔细阅读每个问题，并提供诚实和准确的回答。任何偏离此要求的行为，例如提供不真实或不完整的回答，都会损害研究的完整性并导致严重后果。
2. 本问卷必须一次性不间断地完成。在完成问卷之前，请不要关闭浏览器或离开问卷页面，否则将导致回答无效。
3. 问卷大约需要 20-30 分钟完成。您必须严格在规定的 60 分钟时间内完成。超过此时间限制将导致您的问卷从研究中排除。

点击"下一步"，即表示您确认您已仔细阅读、完全理解并同意遵守这些规定。任何未能遵守这些指示的行为都将直接对本调研项目产生负面影响。

我们重视您的观点，并感谢您对本研究的贡献。

**Instruction under the loose culture manipulation:**

欢迎参与本研究！感谢您参与并与我们分享您的想法和经历。

以下说明是为了指导您完成调查过程，请以最舒适和自然的方式回答问题。请仔细阅读每个问题，提供最能反映您观点和看法的答案。不要担心，没有

正确或错误的答案。问卷大约需要 20-30 分钟完成，请不要感到仓促，您答题并没有时间限制。

您参与这项研究是完全自愿的，可以在任何时候退出且不会有任何后果。当您准备开始时，点击"下一步"开始调查。

我们重视您的观点，感谢您对这项研究的贡献。

## Appendix VIII. Majority/minority group manipulation

Please indicate your preference on the two artworks below, and select the artwork you like more:



A.



B.

Those in the majority group will see the following statement: Your selection is the same as the majority 85% of participants, and you are part of the visual group.

Those in the minority group will see the following statement: Your selection is the same as the minority 15% of participants, and you are part of the spatial group.

Chinese version:

请观赏以下两件艺术作品，选择您更喜欢的作品：



在多数群体中的将看到以下说明：您的选择与 85% 的多数参与者相同，您属于视觉主导小组。

在少数群体中的将看到以下说明：您的选择与 15% 的少数参与者相同，您属于空间主导小组。

## Appendix IX. Measure of group identification

The next task will involve working together with others in your group. Please indicate your group preference:

- A. Stay in the current group
- B. Work with the other group

Chinese version:

下一组任务涉及小组合作。请问您愿意：

- A. 和当前组一起
- B. 和另一组一起

## Appendix X. Informed consent form

Title of the Study: Cultural Influences on Individual Motives

Principal Investigator: Hairong Jiang, Florida Institute of technology

**Purpose of the Study:** The purpose of this study is to explore the relationship between cultural factors and individual motives, attitudes, and behaviors. The study aims to contribute to the understanding of how cultural factors shape our experiences and behaviors.

**Procedures:** If you agree to participate in this study, you will be asked to complete an online survey that will take approximately 20-30 minutes. The survey will include questions about your background, attitudes, and individual preferences.

**Potential Risks:** The risks associated with this study are minimal and are not expected to exceed those encountered in daily life. If you feel uncomfortable answering any questions, you may skip them or withdraw from the study at any time without penalty.

**Benefits:** Your participation will contribute to the advancement of psychological research and our understanding of cultural influences on human behavior.

**Compensation:** You will receive compensation for your participation in accordance with the survey platform's standard rates upon completion of the survey.

**Confidentiality:** All information collected in this study will be kept confidential.

No personally identifiable information will be collected, and your responses will be combined with those of other participants for analysis and reporting purposes. Data will be stored on secure servers accessible only to the research team.

**Voluntary Participation:** Your participation in this study is entirely voluntary.

You may withdraw from the study at any time without penalty. You may skip any questions you do not wish to answer.

**Contact Information:** If you have any questions, concerns, or complaints about this study, you may contact the principal investigator, Hairong Jiang, at *hjiang2012@my.fit.edu*.

**Consent:** By clicking "I agree" below, you confirm that you have read and understood this informed consent form and that you voluntarily agree to participate in this study.

I agree

I do not agree

If you have any questions or concerns about this study, please contact the researcher before agreeing to participate.

Thank you for considering participation in this study!

## 知情同意书

**研究题目：**文化对个人动机的影响

**研究目的：**本研究旨在探讨文化因素与个人动机、态度和行为之间的关系。

研究旨在促进对文化因素如何塑造我们的经历和行为的理解。

**流程：**如果您同意参加本研究，您将被要求完成一项在线调查问卷，大约需要 20-30 分钟。问卷将包括有关您的背景、态度和个人偏好的问题。

**潜在风险：**与本研究相关的风险很小，预计不会超过日常生活中遇到的风险。如果您在回答任何问题时感到不舒服，您可以跳过这些问题或随时退出研究，而不会受到任何惩罚。

**益处：**您的参与将有助于推进心理学研究，并促进我们对文化对人类行为影响的理解。

**酬劳：**在完成调查后，您将根据调查平台的标准费率获得参与酬劳。

**保密性：**在本研究中收集的所有信息都将保密。不会采集任何个人身份信息，您的回答将与其他参与者的回答结合起来进行分析和报告。数据将存储在只有研究团队可以访问的安全服务器上。

**自愿参与：**您参与这项研究完全是自愿的。您可以随时退出研究，而不会受到任何惩罚。您可以跳过任何您不想回答的问题。

**联系信息：**如果您对本研究有任何问题、疑虑或投诉，可以通过  
hjiang2012@my.fit.edu 联系主要研究者。

**同意：**通过点击下面的"我同意"，确认您已阅读并理解这份知情同意书，自愿同意参与这项研究。

我同意

我不同意

如果您对这项研究有任何疑问或疑虑，请在同意参与之前与研究人员联系。

感谢您考虑参与这项研究！

## Appendix XI. Pilot study

You'll read a survey instruction and answer a few questions on your impression of this instruction. You will not be answering any additional survey items. This will take approximately 5 minutes.

Please read the following instruction to a study. You'll be asked a few questions on your impression and thoughts on this instruction.

### **Tight culture manipulation:**

Welcome to the study!

Attention: Please read the following instructions carefully and ensure that you fully understand before proceeding with the survey. Strict adherence to these guidelines is necessary to maintain the integrity and validity of the study results.

1. Please read each question thoroughly and provide honest and accurate answers. Any deviation from this requirement, such as providing misleading or incomplete responses, will compromise the study's integrity and lead to serious consequences.
2. The survey must be completed in one uninterrupted sitting. Do not close your browser or navigate away from the survey until you have submitted all your responses. Failure to comply with this instruction will result in the invalidation of your responses.

3. The survey should take approximately 20-30 minutes to complete. You are strictly required to finish the survey within the allotted 60-minute time frame. Exceeding this time limit will result in the automatic exclusion of your responses from the study.

By clicking "Next," you formally acknowledge that you have carefully read, fully understood, and agree to adhere to these instructions without exception. Any failure to comply with these instructions will directly and negatively impact the project's success.

We value your perspective and appreciate your contribution to this study.

**Loose culture manipulation:**

Welcome to the study!

The following instructions are simply provided as suggestions to guide you through the survey process, but feel free to approach the questions in a way that feels most authentic and comfortable to you. There's no need to stress about strictly following any rules or expectations – just be yourself and share your honest opinions and beliefs.

Take as much time as you need to read each question and reflect on your experiences. We encourage you to provide responses that genuinely resonate with

you, even if they might seem unconventional or outside the box. Remember, there are no right or wrong answers here.

The survey is designed to be completed in around 20-30 minutes, but please don't feel pressured to finish within a specific timeframe. If you need more time to think about your answers or take a break, feel free to step away and come back whenever you're ready. Your participation is completely voluntary.

When you're ready to begin, click "Next" to start the survey. We value your perspective and appreciate your contribution to this study.

1. In a few words, please describe your overall impression or thoughts after reading the instruction: \_\_\_\_\_

Based on your overall impression of the instruction you read, please indicate your level of agreement or disagreement to each statement below: (1-strongly disagree, 2-disagree, 3-neither agree or disagree, 4-agree, 5-strongly agree):

2. There are clear expectations for appropriate behaviors.
3. There are serious consequences if instructions are not followed.
4. There is a strong emphasis on following rules when responding to the survey.
5. Participants are free to respond to the survey in any way they like. (R)