The Relationship Between Personality Traits and Interracial Contact on Campus

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Abstract

It is not well understood why, on diverse college campuses, some students are more likely than others to engage in interracial contact. While research has begun to examine the role of individual differences like personality traits, results have thus far been mixed. This article asks if this might be the result of confounding different forms of interracial contact. Using a sample of nearly 500 university students and drawing on distinctions made in research on diversity in higher education, models examining the relationships between the five-factor model (FFM) of personality traits and four types of interracial contact are presented: positive and negative cross-racial interactions (CRIs), and two ways of estimating interracial friendships (IRFs)—self-reported composition of close friends as well as the count of ego-network connections. Results show that having an Agreeable personality is associated with perceiving more positive and fewer negative CRIs, while no personality traits are associated with IRFs.

Keywords

diversity and multiculturalism, education, social sciences, higher education, personality, psychology, students, educational research

Introduction

One of the primary and most pressing challenges for contemporary institutions of higher education is to foster the skills students need to navigate increasingly diverse societies. Research has consistently shown the importance of intergroup contact for achieving that goal (Bowman, 2010; Denson & Chang, 2009; Gurin et al., 2002). There is no guarantee, however, that as campuses become more ethnically and racially diverse, students will engage in such contact. Even in contexts that provide opportunities for interracial and interethnic interactions and friendships, students will differ in the extent to which they are interested in and capable of taking advantage. And yet, while a sizable body of research has documented positive outcomes associated with intergroup contact, (Tropp & Pettigrew, 2005), far less is known about individual differences that might help explain why some students take the opportunity to engage in contact, whereas others do not (Hodson et al., 2017).

In recent years, research has begun to address this gap in our understanding by examining the relationship between individual differences in personality traits and intergroup-related outcomes (Hodson & Dhont, 2015). Most of the current research, however, has focused on the connection between personality traits, especially agreeableness and openness, and intergroup attitudes and prejudice (Sibley & Duckitt, 2008). Only a handful of studies, in contrast, have examined how individual differences in personality relate directly to intergroup interactions (Jackson & Paulson, 2005; Turner et al., 2014; Vezzali et al., 2018). The results of this work on interactions have been inconsistent, however, with some studies finding a direct connection between personality and intergroup contact, whereas other work has failed to find such a relationship. In this article, I propose that these inconsistent findings may be due to heterogeneity in how intergroup contact is conceptualized. This heterogeneity may conceal divergent relationships between personality traits and different forms of intergroup contact.

Outside of the specific study of personality and intergroup contact, however, scholars have begun to recognize that face-to-face intergroup contact occurs along a continuum from superficial interactions with strangers to intimate relationships with friends (Crisp & Turner, 2009). The place of acquaintances like work colleagues, neighbors, and college classmates and dormmates remains unclear in this literature, however, with intergroup research conceptually lumping them with either strangers or friends depending on the study (e.g., Fuochi

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et al., 2020; Thomsen & Rafiqi, 2018). Research demonstrates, however, that in terms of important relational characteristics like emotional intimacy and degree of self-disclosure, acquaintances are distinct from both strangers and friends (Morgan, 2009; Planalp & Benson, 1992). These characteristics are precisely the kind that are important for explaining individual differences in the effect of intergroup contact (Davies et al., 2011).

To incorporate the distinction between acquaintances and friends into the research on personality and intergroup contact, I draw on research in higher education that has shown that having intergroup acquaintances is associated with different educational outcomes than having intergroup friends (Bowman & Park, 2014, 2015; Clarke & Antonio, 2012). More specifically, this work distinguishes between positive and negative cross-racial interactions (CRIs), which are informal interactions with acquaintances (Park, 2012; Park & Kim, 2013), and interracial friendships (IRFs), which are close relationships marked by emotional intimacy and spending significant amounts of time together (Chang et al., 2004; Hall et al., 2011; Park et al., 2013; Saenz, 2010).

There are several reasons to think personality traits may have different associations with CRIs and IRFs. First, research on friendship formation and maintenance suggests that the main effects of personality play a greater role in the early stages of relationships when individuals do not know each well compared with later stages where the similarity in personality traits is more important (Selfhout et al., 2007, 2010). This would suggest that the main effect of personality traits on CRIs should be stronger than that on IRFs. Second, existing work shows a relationship between the personality traits of agreeableness and openness with intergroup contact (Jackson & Paulson, 1995; Turner et al., 2014; Vezzali et al., 2018). Work on college students’ experiences shows, however, that they perceive interactions with acquaintances as being interpersonal but interactions with friends of different racial and ethnic backgrounds as being intergroup (Halualani, 2008, 2010). This too suggests that findings concerning the relationship between personality and intergroup contact may be less applicable to IRFs as compared with CRIs.

Together, this research suggests that personality traits should matter more for the kinds of interactions actors perceive as intergroup and less familiar (e.g., CRIs) compared with the kinds they perceive as familiar and interpersonal (e.g., IRFs). The objective of this article is to test these hypotheses. To do so, I use multiple regression analyses on survey results from 480 university students to examine the relationships between personality traits and different forms of intergroup contact: negative CRIs, positive CRIs, and two measures of IRFs. This article adds to the existing literature in several ways. First, and most broadly, it shows how the distinction between CRIs and IRFs can help solve a puzzle in the intergroup literature related to inconsistent finding on the relationship between personality and contact. Second, it adds to the literature on higher education specifically by including positive and negative CRIs and IRFs in the same study. Finally, and specific to the literature on intergroup contact, it examines the relationship between personality traits and negative contact. Overall, this article helps advance our understanding of intergroup contact by showing that personality matters differently for different forms of interaction.

**Intergroup Contact on College Campuses**

Existing research has shown that intergroup contact on campus between students of different racial and ethnic backgrounds is associated with a wide range of desirable outcomes. These include improved academic (Denson & Chang, 2009; Luo & Jamieson-Drake, 2009) and cognitive skills (Denson & Zhang, 2010) as well as greater cultural understanding (Antonio, 2001b; Gurin et al., 2002), increased comfort interacting with people from other races (Engberg & Hurtado, 2011), and reduced perceived social distance between racial groups (Bowman, 2013). And while research on higher education has generated a large body of knowledge about the effects of intergroup contact, we still have much to learn about why some students but not others engage in contact, to begin with. This article posits that better understanding of that issue requires incorporating individual differences into the study of interracial contact but also distinguishing between different forms of contact. Without incorporating person-based factors into research, it is difficult to understand why individuals differ in their tendency to engage in contact. Furthermore, research risks either missing or misconstruing the relationship between personality and contact if it does not distinguish between distinct forms of contact.

**Individual Personality Differences and Intergroup Contact**

Individual differences, or “between-person variability in the naturally occurring levels of psychological constructs relevant to personal and/or intergroup life” (Hodson et al., 2017, p. 9), have been found to matter for a wide range of social outcomes. As Hodson and Dhont (2015) note, there is no reason to think this would not be true for intergroup processes as well. And yet, despite the acknowledgement in early work on contact theory of the potential importance of personality (Allport, 1954), only in recent years have scholars begun to examine the role of individual differences in contact tendencies. One of the ways scholars have done this is by using the five-factor model (FFM), one of the best-developed models of personality traits (McCrae & Costa, 1987; McCrae & John, 1992).

More specifically, the FFM identifies five orthogonal traits that can be used to summarize central aspects of identity. Briefly, openness to experience is characterized by attributes like having broad interests, imagination, and nonconformity. Conscientiousness, in turn, is characterized by attributes like dependability and purposefulness. Extraversion is characterized by being talkative and sociable. Agreeableness is
associated with warmth, cooperation, and sympathy. And finally, Neuroticism is characterized by anxiety, insecurity, and self-consciousness. Research has found that these five factors show high rank-order and mean level stability over time (Roberts & Mroczek, 2008). The FFM has also been shown to have reliability and validity across different cultures (McCrae & Costa, 1987).

Most existing work connecting the FFM to intergroup contact has examined the relationship between personality traits and stereotypes and prejudices rather than interactions (Sibley & Duckitt, 2008). In this work, two FFM traits—agreeableness and openness—have been consistently associated with more positive intergroup attitudes and less generalized prejudice (Duckitt & Sibley, 2010; Ekehammar & Akrami, 2003; Flynn, 2005; Sibley & Duckitt, 2008). Agreeableness is thought to be linked to lower levels of prejudice because it is associated with the tendency to think the best of others and to expect others to like them in turn and hence more positive intergroup attitudes. Those high on openness, in contrast, are positively oriented toward unknown situations, a tendency also associated with positive intergroup attitudes. Research has found that those low on agreeableness and openness tend to be more prejudiced (Hodson et al., 2009). In fact, in meta-analyses, the effect sizes for the relationships between agreeableness and openness and prejudice are approximately similar to those Tropp and Pettigrew (2005) found between intergroup contact and prejudice (Hodson & Dhont, 2015). Extraversion, conscientiousness, and neuroticism, in contrast, have not been found to have a direct relationship with out-group attitudes but are still typically included in analysis.

One open question in the literature, however, is the degree to which the relationship between personality traits and out-group attitudes is mediated by intergroup contact (Turner et al., 2014). Only a small number of studies have attempted to address this issue, and their results have been mixed. Jackson and Poulsen (2005) found that openness was directly related to the quality and quantity of intergroup contact and agreeableness was directly related to quality. Turner and colleagues (2014), in contrast, found only an indirect relationship between openness and agreeableness and intergroup contact. Extraversion, in contrast, was the only personality trait directly related to intergroup contact in their study. This was because extraverted individuals had more social contact generally. Finally, Vezzali et al. (2018) found that openness and agreeableness were directly associated with the quality (but not quantity) of intergroup contact. Overall, openness and agreeableness are sometimes found to have a direct effect on intergroup contact and other times not. In the next section, I ask if differentiating between distinct forms of intergroup contact can add insight into the causes of this inconsistency.

**Differentiating Between Forms of Contact**

One of the major innovations in the research on intergroup contact has been to distinguish between forms of contact (Lolliot et al., 2015). Historically, research on intergroup contact has tended to focus on one type of relationship, friendship. This is because of the equal status, cooperation, and shared goals that defined friendship, making it similar to the ideal conditions of a contact situation (Davies et al., 2011; Pettigrew & Tropp, 2006). More recently, scholars have recognized that friendship is only one form of intergroup contact and potentially a rare one at that. Recognizing that there is a broad range of potentially more common forms of intergroup interaction, this growing literature conceptualizes contact as occurring along two axes—valence and intimacy. Valence refers to whether contact is positive or negative, with some work suggesting that negative contact has a larger impact on attitudes than does positive contact (Barlow et al., 2012; Paolini et al., 2010). Intimacy, in contrast, refers to the degree of closeness and can be located along a continuum of face-to-face contact ranging from superficial interaction with strangers to intimate relationships with close friends (Crisp & Turner, 2009; Fuochi et al., 2020; Thomsen & Rafiqi, 2018). Research has also increasingly examined non-face-to-face contact such as online, extended, vicarious, and imagined contact (Amichai-Hamburger et al., 2015; Tausch et al., 2011; Turner et al., 2007).

While the research has made a clear and consistent distinction between the two ends of the continuum, it has been less consistent in how the middle is defined. Notably, research on both superficial (Thomsen & Rafiqi, 2018) and close contact (Fuochi et al., 2020; Keil & Koschate, 2020) includes acquaintances as part of their definition. For example, Thomsen and Rafiqi (2018) classify interaction with coworkers and neighbors as superficial contact (p. 27), while Fuochi et al. (2020) include acquaintances in their definition of close contacts (p. 2). One result is that the nature of interactions where self-disclosure, emotional intimacy, and cooperation lie between superficial and intimate relationships remains undertheorized. A broad body of literature across multiple disciplines has demonstrated, however, that strangers, acquaintances, and friends are distinct relational forms, marked by differences in both the content and structure of interactions (Morgan, 2009; Planalp & Benson, 1992).

Research on campus diversity in higher education has already made productive use of this distinction between intergroup acquaintances and friends, demonstrating that they are associated with different antecedents and outcomes (Bowman & Park, 2014, 2015). More specifically, this literature distinguishes between three types of interracial contact: IRFs, intimate and close relationships, and positive and negative CRIs, informal social exchanges with students from different racial backgrounds (Denson & Chang, 2009; Hurtado, 2005; Saenz et al., 2007). And while the contact literature has largely studied intergroup attitudes and prejudice as its dependent measure—and has been criticized for the narrowness of this focus (Dixon et al., 2005; Dixon & Levine, 2012)—the higher education literature has examined a much broader range of educational outcomes, including...
cognitive and civic development (Gurin et al., 2002). Moreover, these educational outcomes have been found to have a stronger association with CRIs than IRFs (Bowman & Park, 2015).

And although IRFs and (positive and negative) CRIs are typically studied separately (Bowman & Park, 2014), they are nonetheless generally thought to be recursively related (Clarke & Antonio, 2012). Repeated CRIs may lead to IRFs, and such friendships may create new opportunities for CRIs with other students (Bowman & Park, 2015). Perhaps not surprisingly, research finds that IRFs and CRIs are positively associated (Antonio, 2001a, 2001b). Existing work has also found a positive correlation between positive and negative CRIs, suggesting that engaging in more intergroup contact generally leads to opportunities for both constructive and conflictual interactions (Bowman & Brandenberger, 2012; Denson & Chang, 2009). Still unknown, however, is if IRFs and CRIs have distinctive relationships with personality traits.

**Theorizing the Relationship Between Forms of Contact and Personality Traits**

Thus far, I have argued that (a) individual differences are important for understanding why some people and not others engage in intergroup interactions; (b) the relationship between personality traits and intergroup contact may differ depending on the form of interaction; and (c) the distinction between CRIs and IRFs in the higher education literature may be utilized to test these hypotheses. In this section, I briefly elaborate on two reasons that existing research suggests that CRIs and IRFs may have different relationships with personality traits. First, research on friendship formation and maintenance suggests that personality traits play different roles during different phases of friendship formation and maintenance (Selfhout et al., 2007, 2010). More specifically, agreeableness and extraversion seem important during initial interactions (Harris & Vazire, 2016). Agreeable people are more likely to be selected as a friend because of their qualities. Extraverted people, in contrast, are more likely to select more friends because of their qualities (Harris & Vazire, 2016). In later stages of friendship, however, the importance of agreeableness and extraversion, as well as openness, appears to be in the tendency for friends to have similar levels of those traits (Selfhout et al., 2007, 2010). In other words, when people do not yet know each other, personality traits have a main effect on interaction. Later, in contrast, it is the similarity in traits that is important for predicting relationships. This suggests that the main effect of personality traits will be stronger on CRIs than on IRFs.

Second, the association between CRIs and educational benefits has been explained by arguing that CRIs typically occur between acquaintances and thus are more likely than IRFs to be sources of new information and perspectives (Clarke & Antonio, 2012). This also suggests that CRIs are more likely to be uncertain and anxiety-provoking. Moreover, there is evidence that college students do not perceive IRFs to be examples of intergroup contact at all but rather see them simply as interpersonal relationships (Halualani, 2008, 2010; Keil & Koschate, 2020). This too suggests that interactional uncertainty anxiety should be more associated with CRIs and IRFs. Existing research has argued that agreeableness and openness are associated with intergroup contact because they explain individual differences in how individuals experience novel and potentially contentious interactions (Jackson & Paulson, 1995; Turner et al., 2014; Vezzali et al., 2018). If it is the case, then, that members of an IRF are less likely to experience their relationship as uncertain, potentially contentious, or intergroup, then the personality traits that research has associated with intergroup contact may not be relevant.

**Aims of the Present Study**

Previous work on personality traits and intergroup contact has reported seemingly inconsistent findings with some research reporting direct relationships and other research not. This inconsistency may be the result, I have argued, of heterogeneity in the form of contact studied. In Jackson and Poulsen (2005) and Vezzali et al. (2018), for example, contact was operationalized as general intergroup interaction. In Turner et al. (2014), in contrast, intergroup contact was operationalized as friendship. Drawing on the distinction between CRIs and IRFs (Bowman & Park, 2014, 2015), I tested the following hypotheses about the relationships between personality traits and forms of intergroup contact:

- **Hypothesis 1a:** Openness and agreeableness will be associated with positive CRIs
- **Hypothesis 1b:** Openness and agreeableness will be associated with negative CRIs
- **Hypothesis 2:** Personality traits will not be associated with IRFs.

**Method**

**Data Source and Participants**

Data for this article come from a project designed to examine differences in the social networks and diversity-related experiences of Black and White students and that was carried out at two American universities (Diehl et al., 2020; Grier-Reed et al., 2017). Working with the institutional research offices of both universities, all Black students were invited to participate in the study, along with a random sample of their White peers, matched by class year, for comparison. The exact number of White students invited to participate at each university differed based on consultation with the institutional research offices to determine the number most likely to yield comparably sized samples. The approach worked, as
the sample makeup of each school was similar. All full-time Black students (n = 560) and a random sample of their White peers (n = 559) were invited to participate at the first school. All full-time Black students (n = 1,132) and a random sample of their full-time White peers (n = 600) were invited to participate at the second.

While the data come only from Black and White students, it includes their CRIs and IRFs with other ethnic and racial groups as well. The aim of this article, however, is to take a first step toward understanding the relationships between personality and forms of intergroup contact and so the particular experience of different student groups is not the focus, although race will be controlled for in the models presented. Relatedly, while the data come from two universities, the goal of the research does not include making claims about institutional differences and so this will not be a focus either. Research has shown that the demographic diversity of the university matters for contact, however, as it shapes the availability of peers from other racial and ethnic backgrounds for both CRIs (Hall et al., 2011; Park et al., 2013) and IRFs (Park, 2012; Park & Kim, 2013). One of the universities is more diverse than the other (approximately 44% White, 10% Black, 32% Other race/ethnicity, 3% Unknown, and 11% International compared with approximately 66% White, 5% Black, 16% Other race/ethnicity, 4% Unknown, and 9% International) and so that difference will be controlled for in the models.

**Instrument**

The research instrument was an electronic survey distributed by each university’s institutional research office. The survey included four major sections focused on students’ future plans, social networks, college experience, and background characteristics. It was developed using existing measures such as the Diverse Learning Environment (DLE) survey (described below) and in consultation with experts in the Duke Social Science Research Institute (SSRI) and the Duke Network Analysis Center (DNAC). The survey took approximately 15 to 20 min to complete. The response rate across both universities was approximately 17%. The final sample was 488 students—125 Black and 90 White students from the more diverse university and 172 Black and 101 White students from the other. A summary of all variables used in the study can be found in Table 1 below.

**Dependent Variables**

The outcome variables for this study are four measures of diverse engagement: (a) positive CRIs, (b) negative CRIs, (c) the self-perceived racial composition of the respondent’s friend group, and (d) the number of friends from different racial backgrounds as measured by a social network survey. Interactions and friendships are the respondent’s self-reported perception. Research suggests that self-reports of intergroup contact correlate positively with observer ratings of contact (Dhont et al., 2012; Hewstone et al., 2011). This article will examine all four, and each will be discussed below.

The measures for positive and negative CRIs are drawn from the Higher Education Research Initiative’s DLE survey. The DLE Core Survey was developed by the Higher Education Research Institute (HERI) to measure student perceptions of institutional climate, faculty, staff, and peers (Hurtado et al., 2012). It is sensitive to diverse student populations (Hurtado & Guillermo-Wann, 2013). Permission was received from HERI to use this instrument in this research. Positive CRI is a six-item DLE scale that measures students’ frequency of various types of positive interactions with diverse peers on a scale of 1 to 5, where 1 is “never” and 5 is “very often.” Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability (Cronbach’s α) for this factor at .88. Data for this article yielded internal consistency reliability of .87. The DLE scale contains a sixth item not included here. That item, “Shared personal feelings and problems,” was conceptually confounded with the count measure for IRFs and so was excluded. Including it in the scale in an alternative analysis did not, however, change any of the results.

Negative CRI, in contrast, is the average of a three-item DLE scale of students’ level of negative interaction with diverse peers, also on a scale of 1 to 5, where 1 is “never” and 5 is “very often.” For this factor, Hurtado and Guillermo-Wann (2013) have reported internal consistency reliability of .77. Data for this article yielded internal consistency reliability of .79. A description of all the items that compose the positive and negative CRI measures can be found in Table 2 below.

IRFs are measured in two ways. First, respondents were asked to provide an estimate of the racial composition of their friend groups (Antonio, 2001b, 2004). More specifically, respondents were asked to identify the percent of their friends who were the same race as they are based on a sliding scale from 1 to 100. The first measure of IRFs is Estimate of Other Race Friends. Respondents were also asked to directly identify the race of their close friends (Bowman, 2012; Park, 2013). In this study, students were asked to name up to eight friends based on the following prompt, widely used in social network analysis (Marsden, 1987):

> From time to time, most people discuss important matters with other people. Looking back over the last six months – who are the people with whom you discussed matters important to you? If you find it helpful list their first names or initials.

This question yields an ego-network for each respondent. The ego-network consists of the respondent and those other students he or she is directly connected to. This is a different approach than one that would capture the whole social network of a university.
Students then reported information about those friends, including their race (categories were White, Black, Latino/a, Asian, and Multiracial). From this information, the Count of Other Race Friends was calculated. Previous research suggests that the friend count yields a more conservative and accurate estimate of IRFs than does the percent of overall friend group (Davies et al., 2011). In addition, as a way to control for network size, a ratio of the number of friends with

Table 1. Overview of Variables Included in the Study.

| Constructs                                      | Definitions                                                                 | Number of items | M   | SD  |
|-------------------------------------------------|-----------------------------------------------------------------------------|-----------------|-----|-----|
| Female                                          | Respondent is female                                                       | 1               | 0.58|     |
| Black                                           | Respondent is Black                                                        | 1               | 0.56|     |
| More diverse school                             | Respondent attends the more diverse university                             | 1               | 0.48|     |
| Parental education intergroup contact*          | Average of mother and father's education level                            | 2               | 6.01| 2.11|
| Positive CRIs                                   | A unified measure of students' level of positive interaction with diverse peers (Cronbach's $\alpha = .87$) | 5               | 3.54| 0.99|
| Dined or shared a meal                          | Had meaningful and honest discussions about race/ethnic relations outside of class |                 |     |     |
| Had intellectual discussions outside of class   | Studied or prepared for class                                             |                 |     |     |
| Socialized or partied                           |                                                                             |                 |     |     |
| Negative CRIs                                   | A unified measure of students' level of negative interaction with diverse peers (Cronbach's $\alpha = .79$) | 3               | 2.10| 0.89|
| Had guarded, cautious interactions              | Had tense, somewhat hostile interactions                                  |                 |     |     |
| Felt insulted or threatened because of your race/ethnicity |                                   |                 |     |     |
| Estimated IRFs                                  | Student's estimate of the percent of their friend group from another race  | 1               | 47.60| 32.26|
| Count IRFs                                      | Student's count of close friends of a different race                      | 1               | 1.40| 1.72|
| Personaliy dimensions                            |                                                                             |                 |     |     |
| Openness                                       | Associated adjectives: artistic, curious, imaginative, insightful, original, wide interests | 2               | 3.08| 0.56|
| Extraversion                                    | Associated adjectives: active, assertive, energetic, enthusiastic, outgoing | 2               | 2.58| 0.74|
| Conscientiousness                              | Associated adjectives: efficient, organized, planful, reliable, responsible, thorough | 2               | 3.16| 0.61|
| Agreeableness                                  | Associated adjectives: appreciative, forgiving, generous, kind, sympathetic, trusting | 2               | 2.92| 0.57|
| Neuroticism                                     | Associated adjectives: anxious, insecure, and self-consciousness           | 2               | 2.92| 0.64|

Note. CRIs = cross-racial interactions; IRFs = interracial friendships.

*Campus climate and cross-racial engagement definitions come from Hurtado and Guillermo-Wann (2013). Attributes associated with personality dimensions come from McRea and John (1992) except for stability which comes from Gosling et al. (2003).

Table 2. Correlation Matrix of Variables Included in the Study.

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 Negative CRIs | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 2 Positive CRIs | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 3 Estimated IRFs | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 4 Count IRFs | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 5 Openness | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 6 Extraversion | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 7 Conscientiousness | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 8 Agreeableness | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 9 Neuroticism | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 10 More diverse school | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 11 Black | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 12 Female | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |
| 13 Parent education | -0.07 | .09* | .08* | .09 | -0.06 | .08* | -0.08 | -0.02 | .22*** | |

Note. CRIs = cross-racial interactions; IRFs = interracial friendships.

*p < .05. **p < .01. ***p < .001.
a different racial or ethnic background compared with the total number of friends was also calculated. As a robust check, it was alternatively used in the models presented later, but the results were substantively the same.

Independent Variables

The main independent variables for this study are the FFM personality traits. The FFM consists of five bipolar items—extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae & Costa, 1987). The five factors are qualitatively distinct and statistically derived. They are typically studied in terms of their first-order effects. There is a small body of literature, however, that has used latent profile analysis to look for personality types based on covariance of traits (e.g., Merz & Roesch, 2011). The FFM is the most widely used model of personality traits in research (John & Srivastava, 1999).

Numerous scales have been designed to measure FFM personality traits. Many of these measures are long and burdensome for survey respondents, taking between 15 and 45 min to complete (e.g., Benet-Martinez & John, 1998; Costa & McCrae, 1992). To address this problem of respondent burden, several ultrashort FFM measures have been developed. One of the most common, and the one used in this study, is the “Ten Item Personality Inventory,” or TIPI (Gosling et al., 2003). For example, the studies using the TIPI included Sibley and Duckitt’s (2008) meta-analysis of the relationship between personality and prejudice.

The TIPI was developed explicitly to be part of larger surveys and intended to take respondents approximately 1 min to complete (Gosling et al., 2003). It contains two items per Big Five factor. One item contains two desirable descriptors (e.g., “Extraverted, enthusiastic” for extraversion) and the other item, two undesirable ones (e.g., “Reserved, quiet” for extraversion). Respondents are asked to rate the extent to which those desirable and undesirable traits describe their personality (the TIPI items are normally rated from 1 to 7, but here, they were rated from 1 to 4). The responses to the two statements associated with each trait were averaged to create the personality score. Research has found TIPI to be a reliable and valid measure of personality (Carney et al., 2008; Ehrhart et al., 2009). Research has also shown that the FFM factor structure is similar for Black and White Americans (Costa et al., 1991) and that it can be productively used studying both Black and White American college students (Worrell & Cross, 2004).

Control Variables

Models also control for several student characteristics that have been found to be important in previous research on CRIs and IRFs: race and ethnicity (Chang et al., 2004; Gurin et al., 2002), gender (Chang et al., 2004; Saenz, 2010; Saenz et al., 2007), parental education (Bowman & Park, 2014; Saenz, 2010), and demographic composition of the institution (Hall et al., 2011; Park & Kim, 2013). Each student was coded by self-identified race (0 = White, 1 = Black), as well as by gender (0 = male, 1 = female). Parental education is measured by taking the mean of parents’ education level, measured on a scale of 1 to 10 where 1 = no high school and 10 = doctoral degree. Finally, students were coded by the university they attended (0 = less diverse university, 1 = more diverse university). A correlation matrix of all dependent and independent variables can be found in Table 2.

Analyses

To facilitate interpretation, all continuous outcome and independent variables were standardized with a mean of zero and a standard deviation of one, and all dichotomous variables were mean-centered. Negative and positive CRIs, as well as perceived friendship diversity, had an approximately normal distribution and so were treated as continuous variables. In contrast, the count of other race friends had a restricted range (zero to eight friends) and a right-skewed distribution. While such count data are most commonly analyzed with a Poisson regression model, the number of IRFs here is overdispersed (see mean and variance in Table 1). In such cases, negative binomial regression is preferred (Cameron & Trivedi, 1986; Long, 1997). The negative binomial is similar in structure to the Poisson but includes an extra parameter to model overdispersion. Tests for each of the four models found no evidence of multicollinearity. Finally, p values were corrected for multiple comparisons using the Benjamini and Hochberg (1995) procedure for detecting false positives.

Results

Models predicting each of the four forms of interracial contact are provided in Table 3. First, Models 1 and 2 are ordinary least squares (OLS) regressions predicting negative and positive CRIs, respectively. There, we can see that Black students were more likely to report having negative CRIs (b = .195, p < .001) and less likely to have positive CRIs (b = −.503, p < .001). Students at the more structurally diverse university were more likely to report having positive CRIs, a finding consistent with extant research showing a relationship between positive interactions and the availability of different race peers (Bowman, 2012). We also see a positive association between reporting negative and positive CRIs (b = .262, p < .001) as well as positive relationships between reporting positive and negative CRIs (b = .234, p < .001), estimated number of IRFs (b = .292, p < .001) and count of IRFs (b = −.195, p < .001).

Turning to the relationship between personality trait variables and CRIs, Model 1 shows that being lower on agreeableness is associated with reporting more
positive CRIs ($b = .142, p < .01$). Here, we see evidence for a relationship between personality traits and interracial interactions (Jackson & Poulsen, 2005; Vezzali et al., 2018).

Next, predictors of the two forms of IRFs are presented in Models 3 and 4. The dependent variable in Model 3 is the percent of their friends from a different racial background as estimated by respondents. The dependent variable in Model 4, in contrast, is the count of friends from a different racial background as reported in the social network portion of the survey. First, as with positive CRIs, students at the more structurally diverse school reported more contact as measured by the count of friends ($b = .326, p < .001$). Black students also reported a greater percentage ($b = .955, p < .001$) of their friendships were IRFs compared with White students (count of friends was significant at $p < .05$ before adjustment). Findings also show that female students reported fewer IRFs when measured as percentage of their friends ($b = -.244, p < .01$) but more IRFs when measured as count ($b = .296, p < .05$).

In terms of the relationships with other forms of contact, we see that both percent and count of IRFs are associated with positive CRIs ($b = .262, p < .001; b = .262, p < .001$). Furthermore, both forms of IRFs are positively associated with one another. Finally, turning to the relationship between IRFs and personality traits, we see no significant relationships, consistent with existing literature (Turner et al., 2014). Overall, then, we see at least partial support for all hypotheses. CRIs are associated with personality traits but only with agreeableness and not, as expected, with openness. IRFs in contrast, and as expected, were not associated with any of the Big Five personality traits.

### Table 3. Personality Dimensions as Predictors of Forms of Intergroup Contact.

| Predictor                        | M1            | M2            | M3            | M4            |
|----------------------------------|---------------|---------------|---------------|---------------|
|                                  | Negative CRIs | Positive CRIs | Estimated other race friends | Count other race friends |
| Constant                         | -.487 0.076***| .131 0.074    | -.530 0.066***| -.217 0.106   |
| Controls                         |               |               |               |               |
| Female                           | -.039 0.083   | .024 0.079    | -.244 0.073***| .296 0.102**  |
| Black                            | .915 0.095*** | -.503 0.082***| .955 0.081*** | .279 0.132    |
| More diverse school              | -.154 0.090   | .516 0.082*** | -.060 0.080   | .326 0.107*** |
| Parental education               | .008 0.042    | .014 0.040    | -.062 0.037   | -.024 0.052   |
| Forms of intergroup contact      |               |               |               |               |
| Positive CRIs                    | .262 0.047*** | .234 0.042*** | .257 0.042*** | .328 0.060*** |
| Negative CRIs                    |               |               |               |               |
| Estimated IRFs                   | -.106 0.052   | .292 0.047*** | -.083 0.041   | -.067 0.054   |
| Count IRFs                       | -.051 0.046   | .195 0.042*** | .223 0.039*** |               |
| Personality dimensions           |               |               |               |               |
| Openness                         | -.028 0.042   | -.006 0.040   | .046 0.037    | .048 0.051    |
| Extraversion                     | -.031 0.041   | .085 0.039    | -.080 0.036   | .029 0.050    |
| Conscientiousness                | -.086 0.042   | .028 0.040    | .018 0.037    | -.055 0.050   |
| Agreeableness                    | -.132 0.043** | .142 0.041**  | .006 0.039    | .034 0.053    |
| Neuroticism                      | -.065 0.043   | .053 0.040    | .012 0.038    | -.108 0.051   |
| Observations                     | 480           | 480           | 480           | 480           |
| $R^2$                            | .252          | .329          | .433          |               |
| Adjusted $R^2$                   | .233          | .312          | .418          | .483          |
| Log likelihood                   |               |               |               | -688.002      |
| Theta                            |               |               |               | 3.927 (1.018)*** |
| AIC                              |               |               |               | 1402.004      |
| $F$ statistic                    | 13.109***     | 19.076***     | 29.669***     |               |

Note. Models 1, 2, and 3 are ordinary least squares regressions; Model 4 is a negative binomial regression and the reported $R^2$ is Nagelkerke pseudo $R^2$. CRIs = cross-racial interactions; IRFs = interracial friendships; AIC = Akaike information criterion.

*p < .05. **p < .01. ***p < .001.

### Discussion, Limitations, and Future Work

**Findings and Their Implications**

As hypothesized, personality differences were associated with intergroup contact with acquaintances but not close
friends. More specifically, agreeableness was associated with reporting a greater number of positive CRIs, a fewer number of negative CRIs, and no relationship with IRFs. These findings add insight into the inconsistent findings in current intergroup literature by showing that personality traits are connected to distinct forms of contact in different ways. This article also adds to that same literature by showing that agreeableness is also associated with fewer reported negative CRIs. Openness was not found to be associated with CRIs as hypothesized, however. This may be due to the fact that both colleges were residential and significantly more selective than the average American school and openness is associated with both likelihood of moving away from home and cognitive ability (Lundberg, 2013). It might be the case, in other words, that students at these two schools had higher levels of openness compared with the population at large, reducing the variance of the sample.

There are several important implications that can be derived from these findings. First, while the cross-sectional nature of these data does not allow for the investigation of the longitudinal relationship between CRIs and IRFs, if CRIs can be a precursor to IRFs as other work has hypothesized (Bowman & Park, 2015), personality traits may be more or less important depending on the developmental stage of an intergroup relationship. Second, agreeableness being associated with CRIs but not with IRFs is consistent with the argument that CRIs are more likely than IRFs to be characterized by uncertainty and anxiety. Theoretically, the qualities associated with agreeableness lead individuals to report fewer negative CRIs and more positive CRIs. This suggests that agreeable individuals may be more likely to gain the educational benefits that come from learning about new experiences and perspectives in CRIs unless additional support is provided for other students.

Limitations

This study has some limitations, however. First, it was conducted at only two universities. The goal of this study was not to link personality and contact to particular institutional types, but may nonetheless limit the generalizability of the results to other settings. Relatedly, the overall response rate for this study was 17%. This number is within the normal range for email surveys (Shih & Fan, 2009), and research specifically on American universities has found that response rates at this level “can provide reliable survey estimates” (Fosnacht et al., 2017, p. 12). A higher response rate or larger survey could, however, improve reliability and sensitivity.

Second, the study partly focused on students’ social networks but did not ask about the relationship between the respondent’s friends. This information is necessary for disentangling individual tendencies from network mechanisms like balance and transitivity (Wimmer & Lewis, 2010). Without collecting full network data, we cannot determine if the relationships reported in this article were reciprocated. In much of the literature on social relationships, friendship is partly defined by reciprocity (Harris & Vazire, 2016). In the social network literature, in contrast, reciprocity is not assumed and its presence or absence is an object of study, a perspective that could be fruitful in intergroup studies. Relatedly, by accounting for the overall number of friends reported, I was able to control for total network size. I was not, however, able to control for the overall level of social interaction. This would be pertinent if students who engage in more social interaction generally were also more likely to have more CRIs. Some existing work is suggestive of this relationship, finding that the total number of hours socializing per week is positively associated with CRIs (e.g., Saenz, 2010; Saenz et al., 2007). Including extraversion in the models should, however, capture some of the variance related to student sociability.

Third, there are well-known limitations to the personality measure, TIPI, used in this study. With only two items per construct, the TIPI was not designed to produce high inter-item correlations (Gosling et al., 2003). Indeed, compared with longer scales, TIPI has weaker internal consistency and lower rates of confirmatory factor analysis (Gosling et al., 2003; Renau et al., 2013; Storme et al., 2016). Gosling and coauthors argue instead that researchers should focus on temporal stability for reliability and correlation with other FFM measures (e.g., the Big Five Inventory) for validity. Research has consistently found TIPI performs well, given these approaches to reliability and validity (Carney et al., 2008; Ehrhart et al., 2009; Furnham, 2008; Gosling et al., 2003; Storme et al., 2016). While this should provide confidence in the findings, future research could use longer FFM measures to validate the findings of this study. Moreover, while research suggests TIPI has strong external validity, it can only assess broad personality constructs and not facets of those constructs. For example, openness is sometimes broken down into facets like creativity and intelligence. Work using longer scales will be able to examine the relationship between contact and facet-level constructs.

Future Research and Implications for Practice

Finally, this work suggests several lines of possible future research for scholars to follow. First, like this analysis, two of the three previous studies relating personality traits with intergroup contact were cross-sectional (Jackson & Poulisen, 2005; Turner et al., 2014). More recently, Vezzali and colleagues (2018) studied the bidirectional relationship between personality traits and outgroup attitudes and contact for the first time. Their findings indicate that not only do personality traits predict positive outgroup attitudes and interactions, but that positive outgroup interactions can alter personality as well. This finding suggests that future work should incorporate the bidirectional relationship between personality traits and intergroup contact. This also would allow researchers to examine how people move from strangers to acquaintances to friends and if personality traits play different roles for the
formation and maintenance of intergroup relationships at each point on the continuum of contact.

Second, the ultimate goal of studying the association between personality traits and intergroup contact is to improve the quality of interactions and friendships. While personality factors may be associated with the frequency of negative and positive CRIs, they are far from determinative. Rather, the quality and quantity of diverse engagements come from a combination of individual and contextual factors (Jackson & Poulsen, 2005). Future work should focus on this interrelation and the role personality plays in it. We know from existing research, for example, that students’ patterns of membership in different campus groups shape their patterns of intergroup contact both by creating opportunity structures for interaction as well as influencing a sense of identity (Park, 2014). Moreover, campus groups and clubs differ in the degree to which they match the characteristics of an ideal contact situation (Allport, 1954). Work on high schools has found that students at schools with extracurricular clubs that meet the criteria of a contact situation (i.e., equal status, common goals, intergroup cooperation, and support of authorities) have more IRFs (Moody, 2001; Smith et al., 2016). Future work should examine this dynamic on college campuses, paying attention to the mediating role organizations and clubs, as well as classroom and residential experiences, may play in the relationship between personality traits and intergroup contact. The use of statistical methods like multilevel modeling that can quantify the relative contribution of individual and contextual factors will be especially helpful.

The interrelation of individual and contextual factors also points to practical implications for colleges and universities that want to improve intergroup relations on their campus and foster more positive contact. In terms of the individual side of the equation, universities could undertake interventions that foster greater agreeableness itself or the qualities associated with agreeableness that are important for intergroup contact. Recent evidence suggests that the Big Five personality traits, including agreeableness, can be altered through targeted behavioral changes (Hudson et al., 2020; Hudson & Fraley, 2015). Other research has shown the benefits of interventions that reduce intergroup anxiety by fostering empathy, perceived similarity, perspective-taking, and positive expectancies of new relationships (Aboud et al., 2012; Beelmann & Heinemann, 2014; Dys-Steenbergen et al., 2016; Paolini et al., 2016), all of which are associated with agreeableness. Regardless of approach, the goal would be to purposefully foster the qualities that make agreeable individuals more likely to have positive CRIs.

From the other side of the person–situation relationship, universities can attempt to create contextual conditions that better foster positive intergroup contact. Two approaches can connect this goal with the findings related to personality presented here. First, universities can create and enforce social norms that are supportive of agreeable qualities like altruism and helpfulness. Fostering norms related to intergroup contact specifically can help encourage positive interactions (Turner & Cameron, 2016), and promoting norms known to indirectly foster them can help buttress those efforts. Second, universities can attempt to scaffold contact situations, given the understanding that, left on their own, students will experience them in variable ways. If contact situations are weak and unstructured, individual differences will play a large role, something that, given the benefits of intergroup interaction, will advantage highly agreeable students and harm less agreeable ones. Strong situations in which interaction is scaffolded by the university, in contrast, would moderate the relationship between personality characteristics and intergroup behavior (Mischel, 1977). This also suggests that universities should focus their interventions on fostering CRIs. They are more common than IRFs as well as potentially having more educational benefits, and their systematic link to personality differences makes them a more likely target for successful intervention at either the individual or the contextual level.

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