

DIVERSITY AMONG UNIVERSITY STUDENTS IN THE U.S.:  
AN ANALYSIS OF STUDENT ETHNIC GROUP PREFERENCES AND  
ITS IMPACT ON CAMPUS DIVERSITY PERCEPTIONS

By

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## **Abstract**

### **DIVERSITY AMONG UNIVERSITY STUDENTS IN THE U.S.: AN ANALYSIS OF STUDENT ETHNIC GROUP PREFERENCES AND ITS IMPACT ON CAMPUS DIVERSITY PERCEPTIONS**

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Diversity has become a focal point in conversations in higher education in the United States (Nunes, 2021). University systems have employed Diversity, Equity, and Inclusion initiatives to recruit more diverse campus populations (e.g., University of California Board of Regents, 2007). However, this increased number of diverse students prompts the need to better define what diversity looks like on campus and factors that contribute to existing intergroup relations among Black, Indigenous, People of Color (BIPOC). Intergroup contact theory posits that prejudice can be reduced by having groups engage in contact under specific conditions. However, BIPOC have historically been segregated and forced into ethnic enclaves such as “Chinatowns” or “Little Saigons”, which created minimal contact across ethnic minorities. This study examines how student cultural groups, which provide cultural affirmation and representation, influence intergroup relations across BIPOC students. The current work ( $N = 183$ ) examines how ethnic identity, ethnocentrism, and cultural group identification are related to friendship diversity in college and if these friendships are related to intergroup anxiety and bias among students of color. We predicted that high ethnic identity, ethnocentrism, and cultural group identification should be negatively correlated with friendship diversity and positively correlated with intergroup anxiety and bias. We also predict that friendship

diversity and intergroup anxiety should mediate the relationship between ethnic identity, ethnocentrism, and cultural group identification on intergroup bias. Serial mediation results indicated mixed support for our hypotheses, suggesting that ethnic identity is more negatively correlated with friendship diversity and positively correlated with intergroup anxiety and intergroup bias compared to ethnocentrism and cultural identification. Friendship diversity and intergroup anxiety did not appear to mediate the relationship between ethnic identity, ethnocentrism, and cultural group identification on intergroup bias. The collective findings demonstrate the need to further examine how cultural identity and intergroup contact play a role in intergroup anxiety and bias among BIPOC.

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## Table of Contents

Abstract .....	ii
Acknowledgements .....	iv
List of Tables .....	vii
List of Figures .....	viii
Introduction .....	1
Theoretical Frameworks .....	4
Ethnic Identity .....	4
Social Identity Theory .....	6
Ethnocentrism and Ethnic Homophily .....	7
Friendships .....	10
Intergroup Anxiety and Intergroup Contact .....	11
Contact on Campus .....	13
The College Experience .....	17
Campus Climate .....	17
The Current Study .....	21
Hypotheses .....	21
Hypothesis 1a .....	21
Hypothesis 1b .....	22
Hypothesis 1c .....	22
Hypothesis 2 .....	22
Hypothesis 3 .....	22
Hypothesis 4a .....	22
Hypothesis 4b .....	22
Hypothesis 4c .....	22
Method .....	26
Participants .....	26
Procedure .....	26
Measures .....	27
Demographics and Other Measures .....	27

Ethnic Identity .....	27
Ethnocentrism .....	27
Cultural Group Identification .....	28
Friendship Diversity .....	28
Intergroup Anxiety .....	29
Intergroup Bias .....	29
Results .....	30
Data Analysis .....	30
Covariance Testing .....	30
Hypothesis 1a .....	31
Hypothesis 1b .....	31
Hypothesis 1c .....	31
Hypothesis 2 .....	32
Hypothesis 3 .....	32
Hypothesis 4a .....	32
Hypothesis 4b .....	33
Hypothesis 4c .....	33
Discussion .....	41
Limitations and Future Work .....	45
Concluding Remarks .....	47
References .....	48

## List of Tables

Table 1 .....	34
Table 2 .....	35
Table 3 .....	36
Table 4 .....	37
Table 5 .....	38
Table 6 .....	39
Table 7 .....	40

## List of Figures

Figure 1 .....	23
Figure 2 .....	24
Figure 3 .....	25



## Introduction

Although People of Color make up 40% of the population in the United States (United States Census, 2021), this is a mischaracterization of the country's diversity (Olin, 2020). The Oxford English Dictionary defines diversity as "the practice or quality of including or involving people from a range of different social and ethnic backgrounds and of different genders, sexual orientations, etc." (Oxford University Press, 2021). Despite segregationist policies in the United States being abolished almost 60 years ago, segregation continues to separate groups from each other. The practice of redlining, which used race and other factors to determine who could receive federal home loans, had long term effects on the racial composition of neighborhoods in the United States (Burke & Schwalbach, 2021). Many ethnic groups residing in the U.S. are still often found within ethnic enclaves such as "Chinatowns" and "Little Saigons", which are separated from both dominant groups and other marginalized groups (Booth, 1998). While these enclaves were formed in part because of the persistent racism that immigrants experienced, they can also function as a source of social and economic support (Kandil, 2019; Walton & Takeuchi, 2010). Research from the Othering and Belonging Institute at the University of California, Berkeley found that more than 80% of large metropolitan areas were more segregated in 2019 than they were in 1990, which can lead to increased intergroup hostility (Eric Oliver & Wong, 2003). While metropolitan areas are typically considered more "diverse", ethnicities that inhabit these areas continue to live in segregated neighborhoods (Semuels, 2021). Some consequences of redlining include unequal access to public resources, such as high-quality education or employment

(Burke & Schwalbach, 2021). Additionally, more than a third of students attended a school that had a student body that consisted of a single race or ethnicity (Nowicki, 2022) and when a school district secedes to form a new district, these districts are wealthier and majority White, further dividing students and their ability to interact across groups.

Marginalized groups in the U.S. are groups that have been excluded due to race, gender identity, sexual orientation, age, physical ability, or language (Pratt & Fowler, 2022). In the U.S., such groups have historically been pit against each other by the dominant group through the perpetuation of harmful stereotypes, such as the 'model minority' myth when referring to Asian Americans (Chow, 2017). The academic and financial success that some Asian Americans have attained are often used to discredit their own experiences of racism and invalidate the experiences of racism that other BIPOC face. Because marginalized groups have different histories of discrimination, people may focus only on the differences between their ethnic groups rather than the similarities. This, paired with stereotypes of other groups, can eventually foster increased intergroup hostility, as evidenced by the 1992 Los Angeles riots, or even more recently, hate crimes that have targeted Asian people that are related to COVID-19 stereotypes (Chin et al., 2022; Dirks, 2022; Yellowhorse et al., 2022). As a result of historical systemic issues that BIPOC have endured, they may not have the opportunity to interact with one another in a positive way such as having friends from different ethnic groups, which can jeopardize their efficacy and unity as BIPOC.

With the long history of racism and segregation in the U.S., admission committees in higher education have attempted to promote more equity and inclusion on

campus. Diversity appears to be one of the top features that universities highlight to recruit potential students (McKinley Jones Brayboy, 2003). University systems such as the University of California have employed policies that attempt to increase diversity in addition to requiring prospective students to write a personal diversity statement describing their experiences with diversity and inclusion efforts, and what they will do to contribute to their university's diversity (University of California Board of Regents, 2007). Although the number of students of color has certainly increased on American campuses (Antonio, 2001), increasing numbers may not diversify interactions across racial lines. Students who grew up in segregated neighborhoods may not have had the opportunity to have close contact with outgroups, which, in addition to perceptions of university campus climates, may explain tendencies researchers have observed in studying cross-racial interactions: that university students separate themselves into spaces built around ethnic and racial cultural identities (Ancis et al., 2000; Loo & Rolison, 1986; Sidanius et al., 2004). This study will attempt to uncover the mechanisms that influence who students choose to socialize with.

## **Theoretical Frameworks**

### **Ethnic Identity**

The extent to which an individual identifies as a member of their ethnic group, defined as ethnic identity, may influence who they socialize with (Phinney, 1990).

According to Phinney and Alipuria (1990), college is a time that is important to identity development. Highly identifying with an ethnic group has been correlated with high self-esteem, self-acceptance, and a multitude of benefits (Adams et al., 1979; Smith & Silva, 2011; Phinney, 2003). Phinney (1989) proposed that there are three stages that occur during ethnic identity development: a diffusion stage where there has been no search for identity, a moratorium stage where exploration of identity has begun, and an achievement stage where exploration is complete and a sense of security is achieved regarding ethnic identity, which then becomes a part of the self-identity. Phinney (1989) also found that among Asian, Black, and Latinx<sup>1</sup> high schoolers, those who had achieved an ethnic identity had the most positive self-evaluations, suggesting that ethnic identity development is related to self-esteem levels (Phinney & Chavira, 1992; Smith & Silva, 2011). According to Umaña-Taylor et al. (2004), these positive self-ratings match Tajfel's (1981) Social Identity Theory such that self-esteem is derived from group membership where people who highly identify with their group are motivated to view

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<sup>1</sup> Previous literature have used ethno-racial categories interchangeably, such as Latino and Hispanic. For consistency and inclusion, I will use Black and Latinx to identify people with African American and Latin American origins, respectively.

their group in a positive way. During the establishment of an ethnic identity, people come to terms with being a member of an ethnic group.

The development of an ethnic identity relies on both enculturation and acculturation processes (Phinney, 2003; Umaña-Taylor & Guimond, 2010; Wang et al., 2016). Enculturation is defined as the preservation of one's indigenous culture whereas acculturation is defined as the general process of navigating more than one culture (Wang et al., 2016). Levels of enculturation are related to the amount of ethnic socialization, or familial efforts to expose their youth to the values and behaviors of their ethnic culture. Ethnic socialization shares a positive relationship between family ethnic socialization and ethnic identity exploration among adolescents. However, the level to which an individual enculturates depends on how long their family has been in the U.S.; families that were born in the U.S. or have stayed in the U.S. for more generations reported lower levels of ethnic socialization (Umaña-Taylor et al., 2013). Because racist immigration policies have historically denied BIPOC entry to the U.S., this can result in higher levels of ethnic socialization, enculturation, and ethnic identity among these groups (Kamasaki, 2022).

Berry et al. (1989) suggests that there are different degrees to which people acculturate while being a part of an ethnic group in a diverse society. When a person identifies strongly with both the dominant and marginalized culture, they are integrated. On the other hand, when they identify with neither, they are marginalized. Identifying exclusively with the dominant culture suggests assimilation, and identification with only the ethnic group suggests separation. Because colleges and universities provide spaces for ethnic identity exploration and affirmation on campus, students who have acculturated

through integration or separation might turn to campus cultural groups to provide a sense of positive identity. However, the degree to which a student identifies with a cultural group may depend on their enculturation and acculturation values, which can also influence how they ethnically identify and who they are friends with. For example, Phinney (1989) found that high schoolers who were in the diffusion stage of ethnic identity development showed no interest in learning about their ethnic identity, suggesting that acculturation styles relate to degree of ethnic identification. Syed and Juan (2012) support the idea that ethnic identity can be shared, demonstrating that friends who are both ethnic minorities are more committed to and explore their ethnic identity compared to friendships with one ethnic minority and one White friend or both White friends.

How an individual acculturates is also context dependent; multicultural communities provide a source of ethnic group comparison and allow individuals to evaluate if their values, beliefs, and norms match with the dominant culture or their own, which can influence how they enculturate, acculturate, and ethnically identify (Matsunaga et al., 2010). Phinney and Alipuria (1990) found that minority group members were more likely to rate ethnic identity as an important part of their self-concept and valued exploring their ethnic identity more than their White counterparts. However, as students begin to explore their cultures, there might be unintended consequences. Under specific conditions, ethnic identity might also separate groups.

### **Social Identity Theory**

Social groups can serve as an extension of an individual's self-concept, from which they may draw positive and negative evaluations (Tajfel & Turner, 1979). As part of their identity, groups establish prototypes, which are a collection of interrelated features that define one group while distinguishing it from other groups, which helps to understand key traits of the group (Tajfel, 1959). When social identity is salient, individuals will seek to understand their group's value by comparing their own group to others. Because individuals strive to achieve a positive social identity, they attempt to make their own group positively distinct from other groups. When the value of the group is unsatisfactory, people may either leave to join another group or attempt to make their group more positively distinct through social creativity, which can include reframing the values ascribed to the ingroup or changing the referent group of comparison, or through social competition (Tajfel & Turner, 1979). Through group membership and group comparisons, individuals can determine who is in their group and who is not (Tajfel & Turner, 1979). International students and students who do not fit the "White prototype" within universities in the U.S. inherently experience exclusion from the standard, which can lead them to attempt to maintain but also integrate their own culture into the dominant culture. To do this, they turn to cultural groups to create positive social identities (Tajfel & Turner, 1979).

### ***Ethnocentrism and Ethnic Homophily***

Ethnocentrism is generally described as having bias towards one's ingroup, often in the context of cultural standards, or viewing one's own group as a source of positive comparison against outgroups (Lin et al., 2005; Negy et al., 2003; Tajfel & Turner,

1979). Increased ethnocentrism has been linked to an increased amount of interracial contact avoidance, intergroup anxiety, and lower levels of willingness to engage in intercultural communication (Hollister & Bolvin, 1987; Lin et al., 2003; Logan et al., 2015; Stephan & Stephan, 1992). Social identity theory (SIT) predicts that under specific conditions, discriminatory behavior is related to how much an individual identifies with an in-group (Brewer, 1999; Oakes et al., 1994; Tajfel, 1994). Since an aspect of SIT contends that group members are motivated to achieve a positive group distinctiveness, group members who identify highly with their ingroup should demonstrate bias in favor of the ingroup as well (Greenwald & Pettigrew, 2014). For example, Tzeng and Jackson (1994) found college students who held high ingroup bias, had more negative outgroup contact experiences, or had higher perceived intergroup conflict with outgroup members were more likely to hold negative evaluations of outgroups. However, as Brewer (1999) suggested: ingroup love does not necessitate outgroup hate. Rather, a sense of competition can be enough to create discriminatory behaviors across groups. Because racist U.S. policies have limited the amount of resources that BIPOC receive and can access, such as housing and educational opportunities, these resource limitations may be enough to induce intergroup conflict and pit minority groups against each other.

In a similar vein, self-categorization theory predicts that when individuals choose to categorize themselves as a group member, they should be more psychologically invested in the group. Perreault and Bourhis (1999) provided evidence in support of this prediction, finding that individuals who chose their group membership both identified more strongly with their group and engaged in more discriminatory behavior than



individuals who were randomly assigned to groups. They also found that ethnocentrism predicted group identification, with those measuring high on ethnocentrism more likely to highly identify with their group and engage in discriminatory behaviors compared to individuals with low levels of ethnocentrism and identification with the group.

Greitemeyer (2012) found that people who experience exclusion or rejection have increased levels of ethnocentrism, explaining that this may be due to the excluded individuals perceiving a threat to their self-worth. If an individual perceives a space to be unwelcoming, this perceived threat may prompt the rejected individual to turn to their group membership as a source of self-worth, reassuring the individual that they have fulfilled their need to belong in another capacity, and taking pride in their membership status in the face of rejection and isolation.

Ethnic homophily refers to the preference to interact with people of the same or similar ethnic background (Lu, 2021). While there are benefits of socializing with people of the same ethnicity such as ease of communication and social support, some studies suggest that the formation and maintenance of cultural groups can have a detrimental effect on intergroup relations, some of which include ethnic marginalization, decreased interethnic friendships, and decreased resource access (D'Souza, 1991; Lu, 2021).

Additional work has highlighted the consequences of staying within one's comfort zone. Lehto et al. (2014) studied international students' attitudes towards and willingness to interact with other ethnic groups. Whereas they found that the international students shared similar interests with their domestic counterparts, they also engaged in less campus activities and had less interactions with domestic students outside of the

classroom. They also strongly preferred interacting with cultural groups to which they belonged. Although the international students in this study implicated language and cultural barriers as one of the main reasons for self-segregation, the authors noted that international students demonstrated a level of anxiety and uncertainty when interacting with domestic students, two factors that often motivate people to avoid outgroup members. The authors suggested that ethnocentrism may have influenced international students to not step past the perceived cultural boundaries.

### **Friendships**

How do students choose who they want to socialize with? Fischer (2008) describes two factors that may predict friendships on campus: homophily and propinquity. Homophily refers to the preference for individuals to become friends most readily with people who are most like themselves and propinquity refers to preference for individuals to become friends with people in closer proximity. McPherson et al. (2001) found that homophily and propinquity biases have consistently predicted friendship choice and explain why friendships tend to be racially and ethnically homogeneous. However, Quillian and Campbell (2003) found that the preference to have racially and ethnically homogeneous groups decreases in higher education settings, as students that are more racially and ethnically diverse are more likely to form cross-group friendships. Despite this, when the students represent a small racial minority on campus, in-group preferences increase.

Other factors that contribute to the formation of interracial friendships include the organizational structure of schools. Moody (2001) found that among high schoolers,

within grade friendships, interracial mixing in extracurricular activities, and racial composition within academic tracks all contribute to how diverse friendships are, suggesting that intergroup contact plays a role in promoting cross-group friendships. In addition, placement of students in different academic tracks appears to predict racial attitudes and interracial friendships among K-12 students (Goldsmith, 2004; Hallinan & Teixeira, 1987a; Hallinan & Williams, 1989). Lastly, Levin et al. (2003) demonstrated the role that intergroup anxiety played in establishing friendships, finding that Black students were the least likely to have White and Asian friends on campus, whereas Asian Americans were the least likely to have Black or Latinx friends. It is important to underscore the impact of how racism, redlining, and segregation can influence student friendships. Because Black and Latinx residents make up the majority of redlined neighborhoods in the U.S., their decreased access to a higher quality of education can lead to a decreased ability to engage in cross-cultural contact.

### **Intergroup Anxiety and Intergroup Contact**

Allport (1954) argues that under specific conditions, intergroup contact can reduce prejudice. Additionally, many studies link intergroup anxiety, or the feeling of uneasiness or awkwardness when an individual is around outgroup members, to intergroup bias (Levin et al., 2003). Stephan and Stephan (1985) suggest that the source of increased intergroup anxiety stems from in-group concerns of the outgroup rejecting, excluding, or judging them. Stephan (2014) suggests long-term positive and neutral instances of intergroup contact should lead to a reduction of intergroup anxiety, since they are able to provide information about outgroups that personalizes them, promotes

empathy, and undercuts negative attitudes and stereotypes. Levin et al. (2003) examined how ethnic ingroup bias and intergroup anxiety affected intergroup attitudes among college students and how students' perceptions of the campus climate affected friendship preferences. The authors found that students who measured higher on ingroup bias and intergroup anxiety had less outgroup friends, more ingroup friends, and were more likely to hold negative attitudes towards outgroup members. They explained these results through ethnic group homogeneity: people who share similar backgrounds are more likely to share similar attitudes and ideas. If they are isolated from other groups with different attitudes and ideas, their perceptions of having correct views are strengthened and considered normative, which can lead to negative ethnic attitudes.

Pettigrew and Tropp's (2008) meta-analysis of the mediational effects of intergroup anxiety on prejudice support the role that intergroup contact has in reducing intergroup anxiety, effectively reducing prejudice. According to Barlow et al. (2009), when individuals have elevated levels of intergroup anxiety, they are more likely to exhibit negative biases towards outgroups. Additionally, Barlow et al. (2009) found that Australian students who had no Aboriginal friends felt more anxious about interactions with Aboriginal people and perceived Aboriginal people as more likely to reject their social advances. The authors also found that intergroup anxiety mediated the relationship between cross-group friendship and outgroup bias.

Other studies support that intergroup anxiety reduction is correlated with intergroup contact and friendship, which is then associated with reduced outgroup biases (Paolini et al., 2004; Turner et al., 2007; Vonofakou et al., 2007). Aberson et al. (2004)

found that White undergraduates who had outgroup Black and Latinx friends scored lower on Implicit Association Tests, suggesting that interethnic friendships worked to reduce unconscious biases towards these groups. Additionally, Aberson et al. (2008) demonstrated the role of friendships in influencing attitudes towards outgroups. They found that Latinx students showed a general preference for White non-Latinx over Black students, with the strength of that preference being linked to the number of close friends that students had from each group. The authors believe that the endorsement of systems justification, or the psychological tendency to accept and prefer the status quo – resulting from the history of colonialism and its effects on oppressed peoples, influence the preference of having White friends over Black friends (Rivera Pirchardo et al., 2021).

Despite the previous studies demonstrating the effects of contact on intergroup anxiety, Macinnis and Page-Gould (2015) examined why intergroup interactions appear to lead to higher levels of intergroup anxiety and bias despite other studies showing that intergroup contact leads to reduced prejudice (Aberson et al., 2004; Pettigrew & Tropp, 2008; Turner et al., 2007). Macinnis and Page-Gould (2015) argue that while intergroup interactions are associated with higher levels of intergroup bias and anxiety, intergroup interactions are considered micro instances of intergroup contact and that with enough repeated exposure to a certain outgroup over time, there will be decreased intergroup anxiety resulting in positive intergroup contact.

### ***Contact on Campus***

Bowman and Park (2015) found that cross-racial interactions resulted in positive outcomes, such as increased student satisfaction in college, positive racial attitudes, and

better ability for Black and Latinx students to get along with other-race students compared to White students. Additionally, they found that some cross-racial friendships positively predicted emotional well-being (Bowman & Park, 2015). Brannon and Walton (2013) found that when people feel connected to an outgroup member, their prejudice levels are reduced because they are effectively igniting an interest in the outgroup member's culture. Specifically, when participants were given free choice to participate in a cultural task, they had greater engagement in the task and lower levels of prejudice compared to participants who were forced to participate. The authors believe that the freedom of choice allowed for participants to feel more engaged in the task, leading to greater interest in a racial outgroup member's culture. Additional work by Antonio (2004) demonstrates that students of color who have a more racially diverse friend group have more intellectual self-confidence and more educational aspirations compared to White students who have less diverse friend groups.

Despite the benefits of cross-racial interaction, students appear to perceive their campuses as racially segregated, which may influence their choice in engaging in interracial interactions on campus (Antonio, 2001; Duster, 1991). According to Halualani et al. (2004), most research focusing on intercultural contact have looked at how majority groups (e.g., White Americans) interact with minority groups. To add to the small body of research, they looked at intercultural contact patterns among Black, Asian (including Southeast Asian and Pacific Islanders), and Latinx university students in the U.S. They found that Black students had the most amount of contact with Latinx students (43%) and the least amount of contact with Asian students (10%). Asian students interacted with

mainly Whites (43%) and other Asians (46%). It is important to note that cross Asian contact mostly occurred for Chinese/Chinese Americans, Vietnamese/Vietnamese Americans, Asian Indians, and Filipinos. Finally, Latinx students interacted the most with Whites (35%) and equally interacted with Black students (25%) and Asian students (25%). Halualani et al. (2004) argue that these contact patterns may be attributed to the students' socioeconomic background, with Black and Latinx people often living in the same neighborhood, while Asians tend to live with Whites.

Laar et al. (2004) found that matching college roommates predicted prejudice. Specifically, roommates that were not ethnically matched were more likely to have lower prejudiced attitudes compared to those that were ethnically matched. However, having an Asian-American or White roommate positively predicted prejudice among White and Black students, which the authors believe is explained by the higher levels of prejudice that Asian Americans have when compared to other ethnic groups (Laar et al., 2004). Halualani et al.'s (2004) study argues that since Asians often have similar socioeconomic backgrounds as Whites, they are perceived as a "privileged" minority or the "new Whites" (Halualani et al., 2004, p. 368) due to their ability to move upwards on the socioeconomic ladder. However, this work does not consider that Asians face the largest income disparities in the United States, which influences where they live (Kochhar & Cilluffo, 2021). This comparison may create increased prejudice among Asian people as they try to maintain their status as "new Whites", but may also perpetuate stereotypes about Asians, which may inform how other People of Color perceive them. Inaccurate

representations among BIPOC may lead to a division across BIPOC on college campuses.

Intergroup relations research alludes to the idea that the formation of exclusive ingroups leads to poorer intergroup interactions. Despite this, Brewer (1999) argues that holding positive attitudes towards an ingroup does not mean that there is also negative outgroup bias. Ingroup bias by itself can influence discriminatory behavior towards outgroups, regardless of negative affect or hostile intent toward outgroups. However, Brewer (1999) also suggests that intergroup competition can still lead to intergroup bias. Interestingly, Levin et al. (2003) found when university students had more ingroup friends, they were more likely to hold negative ethnic attitudes by the end of college. Bracegirdle et al.'s (2022) study on friendship networks suggests that these negative attitudes are the result of an individual taking on the attitudes and beliefs of other ingroup members, which then predicts attitudes towards outgroup members.

Given the framework of social identity and how it influences individuals to categorize an “us” versus “them”, it is important to understand if identifying with a campus cultural group, such as an Asian and Pacific Islander club, influences the preferences and ethnic makeup of an individual’s friend group, as well as intergroup bias. Whereas few studies have studied this framework, Sidanius et al. (2004) investigated this relationship and found that students who joined ethnically oriented organizations had stronger ethnic identity and higher activism participation than those who were not in these organizations. Being a part of the organization positively predicted ethnic victimization among both White and minority students. However, minority students’



involvement in cultural organizations positively predicted the perception of being in competition with other minority groups, whereas White students who were highly involved in Greek life were less likely to themselves as being in competition with other ethnic groups. White students who had high involvement with Greek organizations also held more exclusionary and ethnocentric attitudes compared to POC who participated in minority ethnic organizations. To sum, it appears that being a part of an ethnically oriented organization is associated with intergroup bias.

### **The College Experience**

#### ***Campus Climate***

Students of Color often perceive their college experience in a much different way than White students when examining measures such as academic integration or instances of prejudice or discrimination (Loo & Rolison, 1986; Nora & Cabrera, 1996; Ancis et al., 2000). Social support positively predicts academic achievement in minority students and lower-class students (Williams et al., 2017). Additionally, there are many benefits of having high ethnic identification, such as increased academic performance and well-being, and better managing stress (Levin et al., 2009). Perceptions of belonging and instances of prejudice may be just some of the factors that influence who students decide to interact and become friends with, especially among students who are a part of a student cultural organization. Strayhorn (2008) found that among Black men in college, having diverse interactions on campus with students of other races positively predicted sense of belonging compared to those who did not interact with diverse others. Additionally, Kirby et al. (2020) demonstrated that the creation of ethnic spaces on campus increased

minority students' perception of belonging on campus. While there are benefits to having an ethnic space geared towards specific people, the physical separation of one group from others may lead to an increased level of intergroup bias if there is a lack of intergroup contact.

Ancis et al. (2000) examined perceptions of ethnic and racial climate on university campuses to determine overall student satisfaction. Using the Cultural Attitudes and Climate Questionnaire, they found that Black, Asian, and Latinx students experienced higher degrees of perceived racism, stereotype threat, and interracial conflict on campus when compared to White students, which may explain preferences to have ethnically homophilic friendships. They also reported poorer treatment by faculty, teaching assistants, and staff. On the other hand, White students reported experiencing little racial tension and better perceived treatment by staff, faculty, and students. A majority-dominated space may contribute to minority perceptions of increased levels of interracial conflict and perceived racism on university campuses. This claim is legitimized through research which found that White students were much more likely to support ideologies that legitimized group differences compared to Black and Latinx students (Levin et al., 2009).

Most of the literature on bias examines Whites' perceptions of other groups, ignoring the fact that many other groups are often forced into enclaves and may also express intergroup bias. Whereas it is useful to note the differences between White people, the dominant group in the U.S., and different racial groups, it also places White people as a reference group. Examining the perspective of historically marginalized

groups has ramifications for intergroup relations research and research on social change from a psychosocial level.

Frameworks similar to Ancis et al. (2000) and Levin et al.'s (2009) work have been explored, finding that Asian, Black, and Latinx students perceived more instances of prejudice or discrimination compared to White students and as a result feel greater levels of alienation on campus. Black and Latinx students also report perceiving less representational and sociocultural support for minority students compared to White students (Loo & Rolison, 1986). When comparing Black and White students, both groups were found to have similar levels of commitment to their education. However, Black students' success in college was predicted by positive interactions with faculty and students as well as their high school academic success (Cabrera & Nora, 1994; Cabrera et al., 1999).

In addition to perceiving alienation and prejudice in college, Nora and Cabrera (1996) found similar results to Ancis et al. (2000) and demonstrated that minority students experienced more instances of prejudice and discrimination as well as more negative class experiences compared to White students. Despite this, minority students had better overall campus interactions, commitment to the campus and have the same academic outcomes compared to White students. The authors propose that minority students who have strong support systems can overcome instances of discrimination. Because support systems for college students can include family, friends, and student cultural organizations, these systems may predict who students choose to interact with and become friends with on campus.

Other work has gone beyond studying traditional minority groups and instead has examined recent immigrant student experiences, working class differences, and the experiences of international students on campus and how they relate to student outcomes (Soria et al., 2013; Stebleton et al., 2014). Stebleton et al. (2014) measured immigrant students' sense of belonging on campus. Using data from the Student Experience in Research University (SERU), the authors found that peer interactions predicted sense of belonging on campus and that early immigration positively predicted belonging. The increased exposure to American culture and values may help acclimate students who arrive to the U.S. earlier than later immigrants. This work illustrates the importance of the campus climate on student perceptions of belonging and demonstrates how students from other countries and cultures can feel at home on campus through who they interact with.

### **The Current Study**

The current study uses perspectives from social identity, intergroup contact theory, and research from intergroup relations to investigate the role that ethnic identity and cultural groups play in influencing intergroup bias among students of color. Therefore, the current study will examine variables that relate to friendship diversity, intergroup anxiety, and intergroup bias: strength of ethnic identity, ethnocentrism, and how strongly students identify with cultural groups. The purpose of this study is to add to the limited research on student cultural groups and if they, in addition to other variables, work to create or diminish intergroup biases. Few studies have examined if highly identifying with a cultural group and ethnicity relate to students' friendship diversity and intergroup anxiety. For example, if an Asian student highly identifies with both their ethnicity and a cultural group, will they have increased intergroup anxiety and bias due to having limited exposure to outgroups? According to Fischer (2008), Sidanius et al. (2004), and aspects of SIT, students who identify highly with their ethnicity and cultural group should choose to have friends who are similar and in close proximity to them, which arguably should consist of more ethnic ingroup friends than outgroup friends. The homogeneity of ingroup friends along with minimal intergroup contact should then, according to Bracegirdle et al. (2022), influence biased attitudes towards outgroups based on ingroup perceptions rather than individual experiences with the outgroup.

### **Hypotheses**

#### ***Hypothesis 1a***

Higher levels of ethnic identity, ethnocentrism, and cultural group identification will relate to lower friendship diversity.

***Hypothesis 1b***

Higher levels of ethnic identity, ethnocentrism, and cultural group identification will relate to higher levels of intergroup anxiety.

***Hypothesis 1c***

Higher levels of ethnic identity, ethnocentrism, and cultural group identification will relate to higher levels of intergroup bias.

***Hypothesis 2***

Higher levels of friendship diversity will relate to lower levels of intergroup anxiety and intergroup bias.

***Hypothesis 3***

Higher levels of intergroup anxiety will relate to higher levels of intergroup bias.

***Hypothesis 4a***

Friendship diversity and intergroup anxiety will mediate the relationship between ethnic identity and intergroup bias.

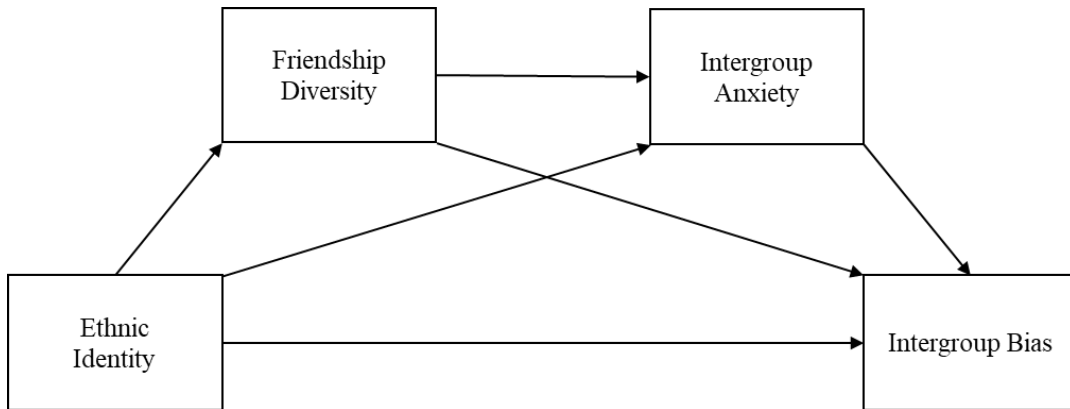
***Hypothesis 4b***

Friendship diversity and intergroup anxiety will mediate the relationship between ethnocentrism and intergroup bias.

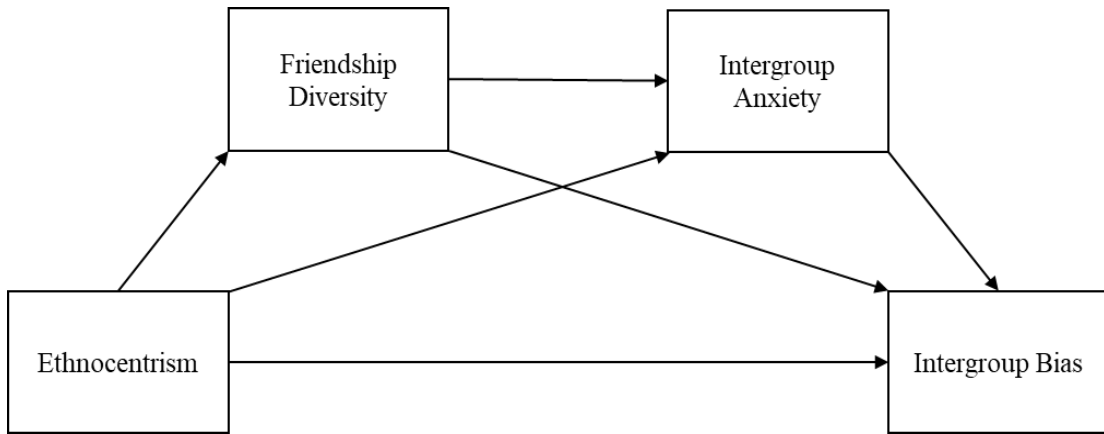
***Hypothesis 4c***

Friendship diversity and intergroup anxiety will mediate the relationship between cultural group identification and intergroup bias.

**Figure 1**  
*Proposed Serial Mediation Model 1*

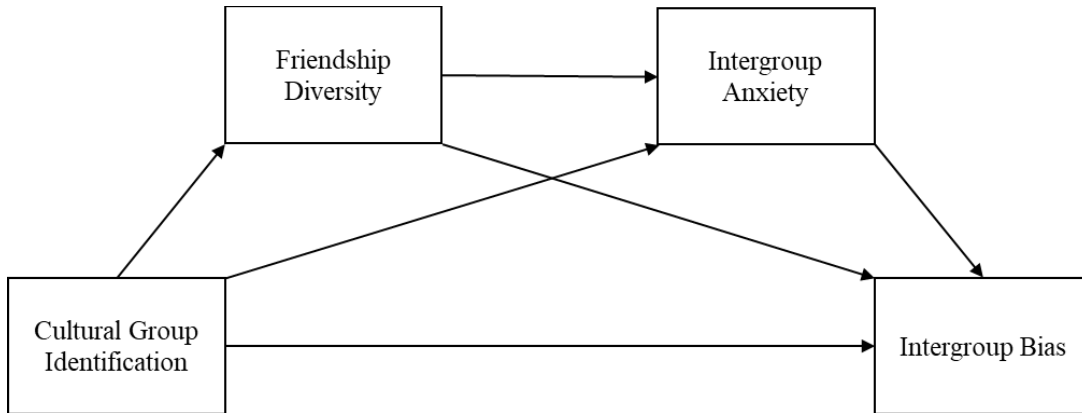


**Figure 2**  
*Proposed Serial Mediation Model 2*





**Figure 3**  
*Proposed Serial Mediation Model 3*



## **Method**

### **Participants**

A sample of current and former college students, which included recently graduated and students who dropped out in the past four years, ( $N = 221$ ) were recruited through Amazon's Cloud Research, an online program used for survey research. Since this study focused on students of color, this method allowed for a more representative sample than what is available on an individual college campus. After removing duplicates and missing friendship data, the sample totaled 183 participants. Of the sample, 52% identified as Black/African American, 23% identified as Asian/Asian American, 19% identified as Hispanic/Latinx, 4% identified as biracial/multiracial, and 2% identified as Native American. The mean age of the sample was 30.9, with a range of 19 to 64 years and a standard deviation of 9.11. An a priori approach to determining sufficient power relies on previous studies and suggested that a minimum of around 150 participants were needed to obtain adequate power.

### **Procedure**

Participants accessed the experiment through Cloud Research. Prior to starting the survey, participants were provided informed consent, stating that they would take part in a survey examining their relationships with people at their college, how friendships are established on campus, and how those friendships are influenced by activities that strengthen identity, such as being part of a student cultural group on campus. Once informed consent was obtained, participants completed survey measures assessing demographics, ethnic identity, ethnocentrism, cultural group identification, friendship

diversity, intergroup anxiety, and intergroup bias. After completing the survey, participants were debriefed to the true nature of the study, which aimed to understand how pre-existing biases, measured as ethnocentrism, along with ethnic identity and cultural group involvement influence socialization preferences and racial biases towards other ethnic and racial groups. Participants took an average of 10 – 15 minutes to complete the survey. After completion of the survey, participants received monetary compensation (75 cents) via Cloud Research.

## **Measures**

### ***Demographics and Other Measures***

Participants provided demographic information consisting of: ethnicity; age; socio-economic status; college year and status; gender; if they were a transfer student; and if they attended their college or university mostly online or in person.

### ***Ethnic Identity***

Participants' strength of ethnic identification was measured by completing a 17-item ( $\alpha = .75$ ) Ethnic Identity Scale (EIS; Umaña-Taylor et al., 2004). Example items included: "*I am clear about what my ethnicity means to me*" and "*I have attended events that have helped me learn more about my ethnicity*". Participants indicated to what extent they agreed with the statements by using a 1 (*strongly disagree*) to 7 (*strongly agree*) Likert scale.

### ***Ethnocentrism***

Ethnocentrism was assessed using Neuliep and McCroskey's (1997) 24-item ( $\alpha = .75$ ) Ethnocentrism Scale. Participants indicated to what extent they agreed to statements

such as: “*My culture should be the role model for other cultures*” and “*Most people would be happier if they lived like people in my culture*” (1 = *strongly disagree*, 7 = *strongly agree*).

### ***Cultural Group Identification***

Participants’ strength of identification with an ethnicity-matched cultural group was measured through a 9-item ( $\alpha = .75$ ) measure of group identification adapted from Hogg and Hains (1996). Example items included: “*I would stand up for my campus cultural group if it were criticized*” and “*I fit in as a member of this campus cultural group*” (1 = *strongly disagree*, 7 = *strongly agree*).

### ***Friendship Diversity***

Participants were asked to list the total number of acquaintances, friends, and close friends they had both on campus and off campus, adapted from Aberson et al.’s (2008) friendship index. They were then asked to categorize their acquaintances, friends, and close friends into ethno-racial categories. For example, if a participant had 5 friends, they would be asked to identify each friend as Asian/Asian American, Black/African, Biracial/Multiracial, Hispanic/Latinx, Native American, or White. Acquaintances were omitted, whereas total ingroup friends and close friends were added together and subtracted from the total number of friends and close friends. Then, the product was divided by the total number of friends. This created an outgroup composition ratio, which was designated as the friendship diversity ratio as it provided the ratio of friendships that were outgroup members. Two outgroup ratios were calculated, one for on campus friends

and another for off campus friends. The two ratios were then added together and divided by two, providing a composite friendship diversity ratio.

### ***Intergroup Anxiety***

Participants filled out Stephan and Stephan's (1985) Intergroup Anxiety Scale, which consists of 11-items ( $\alpha = .76$ ) asking, "*If you were the only member of your ethnic group and you were interacting with people from a different racial or ethnic group (e.g., talking with them, working on a project with them), how would you feel compared to occasions when you are interacting with people from your own ethnic group?*"

Participants indicated how certain, awkward, self-conscious, happy, accepted, confident, irritated, impatient, defensive, suspicious, and careful they were when interacting with outgroup members using a 1 (*not at all*) to 7 (*extremely*) Likert scale.

### ***Intergroup Bias***

Intergroup bias was assessed by having participants fill out a 6-item ( $\alpha = .81$ ) semantic differential scale known as the General Evaluation Scale (Wright et al., 1997). Each item consisted of bipolar adjective pairs using a seven-point scale. Example items included having participants rate how cold – warm their own ethnic group is. Participants were also asked to provide the same rating but for ethnic outgroups. Outgroup ratings were subtracted from ingroup ratings to create an evaluation score. Scores that were positive indicated a more positive evaluation of the ingroup, whereas negative scores indicated a more positive evaluation of the outgroup.

## Results

### Data Analysis

The data were cleaned, and regression assumptions were checked prior to analyzing data. After checking, the data appeared to be normal, and no violations were found. A total of three serial mediations tested the relationships between the predictor variables, mediators, and criterion variables. Ethnic identity, ethnocentrism, and cultural group identification were the predictor variables while intergroup bias was the criterion variable. Friendship diversity and intergroup anxiety were the mediators. Interestingly, ethnocentrism was negatively correlated with ethnic identity (see Table 1;  $r(181) = -.57$ ,  $p < .001$ ), suggesting issues with the ethnocentrism scale and/or the EIS, or a suppression effect. Following the logic of SIT, highly identifying with a group should increase an individual's preference towards their group (Tajfel & Turner, 1979).

### *Covariance Testing*

Student learning modality (i.e., online or in person) and student transfer status were included as covariates in the serial mediation models to test if they were related to any of the variables in the study. Transfer students and online students may not have the same opportunities and time to socialize with their peers, which may influence how they identify and who they socialize with. When analyzing the third serial mediation (see Table 3), student learning environment was negatively correlated with intergroup anxiety ( $\beta = -.18$ ,  $SE = .17$ ,  $p = .009$ ). In other words, students who attended classes in person reported lower levels of intergroup anxiety. Across all serial mediation models, transfer status did not appear to correlate with any of the study variables.

**Hypothesis 1a**

Hypothesis 1a predicted that higher levels of ethnic identity, ethnocentrism, and cultural group identification would relate to lower friendship diversity. Serial mediation results indicate mixed support: ethnic identity ( $\beta = -.18$ ,  $SE = .02$ ,  $p = .027$ ) was negatively correlated with friendship diversity (see Table 2); ethnocentrism (see Table 4;  $\beta = -.01$ ,  $SE = .02$ ,  $p = .95$ ) and cultural group identification (see Table 6;  $\beta = .004$ ,  $SE = .02$ ,  $p = .96$ ) were not correlated with friendship diversity.

**Hypothesis 1b**

Hypothesis 1b predicted that higher levels of ethnic identity, ethnocentrism, and cultural group identification would relate to higher levels of intergroup anxiety. Results indicate mixed support: ethnic identity was negatively correlated with intergroup anxiety (see Table 2;  $\beta = -.55$ ,  $SE = .08$ ,  $p < .001$ ); ethnocentrism was positively correlated with intergroup anxiety (see Table 4;  $\beta = .45$ ,  $SE = .07$ ,  $p < .001$ ); and cultural group identification was negatively correlated with intergroup anxiety (see Table 6;  $\beta = -.38$ ,  $SE = .08$ ,  $p < .001$ )

**Hypothesis 1c**

Hypothesis 1c predicted that higher levels of ethnic identity, ethnocentrism, and cultural group identification would relate to higher levels of intergroup bias. Results indicated support for hypothesis 1c: ethnic identity (see Table 2;  $\beta = .27$ ,  $SE = .11$ ,  $p = .004$ ), ethnocentrism (see Table 4;  $\beta = .19$ ,  $SE = .09$ ,  $p = .023$ ), and cultural group identification (see Table 6;  $\beta = .17$ ,  $SE = .09$ ,  $p = .04$ ) were positively correlated with intergroup bias

**Hypothesis 2**

Hypothesis 2 predicted that higher levels of friendship diversity would relate to lower levels of intergroup anxiety and intergroup bias. Results indicated mixed support: for the first serial mediation (see Table 2), friendship diversity was negatively correlated with intergroup anxiety ( $\beta = -.13$ ,  $SE = .24$ ,  $p = .039$ ) and intergroup bias ( $\beta = -.16$ ,  $SE = .29$ ,  $p = .036$ ); for the second, friendship diversity (see Table 4) was not correlated with intergroup anxiety ( $\beta = -.04$ ,  $SE = .25$ ,  $p = .49$ ) and negatively correlated with intergroup bias ( $\beta = -.21$ ,  $SE = .29$ ,  $p = .005$ ); for the third, friendship diversity (see Table 6) was not related to intergroup anxiety ( $\beta = -.05$ ,  $SE = .26$ ,  $p = .51$ ) and negatively correlated with intergroup bias ( $\beta = -.21$ ,  $SE = .29$ ,  $p = .006$ )

**Hypothesis 3**

Hypothesis 3 predicted that higher levels of intergroup anxiety would relate to higher levels of intergroup bias. Results from three serial mediations indicated mixed support for hypothesis 3. For the first serial mediation (see Table 2), intergroup anxiety was positively correlated with intergroup bias ( $\beta = .18$ ,  $SE = .09$ ,  $p = .049$ ). Results from the second serial mediation (see Table 4) indicate that intergroup anxiety is not correlated with intergroup bias ( $\beta = -.05$ ,  $SE = .09$ ,  $p = .56$ ). Results from the third serial mediation (see Table 6) indicate that intergroup anxiety is positively correlated with intergroup bias, supporting hypothesis 3 ( $\beta = .11$ ,  $SE = .09$ ,  $p = .20$ ).

**Hypothesis 4a**

Hypothesis 4a predicted friendship diversity and intergroup anxiety would mediate the relationship between ethnic identity and intergroup bias. Results from the



first serial mediation (see Table 3) did not support hypothesis 4a, as there was no indirect effect of ethnic identity on intergroup bias through friendship diversity ( $\beta = .03$ ,  $CI = [0.000, 0.072]$ ), intergroup anxiety ( $\beta = -.09$ ,  $SE = .03$ ,  $CI = [-0.206, 0.055]$ ), or through both friendship diversity and intergroup anxiety ( $\beta = .004$ ,  $SE = .01$ ,  $CI = [-0.001, 0.019]$ ).

#### **Hypothesis 4b**

Hypothesis 4b predicted that friendship diversity and intergroup anxiety would mediate the relationship between ethnocentrism and intergroup bias. Results from the second serial mediation (see Table 5) did not support hypothesis 4b, as there was no indirect effect of ethnocentrism on intergroup bias through friendship diversity ( $\beta = .001$ ,  $SE = .02$ ,  $CI = [-0.037, 0.037]$ ), intergroup anxiety ( $\beta = -.02$ ,  $SE = .04$ ,  $CI = [-0.114, 0.058]$ ), or through friendship diversity and intergroup anxiety ( $\beta = -.00$ ,  $SE = .00$ ,  $CI = [-0.001, 0.002]$ ).

#### **Hypothesis 4c**

Hypothesis 4c predicted that friendship diversity and intergroup anxiety would mediate the relationship between cultural group identification and intergroup bias. Results from the third serial mediation (see Table 7) did not support hypothesis 4c, as there was no indirect effect of cultural group identification on intergroup bias through friendship diversity ( $\beta = -.001$ ,  $SE = .02$ ,  $CI = [-0.037, 0.035]$ ), intergroup anxiety ( $\beta = -.04$ ,  $SE = .04$ ,  $CI = [-0.127, 0.037]$ ), or through both friendship diversity and intergroup anxiety ( $\beta < .001$ ,  $SE = .003$ ,  $CI = [-0.003, 0.002]$ ).

**Table 1***Means, standard deviations and correlations among variables*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Cultural Group Identification	5.6	0.96									
2. Ethnic Identification	5.4	0.98	.42**								
3. Ethnocentrism	3.68	1.08	-.11	.57**							
4. Student Learning Environment <sup>a</sup>	0.73	0.45	.20**	.33**	.24**						
5. Transfer <sup>b</sup>	0.34	0.47	.02	.20**	.14	.23**					
6. On Campus Outgroup	0.48	0.32	.01	-.19*	.04	-.03	.17*				
7. Off Campus Outgroup	0.48	0.31	-.02	-.16*	.02	-.13	.04	.65**			
8. Friendship Diversity	0.48	0.28	.00	.19**	.02	-.09	.12	.91**	.90**		
9. Intergroup Anxiety	3.27	1.1	.42**	.54**	.49**	.27**	.16*	-.04	.04	-.01	
10. Intergroup Bias	0.57	1.15	.06	.21**	.15*	-.02	-.07	-.18*	-.18*	.21**	.05

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. \* indicates  $p < .05$ . \*\* indicates  $p < .01$

<sup>a</sup> 0 = mostly online and 1 = mostly in-person

<sup>b</sup> 0 = no and 1 = yes



**Table 3***Indirect, and direct effects of ethnic identity on intergroup bias*

	Indirect	Indirect	Indirect	Direct	Direct	Direct	Direct	Direct
	Effect	LLCI	ULCI	Effect	SE	LLCI	ULCI	<i>p</i>
Total	-0.07	-0.206	0.086	0.31	.11	0.103	0.524	.004
Friend Diversity (a1 × b1)	0.03	0	0.086					
Intergroup Anxiety (a1 × b2)	-0.11	-0.255	0.058					
Model (a1 × d × b2)	0.001	-0.002	0.024					

**Table 4**

*Regression coefficients of ethnocentrism on intergroup bias*

	Friendship Diversity (M <sub>1</sub> )				Intergroup Anxiety (M <sub>2</sub> )				Intergroup Bias (Y)			
	<i>B</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>B</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>B</i>	$\beta$	<i>SE</i>	<i>p</i>
Constant	0.49	-	.09	<.001	1.86	-	.34	<.001	0.34	-	.43	.43
Ethnocentrism (X)	-0.001	.01	.02	.95	0.45	.45	.07	.001	0.203	.19	.09	.03
Transfer Student Environment	0.06	.10	.05	.19	0.18	.08	.16	.23	-0.09	.04	.18	.58
Friend Diversity (M <sub>1</sub> )	-0.04	.06	.05	.45	-0.33	-.13	.17	.06	0.08	.03	.20	.71
Intergroup Anxiety (M <sub>2</sub> )					-0.17	-.04	.25	.49	-0.83	.21	.29	.5
									-0.05	.05	.09	.56
Model		<i>R</i> <sup>2</sup>	<i>MS E</i>	<i>p</i>		<i>R</i> <sup>2</sup>	<i>MS E</i>	<i>p</i>		<i>R</i> <sup>2</sup>	<i>MS E</i>	<i>p</i>
		.02	.08	.39		.27	.89	<.001		.08	1.2	.017

**Table 5***Indirect and direct effects of ethnocentrism on intergroup bias*

	Indirect	Indirect	Indirect	Direct	Direct	Direct	Direct	Direct
	Effect	LLCI	ULCI	Effect	SE	LLCI	ULCI	<i>p</i>
Total	-0.02	-0.051	0.077	0.203	.09	0.029	0.376	0.02
Friend Diversity (a1 × b1)	0.001	0.018	0.037					
Intergroup Anxiety (a1 × b2)	-0.02	0.044	0.058					
Model (a1 × d × b2)	0	0.001	0.002					

**Table 6**

*Regression coefficients of cultural group identification on intergroup bias*

	Friendship Diversity (M <sub>1</sub> )				Intergroup Anxiety (M <sub>2</sub> )				Intergroup Bias (Y)			
	<i>B</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>B</i>	$\beta$	<i>SE</i>	<i>p</i>	<i>B</i>	$\beta$	<i>SE</i>	<i>p</i>
Constant	0.48		.14	<.001	6.14		.48	<.001	-0.55		.76	.47
Cultural Group ID (X)	0.001	.00	.02	.96	-0.46	-.38	.08	<.001	0.21	.17	.09	.04
Transfer Student Environment	0.06	.10	.05	.19	0.29	.12	.16	.08	-0.12	.05	.18	.51
Friend Diversity (M <sub>1</sub> )	-0.04	.06	.05	.45	-0.45	-.18	.17	.009	-0.01	.00	.20	.96
Intergroup Anxiety (M <sub>2</sub> )					-0.17	-.04	.26	.51	-0.81	.21	.29	.06
									0.11	.11	.09	.20
Model		<i>R</i> <sup>2</sup>	<i>MS E</i>	<i>p</i>		<i>R</i> <sup>2</sup>	<i>MS E</i>	<i>p</i>		<i>R</i> <sup>2</sup>	<i>MS E</i>	<i>p</i>
		.02	.08	.39		.22	.95	<.001		.07	1.22	.03

**Table 7***Indirect and direct effects of cultural group identification on intergroup bias*

	Indirect	Indirect	Indirect	Direct	Direct	Direct	Direct	Direct
	Effect	LLCI	ULCI	Effect	SE	LLCI	ULCI	<i>p</i>
Total	-0.05	-0.139	0.05	0.207	.09	0.011	0.404	.039
Friend Diversity (a1 × b1)	-0.001	-0.037	0.047					
Intergroup Anxiety (a1 × b2)	-0.05	-0.127	0.044					
Model (a1 × d × b2)	0	-0.003	0.003					



### **Discussion**

The purpose of this study was to examine how ethnic identification, ethnocentrism, and cultural group identification related to friendship diversity, intergroup anxiety, and intergroup bias. The mixed results that occurred during the study suggest that aspects of SIT and multiculturalism may influence the relationship that we found between the variables. Covariance testing found a correlation between student learning environment and intergroup anxiety, suggesting that students who take mostly online classes feel more anxious about interacting with outgroup members. Online students may not have the same opportunities to interact with outgroup members as in-person students do, which may explain their anxieties. Enculturation and acculturation processes were not taken into account, which may have influenced the results. Additionally, perceptions of campus climate, personal experiences with prejudice and discrimination, and the ethnic makeup of both on campus and home environments were not accounted for. Future studies should carefully consider these factors as they may influence ethnic identity and cultural group identification. For hypothesis 1a, we found that people who had higher levels of ethnic identity tended to have less diverse friendships. This follows Syed and Juan's (2012) work, suggesting that students of color who have high levels of ethnic identity are also more likely to have friends from the same ethnic group. However, the subscales of Umaña-Taylor et al.'s EIS (2004) may also influence the results. For example, those who measure high on ethnic identity exploration may have more diverse friendships compared to those who measure low. Conversely, individuals who are high on ethnic identity affirmation, or those who hold higher levels of positive feelings

towards their ethnic group, may have less diverse friends than people with less affirmed ethnic identities. The lack of a significant relationship between ethnocentrism and cultural group identification on friendship diversity could also be explained through the common ingroup identity model (Gaertner et al., 1993). Under this model, students of color may not perceive themselves as one ethnic group with respect to other ethnic groups, but rather as a superordinate identity such as “People of Color”, which may then influence who they become friends with. Antonio (2001) found similar results indicating that although campus cultural group participation related to increased cultural awareness and commitment to racial understanding, it did not relate to the frequency of interracial interactions. For hypothesis 1b, we found that people who held higher levels of ethnic identity and cultural group identification had lower levels of intergroup anxiety, whereas higher ethnocentrism scores were related to higher levels of intergroup anxiety. The relationship between ethnic identity, cultural group identification, and intergroup anxiety can be explained through both the common ingroup identity model as well as through a multicultural framework. Students who have higher levels of ethnic identity and cultural group identification may be able to recategorize their ingroup and ethnic outgroups into a superordinate identity, which could create less anxiety about interacting with outgroups as the dynamics change from “us” and “them” to “we”. Additionally, there is evidence that positively identifying with one’s ethnic group can lead to higher levels of self-esteem and acceptance of outgroups, potentially reducing intergroup anxiety (Negy et al., 2003; Phinney et al., 1997). The relationship between ethnocentrism and intergroup anxiety is supported by previous research linking high ethnocentrism to high levels of intergroup

anxiety and bias (Levin et al., 2003; Barlow et al., 2009). For hypothesis 1c, we found that higher levels of ethnic identity, ethnocentrism, and cultural group identification were related to increased intergroup bias. These results are supported by the classic work of Tajfel and Turner (1979), suggesting people who highly identify with their group are more likely to favor their ingroup more than the outgroup.

Data indicated mixed support for hypothesis 2, which predicted that higher levels of friendship diversity would relate to lower levels of intergroup anxiety and intergroup bias. The first serial mediation found that people who had more diverse friends also held lower levels of intergroup anxiety, confirming the effects that intergroup contact have on reducing intergroup anxiety. The second and third serial mediation found no correlation between friendship diversity and intergroup anxiety, which is contrary to research on cross-group friendships and its effect on reducing intergroup anxiety (Barlow et al., 2009; Paolini et al., 2004; Stephan, 2014). Post-hoc power analyses indicated that this study was underpowered, which may explain these results. These results also complement research that found Asian, Latinx, and multiracial individuals more likely to have cross-racial friends compared to Black and White individuals, suggesting ethnic identity and group differences may relate to friendship diversity and its subsequent effects on intergroup anxiety (Plummer et al., 2016). When it came to the relationship between friendship diversity and intergroup bias, we found that the more diverse friends an individual has, the less intergroup bias they have, confirming previous work on how intergroup contact and cross-ethnic friendships can reduce intergroup bias (Aberson et al., 2004; Aberson et al., 2008; Pettigrew & Tropp, 2008).

A similar pattern of mixed support emerged for hypothesis 3, which predicted that higher levels of intergroup anxiety would relate to higher levels of intergroup bias. Two out of the three mediations found that participants who had higher levels of intergroup anxiety also held higher levels of intergroup bias, which aligns with results from prior research on intergroup anxiety and bias. Individuals who perceive threats, status differences, and a history of conflict with outgroups may generate negative expectations during intergroup interactions, increasing the favorability of their ingroup over outgroups (Stephan, 2014). The second serial mediation indicated no relationship between intergroup anxiety and bias. Age and college status were not accounted for and may influence how people perceive and evaluate outgroups. Since the oldest participant was 64 years old, their levels intergroup anxiety may differ compared to young adults as they may be surer of themselves and their identities.

Finally, no support was found for hypothesis 4a – 4c, which predicted friendship diversity and intergroup anxiety would mediate the relationship between ethnic identity, ethnocentrism, and cultural group identification on intergroup bias. These results were unexpected given prior work on how intergroup anxiety mediates the relationship between friendship diversity and intergroup bias, such that outgroup friendships predicted lower levels of intergroup anxiety, which predicted lower levels of explicit bias (Pettigrew & Tropp, 2006). The results indicate that the predictors may instead act as moderators in a moderated mediational model. Further studies are needed to better understand these relationships.

**Limitations and Future Work**

This work has several limitations. Data collection using online surveys is notorious for requiring researchers to create good data screening measures to account for participants and/or automated accounts that carelessly hurry through the survey to receive payment. We attempted to account for this by screening out any participants who took less than 5 minutes and longer than 40 minutes to complete the survey. However, during survey piloting, the study took about 10-15 to complete on average. We chose to keep the time-limit criteria broad because the friendship diversity measure prompts the participant to list the number of friends they have and categorize them into races, a process that can be time consuming for the participants.

Another limitation of online survey data collection is that it often necessitates attention checks to make sure that a participant is actively engaged and not just responding randomly to get through the survey quickly. We did not include any overt attention checks as our measures included items that were counterbalanced for reverse coding, but that may not have been a clear enough way to flag that a participant was not providing quality data.

Regardless of the limitations stated, using an online survey was overall more beneficial than limiting, as it allowed us access to a pool appropriate for the goal of this study: to represent minority group members. However, a larger sample size should be recruited to better represent minority groups more evenly, as Black participants made up over half of the sample size used in this study. While we included an option for

participants to identify as Hispanic/Latinx and multiracial, there was no way to capture the complexities within identities. Multiracial people who are part White and highly identify with being White may differ in their results compared to people who are part White but identify highly with their other racial identities. Additionally, over half of Latinx people during the 2020 U.S. Census identified as racially White, underscoring the need to find ways to better capture Latinx identities (Greenwood, 2022). Finally, a more comprehensive future study should include surveying students from Cal Poly Humboldt, the researcher's home campus.

A post-hoc power analysis determined that only certain pathway analyses had adequate power and all serial mediations were underpowered; the low correlations between the variables may be explained by this lack of power. Future studies should use different process models to better understand the relationship between the variables. Lastly, surveying students who have recently left school in the past four years may not accurately reflect the purpose of this study to understand how cultural group identification relates to socialization and intergroup relations. The biases that participants reported may not be current and instead be retrospective. Thus, future studies should specifically survey students that are actively involved in a campus cultural group.

Given the discrepancies in the results, future studies should look at how a superordinate common ingroup identity influences friendship diversity and if these constructs mediate the relationship between cultural group identification and intergroup bias. A study by Chin et al. (2022) found that identification as a Person of Color (POC)

and its relation to feeling anger and efficacy as POC was related to self-perceptions of being a prototypical POC, connecting back to Tajfel and Turner's (1979) work suggesting that those who highly identify with their ingroup should also be highly committed to their group. Following this and the multicultural framework, students who have high ethnic identity should have more positive outgroup attitudes and identify strongly with a superordinate POC identity, which should be related to lower intergroup bias. Additionally, cross group comparisons might provide insight into group differences, since Asian and Latinx Americans tend to perceive themselves as less prototypical POC compared to Black Americans (Chin et al., 2022).

### **Concluding Remarks**

Intergroup relations are shaped by social context. There are historical and normative changes which shape intergroup relations and biases. Intergroup relations between minorities continue to be an important aspect of understanding POC solidarity, and more research is needed in this area. The changing landscape of intergroup relations necessitates a closer examination into inter-minority perceptions. Decades of oppression and separation underpin the need to understand how POC experiences of racism influence how they perceive each other. The results of this study demonstrate that POC are not as separated as history might suggest. With past and present policies created to further oppress POC, the need for ethnic minority solidarity is as crucial as ever. As POC interact across ethnic boundaries, intergroup anxiety and bias may be reduced, and as a result, POC can continue to band together and create social change.

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