

The Relationship Between Cross-Ethnic Friendships and Psychological Resilience

in Adolescence

Avery Chahl

Honors Thesis

Department of Psychology, The University of Texas at Austin

Faculty Advisor: Aprile D. Benner, Ph.D.

15 May 2020

Acknowledgements

This thesis would simply not have been possible without the help of my wonderful mentors. Thank you Dr. Aprile D. Benner for your expertise, guidance, and being kind enough to repeat things for me several times before I understood it. Thank you for committing to hours of Zoom data cleaning and analysis, I know it was less than ideal, but I really appreciate it. Thank you to Dr. Theresa Jones and Evan Nudi for your tolerance of terrible early drafts of this paper. I cannot begin to quantify all I have learned from this course. Finally, thank you to my honors cohort. I am very grateful to have been supported by so many intelligent women. I look forward to seeing where the future takes you.

Abstract

Resilience is defined as the ability to adapt in the face of external stressors. It is influenced by many social factors including the quality of close interpersonal relationships. Prior research suggests that same-ethnic friendships are of higher quality than cross-ethnic friendships. However, there has not been research done on the specific relationship between cross-ethnic interaction and resilience. The aim of this study was to investigate the relationship between the racial-ethnic composition of close school friends and resilience. I hypothesized that adolescents with more ethnically similar friendships would show higher rates of psychological resilience than those with fewer ethnically-similar friendships. This was examined by comparing participant ethnicity with the ethnicity of their friends in an ethnically diverse sample of 278 male and female high school students. I also investigated whether ethnic identity moderated the relationship between ethnic similarity of friends and resilience. Regression analyses suggested no significant relationship between ethnic friendship composition and resilience. However, there were significant impacts of gender identity and socioeconomic status on resilience levels. While ethnic identity did not appear to be a moderator, there was a significant positive relationship between the strength of ethnic identity and psychological resilience. Thus, ethnicity of friends does not appear to be a factor in determining adolescent resilience level, but ethnic identity does.

Keywords: resilience, cross-ethnic friendship, ethnic identity

The Relationship Between Cross-Ethnic Friendships and Psychological Resilience
in Adolescence

Resilience is defined as a person's ability to adapt to life stressors, it is influenced by numerous environmental factors (Richards, Lewis, Sanderson, Deane & Quimby, 2016). Interpersonal relationships such as friendships are a key contributor to resilience in adolescence (Harmelen, 2016). Cross-ethnic friendships in youth correlate with positive developmental outcomes and have a negative relationship with peer victimization (e.g., bullying) (Kawabata, Yoshito & Crick, 2008). However, they also have lower levels of attachment, intimacy, and perceived vulnerability, among other factors (Kao & Joyner, 2004; Demanet, Agirdag & Van Houtte, 2012; Graham, Munniksma & Juvonen, 2013). On the other hand, ethnically similar friendships have been shown to be of higher quality, that is, more intimate and higher attachment than cross-ethnic friendships (Graham, Munniksma & Juvonen, 2013). To date, research has been lacking in addressing any possible relationship between cross-ethnic interactions and resilience. This study will investigate the impact of the ethnic composition of close school friends on psychological resilience in adolescents. Specifically, it will investigate whether having close friends who are a part of one's own ethnic group is more positively related to resilience than having ethnically dissimilar friends (i.e., cross-ethnic friendships). This review will focus primarily on past research involving interracial friendships and diversity, resilience, and ethnic identity. The included literature uses a variety of terminology (cross-racial, racial-ethnic, etc.), but for the purposes of uniformity, I will use the term cross-ethnic.

Cross Ethnic Friendships and Diversity

Benefits of Cross-Ethnic Contact

Racial and ethnic diversity in interpersonal contexts has been linked with both positive and negative social effects. One four-year longitudinal study conducted with almost 3000 undergraduates examined the benefits of cross-ethnic interactions on a college campus (Bowman & Park, 2015). The results suggested that cross-ethnic interaction is related to ideal student outcomes, such as college satisfaction, and perceived growth. These interactions are also correlated with increased ease of future positive cross-race interactions (Page-Gould, Mendoza-Denton, & Tropp, 2008). A diverse everyday environment is conducive to an increased number of these positive interactions. These interactions are also correlated with increased ease of future positive cross-race interactions. Page-Gould, Mendoza-Denton, and Tropp (2008) found that induced friendships between White and Latino students led to lower stress reactivity in subsequent cross-group interactions. These friendships were induced by weekly assigned “friendship meetings” in which the participants were required to complete a Fast Friends procedure to escalate intimate disclosure. In this procedure, participants took turns asking one another prewritten questions. The questions were of a personal nature and the intent of the procedure was that participants gradually disclosed personal information to one another in order to facilitate a closer relationship. However, a follow-up study suggests that those who identify closely with racial/ethnic characteristics of their friends are in fact more likely to have positive new interactions with people of the same racial-ethnic groups (Page-Gould, Mendoza-Denton, Alegre & Siy, 2010).

Cross-ethnic peer contact can have positive social ramifications. Kawataba and Crick (2011) found a negative relationship between classroom ethnic diversity and peer victimization in a

diverse sample of 444 nine to ten-year-olds. That is, the more diverse samples showed lower instances of physical peer victimization. Fostering a diverse educational environment has been shown to be beneficial for numerous other developmental outcomes as well (Fischer, 2008). For example, children who engage in friendships across racial/ethnic lines are more likely to be seen by teachers as showing positive developmental results, ranging from social inclusiveness to general leadership behaviors (Kawabata & Crick, 2008). Though diversity is related to many positive outcomes, there are also disadvantages.

Downfalls of Cross-Ethnic Contact

Constrict theory is a term proposed by Putnam (2007) to explain the phenomenon of social “hunkering down”, or lack of social cohesion. Putnam argued that, in the short term, the introduction of racial-ethnic diversity is harmful to society; it gives way to increased in-group isolation due to a distrust of out-group members. However, Putnam theorized that this behavior does not translate in the long term, and the social cohesion of society will increase with time. Demanet, Agirdag, and Houtte (2012) explored this theory in the context of Finnish secondary schools. They categorized the students as native and immigrant students. The researchers found that the native students in ethnically diverse schools did indeed demonstrate a “hunkering down” effect of fewer friendships, regardless of their ethnicity. However, this effect was moderated by socioeconomic status. The researchers postulated that the lower instances of friendship were due to the lower socioeconomic status of the school, stating that previous research suggests fewer instances of overall friendship among lower socioeconomic groups (Tolsma, Van der Meer, & Gesthuizen 2009). They also found that ethnically diverse schools may be an asset to the

immigrant students as they were associated with more instances of friendship between these immigrant students.

However, Vervoort et al. (2011) found that classrooms with relatively higher levels of minority students were not conducive to positive social outcomes. They saw that classrooms with a higher minority composition held greater negative out-group attitudes. In other words, students had more negative attitudes towards those of other ethnic groups when the classroom composition was predominantly minority students. The out-group, in this case, were students who were not ethnic minorities and they exhibited larger positive feelings towards students of their same ethnic group (i.e. higher positive in-group attitude). In contrast, the ethnic majority group showed a lower positive in-group attitude, or less positive attitudes towards same-ethnic peers. However, the study also showed that the number of cross-ethnic friendships is correlated with less negative out-group attitudes. That is, those students with more cross-ethnic friendships had lower negative feelings towards ethnicities other than their own. In addition, a higher quality of cross-ethnic friendships and more intimate and attached friendships were related to both lower negative in and out-group attitudes. However, not all cross-ethnic friendships were of high quality. These results suggest that cross-ethnic interactions and high-quality cross-ethnic friendships are associated with more positive social attitudes and inclusivity (Vervoort et al., 2011). There are many personal and contextual factors that influence the creation of these cross-ethnic friendships.

Predictors of Cross-Ethnic Friendship

Research regarding educational environments suggests that a diverse college setting promotes the creation of interracial friendships (Fischer, 2008). This pattern holds true even for students who reported racially homogenous friend groups before college. However, Bowman and

Park (2015) found that the same factors which are associated with greater frequency of interracial interactions were not also predictive of interracial friendships.

Adolescents lacking in cross-ethnic interaction experiences may fall victim to miscommunication when it comes to establishing cross-ethnic friendships. Vorauer and Sakamoto (2006) examined signal amplification bias, a phenomenon in which people believe they conveyed more friendship interest than they actually did. This was tested with White and Chinese pairs of participants. After one orchestrated interaction between a White and Chinese participant, the participants were asked about conveyed friendship interest. White students with limited interaction with Chinese participants displayed a signal amplification bias, thinking that they had conveyed more friendship interest than their partner perceived. Interracial friendships in adolescence also have lower rates of reciprocation, or friendship interest from both parties, in comparison to non-interracial friendships (Vaquera & Kao, 2008), which would not be developmentally beneficial because friendships are correlated with school belongingness indicators of resilient youth (Zolkoski & Bullock, 2012).

Some studies have also investigated the preference of ethnic group versus racial group preference in friend choice (Kao & Joyner, 2006; Kao & Vaquera, 2008). Ultimately the two studies found that the Asian and Hispanic students preferred peers that were of the same ethnic group as opposed to same race or different race/ethnic group peers. This suggests that ethnicity may be a stronger friendship determinant than same race and peers of different racial groups.

Resilience and Cross-Ethnic Friendship

Resilience and Friendships

While ethnicity and resilience have not been measured in conjunction, research does agree on the characteristics of resilient youth (Zolkoski & Bullock, 2012). They often have the following personal characteristics in common: autonomy, sense of purpose, good problem-solving skills, social competence, and critical consciousness. Additionally, having a supportive social network of peers, family, and friends is very important (Richards, Lewis, Sanderson, Deane & Quimby, 2016). Resilient youth exhibit the ability to cope and work through stressors in a healthy way, while also interacting effectively in the social world. These agreed-upon characteristics have led the way to psychological resilience scales like the one that will be used in this study, and highlight the importance of quality interpersonal relationships.

Cross-Ethnic Friendship Quality

Race and ethnicity can not only be predictive of friendship, but also of friendship quality. Using shared activities as a gauge for quality and closeness of friendships, Kao and Joyner (2004) found that best friends were more likely than other close friends to be in the same ethnic group. There are many potential contributing factors to this phenomenon. Ethnically similar peers can bring specific cultural similarities to the table. Samter, Whaley, Mortenson, and Burleson (2005) explored ethnic differences in emotional support and found that there are differences in value and style of showing emotional support between ethnic groups (Samter, Whaley, Mortenson & Burleson, 2005).

Generally, the quality of cross-ethnic friendships has been found to be lower than same-group friendships (Kao & Joyner, 2004; Demanet, Agirdag & Van Houtte, 2012; Graham,

Munniksmma & Juvonen, 2013). These studies define friendship quality through the dimensions of disclosure and attachment. Cross-ethnic friendships show lower interpersonal vulnerability and attachment than same-ethnic friendships (Graham, Munniksmma & Juvonen, 2013). Similarly, Turner and Feddes (2011) found that cross-race friendships appeared similar to same-race friendships on all factors aside from friendship intimacy. Interpersonal relationships such as friendships are important components of resilience, of which friendship quality is a key part.

The Role of Ethnic Identity

Ethnic identity is a feeling of belonging within one's own ethnic group. It encompasses an understanding of the culture as well as active participation in it (Phinney, 2007). Taking part in one's culture refers to engagement in "ethnic behaviors" such as eating food from the culture, speaking the language, or engaging with others of the ethnic group. Academic performance is often referred to as a predictor of high resilience. Therefore it is often used as a benchmark for it, as was done in the following study. Miller and MacIntosh (1999) found in a population of African American adolescents that strong ethnic identity correlated with higher GPAs. The authors concluded that racial socialization and subsequent strong ethnic identity were associated with resilience. One study involving Korean children who were adopted into non-Korean families found that ethnic identity did not serve as a protective factor (Han, 2017). Adopted Korean children with White parents were a unique case where youth were not embedded in an environment with parents who shared their ethnic identity. Therefore these children did not experience a sense of ethnic identity in the same way as children with Korean parents. Clauss-Ehlers, Yang, and Chen (2008) found that college women who had gone through the process of ethnic identity search, the active process of engaging with and developing one's ethnic

identity, were more resilient than those who had not. This suggests that the formation of a strong ethnic identity may be a predictor of resilience. Goel et al. (2013) aimed to analyze the relationship between unpredictable hardship and resilience between ethnic groups. They did so by studying an ethnically diverse group of children and teenagers who experienced a residential fire. They did not find a significant interaction between ethnic group and resilience scores, showing that different ethnic groups did not vary in resilience (Goel, Amatya, Jones & Ollendick, 2013).

Conclusions

While ethnicity and resilience have not been measured in conjunction, research does agree on the characteristics of resilient youth (Zolkoski & Bullock, 2012). They often have the following personal characteristics in common: autonomy, sense of purpose, good problem-solving skills, social competence, and critical consciousness. These agreed-upon characteristics have led the way to psychological resilience scales like the one that will be used in this study. Studies suggest that cross-ethnic interaction is conducive to ideal student outcomes, such as college satisfaction, perceived growth, and positive cross-race interactions in the future (Bowman & Park, 2015). Yet generally, the closeness of same-ethnic friendships has been shown to be higher than that of cross-ethnic friendships (Kao & Joyner, 2004; Demanet, Agirdag & Van Houtte, 2012; Graham, Munniksma & Juvonen, 2013). Therefore, in my study, I hypothesize that ethnic similarity in friends is a predictor of psychological resilience in adolescents.

Method

Study Design Overview

This study explored the relationship between cross-ethnic friendships and psychological resilience in adolescents. The independent variable was the proportion of ethnic match between each participant and their close school friends, and the dependent variable was psychological resilience, as measured by a four-item questionnaire. I hypothesized that adolescents with ethnically similar friends would show higher rates of psychological resilience than those with ethnically dissimilar friends due to a shared understanding of cultural context. The data for the study came from previously collected survey data of approximately 279 high school age participants in schools across Texas (Benner, 2019). This is a longitudinal study in which data were collected across three consecutive years. The data I used is from the third of six waves of data collection, which was collected in the spring of 2019. The data were collected through means of an electronic survey, paper survey, and phone survey. Ethnic identity was also assessed as a possible moderator.

Participants

Initial student recruitment was conducted at Austin, Texas area middle schools when the students were in eighth grade (approximately 13-14 years old). The participants were primarily in tenth grade (approximately 15-16 years old) at the time of the relevant survey data collection. Recruitment of students used in the present study (the third-year survey) was conducted via email. Participants were awarded \$25 at the completion of the survey. Parental consent was obtained if the participant was under the age of eighteen and the student also assented to being involved in the study. Some participants were excluded based on the following exclusion protocol. While people

who are Middle Eastern are considered racially White, I did not think this would be an appropriate categorization for the purposes of my study because of abundant cultural differences between people of Middle Eastern descent as compared to other people who are racially White. Biracial participants were also excluded as it is not possible with previously collected data to assess if they feel more culturally connected to one group than another. Detailed participant characteristics can be found in Appendix A.

Measures

Multiple Group Identity Measure— Revised

The Multiple Group Identity Measure- Revised is a Likert style six-item questionnaire. Phinney and Ong (2007) completed an analysis of the scale as well as the revised scale. It was found to be an effective measurement of ethnic identity. The items ask “how true are each of the following”, followed by questions such as “I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs” and “I have a strong sense of belonging to my own ethnic group”. The response options range from zero to four (0 = no way, 4 = for sure yes). The ultimate score is a sum of the values given to each of the parts, the maximum score is 24 and the minimum is zero, with a higher score indicating a stronger sense of ethnic identity. This mean composite had a satisfactory Cronbach’s $\alpha=0.914$, suggesting the measure is reliable. The variable was also checked for kurtosis and skewness and it was determined to be normally distributed, which is key for use in regression analyses.

Psychological Resilience

The psychological resilience measure is a four-item questionnaire (Wang & Eccles, 2012). The questions say, “How good are you at...”, followed by four questions: “Figuring out problems

and planning how to solve them?” “Carrying out the plans you make for solving problems?”, “Bouncing back quickly from bad experiences?”, “Learning from your mistakes?”. The answer choices are very bad, bad, okay, good, and excellent. Each of the answers has a numerical value from zero to four (0 = very bad, 4 = being excellent). The scores are summed across the four questions, yielding results in a resilience score from zero to 16, such that a high score is indicative of higher psychological resilience. The average of that sum was then taken. This mean composite measure yielded a satisfactory Cronbach’s $\alpha=0.815$. This variable was checked for kurtosis and skewness and it was determined to be normally distributed. Therefore it was appropriate for use in regression analyses.

Demographics of Friends

This question was created for the purpose of collecting data on the ethnicity of participants’ close school friends. The item asks “Think about your close friends at school. How many of them are...”. This is followed by subsections entitled African American/Black, Latino/Hispanic, Asian American, and White. They then indicate an amount from zero to four (0 = none, 4 = all) for each ethnicity.

Personal Demographic Information

The demographic information section asked participants to identify their family’s socioeconomic status. The options were: very poor, poor, lower middle class, middle class, upper middle class, upper middle class/rich. They were also asked to identify their race/ethnicity from a detailed list. For example, in place of an Asian choice, there are options for East Asian, Southeast Asian, and South Asian. Countries associated with each region are listed, for example; Middle Eastern (Irani, Iraqi, Saudi Arabian). There was also an option to denote being biracial or

multiethnic, and an “Other” option in which the student could write in an answer. The match between the participants and their close school friends was assessed. This study requires capturing how many of the participants’ friends are of a different ethnic group. The headers on table one reflect the ethnicity of friends that most closely matches their reported ethnicity in the column below. In doing this, it was possible to determine what proportion of same-ethnic close school friends a participant had.

Table 1

Categorization of Participant Ethnicity by Friend Ethnicity

Ethnicity of Friends	African American/Black	Latino/Hispanic	Asian American	White	Uncategorized
Self-reported Ethnicity	Black/African American	Mexican/American Latino (other country of origin)	East Asian Southeast Asian South Asian	White	Pacific Islander/Native Hawaiian American Indian/Native American Middle Eastern

Procedure

Students who had consented previously to be contacted by the lab for future studies were contacted by research assistants. Following their agreement to participate, they filled out either an online survey, were mailed a paper survey or completed a survey over the phone with a research assistant. Participants completed a survey with approximately 75 different measures, which took approximately 30 minutes. This study will use five of the included measures, which were spread

throughout the survey. The measures were completed in the following order; ethnic identity, psychological resilience measure, ethnic composition of friends, socioeconomic status, then ethnic demographics.

Statistical Analysis

Each participant had the following data; participant ID, self-reported ethnicity, amount of African American/Black friends, Latino/Hispanic friends, Asian American friends, and White friends, composite mean psychological resilience score, and composite mean ethnic identity score. For each participant, the necessary data was extracted from the Qualtrics survey output and inserted into SPSS. The match between the participant and their close school friends was then assessed. The question inquiring about the ethnic composition of friends was Likert question. The response options for each ethnic group on the friends' characteristics measure was none, a few, about half, most, and all. The variable of interest was the Likert response for the participants' same ethnic group. For example, if a student was White, the response of interest was how many White friends the student reported. This was then reverse coded to assess the proportion of cross-ethnic friends.

Three friendship variables were created for the purposes of the regression analyses. The first variable was a "any versus none". This denoted if a participant had no cross ethnic friendship or more. The second variable was "half versus more than half". This denoted if a participant had up to half cross-ethnic friendships or more than half. The final variable was the "quasi-continuous" variable. This was the most detailed, showing what proportion of cross-ethnic friendships the participant had (none, a few, about half, most, all).

After data cleaning and organization in SPSS, the data was uploaded to Mplus for regression analysis. Using Mplus allowed for missing values to be handled using full information maximum likelihood (FIML). This means that participants who were missing data were not excluded from the analyses, instead, all available data were used. Each regression included the following covariates; gender, socioeconomic status, immigrant status, and race. When looking for effects of participant ethnicity the Latinx group was omitted as the reference group. The mean composites created for psychological resilience and ethnic identity were first determined to be normally distributed for regression. They were also tested for sufficient Cronbach's α values ($\alpha=0.815$, $\alpha=0.914$), suggesting reliability of the variables. The first regression analysis regressed psychological resilience on the any versus none cross-ethnic friendship variable without covariates, and then again with covariates. The second analysis regressed psychological resilience on the half versus more than half friendship variable again with covariates, and then without them. Next, the same analysis was performed, but with the quasi-continuous friendship variable version of the friendship variable. So instead of presence and absence, it included none, a few, about half, most, and all. This regression was also run once with and once without covariates.

Then ethnic identity was investigated as a potential moderator. This regression analysis was completed using the covariates, main effect of cross-ethnic friendship, and main effect of ethnic identity. The regression was intended to reveal how these three factors combine to predict psychological resilience. Then, an interaction term was created using the product of the cross-ethnic friendship score and ethnic identity centered. Ethnic identity was centered by subtracting out the grand mean from each response. Once the interaction term was created, it was treated as a new variable and included in a new regression to see how it impacted resilience. If the

relationship between the interaction variable and psychological resilience was found to be significant, its relationship would be probed with a slope analysis. The slope, coefficient, and significance level would result from the analysis. The coefficient and significance levels of each line would be compared to one another so that the differences could be assessed.

Results

The first research question concerned whether, in different variations, cross-ethnic friendship proportion was predictive of psychological resilience. The first regression explored the impact of psychological resilience on the any versus none variable with covariates. Presence versus absence of cross-ethnic friendships was not a significant predictor of resilience ($\beta=0.148$, $p=0.268$) (see Table 2). The statistically significant predictors of resilience that emerged were the covariates female gender identity ($\beta=-0.203$, $p=0.027$) and socioeconomic status ($\beta=0.113$, $p=0.044$). The next analysis regressed resilience on the half versus more than half friendship variable. Again it was not found to be significant ($\beta=0.012$, $p=0.893$) (Table 3). Female gender identity and socioeconomic status again showed significance ($\beta=-0.208$, $p=0.023$; $\beta=0.111$, $p=0.049$). Finally, resilience was regressed on the quasi-continuous (Likert) variable. No statistical significance emerged ($\beta=0.015$, $p=0.731$) (Table 4). Gender identity and socioeconomic status endured as significant ($\beta=-0.207$, $p=0.024$; $\beta=0.113$, $p=0.046$).

Table 2

Regressing Psychological Resilience on Dichotomous Cross-Ethnic Friendship Variable (Presence vs Absence) with Covariates

Variable	Estimate	SE	p
Cross-Ethnic Friendships (None vs Any)	0.148	0.133	0.268
Female	-0.203	0.092	0.027
Socioeconomic Status	0.113	0.056	0.044
Immigrant Family	0.001	0.116	0.991
African American/Black	0.026	0.176	0.883
Asian American	-0.269	0.141	0.057
White	0.017	0.116	0.882

Note. Latinx group was omitted as a reference group for all regressions.

Table 3

Regressing Psychological Resilience on Dichotomous Cross-Ethnic Friendship Variable (More Than Half vs Less Than Half) with Covariates

Variable	Estimate	SE	<i>p</i>
Cross-Ethnic Friendships (More than half vs Less than half)	0.012	0.089	0.893
Female	-0.208	0.092	0.023
Socioeconomic Status	0.111	0.056	0.049
Immigrant Family	-0.002	0.116	0.983
African American/Black	0.029	0.178	0.87
Asian American	-0.259	0.141	0.067
White	0.024	0.116	0.838

Table 4

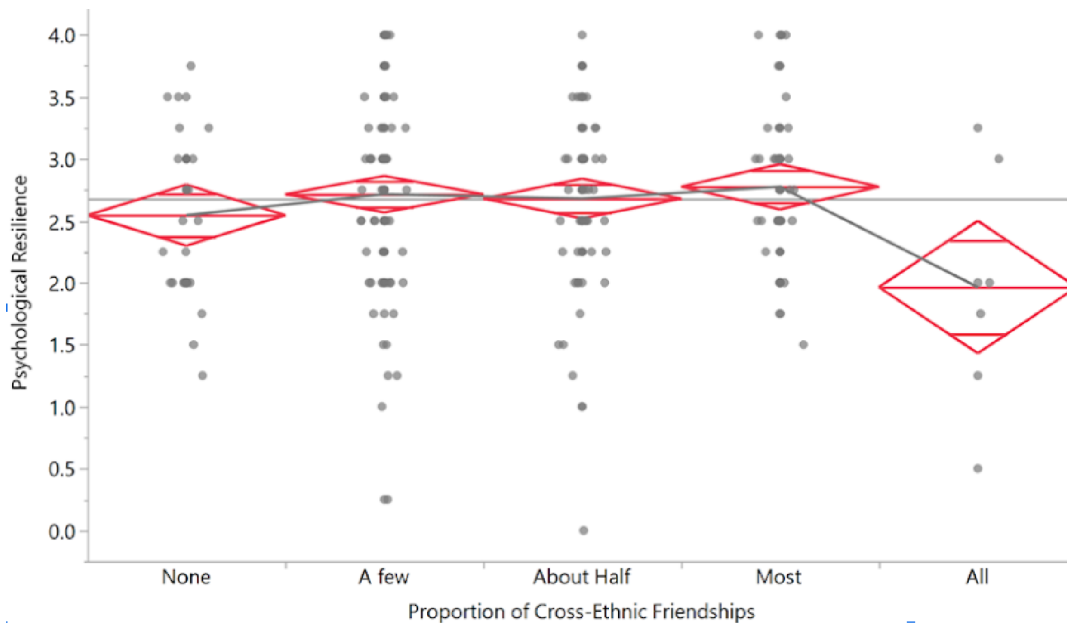
Regressing Psychological Resilience on Quasi-Continuous Cross-Ethnic Friendship Variable with Covariates

Variable	Estimate	SE	<i>p</i>
Cross-Ethnic Friendships (Quasi-Continuous)	0.015	0.043	0.731
Female	-0.207	0.092	0.024
Socioeconomic Status	0.113	0.057	0.046
Immigrant Family	-0.002	0.116	0.989
African American/Black	0.025	0.177	0.889
Asian American	-0.263	0.142	0.064
White	0.022	0.116	0.848

Across the board there appeared to be no relationship between the proportion of cross-ethnic friends and psychological resilience. When looking across proportions of cross-ethnic friendships, no statistically significant difference between proportions can be seen (see Figure 2).

Figure 2

Analysis of Variance of Psychological Resilience by Proportion of Cross-Ethnic Friendships



Note. No statistically significant difference in resilience by the proportion of friendships was found ($p > 0.05$). Resilience values are *Ms.* center bars of the diamonds denote *Ms.* The top and bottom points of the diamond denote 95% confidence interval. The outer set of parallel lines show where one confidence interval overlaps with another.

The second research question assessed the potential moderating role of ethnic identity on the relationship between cross-ethnic friendship proportion and psychological resilience. The first regression examined the impact of the any versus none friendship variable on resilience, while adding in an interaction term (product of cross-ethnic friendship score and ethnic identity centered)

and covariates. There was no significant relationship for the interaction term ($\beta=0.046$, $p=0.728$) (Table 5). This was repeated for the half versus more than half variable and again with the quasi-continuous variable. Again, no significance emerged ($\beta=-0.055$, $p=0.522$; $\beta=0.009$, $p=0.813$) (Table 6, Table 7). There was no significance for the interaction term in any of the regressions.

Table 5

Regressing Psychological Resilience on Dichotomous Cross-Ethnic Friendship Variable (Presence vs Absence) with Main Effect and Interaction Term for Ethnic Identity and Covariates

Variable	Estimate	SE	p
Cross-Ethnic Friendships (None vs Any)	0.219	0.138	0.113
Ethnic Identity	0.178	0.124	0.153
Interaction Term	0.046	0.133	0.728
Female	-0.203	0.088	0.021
Socioeconomic Status	0.083	0.055	0.131
Immigrant Family	-0.036	0.112	0.749
African American/Black	0.008	0.169	0.963
Asian American	-0.293	0.136	0.031
White	0.174	0.116	0.136

Table 6

Regressing Psychological Resilience on Dichotomous Cross-Ethnic Friendship Variable (More Than Half vs Less Than Half) with Main Effect and Interaction Term for Ethnic Identity and Covariates

Variable	Estimate	SE	p
Cross-Ethnic Friendships (More than half vs Less than half)	0.048	0.086	0.577
Ethnic Identity	0.235	0.064	0.000
Interaction Term	-0.055	0.086	0.522
Female	-0.219	0.089	0.013
Socioeconomic Status	0.083	0.055	0.131
Immigrant Family	-0.041	0.112	0.718
African American/Black	0.008	0.172	0.964
Asian American	-0.273	0.136	0.045
White	0.175	0.117	0.133

Table 7

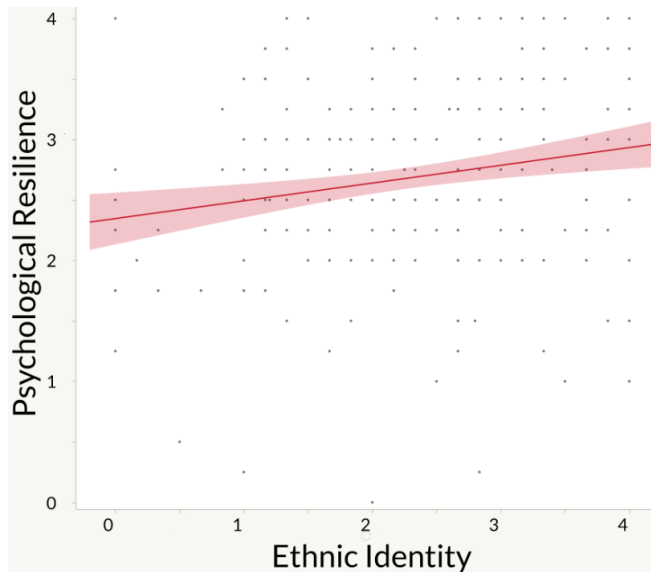
Regressing Psychological Resilience on Quasi-Continuous Cross-Ethnic Friendship Variable with Main Effect and Interaction Term for Ethnic Identity and Covariates

Variable	Estimate	SE	<i>p</i>
Cross-Ethnic Friendships (Quasi-Continuous)	0.046	0.042	0.280
Ethnic Identity	0.214	0.047	0.000
Interaction Term	0.009	0.04	0.813
Female	-0.213	0.089	0.016
Socioeconomic Status	0.085	0.055	0.124
Immigrant Family	-0.036	0.112	0.752
African American/Black	-0.002	0.171	0.991
Asian American	-0.291	0.137	0.033
White	0.175	0.117	0.133

However, there was a significant relationship for main effect of ethnic identity in all three regressions ($\beta=0.235$, $p<0.000$) (Table 6). There was a positive relationship between strength of ethnic identity and psychological resilience (see Figure 3).

Figure 3

Psychological Resilience by Ethnic Identity



Note. Psychological resilience and ethnic identity scores are composite *Ms*.

Overall a strong relationship between gender identity and psychological resilience emerged. Female identifying students showed lower resilience scores than their male-identifying peers (see Figure 4). The mean female resilience score was 2.58 while the mean for males was 2.83. Using Latinx students as a reference group, the remaining ethnic groups were compared for differences in resilience. Asian American students came out below their peers (Figure 5) with a mean resilience score of 2.71. The data show that as socioeconomic status increases, so does psychological resilience (see Figure 6). The exception being, students who self-identified as poor show higher resilience on average than their lower middle class peers. They were more on par with their middle class peers.

Figure 4

Psychological Resilience by Gender Identity



Figure 5

Psychological Resilience by Participant Race/Ethnicity

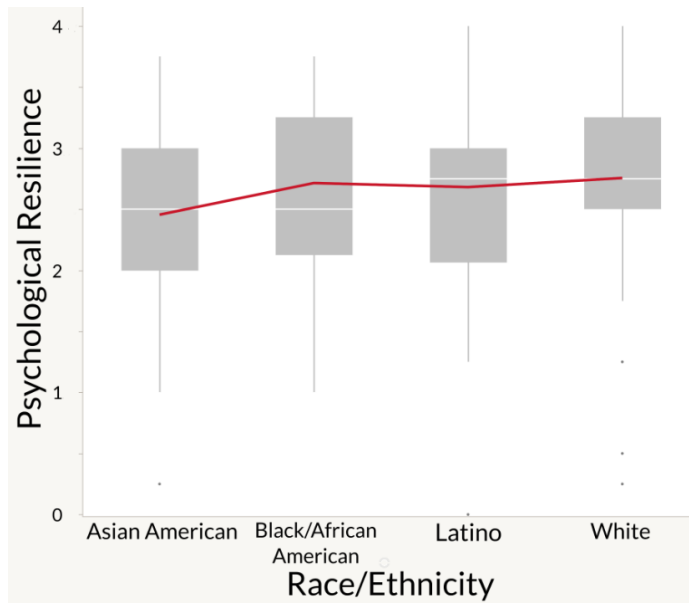
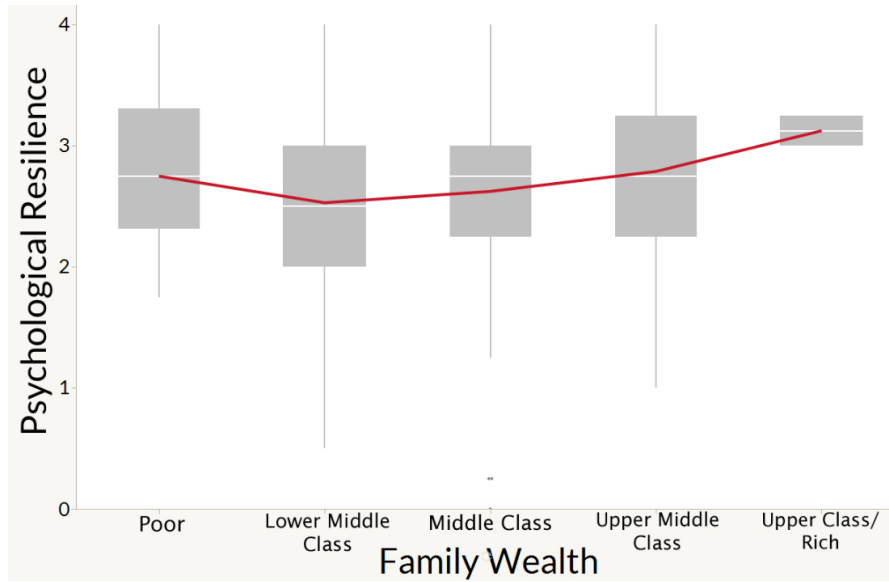


Figure 6

Psychological Resilience by Socioeconomic Status



Note. Participant identified family wealth is an indicator of perceived socioeconomic status.

Discussion

The primary finding from the statistical analyses shows that there is not a significant relationship between ethnic-composition of close school friends and psychological resilience in adolescents. Ethnic identity was therefore discovered not to be a moderator. However, ethnic identity alone was found to be significantly predictive of psychological resilience. I hypothesize that this is due to perhaps a stronger sense of ethnic connection away from the school setting. Much of ethnic identity socialization occurs in the home, in the context of the family (Pinney & Chavira, 1995). This may make the ethnicity of friendships a less important characteristic. Patterns of gendered resilience also emerged. Female disadvantage in resilience showed through in the data and is consistent with the literature (Thornberry, 1994). This may be due to gendered socialization resulting in low self esteem in adolescent females. The data also showed that students of lower socioeconomic statuses had lower average resilience. This was true, with the exception of the “poor” students. This could have been due to a number of sociocultural factors, as resilience is influenced by numerous components (Zolkoski & Bullock, 2012).

One primary limitation of the study is the uneven distribution of participants’ race-ethnicity. There was specifically a lack of African American/Black participants. The data were also collected almost exclusively from Austin, Texas area high school students. Therefore there may have been region specific cultural effects at play. Finally, biracial and multiethnic adolescents were excluded from the study. This is because it could not be determined which ethnic identity/identities they related with most.

Generally, the study findings may suggest that an intrinsic sense of ethnic belonging is a stronger influence on resilience than extrinsic ethnic similarity or difference from one’s peers.

Family is a key element of ethnic socialization (Pinney & Chavira, 1995). This socialization has previously been found to be impactful for academic attainment and general self-efficacy. Previous literature has also found that for some ethnic groups, family ethnic socialization serves as a moderator between racial discrimination and resilience (Brown & Tylka, 2010). This study did not find a relationship between friend ethnic composition and psychological resilience. However it did open the door to many questions about the role of ethnicity and ethnic identity in resilient behavior.

References

- About, F. E., Mendelson, M. J., & Purdy, K. T. (2003). Cross-race peer relations and friendship quality. *International Journal of Behavioral Development, 27*(2), 165–173. Doi: 10.1080/01650250244000164
- Benner, A. (2019). Preventing inequalities in school climate and educational success (PISCES).
- Bowman, N. A., & Park, J. J. (2014). Interracial Contact on college campuses: Comparing and contrasting predictors of cross-racial interaction and interracial friendship. *The Journal of Higher Education, 85*(5), 660–690. doi: 10.1353/jhe.2014.0029
- Bowman, N. A., & Park, J. J. (2015). Not all diversity interactions are created equal: Cross-racial interaction, close interracial friendship, and college student outcomes. *Research in Higher Education, 56*(6), 601–621. doi: 10.1007/s11162-015-9365-z
- Brown, D. L., & Tylka, T. L. (2010). Racial Discrimination and Resilience in African American Young Adults: Examining Racial Socialization as a Moderator. *Journal of Black Psychology, 37*(3), 259–285. doi: 10.1177/0095798410390689
- Crosnoe, R. (2000). Friendships in Childhood and Adolescence: The Life Course and New Directions. *Social Psychology Quarterly, 63*(4), 377. doi: 10.2307/2695847
- Demant, J., Agirdag, O., & Houtte, M. V. (2012). Constrict in the school context: The impact of ethnic school diversity on the quantity and quality of friendships. *The Sociological Quarterly, 53*(4), 654–675. doi: 10.1111/j.1533-8525.2012.01245.x
- Fischer, M. J. (2008). Does campus diversity promote friendship diversity? A look at interracial friendships in college. *Social Science Quarterly, 89*(3), 631–655. Doi: 10.1111/j.1540-6237.2008.00552.x

- Goel, K. S., Amatya, K., Jones, R. T., & Ollendick, T. H. (2013). Child and adolescent resiliency following a residential fire: The role of social support and ethnicity. *Journal of Child and Family Studies, 23*(3), 537–547. doi: 10.1007/s10826-013-9715-4
- Graham, S., Munniksma, A., & Juvonen, J. (2013). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child Development, 85*(2), 469–483. Doi: 10.1111/cdev.12159
- Harmelen, Anne-Laura Van. “Adolescent friendships predict later resilient functioning across psychosocial domains in a healthy community cohort.” July 2016, doi:10.31219/osf.io/ysd7p.
- Hostinar, C. E., & Miller, G. E. (2019). Protective factors for youth confronting economic hardship: Current challenges and future avenues in resilience research. *American Psychologist, 74*(6), 641–652. doi: 10.1037/amp0000520
- Kao, G., & Joyner, K. (2004). Do race and ethnicity matter among friends? Activities among interracial, interethnic, and intraethnic adolescent friends. *The Sociological Quarterly, 45*(3), 557–573. doi: 10.1525/tsq.2004.45.3.557
- Kao, G., & Joyner, K. (2006). Do Hispanic and Asian adolescents practice panethnicity in friendship choices? *Social Science Quarterly, 87*(s1), 972–992. Doi: 10.1111/j.1540-6237.2006.00411.x
- Kao, G., & Vaquera, E. (2006). The salience of racial and ethnic identification in friendship choices among hispanic adolescents. *Hispanic Journal of Behavioral Sciences, 28*(1), 23–47. doi: 10.1177/0739986305284126
- Kawabata, Y., & Crick, N. R. (2008). The role of cross-racial/ethnic friendships in social

- adjustment. *Developmental Psychology*, 44(4), 1177–1183. Doi: 10.1037/0012-1649.44.4.1177
- Kawabata, Y., & Crick, N. R. (2011). The significance of cross-racial/ethnic friendships: Associations with peer victimization, peer support, sociometric status, and classroom diversity. *Developmental Psychology*, 47(6), 1763–1775. doi: 10.1037/a0025399
- Meer, T. V. D., & Tolsma, J. (2014). Ethnic diversity and its effects on social cohesion. *Annual Review of Sociology*, 40(1), 459–478. doi: 10.1146/annurev-soc-071913-043309
- Miller, D. B., & Macintosh, R. (1999). Promoting resilience in urban African American adolescents: Racial socialization and identity as protective factors. *Social Work Research*, 23(3), 159–169. doi: 10.1093/swr/23.3.159
- Page-Gould, E., Mendoza-Denton, R., Alegre, J. M., & Siy, J. O. (2010). Understanding the impact of cross-group friendship on interactions with novel outgroup members. *Journal Of Personality and Social Psychology*, 98(5), 775–793. doi: 10.1037/a0017880
- Page-Gould, E., Mendoza-Denton, R., & Tropp, L. R. (2008). With a little help from my cross-group friend: Reducing anxiety in intergroup contexts through cross-group friendship. *Journal of Personality and Social Psychology*, 95(5), 1080–1094. Doi: 10.1037/0022-3514.95.5.1080
- Phinney, J. S., & Chavira, V. (1995). Parental Ethnic Socialization and Adolescent Coping With Problems Related to Ethnicity. *Journal of Research on Adolescence*, 5(1), 31–53. Doi: 10.1207/s15327795jra0501_2
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54, 271.

- Putnam, R. D. (2007). E Pluribus Unum: Diversity and community in the twenty-first century
The 2006 Johan Skytte Prize Lecture. *Scandinavian Political Studies*, 30(2), 137–174.
doi: 10.1111/j.1467-9477.2007.00176.x
- Richards, M., Lewis, G., Sanderson, R. C., Deane, K., & Quimby, D. (2016). Introduction to
special issue: Resilience-based approaches to trauma intervention for children and
adolescents. *Journal of Child & Adolescent Trauma*, 9(1), 1–4. Doi:
10.1007/s40653-016-0081-4
- Samter, W., Whaley, B. B., Mortenson, S. T., & Burleson, B. R. (1997). Ethnicity and emotional
support in same-sex friendship: A comparison of Asian-Americans,
African-Americans, and Euro-Americans. *Personal Relationships*, 4(4). Doi:
<https://doi.org/10.1111/j.1475-6811.1997.tb00154.x>
- Thornberry, T. P., Lizotte, A. J., Krohn, M. D., Farnworth, M., & Jang, S. J. (1994). Delinquent
Peers, Beliefs, And Delinquent Behavior: A Longitudinal Test Of Interactional Theory.
Criminology, 32(1), 47–83. doi: 10.1111/j.1745-9125.1994.tb01146.x
- Turner, R. N., & Feddes, A. R. (2011). How intergroup friendship works: A longitudinal study of
friendship effects on outgroup attitudes. *European Journal of Social Psychology*, 41(7),
914–923. doi: 10.1002/ejsp.843
- Vaquera, E., & Kao, G. (2008). Do you like me as much as I like you? Friendship reciprocity and
its effects on school outcomes among adolescents. *Social Science Research*, 37(1),
55–72. doi: 10.1016/j.ssresearch.2006.11.002
- Vervoort, M. H., Scholte, R. H., & Scheepers, P. L. (2011). Ethnic composition of school
classes, majority–minority friendships, and adolescents’ intergroup attitudes in

- the Netherlands. *Journal of Adolescence*, 34(2), 257–267. Doi: 10.1016/j.adolescence.2010.05.005
- Vorauer, J. D., & Sakamoto, Y. (2006). I thought we could be friends, but *Psychological Science*, 17(4), 326–331. doi: 10.1111/j.1467-9280.2006.01706.x
- Wang, M. T., & Eccles, J. S. (2012). Adolescent behavioral, emotional, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence*, 22, 31-39. doi: 10.1111/j.1532-7795.2011.00753.x
- Way, N., & Chen, L. (2000). Close and general friendships among African American, Latino, and Asian American adolescents from low-income families. *Journal of Adolescent Research*, 15, 274-301.
- Zolkoski, S. M., & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and Youth Services Review*, 34(12), 2295–2303. doi: 10.1016/j.childyouth.2012.08.009

Appendix A*Frequency of Characteristics in the Sample*

Variable	<i>n</i>	%
Boy	119	0.4265
Girl	154	0.5520
Gender Missing	6	0.0215
9th grade	11	0.0394
10th grade	266	0.9534
11th grade	2	0.0072
Poor	10	0.0358
Lower Middle Class	51	0.1828
Middle Class	123	0.4409
Upper Middle Class	87	0.3118
Upper-Class/Rich	2	0.0072
Wealth Missing	6	0.0215
Non-Member of an Immigrant Family	125	0.4480
Member of Immigrant Family	114	0.4086
Member of Immigrant Family Status Missing	40	0.1434
Black/African American	21	0.0753
Latino	120	0.4301
White	99	0.3548
Asian American	39	0.1398