OUTGROUP THREAT AND BEHAVIORAL TENDENCIES IN YOUNG ADULTHOOD: EXPLORING THE ROLES OF STRESS AND GROUP MEMBERSHIP

A Dissertation

presented to

the Faculty of the Graduate School

at the University of Missouri-Columbia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

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DECEMBER 2023
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OUTGROUP THREAT AND BEHAVIORAL TENDENCIES IN YOUNG ADULTHOOD: EXPLORING THE ROLES OF STRESS AND GROUP MEMBERSHIP

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a candidate for the degree of doctor of philosophy,
and hereby certify that, in their opinion, it is worthy of acceptance.

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DEDICATION

I would like to dedicate this project to my parents, who laid the foundation for curiosity and learning in our home with everything from the world map that decorated our living room wall to the National Geographic magazines that lined our bookshelves. They were a primary example of caring for others. My father was always a champion of my endeavors. Though he is no longer with us, I imagine he is very proud. I am especially grateful to my mother who has always picked up the phone when I needed a mental break or someone with whom I could process my ideas. Undoubtedly, I learned my work ethic and persistence from her.

I would also like to dedicate my work to my other family members who have championed my education. This work is dedicated to the memory of my Granddad Roos who sacrificed his opportunities for higher education to support his family but encouraged me to “get all the education I could get.” And to my Aunt Linda who has invested in my development and served as a referent in many stages of my life.

To JD, for challenging me to think, learn, explore, and live outside of my comfort zone. Your patience and support throughout this experience has been unparalleled. You are the best partner I could ask for. I look forward to everything we will accomplish together.

To my friends who have celebrated the good days and put the bad days into perspective. I am so lucky to have your support.

Finally, to the youth and families who trusted me with their stories and journeys during my time practicing as a social worker. Their resilience has inspired me.
ACKNOWLEDGEMENTS

I would like to acknowledge my doctoral committee for their extensive guidance throughout graduate school. I would like to recognize my first advisor, Dr. Gustavo Carlo, for believing in and fostering my potential as a scholar. From the formal support of my academic goals such as fellowships and grant applications to moments of informal mentorship over coffee, his investment in my development is unquantifiable. I would also like to recognize my primary advisor, Dr. Sarah Killoren, for her willingness to serve in this role. Both her academic mentorship and her prioritization of my wellbeing allowed me to find balance. I also owe many thanks to Dr. Christi Bergin for the many enlightening conversations that have strengthened my scholarship. I am very appreciative of Dr. Duane Rudy for his enduring optimism and for his guidance in cultural scholarship.

Dr. Jean Ispa also deserves recognition for her mentorship during my time in graduate school. I would not be the researcher I am today without her guidance. I am also grateful to Dr. Jennifer Bohanek for her mentorship and collaboration. I would also like to thank Drs. Gabriela Kline, Sahitya Maiya, Sarah Pierrotti, Zehra Gulseven, Clara Lopez, and Corey Reutlinger for their collaboration, encouragement, and instrumental support.
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ABSTRACT

Ethnic/racial outgroup threat perception has been linked with negative social behavior. However, less is known about its relations with prosocial behavior (i.e., helping behavior). Furthermore, there is a dearth of research that examines intervening mechanisms in these relations and how they may differ within ethnic/racial minority and majority groups. The present study aimed to examine the intervening role of stress in the relations between ethnic/racial outgroup threat perception, aggression, and prosocial behavior toward ethnic/racial outgroups and ingroups among Latine and non-Latine White young adults. Participants were 311 Latine (72.2% women, $M_{age} = 21.05$ years, $SD = 2.09$) and 207 non-Latine White (86.0% women, $M_{age} = 20.57$, $SD = 1.90$) college students between the ages of 18-25 from across the United States who self-reported on study variables. Path analyses showed that outgroup threat perception was positively associated with aggression for Latines, but not for non-Latine Whites. Stress was positively associated with aggression across both samples and positively associated with measures of prosocial behavior for Latines. Stress did not serve as an intervening mechanism in these relations. The discussion focuses on the adaptive role of behavior in contexts of outgroup threat perceptions and stress.

Keywords: threat perception, ethnicity, race, outgroup prosocial behavior, ingroup prosocial behavior, stress and coping
Chapter 1. Introduction

Young adults in the United States report high rates of ethnically charged peer discrimination (Hope et al., 2015), anti-immigrant bias (Canizales & Vallejo, 2021), and hate crimes based on ethnicity and race (Tynes et al., 2018). This intergroup hostility comes at a cost to broader social cohesion (Brondolo et al., 2012) as well as young adults’ health and wellbeing (Polanco-Roman et al., 2016). Given that the ethnic/racial makeup of the country continues to diversify (Johnson, 2021), research that aims to understand why young adults engage in hostile social behavior, rather than those motivated by care and inclusion, is critical.

Social psychological theories identify outgroup threat perception, or the belief that members of outside social groups can endanger the wellbeing and validity of one’s ingroup, as a catalyst in negative intergroup relations (Stephan et al., 2008; Tajfel, 1978). Indeed, extant literature demonstrates links between outgroup threat perception and negative social behavior such as aggression (e.g., Schmid et al., 2014). However, less work has examined associations with positive social behavior. Positive behavior that may be especially relevant is prosocial behavior or voluntary actions that benefit others (Eisenberg et al., 2015). Recent developmental scholarship has underscored the role of prosocial behavior, particularly that which crosses social group lines, in promoting peaceful and equitable societies (Davis et al., 2021; Taylor, 2020).

Furthermore, research that examines the behavioral implications of outgroup threat perception has focused on majority group perspectives, limiting the holistic understanding of intergroup processes. Scholars have noted that the dismantling of systems that perpetuate group divisions requires the mutual participation of majority and
minority status groups (see Carlo et al., 2022). In the United States, two important groups to examine are Latines and non-Latine Whites. Latines are the fastest growing and largest ethnic/racial minority group (Pew, 2018), while non-Latine Whites represent the predominant (i.e., majority) ethnic/racial group, both numerically (Pew, 2018) and culturally (Devos & Banaji, 2005). Together, these groups represent critical perspectives.

Although it is useful to examine the links between outgroup threat perception and social behavior, it is also important to understand the underlying mechanisms that account for these associations. Stress and coping theories (e.g., Lazarus & Folkman, 1984), propose that individuals subjectively assess threats in their environment and act based on the stress associated with the threat. The theoretical role of stress is further supported by empirical research that documents psychological and physiological stress responses in the context of outgroup threat (e.g., Zeiders, 2017; Sawyer et al., 2012) as well as research that emphasizes the role of social behavior as an adaptive tool for coping with stress exposure (e.g., Larson & Moses, 2017).

The present study aims to address the gaps in the existing literature by examining the role of stress in the links among young adults’ ethnic/racial outgroup threat perceptions, aggression, and ingroup and outgroup prosocial behavior. Additionally, the present study explores group differences in these links across Latine and non-Latine White ethnic/racial groups.
Chapter 2: Background

Theoretical Foundations

Social Identity Theory

According to social identity approaches, individuals make sense of a complex social world by engaging in social categorization and identification processes (Levy & Dovidio, 2021). Individuals categorize themselves and others into groups based on observable similarities and differences (e.g., ethnicity and race) and derive part of their personal identity from the group(s) to which they belong (Tajfel, 1978; Turner et al., 1987). Social identification with an ingroup leads individuals to view themselves in terms of its properties. In the simplest sense, ingroups can use the term “we” with the same essential significance (Allport, 1954). More specifically, ingroups may share a history, set of values, and/or physical characteristics (Allport, 1954). Perhaps most importantly, ingroups alleviate uncertainty about self and identity by providing belongingness and group standards for attitudes, beliefs, and behaviors (Hogg, 2021).

Due to the significance of ingroups, individuals may fear their dissolution and be particularly sensitive to intergroup structure or the relative positions of outgroups within a social environment (Yzerbyt & Demoulin, 2009). Though the existence of an outgroup does not always give rise to conflict, the belief that an outgroup is able to threaten the welfare of an ingroup (i.e., outgroup threat) can shift intergroup relations from neutral to negative (see Branscombe et al., 1999; Chang et al., 2016).

Intergroup Threat Theory

Intergroup threat theory (ITT; Stephan et al., 2009) builds upon social identity approaches and other threat theories (e.g., realistic group conflict theory, symbolic
racism) to define outgroup threat and its role in intergroup processes. The theory
describes threats to the tangible and intangible welfare of the ingroup. Tangible threats
pertain to the perceived deprivation of resources or the threat to overall safety of the
ingroup (i.e., realistic threats). Intangible threats concern the validity of the ingroup’s
system of meaning such as perceived group differences in values, belief systems, and
morals (i.e., symbolic threats).

These threat perceptions may elicit a range of individual behaviors (Stephan et al.,
2009). Moderating factors can lead to group differences in the extent to which threats are
perceived and acted upon (Stephan et al., 2009). One important factor identified by
theorists is the status or power a social group holds (e.g., minority and majority status).
More specifically, due to adverse experiences such as discrimination, minority groups
may be more likely to perceive threats, yet their capacity (e.g., resources) and incentive to
act on these threats are relatively low. On the other hand, individuals from majority status
groups may have more to lose in circumstances of threat (i.e., power) and because they
have the capacity, may react more strongly. Taken together, the theory describes a link
between outgroup threat perceptions and individual behaviors that may be affected by the
social context.

**Ethnic/racial Identity and Outgroup Threat in the U.S. Context**

In the United States, ethnicity and race are salient markers of group membership
(e.g., Kurzban et al., 2001) that are central to processes of personal and social identity
development (Phinney, 1996). Yet, due to the historical and sociopolitical landscape,
ethnic/racial groups often represent sources of threat. Scholars highlight how the
racialization of distinct ethnic groups (e.g., Asante et al., 2016) has contributed to societal
norms that promote the separation and exclusion of these groups (see Urciuoli, 2020). This separation and exclusion are often rooted in the assumption that to be American is to be Protestant, English-speaking, and White (Schildkraut, 2007; Sears & Henry, 2003). Consequently, ethnic/racial groups with diverse cultural values and customs are seen as challenging national traditions (e.g., Behler et al., 2021) but also fear the erosion of their own cultural identities (Phinney, 2003). Additional cultural orientations of zero-sum beliefs promote the perspective that ethnic/racial outgroups represent competition for finite resources (e.g., jobs; Esses et al., 2001). Finally, misrepresentations in the media and divisive political rhetoric often depict groups as dangers to individual health (Lantz et al., 2023) and safety (Dixon et al., 2019). In summary, the perception that ethnic/racial outgroups represent sources of threat is present in the broader U.S. context.

This context serves as a backdrop for ethnic/racial identity development and therefore, may be especially relevant to young adults. Although ethnic/racial identity develops across the lifespan (Williams et al., 2020), research points to young adulthood as a period of important cognitive and social transitions (see Umaña-Taylor et al., 2014). Cognitive maturity in social perspective taking and abstract thinking allow young adults to develop an ethnic/racial group awareness in which they form generalized perspectives of their own and other ethnic/racial groups (Quintana, 2008). The social transition to the university setting is a consciousness-raising experience that prompts even more complex ethnic/racial identity development for many young adults. Interactions with diverse peers and exposure to course content not only increase the salience and centrality of ethnic/racial identity in the present, but also initiate reflection about how ethnicity and race may have affected prior lived experiences (Syed & Azmitia, 2008; Torres &
Magolda, 2004) as well as access to future goals and opportunities (e.g., career choice; Syed & Azmitia, 2009). Thus, the present study focuses on young adulthood as a time when ethnic/racial identity and its consequences are brought to the forefront of daily life.
Chapter 3. The Present Study

Based on intergroup threat theory, young adults’ perceptions of ethnic/racial outgroup threat may vary as a function of their own ethnic/racial identity. This may be because ethnic/racial group membership is linked to the distribution of social power (Delgado & Stefanic, 2000), which in turn, results in unique lived experiences and developmental processes (e.g., Coll et al., 1996). Therefore, the present study tested a conceptual model (see Figure 1) to explore differences in the relations among young adults’ outgroup threat perceptions and behavioral tendencies, as well as the potential intervening role of stress across two prominent groups in the United States, Latines and non-Latine Whites. The sections below review the existing literature pertaining to the model.

Ethnic/racial Group Differences in Outgroup Threat Perceptions

According to theorists, minority groups, such as Latines in the United States, perceive high levels of outgroup threat (Stephan et al., 2009). Indeed, Latines report high levels of perceived ethnic discrimination, particularly in late adolescence and young adulthood (Zeiders et al., 2021). Previous work specifically highlights perceived barriers in access to resources such as higher education (Hurtado et al., 2020) and healthcare (Lightfoot et al., 2019). Many times, other minority groups can be seen as competition for these resources (e.g., Corral, 2020). Additionally, fears of profiling and deportation present threats to safety and wellbeing (Esses & Hamilton, 2021). For instance, youth report being perceived as foreigners even when they are born and raised in the United States (Huynh et al., 2011) and a number come from families with mixed documentation status, meaning that the threat of deportation affects those both foreign and U.S. born
(Rayburn et al., 2021). In tandem with threats to material resources and safety, Latine youth may perceive threats to their heritage culture values and practices. For example, ample literature describes the pressures Latine youth face to acculturate or adopt predominate values and practices of White American culture (e.g., Cano et al., 2013). In summary, it is likely that Latine young adults perceive high rates of outgroup threats.

In contrast, theorists posit that as the ethnic/racial majority, non-Latine White young adults perceive fewer outgroup threats (Stephan et al., 2009). Some previous research supports this assertion (e.g., Stephan et al., 2002). Still, other work describes important sources of outgroup threat. One growing source of threat is that of displacement. As diversity increases, ethnic/racial demographics are projected to reach a numeric majority-minority population by the year 2050 (Bahrampour & Mellnik, 2021). Research suggests that when presented with this scenario, White young adults worry about changes in their representation in American culture and predict that they will face future discrimination (Craig & Richeson, 2017; Danbold & Huo, 2015). Moreover, this impending demographic shift has been shown to alter White Americans’ threshold for classifying racially mixed targets as racial minorities (Miller et al., 2010), thereby restricting the parameters of their ingroup, and expanding the number of outgroup members who are potential sources of threats. This fear of displacement may translate into other domains such as access to resources. For example, Nguyen and colleagues (2019) found that White college students’ feelings of threat were linked to anger at Asian Americans for taking jobs. Taken together, White young adults may increasingly perceive ethnic/racial outgroups as threats. Though it is important to understand levels of
outgroup threat perceptions, it is their subsequent links with behavior that has critical implications for intergroup relations.

**Outgroup Threat Perceptions and Behavioral Tendencies**

**Aggressive Behavior**

Aggressive behavior is negative social behavior with the intent to cause harm (Baron & Richardson, 1994). In young adults, aggressive tendencies have been linked with increases in risky behavior and negative psychosocial adjustment (Storch et al., 2004; Werner & Crick, 1999). Furthermore, when examined under intergroup contexts, acts of aggression have been shown to instigate conflict and lead to cycles of dehumanization, othering, and prejudice (Kteily et al., 2015; Merrilees et al., 2013). Given the implications for individual and intergroup wellbeing, it is important to understand how such behavior manifests in young adults.

Psychologists point to perceived provocation from others, including threat, as a key factor in individual aggressive tendencies (Anderson & Bushman, 2002). This is further supported by previous research with both Latine and non-Latine White young adults. For example, studies examining Latine youths’ perceived discrimination and pressures to acculturate demonstrate positive links with aggressive tendencies (Bennett et al., 2020; Cano et al., 2015; Meca et al., 2023; Tobler et al., 2012). Other studies have found that when White young adults are exposed to ethnic/racial outgroups deemed as threatening, they engage in more aggressive behavior (Cesario et al., 2010; Mange et al., 2012, 2015). Taken together, existing literature suggests that that ethnic/racial outgroup threat perceptions are positively associated with Latine and non-Latine White young adults’ aggressive tendencies.
Prosocial Behavior

It is also important to understand how outgroup threat perceptions are linked with positive behavior such as prosocial behavior (i.e., helping behavior). Broadly defined, prosocial behavior includes actions that are intended to benefit others (Eisenberg et al., 2015). These actions, such as comforting, sharing, and volunteering assist in the forming and maintaining of positive social relationships across development (Dirks et al., 2018). Prosocial behavior that crosses social group lines may play a key role in fostering positive intergroup relations and contribute to the construction of peaceful societies (Davis et al., 2019; Taylor, 2020). However, discriminatory helping that favors ingroups while excluding outgroups may serve to perpetuate broader social inequities (see Carlo et al., 2022). Thus, understanding the links between threat perceptions and young adults’ engagement in intergroup helping behavior may have important implications for broader societal functioning.

Scholars propose that outgroup threats shift individuals’ attention away from others’ wellbeing and toward the need to maintain and preserve their own group’s welfare (Stürmer & Snyder, 2009), resulting in more ingroup and less outgroup helping (see Everette et al., 2015). No research directly examines these links across Latine and non-Latine White young adults in the United States context, however, related work does indicate discrimination in prosocial behavior. Studies across other national contexts with relevant ethnic/racial majority groups have found that outgroup threat perceptions are positively associated with prosocial behavior in ethnically and racially homogenous contexts (Conzo et al., 2021) and negatively associated with behaviors such as giving monetary donations to ethnic outgroups (Li & Zhao, 2012), supporting ethnic minority
group rights (Verkuyten, 2009), and defending ethnic/racial outgroup members against bullying (Jelić et al., 2020).

In Latines, related research suggests similar patterns of helping. For example, Gutierrez and colleagues (2019) found that racial threat and anti-immigrant rhetoric were key factors in Latine voter mobilization and community level civic engagement. Other studies demonstrate that youth who report high levels of perceived discrimination also report engaging in fewer other-oriented, selfless types of prosocial behavior (i.e., altruism; Davis et al., 2016, 2018, 2021). These findings may translate to contexts of outgroup helping because other-oriented prosocial behaviors reflect an important quality of outgroup helping in that they are costly to the self. Based on this previous literature, it is likely that young adults who perceive high levels of outgroup threat perceptions will be more likely to engage in ingroup favoritism and outgroup discrimination in prosocial behavior.

It is also important to note that contexts of threat may facilitate youth’s outgroup prosocial behavior. For instance, some literature suggests that youth engage in defensive helping or prosocial behavior to mitigate outgroup threat (Nadler, 2002) or improve/maintain an ingroup’s social status in the face of threats (Hopkins et al., 2007; Nadler & Halabi, 2006; Nadler et al., 2009). This phenomenon may be reflected in the few studies that find Latine youth’s perceived discrimination is positively associated with prosocial behavior done with public recognition (Brittian et al., 2013; Davis et al., 2016, 2021). In this case, it may be that outgroup threat engenders pragmatic prosocial behavior that is protective of the self and the ingroup by mitigating the source of the threat and securing the approval of others (see van Leeuwen & Tauber, 2010). Taken together,
theory and evidence suggest important links between young adults’ outgroup threat 
perceptions and aggression as well as discriminatory helping. Still, most existing research 
has only examined direct associations among these factors, leaving a gap in 
understanding about the underlying mechanisms in these relations.

**The Intervening Role of Stress**

Stress, or the negative, subjective, and psychological feeling of overwhelm 
(Buchanan & Preston, 2014), may account for the patterns of social behavior under 
contexts of outgroup threat. According to stress and coping theories (e.g., Lazarus & 
Folkman, 1984; Trawalter et al., 2009), individuals engage in cognitive appraisals in 
which they evaluate and meaningfully interpret the potential stressors in their 
environment. While some people appraise potential stressors as either benign or as 
challenges that they are equipped to manage, others may appraise them as threatening to 
their wellbeing and consequently, experience stress. Subsequent behaviors are meant to 
manage or cope with this stress. Thus, perceptions of ethnic/racial outgroup threats may 
increase stress and, in turn, lead to behavior.

Empirical research supports the link between outgroup threat and stress. 
Developmental scholars describe perceptions of discrimination and pressures to 
acculturate to U.S. majority culture as cultural stressors due to their significant 
contributions to Latine youths’ perceived stress (e.g., Zeiders, 2017). Youth’s perceived 
stress in contexts of outgroup threats may also manifest as physiological arousal (see 
Oldehinkel et al., 2011). Studies with ethnic/racial minorities, including Latines, have 
documented associations between cultural stressors and important shifts in biomarkers 
indicative of a stress response (Goosby et al., 2015; Lucas et al., 2018; Sawyer et al.,
2012; Zeiders et al., 2014). Related research with non-Latine Whites has identified similar physiological responses under contexts of interracial interactions (Mendes et al., 2002; Mendes et al., 2007) as well as aversive affective responses such as increased anxiety and discomfort (Littleford et al., 2005; Trawalter et al., 2012). Taken together, this work suggests that outgroup threat perceptions contribute to increases in young adults’ levels of perceived stress.

In turn, young adults may engage in social behavior as a means of overcoming and managing stress. Theorists describe individuals’ behavioral tendencies in the face of stress as falling into categories of either “fight, flight, and freeze” or “tend and befriend” (Trawalter et al., 2009). Aggression, an example of the former, may be one way in which individuals cope with the stress of outgroup threat. For example, research demonstrates that when individuals’ social identity is in danger, aggressive behavior such as the derogation of outgroup members is associated with increases in self-esteem (Branscombe & Wann, 1994). Other research has shown that elevated physiological markers of stress are positively associated with individuals’ outgroup hostile behavior (Schweda et al., 2019).

On the other hand, individuals under stress may opt to “tend and befriend” by engaging in prosocial behavior. This behavior may be a means of enhancing social affiliations with others, thus receiving additional support (e.g., material resources) to surmount the source of stress (Taylor et al., 2000). Though engagement in prosocial behavior has also been shown to mitigate the aversive effects of stress (Raposa et al., 2016), previous research finds differential associations between youth’s stress exposure and engagement in prosocial behavior. In one meta-analysis (Nitschke et al., 2022),
researchers found inconsistent patterns in the relation between stress and prosocial behavior, concluding that stress can both increase and decrease prosociality. Additionally, in their study of nearly 13,000 adolescents, Larson and Moses (2017) found that stress exposure facilitated informal, reactive helping (e.g., stopping peer harassment) rather than helping that was formal or relied on institutional support (e.g., volunteering). Finally, in parallel with the work cited in the previous section, studies examining stress and helping among Latine youth have found that acculturative stress is associated with decreases in other-oriented, selfless helping and increases in prosocial behavior done with public recognition (Maiya et al., 2021; McGinley et al., 2010). Taken together, existing research suggests that under contexts of stress, engagement in prosocial behavior may be adaptive.

**Study Hypotheses**

The present study sought to address important gaps in the study of intergroup processes by examining the links among outgroup threat perceptions, stress, and behavioral tendencies across Latine and non-Latine White young adults. Although some scholars have emphasized the conceptual distinction between realistic and symbolic forms of threat (e.g., Stephan et al., 2009), others have noted considerable overlap, particularly when examining their harmful effects (e.g., Riek et al., 2006). Therefore, the present study primarily examined outgroup threat perceptions as a single construct that encompasses both realistic and symbolic forms.

**Main Study Hypotheses**

Based on the proposed tenants of intergroup threat theory and related empirical work, I hypothesized that (I) outgroup threat perceptions would be positively associated
with aggressive tendencies, negatively associated with outgroup prosocial behavior, and positively associated with ingroup prosocial behavior. Based on theories of stress and coping as well as limited previous research, I hypothesized that (II) outgroup threat perceptions would be positively associated with stress and that (III) stress would be positively associated with aggressive tendencies. Finally, based on intergroup threat theory and stress and coping theories, I hypothesized that (IV) stress would mediate the relations between outgroup threat perceptions and behavioral tendencies.

**Exploratory Hypotheses**

Additional hypotheses are exploratory. Given that theories of stress and coping posit a range of behavioral tendencies in the context of stress and the mixed evidence linking stress to helping behavior, these relations were believed to be either positive or negative. In addition, it is important to consider potential moderating variables in the associations among outgroup threat perceptions, stress, and social behavior. Research exploring the perspectives of minority status groups in intergroup processes is scarce and critically important to constructing a truly equitable society (Carlo et al., 2022). In consideration of the historical and social relevance of ethnic/racial group membership as it relates to social power and perspective, the present study explored group differences across Latine and non-Latine, White young adults. Furthermore, due to previous research that suggests that men may display more support for group-based hierarchies (Sugiura et al., 2017), engage in higher rates of aggression in response to outgroup threat (e.g., Ponting et al., 2018), and lower rates of prosocial behavior in contexts of stress (Nickels et al., 2017), the present study also explored gender group differences in the main model.
Chapter 4: Methods

Participants and Procedure

Participants were 331 Latine (72.2% women, $M_{\text{age}} = 21.05$ years, $SD = 2.09$) and 207 non-Latine White (86.0% women, $M_{\text{age}} = 20.57$, $SD = 1.90$) college students between the ages of 18-25. Within the Latine subsample, 62.5% identified as racially White, 30.2% as “other”, and 7.3% as Black. At the time of data collection, most (74.6%) were undergraduate students, while 25.4% were graduate students. A slight majority (58%) reported that English was their native language, while 42% reported that English was not their native language. Participants reported that about half of their mothers (54.4%) and fathers (52.3%) had completed a high school education or less, while 42.9% of mothers and 36.8% of fathers had some school beyond high school including some college, technical training, 4-year college, or a professional degree. Within the non-Latine White subsample, 100% identified racially as White. Most participants (82.1%) were undergraduates, while 17.9% were graduate students. All participants responded that English was their native language. Participants reported that most of their mothers (91.9%) and fathers (87.0%) had completed some school beyond high school, while 8.2% of mothers and 11.1% of fathers had completed a high school education or less.

The present study uses data from a related investigation on young adult stress and adjustment. Recruitment and data collection protocols were approved by the University of Missouri’s Institutional Review Board (IRB; 2014055). Young adult participants were contacted via in-classroom announcements at universities across the United States, targeting Latine-serving institutions and large universities, and via social media platforms. Additional Latine participants were recruited through Bovitz Inc., an online labor market. The current sample represents a subset of these data and includes those who
identified as having Latine heritage or European heritage. Previous literature suggests that the current sample size is sufficient for testing multigroup path models (e.g., Fritz & MacKinnon, 2007; Schumaker & Lomax, 2004).

Participants completed a brief, 30-minute survey using the Qualtrics online data collection tool. Participants self-reported their demographic information and dimensions of social and emotional health. Participants recruited through Bovitz Inc. underwent additional screening including a presurvey of study inclusion criteria (e.g., “I identify as Latine”) and two quality assurance questions (e.g., Humans drink milk from which of the following? A. cows, b. cats, c. lizards, d. dinosaurs). Those who failed quality assurance questions were removed from the study. The scales used in the present study are summarized below. A detailed codebook of these scales and their items can be found in Appendix A. All participants were compensated with either a $5 gift card upon completion of the survey or compensation through Bovitz Inc.

**Measures**

**Outgroup Threat Perception**

Young adults’ perceptions of the threat posed by ethnic/racial outgroups was assessed using the 13-item Outgroup Threat Perception Scale (Navas et al., 2012). Participants were asked to self-report the extent to which they perceive aspects of their personal and community life are to be in danger due to ethnic/racial outgroup members using a 5-point Likert scale from 1 (not at all) to 5 (greatly). Example items under threat included, “family values”, “cultural celebrations”, “economic stability of our community”, and “public safety.” Higher mean scores indicate greater perceived threat of ethnic/racial outgroup members. A Spanish language version of the scale has been normed in Spanish.
and Latin American populations. In these populations, the Cronbach’s alpha for this scale has been in a high range ($\alpha = .85 - .94$; Carmona-Halty & Navas, 2016). To establish the validity of this measure in the current sample, exploratory factor analyses\(^1\) were conducted over a random half of each of the Latine and non-Latine White subsamples. Results from each subsample indicated distinct 2-factor structures. However, within each sample, these factors were highly correlated ($r = .77, .74$), exceeding the low to moderate correlations expected, indicating redundancy and a unidimensional factor structure.

Confirmatory factor analyses\(^2\) were conducted in each subsample. A model with one factor and 13 items was an acceptable fit within Latine and non-Latine subsamples, $\chi^2 (60) = 149.74$, $p < .05$, RMSEA = 0.10, CFI = .95, SRMR = .04; $\chi^2 (57) = 135.87$, $p < .05$, RMSEA = 0.11, CFI = .95, SRMR = .04. This item demonstrated excellent reliability within Latine and non-Latine White subsamples ($\alpha = .97; .97$).

**Stress**

Young adults’ levels of general stress were measured using the 10-item Perceived Stress Scale (Cohen et al., 1983). Individuals self-reported the frequency of feelings and thoughts of stress in the last month using a 5-point Likert scale from 0 (never) to 4 (very often). Example items included, “How often have you felt difficulties were piling up so high that you could not overcome them?” and reversed scored items such as, “How often have you felt that things were going your way?” Higher mean scores indicate higher

\(^1\) Oblique rotation was used. Factors were determined based on eigenvalues and visual scree tests as well as parallel analyses. Items with factor loadings above +/- 0.4 (accounting for small sample sizes), and factors that contained three or more items were retained.

\(^2\) Model fit was assessed using predominately used cutoff criteria (see Hu & Bentler, 1999): a nonsignificant $\chi^2$ test of model fit, root mean square error of approximation (RMSEA) values equal to or below .06 (adequate fit .08 or below), comparative fit index (CFI) values greater than .95 (adequate fit .90 and above), and standardized root mean residual (SRMR) values below .06 (adequate fit .08 or below) indicated good model fit.
perceived stress. The scale has been widely used in the U.S. context, including within White, non-Latine and Latine subgroups and has shown good reliability \((\alpha = .78 - .91; \) Cohen & Janicki-Deverts, 2012; López-Cepero et al., 2019). Due to prior work that suggests a two-factor structure of the scale (e.g., Taylor, 2015), the factor structure in the present sample was examined. Exploratory factor analysis was conducted over a random half of each Latine and non-Latine White subsample. Results from each subsample indicated a 2-factor structure with positively worded items loading onto one factor and negatively worded items loading onto a second factor. The factors were moderately correlated within the Latine and non-Latine White subsamples \((r = .36; .59)\). However, low correlations across like items that were positively and negatively worded suggested potential carelessness in participant answers. Given previous research that suggests carelessness on reverse items can significantly affect factor structure (Woods, 2006), these items were removed from the scale and the six negatively worded items were retained. Confirmatory factor analyses were conducted on the remainder of each subsample. A model with one factor of six items was a good fit of the data within the Latine, \(\chi^2(8) = 10.74, p = .22, \) RMSEA = .05, 90% confidence interval (CI) = [.00, .12], CFI = .99, SRMR = .02 and within the non-Latine White subsample, \(\chi^2(8) = 13.39, p = .10, \) RMSEA = .08, 90% confidence interval (CI) = [.00, .15], CFI = .98, SRMR = .04. These items demonstrated good reliability within Latine and non-Latine White subsamples \((\alpha = .86; .88)\).

**Aggression**

Young adults’ tendencies toward aggressive behavior were assessed using the five-item suppression of aggression subscale of the Weinberger Adjustment Inventory.
(WAI; Weinberger & Schwartz, 1990). Participants self-reported on each item using a 5-point Likert scale from 1 (almost never) to 5 (almost always). Example items include, “People who get me angry better watch out” and “If someone tries to hurt me, I make sure I get even with them.” Higher mean scores indicated higher levels of aggression. The full adjustment scale has been used across Latine and non-Latine, White samples (Pimentel et al., 2022; Weinberger, 1997). To establish the validity of this measure in the current sample, a confirmatory factor analysis was conducted in each subsample. A model with one factor with five items was a poor fit of the data within Latine, $\chi^2 (5) = 44.5, p < .001$, RMSEA = .16, 90% confidence interval (CI) = [.11, .20], CFI = .92, SRMR = .03, and non-Latine White subsamples, $\chi^2 (5) = 74.19, p < .001$, RMSEA = .26, 90% confidence interval (CI) = [.21, .32], CFI = .83, SRMR = .09. Items demonstrated good and acceptable reliability in the present sample within Latine and non-Latine White subsamples respectively ($\alpha = .88, .78$).

**Prosocial Behavior**

Young adults’ ingroup and outgroup prosocial behaviors were measured using adaptations of the Prosocial Tendencies Measure (PTM; Carlo & Randall, 2002). The PTM is a self-report scale that intends to assess the individual’s tendency to perform types of prosocial behaviors. Emotional, dire, and compliant scales were used. Emotional prosocial behaviors refer to the tendency to perform acts when the situation is emotionally evocative (5 items; “I usually help those inside/outside my ethnic/racial group when they are very upset.”). Dire prosocial behaviors are those that are enacted in emergency situations (3 items; “I usually help those inside/outside my ethnic/racial group who are hurt badly.”). Compliant prosocial behaviors are those acts that are performed in
response to a request or demand (2 items; “I never wait to help those inside/outside my ethnic/racial group when they ask for it.”). Individuals indicated their helping behaviors using a 5-point Likert scale from 1 (does not describe me at all) to 5 (describes me greatly). Participants reported first on their tendencies to engage in prosocial behavior toward ethnic/racial outgroup targets and then toward ingroup targets. Each measure was separated by a series of other scales. A composite of the subscales was used to create a mean score of prosocial behavior toward each target. Higher scores indicated higher levels of prosocial behavior. The overall scale has been normed in Latine and non-Latine White samples (Carlo et al., 2010). To establish the validity of the adapted scales, a confirmatory factor analysis was conducted in each subsample. A model with one factor and nine items of outgroup prosocial behavior was a good fit of the data within the Latine subsample, $\chi^2 (24) = 54.55, p < .001, \text{RMSEA} = .06, 90\% \text{ confidence interval (CI)} = [.97, .03], \text{CFI} = .97, \text{SRMR} = .03,$ and within the non-Latine White subsample, $\chi^2 (24) = 55.57, p < .001, \text{RMSEA} = .08, 90\% \text{ confidence interval (CI)} = [.05, .11], \text{CFI} = .94, \text{SRMR} = .05.$ A model with one factor and nine items of ingroup prosocial behavior was a good fit of the data within the Latine subsample, $\chi^2 (24) = 33.65, p = .09, \text{RMSEA} = .04, 90\% \text{ confidence interval (CI)} = [.00, .06], \text{CFI} = .99, \text{SRMR} = .00,$ and within the non-Latine White subsample, $\chi^2 (24) = 51.19, p < .05, \text{RMSEA} = .08, 90\% \text{ confidence interval (CI)} = [.05, .10], \text{CFI} = .97, \text{SRMR} = .04.$ Items of both outgroup and ingroup prosocial behavior demonstrated good or excellent reliability in the present sample within Latine ($\alpha = .91, .94$) and non-Latine White subsamples ($\alpha = .86, .92$).

Social Desirability as a Covariate
Young adults’ dispositional social desirability was measured using a short, ten-item version of the Marlow-Crowne Social Desirability Scale (Reynolds, 1982). Participants assess statements about their personal attributes and traits as true or false. Example items include, “I’m always willing to admit when I made a mistake” and reverse-coded items such as “I sometimes try to get even rather than forgive and forget.” Higher mean scores indicated higher levels of social desirability.

*Age and Gender as Covariates*

Participants selected their age from 18-25 years. Participants reported their gender as either 0 (men) or 1 (women). Data on non-binary gender participants was not available.
Chapter 5: Results

Preliminary Analyses

Descriptive statistics and bivariate correlations for Latines are presented in Table 1 and for non-Latine Whites in Table 2. Data was normally distributed. Several variables were correlated within each subsample. Within the Latine subsample, outgroup threat perception was positively correlated with aggression. Perceived stress was positively correlated with aggression, outgroup and ingroup prosocial behavior. Aggression was negatively correlated with outgroup and ingroup prosocial behavior. Outgroup and ingroup prosocial behavior were positively correlated with each other. Within the non-Latine White subsample, stress was positively correlated with aggression. Outgroup and ingroup prosocial behavior were positively correlated.

Path Analyses

To test the study hypotheses, two multigroup models with path analyses were tested in Mplus using maximum likelihood robust standard error estimation (Muthen & Muthen, 2012). For the main model, outgroup threat perception was specified as the predictor, stress as a mediator, and aggression, outgroup prosocial behavior, and ingroup prosocial behavior as outcome variables. All direct effects were also specified. Because age, gender, and social desirability scores were significantly associated with study variables, they were included as covariates in the model. The fit of path model to the data was assessed using predominately used cutoff criteria (see Hu & Bentler, 1999): a nonsignificant $\chi^2$ test of model fit, root mean square error of approximation (RMSEA) values equal to or below .06 (adequate fit .08 or below), comparative fit index (CFI)
values greater than .95 (adequate fit .90 and above), and standardized root mean residual (SRMR) values below .06 (adequate fit .08 or below) indicated good model fit.

**Main Model**

The main model was a poor fit of the data (see Figure 2): $\chi^2 (3) = 34.092$, $p < .001$, RMSEA = .15, 90% confidence interval (CI) = [.10, .19], CFI = .92, SRMR = .04. As hypothesized, results revealed that outgroup threat perception was positively linked to aggression. Further in support of the study hypothesis, stress was positively linked to aggression. Additionally, stress was positively linked to outgroup prosocial behavior, and ingroup prosocial behavior. Aggression and ingroup prosocial behavior were positively linked. Outgroup and ingroup prosocial behavior were positively linked. Gender (0 = man, 1 = woman) and ingroup prosocial behavior were positively linked. Social desirability was negatively linked to aggression and positively linked to ingroup prosocial behavior. Contrary to study hypotheses, mediation pathways were not significant.

**Multigroup Analyses**

Two multigroup analyses were conducted. First, to examine whether the main model differed by Latine (n = 302) and non-Latine Whites (n = 193), a multigroup analysis by ethnic/racial group was conducted. Satorra-Bentler-scaled chi square (S-B $\chi^2$) difference tests were conducted to estimate whether there was a significant difference between the constrained and unconstrained model. The unconstrained main model, $\chi^2 (6)$ = 44.60, $p < .001$, RMSEA = .16, 90% confidence interval (CI) = [.12, .21], CFI = .91, SRMR = .05, was significantly different from the constrained main model, $\chi^2 (29)$ = 83.84, $p < .001$, RMSEA = .09, 90% confidence interval (CI) = [.07, .11], CFI = .87, SRMR = .08, S-B$\Delta \chi^2 (19)$ = 37.85, $p < .001$. A partially constrained model, $\chi^2 (16)$ =
51.93, \( p < .001 \), RMSEA = .10, 90% confidence interval (CI) = [.07, .12], CFI = .91, SRMR = .00, in which unequal paths were freely estimated and equal paths are constrained was tested against the fully constrained model and was also significantly different, S-B\( \Delta \chi^2 \) (9) = 27.43, \( p < .001 \).

Therefore, each unequal path was tested for significance separately. Results for Latine and non-Latine White young adults are shown in Figures 3 and 4 respectively. The path between outgroup threat perception and aggression was significantly different between groups (\( \Delta \chi^2 \) (1) =11.53, \( p < .001 \)). This path was significant and positively linked for Latines (\( \beta = .20, SE = .05, p < .001 \)) and nonsignificant non-Latine Whites (\( \beta = -.05, SE = .06, p = .40 \)). Paths between stress and outgroup and ingroup prosocial behavior were not significantly different between groups, (\( \Delta \chi^2 \) (1) =0.10, \( p = .76 \); \( \Delta \chi^2 \) (1) =1.35, \( p = .25 \)).

To explore whether the main model varied across women (n = 381) and men (n = 114), a second multigroup analyses was conducted by gender. The unconstrained main model, \( \chi^2 \) (20) = 42.62, \( p < .001 \), RMSEA = .07, 90% confidence interval (CI) = [.04, .10], CFI = .94, SRMR = .06, was not significantly different from the constrained main model, \( \chi^2 \) (4) = 27.58, \( p < .001 \), RMSEA = .15, 90% confidence interval (CI) = [.10, .21], CFI = .94, SRMR = .04.
Chapter 6: Discussion

The aim of the present study was to examine the role of stress in the links between ethnic/racial outgroup threat perception, aggression, outgroup prosocial behavior, and ingroup prosocial behavior in young adults. This study is unique in that it included majority and minority group perspectives by comparing these links across Latine and non-Latine White samples and examined how outgroup threat may relate to positive social behavior in addition to negative social behavior.

Consistent with the study hypothesis, higher levels of outgroup threat perception were directly associated with increases in aggression. Interestingly, this effect was only found in Latine young adults. Additionally, outgroup threat was not directly associated with outgroup or ingroup prosocial behavior in either group. These statistically significant group differences in the link between outgroup threat perception and aggression may reflect the low levels of outgroup threat reported by non-Latine White young adults. One possible explanation for these low levels is that the university context offers non-Latine White young adults a setting in which previously held stereotypes about ethnic/racial outgroups are challenged. For instance, Spanierman and colleagues (2008) found that non-Latine White young adults’ formal campus diversity experiences and interracial friendships led to an increase in their acceptance and promotion of cultural diversity. Alternatively, it may be that as the predominant ethnic/racial group on most college campuses, non-Latine White students do not attune to issues of race. For instance, Steck and colleagues (2003) found that White college students at predominately White institutions reported lower salience of their racial identity than those at more diverse institutions. Of course, it may also be that these youth feel discomfort in disclosing their
threat perceptions due to potential stigma such as being perceived as racist. On the other hand, Latine young adults may have experiences that affirm their threat perceptions. For example, research suggests that Latines, including those attending Hispanic-Serving Institutions (HSI), must contend with others’ deficit-based views of Latines’ academic potential, low visibility, and experiences of discrimination on and off campus (Cuellar & Johnson-Ahorlu, 2020). Taken together, these findings support the assertions from intergroup threat theorists that minority groups are more likely to perceive outgroup threat and that the individual behavioral responses to perceptions of outgroup threat are predominately negative (Stephan et al., 2009).

Overall, the findings that higher levels of stress were linked to increases in outgroup and ingroup prosocial behavior in Latines and with aggression across both ethnic/racial groups supports stress and coping theories that frame behavior as an adaptive response to stress. Indeed, Trawalter and colleagues (2009) describe aggression as a coping mechanism for individuals who perceive they have sufficient resources for retaliation in the face of stress. Engagement with prosocial behavior may also be adaptive. While previous research suggests that Latine youth may engage in less other-oriented prosocial behavior under contexts of stress, the present findings suggest that Latine youth may opt to “tend and befriend” both ethnic/racial outgroups and ingroups. This engagement in positive behavior may be strategic in that it establishes or reinforces important social relationships that can serve as instrumental or emotional support. On the other hand, this finding may also reflect the notion of altruism born of suffering in which experiences of stress and adversity increase individuals’ emotional sensitivity and in turn, increases tendencies to engage in prosocial behavior. For instance, Davis and colleagues
(2019b) found that Latine youth who reported stressful life events engaged in higher levels of prosocial behavior via increases in empathic concern.

Contrary to the study hypothesis, stress did not mediate the relations between outgroup threat and social behavior. Additionally, though stress was associated with outcomes of social behavior, outgroup threat perception was not associated with stress. These findings seem to challenge stress and coping theories that propose that individuals’ threat appraisals induce stress which, in turn, leads to behavior (e.g., Lazarus & Folkman, 1984). However, it may be that though Latine young adults perceive high levels of threat, they may not interpret these as stressful experiences. It may also be that youth have other ways of coping with outgroup threat perception that reduce its impact on their overall stress. For instance, Villegas-Gold and Yoo (2014) found that Mexican American college students’ engaged in problem solving coping strategies in the face of racial discrimination and that this coping strategy was associated with higher rates of subjective wellbeing. Still, the lack of findings in the present study may not discount the potential role of stress. The present study measured young adults’ general perceived stress, but it may be that stress experienced in the immediate context of an ethnic/racial outgroup threat is more important in the relations between outgroup threat and behavior. For example, in their theoretical framework, Trawalter and colleagues (2009) proposed stress as a mediator between individuals’ threat appraisals and behavior immediately within an interracial interaction. Additional empirical evidence supports the link between outgroup threat perception and concurrent stress. For example, Zeiders and colleagues (2014) found that minority adolescents’ self-reported daily experiences of discrimination were associated with daily increases in diurnal cortisol levels indicative of a stress response. Therefore,
more immediate, context-specific measures of stress may be more likely to be associated with ethnic/racial outgroup threat perception and mediate the relations between threat and behavior.

Finally, young adults’ gender did not affect the relations among outgroup threat perception, stress, and outgroup and ingroup prosocial behavior. This is surprising given previous research that finds stronger links between threat and retaliation in men, stress and ‘fight and flight’ responses in men, and stress and helping in women (Nickels et al., 2017; Niebala & Hohman, 2019). However, the present sample consisted primarily of women, which may have made gender differences in the model difficult to detect.

**Limitations and Future Directions**

The present findings should be understood within the context of the study’s limitations. First, a cross-sectional study design limits conclusions regarding the causality and directionality of the findings (Maxwell & Cole, 2007). Therefore, longitudinal, experimental, or intervention research is required to make claims about whether Latine young adults’ outgroup threat perceptions lead to increases in aggression and whether stress leads to increases in aggression and prosocial behavior toward ethnic/racial ingroup and outgroup targets. For example, it may be that individuals with aggressive tendencies are predisposed to perceiving ethnic/racial outgroups as threatening. Second, findings were based on young adults’ self-reports and may be susceptible to response bias as well as shared method variance. Though the present study controlled for levels of social desirability on outcome variables, future research should explore other assessment methods such as behavioral tasks or observation.
Third, measures of outgroup threat perception and outgroup prosocial behavior asked young adult participants to answer each question based on their perceptions of and behavior toward ethnic/racial outgroups in general. While this approach allows for data collection across multiple ethnic/racial groups and is a relevant question, it may also cause ambiguity in the interpretation of the findings. For example, it is impossible to know which ethnic/racial outgroup(s) individuals considered when answering these questions. Previous literature suggests that different ethnic/racial outgroups may represent different levels of threat (see Rios et al., 2018). Therefore, future research should measure these constructs in relation to specific ethnic/racial outgroup targets, particularly those most relevant to the given social context. This approach may allow study findings to be more readily translated to applied settings. In addition, future research should examine the intersectionality of ethnic/racial group membership and gender of participants and outgroup targets as these intersections of identity are more relevant to real-world contexts. Fourth, the present study does not account for the extent to which individuals identify with their ethnic/racial group. Ingroup identification likely influences perceptions of ethnic/racial outgroups (Allport, 1954). For example, those who do not hold their ethnic/racial identity central to their personal identity may not perceive diverse others as outgroups or as threats. Future research should examine how the main model changes in relation to young adults’ ethnic/racial ingroup identity. Closely related to this, the present study did not consider the diversity of each university that participants attended. It is likely that the salience of race and racial identities vary as a function of the representation of one’s ethnic/racial group on campus. Future research should examine
outgroup threat and related processes while considering the broader demographics of the institutions from which data are collected.

Finally, the study sample consisted of young adults who were 18 to 25 years old and were undergraduate or graduate students at the time of the study. Future research should examine these links within young adult community populations, which may report different levels of outgroup threat perception as they may be either more or less isolated from ethnic/racial outgroups than college students. Additionally, examining topics of ethnicity and race at this timepoint alone limits the understanding of how these processes unfold across the lifespan. There is some evidence that young adults, particularly non-Latine White young adults, are still developing their attitudes toward ethnic/racial outgroups (Henry & Sears, 2009). Thus, these perceptions may shift as individuals transition out of young adulthood, enter the job market, and establish families.

Conclusions

Despite these limitations, the present study addressed important gaps in the existing literature on ethnic/racial outgroup perceptions and behavior. Findings suggest that outgroup threat perceptions are linked to aggression in Latines, but not non-Latine White young adults. Additional findings suggest that stress is linked to aggression across ethnic/racial groups and with in- and outgroup prosocial behavior in Latine young adults. Ethnic/racial group differences in the association between outgroup threat perception and aggression underscore the important implications of high rates of outgroup threat in Latine young adults. University administrators and educators may consider implementing targeted interventions that aim to reduce Latine young adults’ perceptions of outgroup threat to promote optimal behavioral development. Similarly, the positive associations
between stress and prosocial behavior in Latines’ as well as aggression across groups points to the adaptive role of behavior in contexts of stress. These findings point to the resilience of Latine young adults, but also suggest that a myriad of behaviors, both positive and negative, may result from stress. Practitioners, counselors, and educators may consider strategies and systems that reduce young adults’ stressors to reduce their engagement in negative social behavior.
References


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photovoice with immigrant Latino adolescents to explore barriers to healthcare. *Qualitative Social Work, 18*(1), 60-80.


Appendix A

Figure 1

Conceptual Model

[Diagram of a conceptual model showing the relationships between Stress, Aggression, Ingroup Prosocial Behavior, and Outgroup Prosocial Behavior, with arrows indicating the direction of influence.]
Table 1

*Correlations and descriptive statistics for Latine Young Adults*

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Mean and SD

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Note: **p < .01, *<.05.
### Appendix C

#### Table 2

*Correlations and descriptive statistics for non-Latine White Young Adults*

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Note: **p < .01, *<.05.
Appendix D

Figure 2

Main Model

Note. Path model for outgroup threat perception, stress, aggression, outgroup and ingroup prosocial behavior for the total young adult sample. Standardized parameters are shown. Covariates of age, gender, and social desirability are included in the model, but not shown. Arrows depict significant direct effects and dashed lines depict nonsignificant direct effects. **p<.01, *p<.05.
Figure 3

Path Model for Latine Young Adults

Note. Path model for outgroup threat perception, stress, aggression, outgroup and ingroup prosocial behavior for Latine young adults. Standardized parameters are shown. Covariates of age, gender, and social desirability are included in the model, but not shown. Arrows depict significant direct effects and dashed lines depict nonsignificant direct effects. **p<.01, *p<.05.
Figure 4

Path Model for non-Latine White Young Adults

Note. Path model for outgroup threat perception, stress, aggression, outgroup and ingroup prosocial behavior for non-Latine White young adults. Standardized parameters are shown. Covariates of age, gender, and social desirability are included in the model, but not shown. Arrows depict significant direct effects and dashed lines depict nonsignificant direct effects. **p<.01, *p<.05.
Appendix G

Measures

Outgroup Threat Perception

Outgroup Threat Perception Scale (13 items)

Navas et al. (2012)

1. Educational values (for example, the values that are taught in schools, their influences that children are exposed to in schools)

2. Family values (for example, values toward elders, gender equality, how to parent children)

3. Religious beliefs (for example, beliefs, practices, and religious obligations or restrictions)

4. Cultural celebrations (for example, holidays, festivals, traditions)

5. Access to jobs

6. Access to medical care (for example, access to doctors, ease of receiving medical care in a hospital)

7. Access to education (for example, space in schools, number of admitted students, grants and loans for students, quality of education)

8. Access to public assistance (for example, unemployment or housing benefits)

9. Economic stability of our community (for example, the labor market, employment rates, social security)

10. Health (for example, exposure to illness)

11. Personal safety (for example, likelihood of being a victim of a crime)

12. Public order (for example, crime rates, gangs)
13. Safety of the country (for example, likelihood of experiencing a large-scale attack)
Stress

Perceived Stress Scale (10 items)

Cohen et al. (1983)

1. In the last month, how often have you been upset because of something that happened unexpectedly?

2. In the last month, how often have you felt that you were unable to control the important things in your life?

3. In the last month, how often have you felt nervous and "stressed"?

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

5. In the last month, how often have you felt that things were going your way?

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

7. In the last month, how often have you been able to control irritations in your life?

8. In the last month, how often have you felt that you were on top of things?

9. In the last month, how often have you been angered because of things that were outside of your control?

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
Aggression

Weinberg Adjustment Inventory (WAI; 5 items)

Weinberger et al. (1987)

1. People who get me angry better watch out.
2. If someone tries to hurt me, I make sure to get even with them.
3. If someone does something I really don’t like, I yell at them about it.
4. I lose my temper and “let people have it” when I’m angry.
5. I pick on people I don’t like.
Out/In-group Prosocial Behavior (PTM-O; 9 items)

Carlo et al. (2003)

1. It is most fulfilling to me when I can comfort someone (out/inside my ethnic/racial group) who is very distressed.

2. I tend to help individuals (out/inside my ethnic/racial group) who are in a real crisis or need.

3. When people who are (out/inside my ethnic/racial group) ask me to help them, I do not hesitate.

4. I tend to help individuals (out/inside my ethnic/racial group) who are hurt badly.

5. I tend to help individuals (out/inside my ethnic/racial group) particularly when they are emotionally distressed.

6. It is easy for me to help individuals (out/inside my ethnic/racial group) when they are in a bad situation.

7. I respond to helping individuals (out/inside my ethnic/racial group) best when the situation is highly emotional.

8. I never hesitate to help individuals (out/inside my ethnic/racial group) when they ask for it.

9. Emotional situations make me want to help individuals (out/inside my ethnic/racial group) in need.
Joy E. Roos was born in Chilpancingo, Mexico and spent her childhood in Lexington Nebraska. After graduating from Lexington High School in 2008, she earned a Bachelor of Arts in Psychology and Spanish from the University of Nebraska-Lincoln in 2012, where she became interested in serving underrepresented populations. She worked as a social worker, serving Spanish-speaking women and families in Nebraska before beginning her graduate work. She attended Washington University in St. Louis and received her Master of Social Work in 2015. Upon completing her master’s, Joy worked in higher education access as a community practitioner until entering into her doctoral degree. She started her doctoral education at the University of Missouri-Columbia in 2018, completed her comprehensive exams for the degree in 2022, and is graduating with the Doctorate of Philosophy in Human Environmental Sciences in December 2023.