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Ties that bind: The effect of institutional bias on the formation of homophilous bonds amongst minority group members

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Ties that bind: The effect of institutional bias on the formation of homophilous bonds
amongst minority group members

by

Natasha L. Thalla

A Dissertation

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree of

Doctor of Philosophy

in

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Natasha L. Thalla

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Ties that bind: The effect of institutional bias on the formation of homophilous bonds
amongst minority group members

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Abstract

Institutions can be powerful source of trust production, allowing for members of minority groups to engage in cooperative intergroup interactions without fear of betrayal or harm. However, institutional bias can lead minorities to become less trusting of institutions, ultimately causing them to rely less on institutions to facilitate successful interactions. The purpose of the present research is to examine the downstream consequences of the lack of institutional trust as a function of institutional bias: how does lack of institutional bias impact disadvantaged group members' choices during day-to-day social interactions, specifically with regards to who they choose to interact with? I hypothesized that minority group members will be more likely to rely on characteristic-based or group identity a form of trust production leading them to be more likely to associate with ingroup members as a function of the presence of institutional bias. This hypothesis was tested in two sets of studies. The first set of studies relied upon survey data and revealed that the more Black Americans believed that institutions were biased, the more they distrusted those institutions and the more they preferred contact with racial ingroup members. In the second set of studies, an experiment using minimal groups revealed that, contrary to hypotheses, institutional bias predicted led to an increased preference for outgroup members. Implications of the two sets of studies are discussed.

Introduction

Recent polling data has suggested that Americans are increasingly losing confidence in institutions like the Supreme Court, Congress, and the criminal justice system, indicating that they no longer trust these institutions to effectively and efficiently create and uphold laws (Norman, 2016). Interestingly, survey data has also indicated that confidence in institutions is lower among minorities relative to whites (Pew Research Data, 2016). This is not a new trend. In 1969, Bayley and Mendelsohn found that non-whites tend to have more negative perceptions of the police than whites. Jesilow, Meyer and Namazzi (1995) reached a similar conclusion, and more recent evidence from Weitzer and Tuch (2006) supports the idea that non-Whites have more negative attitudes regarding the police and other governmental institutions than Whites. Perhaps, this is unsurprising given the presence of bias within institutions that impact these disadvantaged groups.

The term institutional bias refers to “discriminatory practices that occur at the institutional level of analysis, operating on mechanisms that go beyond individual-level prejudice and discrimination” (Henry, 2010). Instances of institutional bias can exist as a function of standards-of-practice: rules, laws and procedures, written and unwritten, that result in differential outcomes for different groups (e.g. apartheid laws, university admissions policies, etc.). It can also exist in the behavior of representatives of an institution who have a propensity to discriminate against members of a particular group (e.g. racial profiling, hiring decisions based on sex). Additionally, this bias can be intentional, such that it is purposefully enacted to create positive outcomes for one group and/or to deny those positive outcomes/creating negative outcomes for another group or it

can be unintentional, in which practices may not be motivated to deny members of a social category outcomes but have that effect anyway (e.g. the use of networking in hiring decisions) (Henry, 2010).

Examples of institutional bias are pervasive and impact many different disadvantaged groups across many different domains. Perhaps the most extreme instance of institutional bias is slavery in which a group of people is denied their rights and humanity and is, instead treated as property, by the government and society as a function of their social category. Speaking to one of the most salient example of institutional bias in our current society, we can look at the treatment of minorities, particularly Black men, by the law enforcement and criminal justice systems (Walker et al., 2012; Alexander, 2012; Mauer & King, 2007). Data from the US Department of Justice indicates that Black men are incarcerated four times as much as White men (2007; West & Sabol, 2009). Beyond incarceration, Blacks are more likely to experience surveillance and police stops and be subjected to the use of excessive, even deadly force (Browning et al., 1994; Fagan & Davies, 2000; Hurst et al., 2000; Jones-Brown, 2000; Kennedy, 1997; Weitzer, 1999; Jacobs & O'Brien, 1998; Smith & Holmes, 2003; Terrill et al., 2003). Alongside this, minorities are also less likely to receive police protection and more likely to experience slower response times to requests for help (Anderson, 1990; Klinger, 1997; Smith & Klein, 1984).

Another domain in which evidence suggests that there is systematic discrimination against disadvantaged groups is employment and the workplace. Wilson and colleagues (1995) found that Black males are at least 70% more likely to be involuntarily unemployed than their White male counterparts. Indeed, preference for

Whites in employment is vast, as demonstrated by experimental work from Lavergne and Mullainathan (2004) who found that applicants with resumes with stereotypical White names received follow-up calls 50% more than applicants with identical resumes that had stereotypical Black names (see also more recent work by Kang, DeCelles, Tilcsik & Jun, 2016). There is also evidence that the types of jobs racial minorities are concentrated in tend to have less stability, less authority and fewer opportunities for advancement (Parcel & Mueller, 1983; Smith, 2002). Similarly, women tend to be underrepresented in prestigious, traditionally male-dominated fields like engineering, high levels of business, and the natural sciences (Catalyst, 2008a, 2008b; U.S. Department of Labor, 2007). In an examination of one of the ways in which this bias manifests, Gaucher and colleagues (2011) find evidence that gender inequality is supported by gendered-wording in job recruitment materials such that advertisements for male-dominated occupations tended to include more masculine wording. The researchers found that the use of such wording made these jobs less appealing for women because they made women feel as if they did not belong in these jobs.

Beyond employment, Blacks, Hispanics and Native Americans are differentially treated with regards to housing. Relative to Whites, these minority groups are offered less information and fewer chances to view units (Housing Discrimination Study, 2000; Pager & Shepherd, 2008). Minorities are more likely to be shown units in communities with higher proportions of minority residents, an effect which is exaggerated when the real estate agent resides in a predominantly white neighborhood (Turner, Ross, Gaister & Yinger, 2002). Additionally, minorities tend to be offered less financial assistance in securing homes. Hispanics are rejected more often than Whites for home mortgages

(Ross & Yinger, 1999; Munnell et al., 1996). Controlling for income level, age of buyer and other variables, researchers have found that both Hispanics and Blacks receive higher interest interests for loans than their White counterparts (Oliver & Shapiro, 1997; Ross & Yinger, 2002).

Taken together, these examples of institutional bias, along with many others not reviewed here, serve to produce and perpetuate group-based inequities, affecting where minorities live, what kind of jobs they will have, how much money they will make, their access to healthcare and other social services, whether they will be stopped by police, how severely they will be punished, etc. Importantly for the present research, the above listed examples of institutional bias against minorities provide evidence that institutions do not work for minorities in the same way as they work for Whites, a conclusion which is reached by many minorities. A recent survey from the Pew Research Center indicated that the vast majority of Black respondents believed that the America needed to make changes to achieve racial equality; in contrast, only about half of White respondents reported the same belief. Differences in perception about racial equality between Black and White respondents existed when asked about a variety of institutions including the police, court, the workplace and loans (Pew Research Center, 2016).

This is troubling considering that one of the primary purposes of institutions is to establish and insure cooperative and trustworthy behavior amongst all members of a society (Hodgson, 2006). Ideally, institutions provide a clear set of rules to govern and safeguard social interactions; they provide a sense of predictability and accountability (Packer & Kugler, 2013; Jordan, Peysakhovich & Rand, 2014). Effective institutions should support norms of cooperation and treat people in fair, unbiased manner regardless

of social category (Tyler, 1989; Lind & Tyler, 1988). This allows members of diverse populations to engage with one another without fear of exploitation. In this way, we can conceptualize institutions as a form of ‘trust production’ that can help facilitate cooperative interactions amongst members of a society (Zucker, 1986). However, in order for institutions to be an effective form of trust production, they themselves must be trusted to provide support and protection to members of a diverse population, which is to say that they must be unbiased. And, if as evidence suggests, minority group members are less trusting of institutions as a function of institutional bias, this could potentially have important downstream consequences for how minority group members choose to affiliate with others. If minority members are not able to rely on institutions to produce trust for them, what forms of trust production will they rely on when choosing whom to trust?

There is some evidence which suggests that a lack of generalized trust in society (Meier, Pierce & Vaccaro, 2014) can lead to a need for particularized trust (trust in particular relationships) (Kobis et al., 2016). Indeed, recent work by Packer and Kugler (in prep) suggests that in societies where institutions are functioning well, people tend to be more willing to associate and cooperate with outgroup members. The implication of this finding in terms of the present research is that in societies in where institutions are not functioning well, people tend to prefer associating with ingroup members. In this way, ineffective institutions may force an increase reliance on another form of trust production: characteristic- or category-based (Zucker, 1986).

Characteristic-based trust production relies on a single piece of information, shared group membership, which signifies a more probable trustworthy interaction. A

wealth of psychological research has shown that people tend to be more generous, more cooperative, and more trusting of members of their ingroup relative to non-group and outgroup members, automatically extending what is known as depersonalized trust to those who share one's group identity (Brewer, 1981; Kramer, Brewer & Hanna, 1996). Yamagishi and colleagues (1999; 2000) describe groups as 'containers of generalized reciprocity' such that people's tendency to trust ingroup members over and above others is due to an expectation that ingroup members will be more likely to reciprocate trust than non- or outgroup members.¹

There is evidence that suggests that minority group members are more likely to rely on characteristic-based trust than majority members. Past psychological research has shown that numerical minorities are more highly identified with their groups relative to majority members (Brewer, 1991). As a function of this, numerical minorities tend to like and trust others they share a group membership with more than majority members would like and trust their ingroup members. Sociological work has shown that minority

¹ In addition to characteristic based trust production, reputational information can prove to be a powerful mode of trust production; people can look to an individual's past behavior in order to ascertain their trustworthiness -- a mechanism known as process-based trust. Researchers have alternatively called this kind of interpersonal trust, particular trust or personal trust (Neu, 1991). Lewicki and Bunker (1994) argue that particular or personal trust in individuals is built on repeated interactions, which create a sense of familiarity and interdependence. As Zucker (1986) argues, this kind of trust works best in small-scale societies or communities, in which people engage in repeated interactions with the same person. These repeated interactions eventually lead to the formation of stable, long-term, relationships. Repeated interactions allow for inferences to be made about the disposition of an individual: are they trustworthy and cooperative or are they duplicitous? Additionally, any information about non-cooperative behavior is likely to be spread amongst members of a community (Peters, Jetten, Radova & Austin, 2017). In turn, this can impact a person's reputation. As such, if an individual is uncooperative, they incur reputational costs, which could negatively impact future interactions (see also Norenzayan, 2013; Purzycki et al., 2016). Beyond, these reputational concerns, there is evidence that high levels of trust in interpersonal relationships lead to a host of positive outcomes. Individuals who report having high chronic trust in their romantic partners tend to have more positive perceptions of their relationship (Holmes & Rempel, 1989), partners' relationship motives (Rempel, Holmes & Zanna, 1985; Rempel, Ross & Holmes, 2001) and are better at resolving conflicts with their partner (Simpson, 2007; Shallcross & Simpson, 2012). Indeed, implicit within relationships of personal trust is the understanding that both members of the relationship will be cooperative with one another in the long-term, continuing to interact with each other and ultimately build "regularized social interactions" from which they both can reap psychological and material benefits (Lewicki & Bunker, 1994).

group members tend to have more homophilous social networks than majority group members, meaning that the minorities' social networks tend to be composed of more ingroup members than majority social networks (Byrne, 1971; Inkpen & Tsang, 2005; Brass & Burkhardt, 1993). This phenomenon is known as 'inbreeding homophily'² (McPherson, Smith-Lovin & Cook, 2001). Speaking to this phenomenon, research has demonstrated that Blacks tend to have more homogeneous social networks than Whites (Shrum et al., 1988; Marsden, 1988). Additionally, Ooka and Wellman (2001) found that first generation immigrants were more likely to associate with same-race individuals when searching for a job than more educated, settled individuals. Similarly, Hispanic workers and urban Blacks tend to rely on friends and family to find employment (Mouw, 2009; Smith, 2005). In a study of residents of Detroit, Laumann (1973) found a strong negative relationship between the size of racial/ethnic group an individual belonged to and that individual's tendency to chose same-race friends. This pattern of homophily emerges in religious minority groups as well. Controlling for baseline measures of homophily (which are the result of the size of the group), researchers found that

² Quantitatively speaking, the smaller the racial or ethnic group is in a society, the less homogenous the social network of an individual of that group is likely to be (see Marsden, 1987, Laumann, 1973). Being part of a racial minority necessitates the formation of cross-group relationships because of the lack of same-race partners available. Indeed, the social network of Whites (the largest racial group in America) is more racially homogenous than the social networks of Blacks, Hispanics and other racial minorities (McPherson, Smith-Lovin & Cook, 2001). This level of 'baseline homophily' is the result of sheer quantities. If an individual is a majority member and most people are majority members, then their social network will be mostly comprised of majority members. Conversely, if an individual is a minority member and then their social network will be mostly comprised of majority members because the number of fellow minority members is limited. In contrast to baseline homophily, the phenomenon of inbreeding homophily examines the amount of ingroup social contacts for any given individual as a function of the number of available ingroup contacts. Examining social networks from this angle indicates that minority individuals have a greater proportion of ingroup social contacts than would be expected based on the raw number of available, potential ingroup contacts. This indicates that there is a preference for ingroup members amongst minorities above chance, indicating that minorities are more likely to seek each other out than majority members are to their compatriots.

Protestants (the largest religious group in America) had less homogenous social networks than Catholics and Jews (Fischer, 1982; Marsden, 1988; Kalmijn, 1998).

Past research has indicated that concerns about *interpersonal* bias and discrimination and fear of rejection as function of these concerns can partially explain why minority group members tend to prefer associating with fellow minority group members (Branscombe, Schmitt & Harvey, 1999). In the present research, I propose that concerns about *institutional* bias and discrimination and fear of exploitation as a function of these concerns can also explain the phenomenon of inbreeding homophily. Should people lose confidence in institutions as a result of institutional bias, it is likely that they will no longer rely on institutions to produce trust. Instead, people will become more vigilant about who they interact with, seeking reputational information about others or selectively associating with people they share group membership with in order to insure successful, social interactions. I hypothesize that the minorities, as the likely targets of institutional bias, will associate more with ingroup members as a function of perceiving institutional bias. In other words, institutional bias will predict minorities' tendencies to form homophilous bonds, as ingroup members offer the highest probability of successful interaction.

In the sections that follow, I further outline the theoretical rationale for this hypothesis. I begin by presenting and reviewing existing theoretical understandings of characteristic based trust production, paying special attention to why minorities might choose to rely on this mode of trust production. I then transition and discuss institutions and provide evidence supporting the claim that minorities are less trusting of institutions as a function of institutional bias. Following this, I present a series of studies which test

the hypothesis that perceived institutional bias will lead those against whom the institution is biased to rely on characteristic based trust, which ultimately results in more homophilous social bonds. I end by discussing the results of these studies.

Characteristic or Group Based Trust

McPherson and colleagues (2001) argue that homophilous relations are more likely to be 'activated' or 'mobilized' (meaning called upon to provide resources) during times of crisis and trouble (Galaskiewicz & Shatin, 1981; Hurlbert et al., 2000; Nadler, 1991; Smith, Menon & Thomson, 2012). Having a group identity can help an individual navigate a world filled with uncertainty and threat by providing indicators of who can be trusted, who can be relied on and who has benevolent intentions without learning through potentially costly experience. Hogg (2000) argues that the need to reduce uncertainty and to make sense of the world is one of primary reasons people join groups. In addition, being part of a social group can provide emotional benefits. Indeed, being rejected from the group can be a highly negative experience (Jetten, Branscombe, Schmitt & Spears, 2001; Jetten, Branscombe, Spears & McKimmie, 2003; Schmitt & Branscombe, 2001). As such, people will go to great lengths to avoid being rejected by their group including withholding and changing opinions (Asch, 1952) and derogating outsiders (Sherif, Harvey, White, Hood & Sherif, 1961).

Homophilous bonds tend to be stronger than nonhomophilous bonds, as evidenced by Hallinan and colleagues who found that relationships which crossed group boundaries (e.g. cross-race or cross-sex relationships) were more likely to be dissolved than relationships among demographically similar individuals (Hallinan & Williams, 1989; Tuma & Hallinan, 1979). Supporting this idea, several researchers have found that

when people select partners for intimate relationships (like marriage and close friendship) they are more likely to select same-religion partners (Fischer, 1977; Kalmijn, 1998; Liao & Stevens, 1994). Religious individuals are more likely to look to same-religion others when looking for social support (e.g. lending money, advice, counseling) (Feld, 1984; Marx & Spray, 1972). A culmination of these findings suggests that being part of the same social category is a powerful basis of forming interpersonal connections.³

This preference for ingroup members is known as ingroup favoritism. Ingroup favoritism is rooted in the notion that one's group is an extension of one's self, a hypothesis fundamental to Social Identity Theory (Tajfel & Turner, 1986). The social level of identity is based in one's membership in a larger, impersonal social group or category and represents the parts of the self that demonstrate an assimilation and connection with others based on this shared category membership (Brewer & Gardner, 1996). When a person's social identity is active, they perceive themselves and those who belong in their group as members of the same abstract social category, sharing similar goals and characteristics (Hogg & Turner, 1987; Turner, 2010; Smith & Henry, 1996). Importantly, the perceived similarity based on a common group identity occurs despite

³ Importantly, although shared category membership can function as a basis for the creation of social bonds, there are key differences between the formation of interpersonal bonds based on group membership and being part of the same social group. Prentice and colleagues (1994) explore this idea in their work on common bond and common identity groups. The researchers propose that there are two different bases for groups: common bond and common identity. Common bond groups are based on attachments and bonds formed between the members of a group; attachment to the group is highly dependent on the strength of the bonds between group members, meaning the degree to which group members feel they are similar and familiar with one another. As such, common bond groups are analogous to the homophilous social networks described above, such that these networks are composed of bonds between individuals who feel similar and familiar with one another. As a function of this, trust produced in these types of social networks is process-based: as was discussed in a previous footnote, process-based trust is rooted in a sense of familiarity and interdependence based on repeated interactions. Common bond groups are characterized by a strong sense of familiarity and repeated interactions between its members, which then leads them to develop trust for one another. Conversely, common identity groups are based in attachment to the identity of the group, as opposed to members of the group itself. As such, trust in common identity groups is based in levels of identification and other group identity based processes. This idea will be explored further below.

not knowing specific information about an individual beyond a shared identity. In other words, we tend to feel similar to those who share our group identity and like them not because of any individual-level characteristics of those people, but rather because we perceive ourselves as belonging to the same social category (Tajfel & Turner, 1986; Brewer, 1999).

A wealth of psychological work indicates that group identity is a powerful shaper of behavior. For example, people tend to be more generous towards ingroup members and favor them over and above outgroup members, even when there is nothing to be personally gained by doing so. Research by Turner (1975) indicated that when participants were asked to divide a sum of money between themselves, some ingroup members and some outgroup members and group identity was made salient, they tended to be simultaneously more generous to the ingroup and more stingy towards outgroup members. Beyond this, research has demonstrated that people will behave more generously towards ingroup members even at personal cost. Indeed, previous work has shown that people will sacrifice individual gain in order to achieve group goals (Brewer & Kramer, 1986; Caporal, Dawes, Orbell & van de Kragt, 1989; Kramer & Brewer, 1984; Sassenberg, Kessler & Mummendey, 2001; Simons & Klandermans, 2001). A clear example of this is found in studies using dictator games, in which the ‘dictator’ is given a sum of money with the option of giving to the ‘recipient’. Importantly, whatever money is given to the recipient is lost to the dictator; thus, sending money to the recipient is a costly action. Researchers have found that people tend to be more generous when the recipient is an ingroup member compared to when the recipient is an outgroup member; they are more willing to engage in costly behavior on behalf on an ingroup member (Ben-

Ner, McCall, Stephane & Wang, 2009; Liebe & Tutić, 2010; Whitt & Wilson, 2007).

Taken together, this evidence suggests that people tend to like ingroup members more than others, simply on the basis of shared group identity.

What then is the relationship between shared identity and trust? Zucker (1986) defines trust as “a set of expectations shared by all those involved in an exchange.” To trust another individual is to put some self-relevant outcome in the hands of that other on the basis of a belief that one knows how they are likely to respond (Mayer, Davis & Schoorman, 1995; Messick & Kramer, 2001; Tanis & Postmes, 2005). It is important to note that this understanding of trust does not necessarily imply benevolent intentions as many other definitions of trust do (see Rousseau, Sitkin, Burt & Camerer, 1998; Holmes & Rempel, 1989; Mayer, Davis & Schoorman, 1995; Yamagishi, 2011). Rather, it implies that each interaction partner knows what to expect from the other and can use those expectations to shape their own behavior. Characteristic-based trust is a form of trust production in which trust is tied to the group characteristics of an individual (Zucker, 1986). Social psychologists might better know this form of trust as depersonalized trust, which refers to the idea that people tend to automatically extend trust to those with whom they share a group identity even if they know nothing about that individual beyond a shared categorization (Brewer, 1981; Kramer, Brewer & Hanna, 1996). In the absence of any other information, people reliably rate ingroup members as more trustworthy and likable than outgroup members or nongroup members (Brewer & Kramer, 1986; De Dreu et al., 2010; Insko & Schopler, 1998; Tajfel & Turner, 1986). Furthermore, people tend to choose to interact with similar others and those they share social category membership with (Caspi & Herbener, 1990; Mackinnon, Jordan &

Wilson, 2011). Sharing a group identity with others can allow people to assume some set of common, benevolent cognitions, goals, motivations, intentions. Sharing a group identity with another person allows one to assume that they have the same set of expectations about an interaction, even if nothing else is known about that interaction partner beyond the fact that one shares a group identity with them — all that is needed to be known about a person in order to assume that they will behave cooperatively and in a trustworthy manner is their group identity.

Yamagishi and Kiyonari (2000) propose that this preference for ingroup members in decisions that involve trust is based in an expectation that ingroup members will be more likely to reciprocate trust than outgroup members. Their research found that ingroup members are cooperated with more than outgroup members in a prisoner's dilemma game to the extent that their partners knew that they shared or did not know they shared a minimal group identity, demonstrating that shared knowledge of shared group membership is an important factor for cooperation with ingroup members (Yamagishi et al., 1999). Using another variation on a prisoner's dilemma-type game and a minimal group paradigm, Yamagishi and Kiyonari (2000) found that minimal ingroup partners were preferred to outgroup partners only when participants did not have knowledge of their partner's actions; when participants were aware of their partner's decisions in the game (thus giving them access to reputational information and process-based trust production), then there was no difference between how they treated ingroup and outgroup members. Taken together, these findings demonstrate one reason why shared group identity is a powerful form of trust production: we expect those with whom we share a group identity to reciprocate our trust and cooperation and we will interact with them to

the extent that this mode of trust production proves efficient. And this expectation seems to be well-founded: people tend to be more cooperative towards ingroup members. Indeed, a recent meta-analysis on the relationship between group membership and cooperation indicated that people are more cooperative towards ingroup members relative to outgroup members ($d = .32$; Balliet, Wu & De Dreu, 2014).

Importantly, using group identity as a basis of trust production is significantly less labor intensive than using process-based modes of trust production, which require individuals to seek out and track reputational information. This is especially true given the ease and automaticity with which people quickly and accurately categorize others into known, stable social categories like ethnicity and race (Cosmides, Tooby & Kurzban, 2003; Stangor, Lynch, Duan & Glas, 1992; Ito & Urland, 2005), as well as novel transient social categories like minimal groups (Van Bavel, Packer & Cunningham, 2008). Additionally, the use of group identity as a basis of trust production allows for a wider range of interactions — no longer are individuals restricted to those they have long-term relationships with or those they are able to obtain information about. By relying on easily processed and recognized signals of shared group membership, individuals can be assured of a trustworthy interaction. This process became especially important as populations grew. Instead of needing to rely on the labor-intensive process of seeking reputational information or the potential inconvenience of only interacting with certain people with whom one had a long-standing relationship, people could expand their range of interactions to anyone with whom they shared a group membership. This allowed people to expand their social networks and engage with others based on a

single criteria which indicates trustworthiness, as opposed to needing to evaluate others based on multiple criteria.

Minorities and Characteristic-Based Trust

Consistent with the findings regarding inbreeding homophily reported above, in which minorities tend to have relatively more homogeneous social networks than majority group members, there is evidence that members of minority groups tend to rely more on characteristic-based trust than members of majority groups. In their work, Rotella and colleagues (2013) used a trust game to measure the extent to which minority group individuals displayed depersonalized trust. In the trust game, participants were given \$1 and told they could either keep that money or invest it in another player. If the money was invested, then it would be tripled (resulting in \$3) and be given to their partner. The partner then faced a choice: sending half of that \$3 back to the participant or keeping all of the \$3 for himself. Thus, choosing to send the \$1 to the other player is dependent on the extent to which you trust your partner to return money back. Using a sample of Jewish minority members and politically conservative students (a minority on college campuses) and their respective, salient outgroups, Rotella and colleagues (2013) found that minority participants tended to be more trusting of their compatriots (e.g. choosing to invest more) than majority participants were of their ingroup members. As such, this research supports the claim that there are differences in the extent to which people utilize depersonalized trust as a function of majority/minority status.

Beyond depersonalized trust, there is also evidence that members of minority groups also rely on group identity based processes more than majority members. For example, in their research, Simon and Brown (1987) randomly assigned their participants

to one of two groups: one group was ostensibly a minority group (which participants were led to believe contained only 7% of people) and one was a majority group (which ostensibly contained the other 93% of people). Results of their study indicated that participants in the minority group condition were more highly identified with their group and perceived greater homogeneity between themselves and the members of their group than participants assigned to the majority group condition. This can result in a stronger focus on group level goals, as demonstrated by Abrams (1994) who found that members of minority political parties tended to be more identified and more committed to their groups than members of majority political parties. Similarly, Brewer and Schneider (1990) found that, relative to majority group members, minority group members tend to prioritize the interests of the group over the self when faced with social dilemmas.

There are a number of possible explanations for this. Optimal Distinctiveness Theory (Brewer, 1991), for example, provides a framework for understanding why group identity is often more salient for minorities relative to majorities. This theory argues that people strive to maintain a delicate balance between two competing needs: the need to belong and the need to be different, unique. The need to belong refers to the need to feel socially connected and assimilated. Conversely, the need to differentiate refers to the need to feel different from others and maintain a personal identity and it often involves making salient the characteristics of the self that are unique relative to others within a particular social context (Brewer, 1991). Optimal distinctiveness occurs when there is a balance between needs for assimilation and differentiation. Although there are a number of different mechanisms by which an optimally distinctive state can be achieved, the most relevant for the current work is social identity. Being part of a numerically smaller group

allows individuals to satisfy their need to feel a sense of connection and similarity to others who belong to that group, while that same social identity also allows for differentiation from others who are not part of that group through the process of intergroup comparison. In other words, it allows one to feel the same as others who are part of their social category but also feel unique from the general population because most of the general population is not part of their social category.

Much of the research on Optimal Distinctiveness Theory has rested on the premise that numerically distinct groups can provide high levels of distinction while also allowing those who identify with that group to achieve a sense of belonging. For example, Brewer and Pickett (1999) found that individuals who were asked to write about a time in which they felt excessively deindividuated or similar to others (thus priming a distinctiveness motive) had stronger identification with numerically smaller groups than individuals who were asked to write about a time in which they felt distinct from others. With regards to implications for how minorities perceive outgroups, Brewer and Weber (1994) found that when participants were arbitrarily assigned to a numerical minority group, they were more likely to engage in intergroup comparisons, while individuals who were arbitrarily assigned to numerical majority group were more likely to engage in interpersonal comparisons. These interpersonal comparisons were a means by which majority group individuals could reassert their distinctiveness, while the intergroup comparisons allowed minority group members to assimilate to their ingroup while differentiating themselves from the outgroup. Hornsey and Jetten (2004) argue that one reason minorities tend to be more identified and loyal towards their group than majority members is because these groups satisfy and balance the paradoxical motivations to

belong and to be distinct. In other words, the heightened need to belong experienced by minority individuals as a function of their social context (in which they are highly distinct) increases their tendency to identify with that group identity.

Importantly, much of the experimental work on Optimal Distinctiveness Theory has focused on relative numbers: how many people belong to my group is compared to how many people belong to other groups. However, in modern, American society, being part of a minority group implies more than the idea that one is part of a group that is a numerical minority. Indeed, the term ‘minority’ is often used synonymously with being part of a stigmatized, disadvantaged group. Evidence suggests that being part of a stigmatized group can increase identification with that group. There are numerous lines of research which support the idea that socially disadvantaged groups — African Americans, Latinos, women, Jews, lesbians — tend to be more highly identified with their groups to the extent that they realize their groups are targets of prejudice and discrimination (Chavira & Phinney, 1991; Crosby, Puffall Snyder, O’Connell & Whalen, 1989; Dion & Earn, 1975; Dion, 1975; Gurin, Gurin, Lao & Beattie, 1969; Simon et al., 1998). Additionally, previous discussions of discrimination have noted how being targets of prejudice and discrimination has detrimental impacts on physical and mental health amongst minorities (Allison, 1998; Dion & Earn, 1975; Landrine & Klonoff, 1996). For example, amongst African-Americans, perceived racism results in a physiological and psychological stress response ultimately leading to long-term negative health consequences (Clark, Anderson, Clark & Williams, 1999). Crime victims who identified as lesbian or gay and perceived that the crime was driven by prejudice experienced more depressive symptoms (Herek, Gillis & Cogan, 1999). The Rejection-Identification

Model proposes that one reason that disadvantaged minorities tend to become more identified with their group is to shield themselves from the negative effects of discrimination on well-being (Branscombe, Schmitt & Harvey, 1999).

We can further consider research on interracial interactions by Shelton and colleagues (2005), who examined the effect of an expectation of prejudice by minorities on their affective, cognitive and behavioral responses during interactions with majority group members. Results of their work indicated that minorities who expected to be targets of prejudice reported having negative experiences in the form of negative affect and strong feelings of inauthenticity. On the other hand, the dominant group members with whom they interacted reported having positive experiences, which was a result of minority members engaging in compensatory strategies (in the form of increased self-disclosure and verbal engagement), possibly to manage interactions and disprove negative stereotypes. Interestingly, past work has found that there is a relationship between affect and cognitive representations of one's social network. As demonstrated in research by Shea and colleagues (2015), relative to positive affect, negative affect tends to lead to people to activate (that is to say call to mind) smaller numbers of social contacts. Additionally, negative affect led people to activate denser networks. The density of a network refers to the degrees of interconnectedness amongst the members of a social network; dense social networks have high amounts of interconnectedness amongst the actors of that network, while the actors in a loose or sparse networks tend to have very few bonds amongst themselves. Denser social networks tend to be characterized by higher degrees of trust and cooperation than loose networks (Burt, 1992, 2005; Walker, Kogut & Shan, 1997; Gelfand et al., 2011; Uzzi, 1997; Arnett, 1995;

McFayden & Cannella, 2004; Jorgensen, 2010). Combining these two lines of work, it may be that negative affect driven by expectations of being the target or prejudice or holding prejudicial attitudes towards the dominant group can lead minorities to activate denser networks of familiar others and avoid the provokers of those negative feelings, e.g. majority, outgroup members (Richeson & Shelton, 2003; Richeson, Trawalter & Shelton, 2005; Shelton, Richeson & Salvatore, 2005; Shelton, Richeson & Vorauer, 2006).

Taken together, research about the expectations and experiences of disadvantaged groups with regards to cross-group interactions provides reason why minorities are incentivized to associate with members of their ingroup. Not only can inter-group interactions be negative experiences for minorities, resulting in heightened stress responses, feelings of inauthenticity and negative health consequences, intra-group interactions can shield low-status groups from these effects. As such, minority individuals tend to be more highly identified with their groups than majority members and more likely to demonstrate the ‘side effects’ of this identification including a heightened propensity to trust ingroup members.

Institutions and Institutional Trust

An institution “establishes prevalent social rules which structure social interaction,” which insures cooperation and trustworthy behavior amongst members of a society (Hodgson, 2006). Social institutions span different domains of human social life — the punishment of wrongdoers, the distribution of resources, and the transference of knowledge — but are similar to the extent that they operate off a set of clearly defined rules, which structure day-to-day interactions. For example, a law-making body, like the United States Congress, passes a set of rules which specify how interactions should go

(e.g. signing a deed to a house makes one the owner and the previous owner must vacate) and what will happen if those expectations are violated (e.g. the present owner is legally allowed take some specified action, like calling the police or suing the previous owner, if the previous owner refuses to leave). In this way, clear rules provide a sense of predictability and accountability, telling citizens how they should behave, how they can expect others to behave and what consequences can be expected should those expectations be violated. In a society that relies on the presence of high-quality institutions to produce trust, an individual can walk around and engage with unknown others with a clearer set of expectations about the way that interaction will go (smoothly) and the way that other individual will behave (in a trustworthy, cooperative manner) without having to rely on difficult-to-obtain reputational information or interact exclusively with ingroup members.

Zucker (1986) argues that people began relying on this form of trust production more as populations rose and societies became more diverse. With the growth of human populations, the probability of needing to interact with an individual without knowledge of his reputation and who belonged to a different social category than one's self substantially increased. According to Norenzayan (2013) and Purzycki and colleagues (2016), the rise in population size co-occurred with a rise in religious institutions and belief in omniscient, omnipotent gods who helped sustain cooperation, trust and norms of fairness (see also Henrich et al., 2010). The researchers argued that these Big Gods functioned as a type of an overseer, a fair observer with the power to punish. More generally, Zucker (1986) argues that large, diverse societies necessitated the creation of large-scale institutions (of which the above mentioned religious institutions are just one

example), which stabilized cooperative norms through the use of clear rules and procedural justice to which all members of a society are subject.

Institutional trust serves as a type of safeguard during interactions with unknown entities to insure a cooperative relationship. No longer is there as much a need to seek out reputational information, build long-term relationships, or find individuals who are of the same social category. When people rely on institutions to produce trust, trustworthy behavior and cooperation in interpersonal interactions is insured by that institution, which provides clear rules and accountability, thereby providing a ‘cooperative-affordance’ (Packer & Kugler, 2013; Jordan, Peysakhovich & Rand, 2014). The understanding that institutions have the ability to punish non-cooperation normalizes and automatizes cooperation; by making cooperative behaviors the most advantageous and rewarding option in daily social life, effective social institutions instill the heuristic that cooperation is favorable, leading people to intuitively act cooperatively (Stagnaro, Archer & Rand, 2017; Peysakhovich & Rand, 2016).

Indeed, perhaps the key power of institutions as it pertains to the present research is their ability to create depersonalized trust *across* social categories. And they do seem to work: looking only at majority group members, Packer and Kugler (2013) found that societies with effective institutions tended to have lower degrees of intergroup bias and reduced preferential association with ingroup members, indicating that as reliance on one form of trust production — characteristic-based trust — decreased as efficiency of institutional-based trust production increased. In parallel with these findings, recent work by Lin and Packer (2017) demonstrated that anticipating the presence of a third-party punisher in a cross-group trust game reduced racial bias on an evaluative priming task.

The presence of the third-party punisher acted as a producer of trust (or in the words of the researchers, a cooperative affordance) that reduced incentives to rely exclusively on characteristic based trust. More broadly, research has argued that the presence of a third-party punisher can encourage and maintain cooperation (Fehr & Falk, 2001; Henrich et al., 2006; Rand & Nowak, 2013).

In this way, institution-based trust production stands in contrast with process-based trust production (or interpersonal trust), which is built upon a series of reputation-building interactions, and characteristic based, which is built upon shared group identity. What characteristics of institutions encourage people to rely or to trust them on them? Broadly, Tyler (2006) argues that institutional trust is predicated on the belief that institutions are procedurally just and that they exhibit respect for those they serve (see also Tyler & Blader, 2003; Tyler et al., 2015; Levi, 1998; Levi et al., 2009; Bryk & Schneider, 2002; Goffman, 1963; Thibaut & Walker, 1975). According to Tyler (2006), there are several antecedents of procedural justice including: the perception that authorities are *unbiased or neutral*; the perception that authorities are trustworthy; the perception that authorities treat others with dignity and respect; and the perception that authorities allow for people to express views and be involved in decision making-processes (see also Tyler, 2000; Tyler, Boeckmann, Smith & Huo, 1997; Tyler & Huo, 2002). As such, trusting institutions is similar to trusting other people: both involve a set of beliefs or expectations about how that institution or other will behave. However, unlike Zucker's (1986) understanding of trust which does not imply that the trusted will behave in an honorable manner, Tyler's understanding of trust in institutions is specifically predicated on the belief that those institutions will behave in a fair, just

manner. Indeed, the extent to which authorities are perceived to be adhering to these standards predicts the legitimacy of the authority: “belief that authorities, institutions and social arrangements are appropriate, proper and just” (Tyler, 2006, p. 376). In turn, belief that an authority is legitimate predicts willingness to cooperate, comply and support the authority.

Speaking to this, Elliott, Thomas and Ogloff (2011) found that people reported a stronger obligation to obey the law and a higher satisfaction with the police to the extent that they believed that the law was fair. In other research, Tyler and Fagan (2008) examined the relationship between perceived legitimacy of the police and willingness to cooperate by helping the police (e.g. volunteering, patrolling the streets) and reporting crime to the police (e.g. reporting suspicious activity, helping police find criminals) (see also Sunshine & Tyler, 2003; Hinds & Murphy, 2007; Reisig, Bratton & Gertz, 2007; Tyler, 2005). The researchers found that the more legitimate people believed the police to be, the more willing they were to cooperate with the police. Importantly, this research also examined the antecedents of judgments of police legitimacy and found that perceptions of police legitimacy were positively predicted by the extent they viewed the police as acting in an unbiased, fair manner and the extent to which they believed that the police respected people’s rights and dignity. Interestingly, perceptions of legitimacy were not affected by perceptions of police performance, which is to say that people’s perceptions of the effectiveness of the police in fighting crime and disorder did not influence their judgments of the legitimacy of the police. Similarly, Tyler (2001) explored the role of the belief that the police are effective in controlling crime and the belief that the police were treating people fairly on satisfaction with the police; results

suggested that, of the two antecedents, belief that the police were treating people fairly was the stronger predictor of satisfaction (see also Tyler & Huo, 2002). Taken together, the research highlighted above supports the idea that support of institutions and perceptions of the legitimacy of institutions is positively predicted by the extent to which institutions support norms of fairness and cooperation amongst all members of the society and not necessarily by the extent to which those institutions are perceived to be effective.

Another way in which institutions can support these norms of fairness and be perceived as legitimate is by adhering to standards of distributive justice. In contrast to procedural justice, which emphasizes the importance of interpersonal treatment (respect for people's rights and dignity), distributive justice emphasizes a fair distribution of resources across demographic and social categories (Sarat, 1977; Tyler & Fagan, 2008). Distributive justice is strongly related to the perception that one is being treated in an unbiased, unprejudiced manner. More generally, an institution should be perceived as representing the ideals of "universalism, equality before the law and impartiality," indicating that all who are subject to institutional control and monitoring will be controlled and monitored to the same degree and outcomes should not be dependent on one's social category (Rothstein & Stolle, 2002, p. 13). Speaking to the importance of distributive justice in perceptions of legitimacy of authorities, Sunshine and Tyler (2003) found that perceptions of police legitimacy were positively predicted by perceptions of distributive justice; beliefs in police efficiency did not predict perceptions of police legitimacy. In turn, legitimacy predicted willingness to support, cooperate and comply with the police. Additionally, Tyler and Wakslak (2004) found a relationship between

support of police institutions and perceptions of distributive justice such that perceptions of distributive justice positively predicted support of institutions.

Tyler and Wakslak (2004) also examined how support for institutions as a function of distributive justice and procedural justice differed between Whites and non-Whites. Results of their study indicated that for both Whites and non-Whites, support for institutions was positively predicted by perceptions of procedural justice (quality of decision-making and quality of interpersonal treatment) and perceptions of distributive justice. This raises an important point: institutional support and perceptions of institutional legitimacy seem to be highly contingent on values (e.g. adherence to norms of fairness and cooperation) as opposed to the demographic characteristics. Supporting this, Lind, Tyler and Huo (1997) found a similar relationship between belief in benevolence and neutrality of an authority and acceptance of a judgment regarding a dispute amongst American, German, Japanese and Chinese samples. Similarly, using a sample of Americans, Tyler (1988) found that sex, age, race, education, political orientation and income did not directly influence perceptions of the fairness of treatment by the courts and police and satisfaction with outcomes; across all demographic characteristics, these perceptions were predicted by judgments of honesty, ethicality/fairness and perceptions of bias. As such, it seems to be uniformly the case that reactions to authorities and institutions are shaped by the perceived fairness of the institution, such that people tend to be more willing to accept an institution to the extent they believe that the institution is acting fairly.

Institutional Bias

Although concerns about procedural justice, distributive justice and bias might all be shared across demographic categories, perceptions of the extent to which these institutions honor these values differs across demographic categories. Research has supported the idea that members of disadvantaged groups tend to perceive that authorities violate these standards more than Whites do. As discussed earlier, demographic characteristics are likely to influence how fair an institution is perceived to be, such that minority groups are likely to perceive more institutional bias than majority groups. For example, minorities' trust of and comfort with institutions are affected by cues related to diversity and inclusivity while Whites' trust and comfort with institutions are not related to such cues (Purdie-Vaughns et al., 2008).

Work by Purdie-Vaughns and colleagues (2008) examined how cues by institutions that one's social identity is valued (or not) influence trust in that institution. Using a sample of Blacks, the researchers examined how cues that a company values diversity or has a 'color-blind' policy affect trust and comfort with that workplace setting. Results of their study indicated that when the workplace was presented as having low minority representation, but had a philosophy that signaled that the company valued diversity, participants felt more trust and comfort with the company than when the company advocated a colorblind philosophy and were less likely to perceive discrimination and bias in an attributionally ambiguous scenario. Interestingly, the researchers also found that if a company seemed to adhere to principles of procedural justice (e.g. "Evaluations are made solely on merit"; "My supervisor's decisions reflect the company's ideals"), Black participants reported more trust and comfort with the

company, even if the company advocated for a color-blind philosophy and had low minority representation. Indeed, the more procedurally just the company was thought to be, the less Black participants believed that they would be judged based on their identity and the more they trusted the company. Conversely, White participants' trust in the company did not differ as function of cues that the company was procedurally just; White participants' ratings of trust were high regardless of cues of procedural justice. Coupled with these findings, there is work that suggests that undesirable outcomes are more distressing to individuals when the procedures by which those outcomes were dispensed are perceived to be unfair (Tyler & Lind, 1992; Tyler, Rasinski & McGraw, 1985). Taken together, these results indicate that even when an institution's policies do not align with one's own philosophy or lead to an ideal or desirable outcome, if an institution is thought to be procedurally just, then it will be more likely to be accepted.

Examining this issue from a socio-developmental perspective, Yeager and colleagues (2017) looked at how trust in their schools and teachers impacted Black students' outcomes. Mirroring the discussion earlier in this work, Black students lost trust for the school and teachers at a significantly higher rate from sixth grade to eighth grade, relative to White students. Black students loss of trust for the institution was predicted by their self-reported awareness of disciplinary bias in their school (e.g. that Black students were punished significantly more than White students). Furthermore, the relationship between perceived bias and mistrust seemed to be recursive, such that the more aware of bias students were, the less trust they had and the less trust they had, the more aware of bias they were. Interestingly, this research also indicated that people need not have *personally* experienced bias based on their racial identity in order to lose

institutional trust; both Black students who had and Black students who had not received a disciplinary infraction showed the same pattern of effects (see also Fagan & Tyler, 2005). This loss of trust then predicted students' subsequent disciplinary infractions and college enrollment, such that Black students who lost trust were more likely to have disciplinary infractions and less likely to enroll in 4-year colleges; loss of trust did not effect White students' college enrollment.

This line of work points to an important point: it is not only that institutional bias is unjust in and of itself, lack of trust in institutions and institutional bias can have important, negative consequences. Blacks and other minorities tend to be subject to disproportionately higher rates of discipline than Whites (Okonofua & Eberhardt, 2015; Skiba, Michael, Nardo, & Peterson, 2002). A wealth of research has supported the fact that students with school discipline problems and dropouts are more likely to be incarcerated as adults (Pettit & Western, 2004) and have higher rates of recidivism (Jung, Spieldnes & Yamatini, 2010). Additionally, these students are also more likely to have long-term unemployment (Couch & Fairlie, 2010; Pager, Western & Sugie, 2009), as well as lower lifetime earnings (Marchbanks III, Blake, Booth, Carmichael, Seibert & Fabelo, 2015) (see work on the "school-to-prison pipeline"; Nicholson-Crotty, Birchmeier, & Valentine, 2009; Rocque & Paternoster, 2011). Within the workplace, workplace discrimination can increase stress, which in turn increases negative health outcomes (James, Lovato & Khoo, 1994; Sutherland & Harrell, 1986; Din-Dzietham, Nembhard, Collins & Davis, 2004). Additionally, perceptions of institutional bias and interpersonal discrimination negatively predicted job satisfaction amongst Black women. Importantly, Black women who worked in the service industry or in un- or semi-skilled

positions reported significantly more institutional bias than women in more professional roles; in turn, these women reported greater levels of job dissatisfaction (Hughes & Dodge, 1997).

Both of the examples from the school system and the work place demonstrate how the negative effects of institutional bias compound to increase negative outcomes: Institutional bias denies disadvantaged groups the protections and privileges offered by institution and institutional bias can also increase the negative outcomes of a group. For minorities, discrimination and prejudice occurs not just on an interpersonal level -- meaning interactions with a particular individual -- but also on an institutional or system level. Given the extensive history of biased treatment by institutions, being part of a minority group in America implies that one will be at risk for mistreatment, denial of privileges, rights and protections by institutions that purport to operate in a fair and just manner (Feagin, 2013). It is an awful truth that being a member of a minority group means carrying the weight of a history of oppression and exploitation, while simultaneously being denied reparations for such biases (Coates, 2014). Any summary of these biases runs the risk of downplaying the seriousness of these issues, however I will take that risk by stating that these institutional biases serve to at minimum deny minorities the safeguards institutions were intended to provide (and do provide to advantaged, majority group members) and at the extreme deny them their livelihoods, homes and safety. In this way, the recognition and expectation that one will be treated in an unfair way, as member's of one's group have been throughout history, becomes a fundamental part of the identity of real-world minority groups (Dulin-Keita, Hannon, Fernandez & Cockerham, 2011; Brunson & Weitzer, 2011; Dottolo & Stewart, 2008).

Within the present work, I focus specifically on how institutional bias and a distrust of institutions can serve to increase preference for ingroup members and limit social connections made with outgroup members.

Here, I would like to contextualize possible negative repercussions of ingroup affiliative preference for minority individuals (in the section above I illustrated the positive effects of ingroup preference). To a large extent, human existence is a communal endeavor and the survival of any one person is highly contingent on their ability to form interdependent relationships with trustworthy, reliable others. Forming relationships with others and being part of a group serves as a buffer against the dangers and challenges of the natural world, allowing for reproductive success (Brandon, 1990). Having and maintaining strong ties with others can afford an individual better and more plentiful resources like food and shelter, protection from predators and other natural threats than they would be able to achieve on their own. In our modern society, social contacts can be valuable sources of information and influence, providing access to opportunities and support during disruptive life events and knowledge of behavioral norms and attitudes (Inkpen & Tsang, 2005; Nahapiet & Ghosal, 1998; Bolino, Turnley & Bloodgood, 2002; Bourdieu, 1986). Research has shown that close relationships can provide emotional and psychological support during stressful life events, which can help an individual through those events (Cutrona, 1990; Cutrona & Russell, 1990; Dunkel-Schetter & Skokan, 1990; Gottlieb, 1988; Hobfoll & Vaux, 1993; Uchino, 2004; Uchino, 2006; but see Bolger et al., 1996). Practically, social contacts can be useful during a job search, providing individuals with information about existing opportunities (Fernandez &

Weinberg, 1997; Granovetter, 1974) and potentially biasing the hiring process in favor of the applicant (Marsden & Hurlbert, 1988; Bentolila, Michelacci & Suarez, 2010).

It is in these more practical applications – the instrumental support that social contacts can provide – that homophilous social networks may potentially pose a problem. If an individual tends to associate only with like-others who are in a similarly disadvantaged position in society, then it may be the case that that they are barred from accessing the resources, advantages and opportunities that are easily accessed by the privileged in a society. In other words, they are unable to access the social resources that a social network composed of more privileged individuals would contain (Lin, Dayton & Greenwald, 1978). Speaking to a specific example of this – how employment is attained – Lin, Vaughn and Ensel (1981) argued that the status of one’s occupation is highly dependent on both the social resources available within one’s network and one’s education, both of which, in turn are related to one’s family background. The more general hypothesis that institutional bias will restrict one’s access to and accumulation of resources will be tested in Study 3.

The Present Research

The present research will focus on examining the implications of institutional bias and interpersonal discrimination for members of disadvantaged groups. Specifically, I will test the hypothesis that individuals who perceive that institutions are biased against their group will be more likely to associate with ingroup members relative to those who perceive institutions as being unbiased producers of trust. In the absence of effective, reliable institutions to produce trust, people will rely on easy to process, reliable, highly salient indicators of trust like shared group membership when selecting interaction

partners. Conversely, people who are able to rely on institutions to insure successful, honest interactions and so have less need to rely on characteristic-based indicators of trust, like group identity.

Below, I describe a series of studies that were aimed at testing this hypothesis. The first three studies focused on establishing the relationship between institutional bias and fear of interpersonal discrimination on social bond activation and affiliative preference amongst disadvantaged groups using correlational methods. In the second and third experiments, I adopted an experimental approach to further examine this question. Specifically, Study 2 examined the effect of institutional bias on the formation of homophilous bonds amongst disadvantaged minimal group members. Study 3 examined the potential impact that institutional bias has on access and attainment of resources by way of its influence on the formation of homophilous bonds.

Study 1A

In the first test of this hypothesis, I utilized a sample of Black respondents from the 1985 General Social Survey. This survey has data on respondent's demographic information and attitudes about a variety of social and political issues. Importantly, this survey also contains a measure of social network composition that is not found in more recent versions of this study, which makes it suited to be a preliminary test of the hypothesis. Specifically, I tested the prediction that people who are more likely to believe that institutions are biased against them will have more same-race social network contacts as a function of that perceived institutional bias. This study provides a preliminary test of the hypothesis using correlational evidence of a relationship between perceived bias and

homophily amongst a particular minority group that is likely to have perceptions of institutional bias.

Participants. The full dataset contains a sample of 1,534 American adults. Of those, 152 are self-identified Black (92 males, Mean Age = 46.20). The number of participants in specific analyses varied as a function of incomplete or missing data.

Measures. This survey contains a number of items regarding race relations and the status of Blacks in America, as well as items related to general attitudes towards the government. As such, decisions needed to be made regarding which variables to use to define the predictive construct of interest: perceptions of bias, institutional and otherwise. When selecting items that could potentially tap into the construct of interest, I chose to focus on items that assessed attitudes and beliefs about Blacks and the position of Blacks in society (e.g. “On average Blacks have worse jobs, income and housing than white people. Do you think these differences are due to discrimination?”). In addition, I included items that measured respondents’ trust in institutions (e.g. “The average person has a great deal of influence on government decisions”). I excluded items that focused on hypothetical policies and items that focus on women as the disadvantaged group (e.g. “The government should increase opportunities for women in business and industry”).

Predictors – Indices of Bias. Participants were asked to respond yes or no to a series of four questions beginning with the stem: “On the average Blacks have worse jobs, income, and housing than white people. Do you think these differences are due to. . .” Two of these items pointed to situational factors (e.g. “discrimination”, “. . .not having a chance for the education it takes to rise out of poverty”). Responses to these two items pointing to situational factors were added forming an index of situational contributors to

difference, such that higher numbers indicated greater belief that differences between Blacks and Whites were due to external factors like institutional bias and interpersonal discrimination ($M = 1.46$, $SD = .70$). The two items were significantly positively correlated, $r(134) = .22$, $p = .012$. The other two items provided attributional explanations (e.g. “less in-born ability to learn”; “...don't have the motivation or will power to pull themselves up out of poverty”) for the differences between Blacks and whites. Responses to these two items were added forming an index of internal contributors to difference, such that higher numbers indicated greater belief that differences between Blacks and Whites were due to internal factors ($M = .50$, $SD = .70$). The two items were significantly positively correlated, $r(136) = .37$, $p < .001$.

An additional two items (“Blacks shouldn't push themselves where they're not wanted”; “White people have a right to keep Blacks out of their neighborhoods if they want to, and Blacks should respect that right”; recoded 1—disagree strongly to 4—agree strongly) were averaged to form an index of modern racism ($\alpha = .553$, $M = 1.83$, $SD = .96$).

Outcome Variables. The primary dependent measure is a measure of participant's same race social contacts. Participants were asked to name between one and five people they might turn to “discuss important matters.” For each of the named social contacts, participants were asked to provide demographic information (e.g. race, gender). The proportion of the same race social contacts was computed by dividing the number of same-race contacts named from the total amount of contacts named ($M = .87$, $SD = .29$). This value indicates the social network composition of respondents and serves as an

index of the proportion of homophilous bonds, such that higher values indicate a greater percentage of homophilous bonds.

In addition, this dataset contains three items that assess ingroup preference. In one item, participants were asked: “Do you think there should be laws against marriages between Blacks and whites?” (recoded such that 0 = no and 1 = yes). Participants were also asked “In general, do you favor or oppose the busing of Black and white school children from one school district to another?” (recoded such that 0 = favor, 1=oppose). A third item which assessed ingroup preference is “How strongly would you object if a member of your family wanted to bring a White friend home to dinner? Would you object strongly, mildly, or not at all?” (recoded 1 = not at all to 3 = strongly) (M = 1.04, SD = .26). All items were coded such that higher numbers indicate ingroup preference.

Control Variables. Respondents reported their age, gender, education, family income (responses were given on a scale from 1 – 12) and strength of religious identification (recoded 1—not very strong to 3—very strong; participants who indicated that they did not have a religion were coded as missing data). Additionally, participants reported how close the nearest opposite race person lived (1—on this block, a few doors/houses away to 4—over 8 blocks away, over one mile). This item provided a baseline measure of geographical diversity.

Results

Analytic Strategy

Two regressions were conducted on each of the outcome variables of interest in order to examine the relationship between bias and preference for ingroup members. In the first model, the primary predictors of interest (situational contributors to difference, internal

contributors to difference and modern racism) were entered into the model as predictors. Although situational and internal contributors to difference were not correlated with one another ($p > .89$), both were significantly correlated with modern racism, albeit in opposite direction. Situational contributors to difference was negatively correlated with modern racism $r(144) = -.18, p = .028$, indicating a pattern such that the more participants believed that the difference between blacks and whites was due to external factors the less they believed in the inferiority of Blacks. Additionally, internal contributors to difference was positively correlated with modern racism $r(145) = .24, p = .003$, indicating that the more participants believed that differences between Blacks and whites were due to attributes of Blacks, the more they believed in the inferiority of Blacks.

In the second model, age, gender, income, strength of religious identification and distance to nearest opposite race person were added to the model (see Appendix A for analyses imputed data). Previous work (Ajrouch, Antonucci & Janevic, 2001; Moore, 1990; Marsden, 1987) has shown that these demographic variables were related to social network composition and preference for ingroup members. Given this, the inclusion of these demographic characteristics in the second model allows for inferences to be made about the role of each of the demographic variables and each of the psychological constructs of interest on preference for ingroup members independently of each other. In cases where the outcome variable was continuous (e.g. proportion of same race social contacts and bringing an opposite race friend home to dinner), linear regressions were conducted. In cases where outcome variables were binary (e.g. laws against intermarriage and busing Black and White school children), logistic regressions were conducted. Full results for the models can be found in Table 1.

Proportion of Same Race Social Contacts. The first model revealed a trending effect of internal contributors to difference ($\beta = .16$, $p = .11$; model $R^2 = .025$; $n = 112$), indicating that the more respondents believed that differences between Blacks and Whites were due to internal factors (e.g. lower ability to learn and less motivation), the more homophilous their social network. Situational contributors to difference and modern racism did not significantly predict social network composition (both p 's $> .6$). In Model 2, none of predictors of interest or the added control variables were significant (all p 's $> .14$).

Bringing an opposite race friend home to dinner. A similar pattern of results emerged for preferences about bringing an opposite race friend home for dinner. Model 1 indicated a marginal effect of internal contributors to difference ($\beta = .226$, $p = .077$; model $R^2 = .029$; $n = 70$), indicating that the more respondents believed that differences between Blacks and Whites were due to internal factors (e.g. lower ability to learn and less motivation), the more they preferred to not mix with Whites. However, in Model 2, none of the predictors of interest or the controls were significant (all p 's $> .37$).

Views on Interracial Marriages. Overall, only 7% of participants were in favor of laws against racial intermarriage, indicating that only a minority of participants supported formal measures to keep marriage within racial groups ($N = 143$). Results of Model 1 revealed that adding the three hypothesized predictor variables is marginally significantly better than a model that only contains the intercept $\chi^2(3) = 7.489$, $p = .058$. Overall, Model 1 was able to correctly classify 93% of participant responses. Modern racism emerged as the only significant predictor of views on interracial marriage; for each point increase on the modern racism scale, the odds of being in favor of laws against interracial marriage increased by 1.941 ($B = .663$, $p = .038$, $N = 139$). Univariate analyses revealed

that those who were in favor of laws against interracial marriage had significantly higher scores on the modern racism scale ($M = 2.55$, $SD = 1.26$) than those who were against such laws ($M = 1.74$, $SD = .92$), $t(138) = -2.601$, $p = .01$.

Modern racism continued to be a significant predictor of views on interracial marriage even with the addition of the control variables in Model 2; for each point increase on the modern racism scale, the odds of being in favor of laws against interracial marriage increased by 3.401 ($B = 1.224$, $p = .033$, $N = 96$). No other predictors were statistically significant (all p 's $> .06$). Model 2 indicated that the full model significantly fit the data better than a model with only the intercept $\chi^2(9) = 22.828$, $p = .007$. Overall, Model 2 was able to correctly classify 95.8% of participant responses.

Views on Busing School Children. Overall, a majority of participants were opposed to busing Black and White school children from one school district to another (56.9%, $N = 137$). There was a significant difference between Model 1 and a model containing only the intercept $\chi^2(3) = 11.247$, $p = .010$, indicating that the addition of the three predictors of interest improved the fit of the model. Overall, Model 1 was able to correctly classify 67.2% of responses. Internal contributors to differences between the races was the only significant predictor; for each point increase on the internal contributors to difference variable, the odds of being opposed to busing Black and White school children from one school district to another increased by 1.82 ($B = .599$, $p = .024$, $N = 134$). Univariate analyses revealed that participants who were opposed to busing children were more likely to believe that differences between Blacks and Whites were due to internal differences ($M = .72$, $SD = .74$) than those who were in favor of busing children ($M = .38$, $SD = .65$), $t(134) = -2.800$, $p = .006$.

Internal contributors to differences between blacks and whites remained a significant predictor in Model 2; for each point increase in internal differences, the likelihood that a respondent would be opposed to busing increased by 2.826 ($B = 1.039$, $p = .012$, $N = 93$). No other predictors were significant (all other p 's $> .1$). Results of Model 2 indicted that it was more predictive than Model 1; overall, Model 2 was able correctly classify 71% of responses. Furthermore, Model 2 was also a better fit than just the intercept $\chi^2(9) = 18.711$, $p = .028$.

Discussion

Based on Model 1, the results of the first study revealed an interesting pattern of results; the more participants believed that differences between Blacks and whites were due to Blacks' negative traits, the more they associated with ingroup members and the more that they preferred a separation between Blacks and Whites at the dinner table and on buses. Additionally, the higher participants scored on modern racism, the more they opposed racial intermarriage. Interestingly and contrary to hypotheses, situational contributors to difference, which was a proxy for perceptions of institutional bias, did not have any effect on association with ingroup members or attitudinal preference towards ingroup members.

Although these findings are contrary to the original hypothesis, they should be taken with a grain of salt for a number of reasons. Perhaps most glaringly, the sample size for this study ($N = 152$) does not allow for a reliable test of the effects. This issue is amplified given that sample size for some of the analyses was actually less than the full sample as a function of missing data. Additionally, the effect of internal contributors to difference was rendered non-significant in Model 2, when control variables were added.

The outcome variables were also problematic. The vast majority of participants (61.2%) reported that all of their named social contacts were ingroup members; indeed, only 12 participants (10% of the sample) indicated that less than 50% of their named social contacts were Black. Regarding two of the three attitudinal variables (bringing a white friend home for dinner and views on racial intermarriage), most participants did not indicate an ingroup preference. One possibility for this is that by indicating an ingroup preference on these items would be indicating a preference to continue to restrict and oppress a group that has already been oppressed. Opposing racial intermarriage and opposing a White dinner guest would only serve to further segregate an already segregated, oppressed group from the majority of society. Indeed, from this perspective, it makes sense that participants who opposed racial intermarriage also scored higher on items that advocate for a segregation of Blacks from white society. Although one's social contacts might all be Black, saying that one is not allowed to have White (or other) social contacts only reinforces differences separation and the inferior position of Blacks. Finally, it is unclear what to make of participants' responses in regards to the item on busing school children. About half of participants were opposed to busing Black and White school children from one district to another and endorsement of internal contributors to difference emerged as a significant predictor of this opposition. Perhaps participants do not their children reinforcing the stereotypes (that participants themselves endorse) to whites. Perhaps there is a system justification type effect – they have internalized their stereotypes and accepted that inferior school districts are their lot in life.

Study 1B

The goal of Study 1B was to offer further preliminary tests of the hypothesis that minorities tend to be more likely to associate with ingroup members as a function of perceived institutional bias. In order to test this hypothesis, Study 1B utilized an existing data source, the 2004 National Politics Survey, to examine the relationship between institutional bias and ingroup preference amongst minorities. The National Politics Survey utilizes a large, multi-racial sample of Americans and gathers data on a variety of political attitudes, political involvement and race relations (Jackson, Hutchings, Brown & Wong, 2004). This dataset was used by Packer and Kugler (2013) to examine the effect of institutional trust on preference for ingroup members amongst Whites. Here, I used a similar framework to examine how preference for ingroup members is influenced by perceptions of institutional bias amongst Black respondents. As this dataset includes a multi-racial sample, it also allowed for some exploratory analyses of how institutional bias affects preference for ingroup members amongst majority group members (e.g. Whites). Because Whites are less targeted and less aware of institutional bias (Mueller, 2017), I hypothesized that White respondents' preference for ingroup members would not be as affected by their perceptions of institutional bias relative to Black respondents.

Participants. The full dataset contains a sample of 3,339 American adults. Of those, 756 are self-identified Black (280 males, Mean Age = 45.99). 919 participants self-identified as White (392 males, Mean Age = 51.12). The number of participants in specific analyses varies as a function of incomplete or missing data.

Measures. This survey contained a number of items that may be used to access the predictor of interest: perceptions of institutional bias. As such, decisions needed to be

made as to which combinations of items best captured the construct of interest. When selecting items that could potentially index the construct of interest, I chose to focus on items that assessed attitudes about different institutions and addressed attitudes about the inferior position of one's own group in society. Some of these items examined how much respondents trusted institutions and how unfairly biased they believed institutions were; these items related directly to the hypothesis. In addition, some of these items presented American institutions as a fair and just place; these items were also related to the theoretical construct of interest as they examined general perceptions of American institutions and society. I excluded items, which asked for attitudes regarding specific policies (e.g. preferential hiring and promotion) as these items reflected participants' beliefs about how institutions and policies should be as opposed to their perceptions of possible bias in the way institutions and policies currently function. For Black participants, this resulted in a total of seventeen items. For White participants, five items were excluded because they specifically named Whites as the advantaged group and Blacks as the disadvantaged group. As such, the analysis for White participants consisted of twelve items. Additionally, only items with continuous response scales were included.

Black Participants. In order to organize the 17 items, a principal components analysis with Varimax rotation was conducted. For Black participants, this analysis revealed three factors that, in total, that accounted for 44.57% of the variance (see Table 2). The first factor included 6 items that accounted for 21.99% of the variance. These items included items which asked respondents how their group had been treated (e.g. "Over the past few years, Blacks have gotten less than they deserve") and some of which specifically named Whites as the advantaged group and Blacks as the disadvantaged group (e.g. "More good

jobs for Whites means fewer jobs for people like me”; “The more influence Whites have in politics, the less influence people like me have in politics”). As a set, these items appeared to capture the principle of system bias, as they seemed to assess the degree to which participants believed that society and the system in general was biased against members of their own group. Responses to these items were recoded such that higher values indicated more perceived system bias. Then, all six items were averaged to form a single index of *system bias* ($\alpha = .68$, $M = 2.95$, $SD = .62$).

The second factor revealed by the principal components analysis accounted for 13.04% of the variance and was constituted of six different items. Items included: “Law enforcement should be able to stop and arrest people of certain racial or ethnic background if they are thought to be more likely to commit crimes”; “It is not really that big of a problem if some people have more of a chance in life than others”; and “America is a land of opportunity in which you only need to work hard in order to succeed.” Taken together these items appeared to align with System Justification Theory (Jost, Banaji & Nosek, 2004), which proposes that people are highly motivated to defend and justify the status quo, even when that status quo may be prejudicial. Previous work on System Justification Theory has indicated that more minority group members endorse system justification, the more they prefer associating with outgroup members (Jost, Pelham & Carvallo, 2002). Responses for these items ranged from 1 (strongly agree) to 4 (strongly disagree); responses were recoded such that higher numbers indicated a more system justifying response. They were then averaged to create a single index of *system justification* ($\alpha = .694$, $M = 2.35$, $SD = .69$).

The final factor indicated by the principal components analysis included 4 items and accounted for 9.55% of the variance. The four items measured participants trust in the government, the media, the police and the legal system. As such, these items seemed to assess how much participants trusted or distrusted institutions. For this variable, items were coded such that higher numbers indicated more distrust in institutions; they were then averaged to form a single index of *distrust in institutions* ($\alpha = .76$, $M = 2.82$, $SD = .53$).

One item (“Would you say that over the past year the economic position of Blacks has gotten better, stayed about the same, or gotten worse?”) did load above .5 on any of the factors and so was excluded.

White Participants. Given that the principal components analysis for Black participants revealed three factors, a factor analysis for White participants was constrained to three factors, which accounted for 45.43% of the variance. The first factor included four items that accounted for 18.52% of the variance. The four items measured participants’ trust in the government, the media, the police and the legal system, making it equivalent to the *distrust in institutions* index created for Black participants. This items in this index were coded such that higher numbers indicated more distrust in institutions ($\alpha = .67$, $M = 2.45$, $SD = .47$).

The second identified index consisted of four items, which accounted for 16.65% of the total variance. The items included in this factor assessed experiences of discrimination: “How strongly do you agree or disagree with the following statements: American society just hasn't dealt fairly with people from my background?”; “Do you think the following groups face a lot of discrimination, some, a little, or no discrimination

at all: Whites?"; "How much discrimination or unfair treatment do you think YOU have faced in the U.S. because of your ethnicity or race?" Although this factor is reminiscent of the system bias factor found in the Black sample, there were no items used in the survey, which specifically named Whites as the disadvantaged group and detailed aspects of system-level bias against Whites. As such, these items captured more general experiences of discrimination. These items were recoded so that higher values indicated more agreement that Whites are discriminated against. They were then averaged to create an index of *discrimination* ($\alpha = .57, M = 1.80, SD = .65$).

The third identified factor captured 10.27% of variance and included 4 items: "America is a land of opportunity in which you only need to work hard to succeed"; "It is not really that big of a problem if some people have more of a chance in life than others"; "How strongly do you agree or disagree with the following statements: Law enforcement should be able to stop or arrest people of certain racial or ethnic backgrounds if they are thought to be more likely to commit crimes?"; "Would you say that over the past year the economic position of whites has gotten better, stayed about the same, or gotten worse?" The fourth item was originally coded on a three-point scale (1—gotten better to 3—gotten worse); in order to make it comparable to other items, this item was recoded on to a four-point scale by multiplying it by 1.32. These items paralleled those of the system justification factor found among black participants and so were recoded so that higher values indicated a more system justifying response and averaged to create an index of *system justification* ($\alpha = .44, M = 2.37, SD = .57$). Although the scale reliability for this is on the lower end, I chose to include it given that it parallels the system justification index found amongst Black participants.

One item (“Inferior groups of people should stay in their place”) did not load cleanly on to any of the factors and so was excluded from analyses (see Table 3).

Outcomes. This survey also contained a large number of items related to the outcome of interest: racial homophily and preference for the ingroup. Participants were asked about their *friend ethnic mix* and their *place of worship ethnic mix* (e.g. “How would you describe the ethnic mix of your group of friends; would you say your friends are mostly White, mostly black, mostly Hispanic, mostly Asian, or mixed?”). For this item, participants were asked to select one from a range of fifteen responses including: mostly [white/black/Hispanic/Asian] and various iterations of mixes of the four named ethnic groups. This item was recoded into a continuous variable, which measured the degree of homophily in their friend group. Respondents who indicated that most of their friends were of the same-race received a score of three. Those indicated that their friends were a mix of racial/ethnic groups, including their own ethnic group (e.g. “Black & White”; “Black, White & Hispanic”) received a score of two. Finally, participants who indicated that their friends were mostly other race/ethnicity or a mix of racial/ethnic groups *not* including their own received a score of one. The same recoding structure was conducted on an item measure *place of worship ethnic mix* (“How would you describe the ethnic mix of your place of worship; would you say your friends are mostly White, mostly black, mostly Hispanic, mostly Asian, or mixed?”).

Participants were also asked three questions related to their preference for ingroup members (e.g. “People are best represented in political office by leaders from their own racial or ethnic background”; “Whites and ethnic minorities can never really be comfortable with each other, even if they are close friends”; “I would approve if someone

in my family married a person of a different racial or ethnic background than mine”). Responses for these items ranged from 1 (strongly agree) to 4 (strongly disagree); responses were recoded such that higher numbers indicated more ingroup preference. A principal components analysis with varimax rotation revealed that for Black participants, all of these items loaded onto a single factor, which explained 40.5% of the total variance. Similarly, for white participants, the same analysis revealed that all of the items loaded onto a single factor, which explained 48.6% of the variance. Based on this a scale reliability analysis was conducted; results of this analysis revealed low reliability for both Black ($\alpha = .26$) and white participants ($\alpha = .45$). As such, these items were analyzed separately (see Table 4 and Table 5 for correlations between these items for Black and White participants, respectively).

Control Variables. Finally, this survey also contained several items, which were used as controls. One item measured participants’ *group identification* (e.g. “How close do you feel in your ideas, interests and feelings to [White people/African Americans]?”). This item was originally coded on a scale of 1 – very to 4 – not close at all; as such it was recoded such that higher numbers indicate more group identification. Additionally, this survey also contains an item in which participants are asked to report their *neighborhood ethnic mix* (e.g. “How would you describe the ethnic mix of your neighborhood; would you say your friends are mostly White, mostly black, mostly Hispanic, mostly Asian, or mixed?”). The same recoding scheme used on the friend ethnic mix and place of worship ethnic mix was used on this item. Additionally, participants also reported their demographic information including: age, gender, level of education (1—less than HS to 5—graduate school), political orientation (recoded so that 1—liberal, 2—moderate and

3—conservative; participants who responded “haven’t thought about it” and “don’t know” were coded as missing data), religiosity (recoded so 1—not religious at all to 4—very religious), national identification (e.g. “I am proud to be American”; recoded so 1—strongly disagree to 4—strongly agree) and family income (e.g. “Thinking about you and your family’s total income from all sources, how much did you and all the members of your family living with you receive in the year 2003 before taxes?”).

Results

Analytic Strategy

A series of linear regression analyses were performed in order to examine the relationship between perceived institutional bias and ingroup affiliative preference. Ingroup affiliative preference was operationalized with three different outcome variables: friend ethnic mix, place of worship ethnic mix and average ingroup preference. For each of the outcome variables, two different models were conducted. In Model 1, the primary predictor of interest, system bias, along with distrust in institutions and system justification were entered into a model (see Table 6 and 7 for correlations for Black and White participants, respectively). In Model 2, I controlled for a number of demographic characteristics (e.g. age, gender, political orientation, education, religiosity, national identification, family income, neighborhood ethnic mix⁴ and group identification) (see

⁴ This variable was also run as an outcome variable for respondents. For Black participants: In Model 1, distrust in government, system bias and system justification were all insignificant predictors (all p 's > .5; model $R^2 = .001$; $n = 749$). In Model 2, the only significant predictor was education ($\beta = -.127$, $p = .006$; model $R^2 = .027$; $n = 577$), such that the more educated a respondent was, the less homophilous their neighborhood. For White respondents: In Model 1, discrimination emerged as a significant predictor ($\beta = -.059$, $p = .003$; model $R^2 = .016$; $n = 910$), indicating that the more white respondents felt discriminated against, the less homophilous their neighborhood. In Model 2, this pattern held ($\beta = -.142$, $p < .001$; model $R^2 = .037$; $n = 704$); additionally, political orientation emerged as a significant predictor ($\beta = .106$, $p = .013$), indicating that more conservative participants lived in more homophilous neighborhoods. This indicated that the more White participants believed they had been discriminated against, the more that they preferred associating with their ingroup and the less homophilous their neighborhood was. Although the

Appendix A for analyses on imputed data). Mirroring the logic of Model 2 in Study 1, these demographic items were included to allow for the effect of the psychological constructs of interest independently of demographic contributors to ingroup preference. This analysis plan was used for both black and white responses. Full results for each of the models for each of the dependent variables are available in Table 8 and 9, for Black and White participants respectively.

Black Respondents

Friend Ethnic Mix. In line with hypotheses, in Model 1, system bias positively predicted ingroup affiliation ($\beta = .136, p = .001$; model $R^2 = .027$; $n = 737$), indicating that the more biased against Blacks the system was perceived as being, the more that Black respondents tended to associate with racial ingroup members. Neither distrust in institutions nor system justification was significantly related to ethnic composition of friend groups (both p 's $> .14$). Model 2 demonstrated a similar pattern of results such that system bias significantly positively predicted ingroup affiliation after entering controls, ($\beta = .135, p = .003$; model $R^2 = .057$; $n = 569$). Similarly in Model 2, distrust in institutions and system justification did not significantly predict association with ingroup members (both p 's $> .13$). Model 2 also indicated that two of the control variables were significantly related to the ethnic mix of the respondent's friend group. Specifically, the full model indicated that women tended to have more homophilous friend groups relative to men ($\beta = .087, p = .040$) and respondents with more homophilous neighborhoods also tended to have more homophilous friend groups ($\beta = .098, p = .019$).

first finding seems to be in line with literature on discrimination and the general premise of this work (e.g. feeling discriminated against relates to a preference for ingroup members), the second finding poses a bit of a puzzle. Living in a more diverse neighborhood may make group identity more salient which in turn makes it easier to highlight the role of one's racial identity in one's circumstances. However, given that this data is archival causality cannot be inferred. As such, this finding remains an open question.

Place of Worship Ethnic Mix. Similar effects were seen on place of worship ethnic mix variable. In Model 1, system bias positively predicted ingroup affiliation ($\beta = .121, p = .003$; model $R^2 = .021$; $n = 652$), indicating that the more biased against Blacks the system was perceived as being, the more that Black respondents tended to associate with racial ingroup members. Mirroring the results of the regression on ethnic composition of friends, system justification and distrust in institutions were not significantly related to ethnic composition of place of worship (both p 's $> .06$). In model 2, the effect of system bias on ethnic composition of place of worship remained significant after the addition of control variables ($\beta = .117, p = .010$; model $R^2 = .101$; $n = 542$). System justification and distrust in institutions remained insignificant (both p 's $> .07$). Model 2 also revealed that among the control variables included, three emerged as significant predictors: respondents who had more homophilous neighborhoods tended to have more homophilous places of worship ($\beta = .236, p < .001$), participants who had stronger identification with Blacks tended to have more homophilous places of worship ($\beta = .088, p = .041$) and participants with higher incomes tended to have more homophilous places of worship ($\beta = .093, p = .029$).

Preference for Own-Race Political Leaders. System bias once again emerged as a significant predictor of ingroup preference. In Model 1, system bias positively predicted strength of ingroup preference, ($\beta = .269, p < .001$; model $R^2 = .065$; $n = 736$), such that the more that Black respondents believed that the system was biased against their racial group, the more that they preferred own-race political leaders. Interestingly, Model 1 also revealed that system justification as a significant, positive predictor of ingroup preference, ($\beta = .096, p = .010$), such that the degree to which participants believed that

the system was just was positively related to the degree to which they preferred own-race political leaders. Distrust in institutions also related to preference for own-race political leaders ($\beta = -.076, p = .044$), indicating that the more participants distrusted institutions, the less they preferred own-race political leaders.

With the addition of the control variables in Model 2, both system bias ($\beta = .244 p < .001$; model $R^2 = .083$; $n = 569$) and distrust in institutions ($\beta = -.106 p = .014$) remained significant predictors of ingroup preference for political leaders. In addition, age emerged as a significant predictor ($\beta = -.099 p = .021$), indicating that older respondents had less ingroup preference. Finally, the higher participants' level of group identification, the more they preferred same-race political leaders ($\beta = .086, p = .043$).

Disapproval of Interracial Marriage. Model 1 revealed that none of key predictors predicted disapproval of interracial marriage, (all p 's $> .23$; model $R^2 = .003$; $n = 741$). Amongst the control variables added in Model 2, only age and national identification emerged as significant predictors. The older participants were, the more likely they were to disapprove of interracial marriage ($\beta = .089, p = .043$; model $R^2 = .044$; $n = 568$). The more participants identified with America, the less likely they were to disapprove of interracial marriage ($\beta = -.126, p = .004$).

Blacks and Whites Can't Be Comfortable. Results of Model 1 indicated that system bias significantly positively predicted the extent to which participants agreed that Blacks and white can not be comfortable with one another ($\beta = .281, p < .001$; model $R^2 = .112$; $n = 743$). Additionally, system justification emerged as a significant predictor ($\beta = .229, p < .001$), such that the more just respondents believed the system to be the more they agreed

that Blacks and whites can not be comfortable with one another. Distrust in institutions did not significantly predict agreement ($p > .11$).

The addition of the control variables in Model 2 did not change this pattern. System bias ($\beta = .247, p < .001$; model $R^2 = .111$; $n = 569$) and system justification ($\beta = .165, p < .001$) continued to significantly predict agreement indicating that the more participants believed the system was biased and, paradoxically, the more participants believed the system was just, the more they agreed with the idea that Blacks and whites can't be comfortable with one another. In addition, education predicted agreement such that the more educated participants were, the less they agreed with the idea that Blacks and white can never really be comfortable with one another, ($\beta = .125, p = .006$).

White Respondents

Friend Ethnic Mix. Contrary to the hypothesis, Model 1 revealed that distrust in institutions was negatively related to ingroup affiliation, ($\beta = -.072, p = .034$; model $R^2 = .016$; $n = 907$), indicating that the more White participants distrusted institutions, the less homophilous their friend group. Discrimination also emerged as a significant negative predictor of ingroup affiliation, ($\beta = -.095, p = .005$), indicating that the more White participants felt discriminated against, the less homophilous their friend group. System justification did not significantly predict ingroup affiliation ($p > .88$).

The effects of distrust in institutions and discrimination both became non-significant with the addition of the control variables in Model 2 (both p 's $> .29$), indicating that the effects were largely driven by demographic characteristics. Age emerged as a significant positive predictor, ($\beta = .181, p < .001$; model $R^2 = .085$; $n = 698$); older participants tended to have more homophilous friend groups. In addition, more

conservative participants had more homophilous friend groups ($\beta = .082, p = .05$).

Finally, participants who lived in more homophilous neighborhoods also had more homophilous friend groups ($\beta = .168, p < .001$).

Place of Worship Ethnic Mix. Model 1 revealed that none of the proposed predictors of interest significantly predicted how homophilous participants' place of worship was (all p 's $> .08$, model $R^2 = .010$; $n = 696$). Model 2 revealed that some of the demographic characteristics did predict place of worship homophily. Reflecting the pattern for friend ethnic mix, age emerged as a significant positive predictor, ($\beta = .077, p = .047$; model $R^2 = .118$; $n = 611$), indicating that the older respondents were, the more homophilous their place of worship. In addition, the more homophilous respondents' neighborhoods were, the more homophilous their place of worship ($\beta = .285, p < .001$). Interestingly, the more religious respondents were, the less homophilous their place of worship ($\beta = -.129, p = .001$).

Preference for Own-Race Political Leaders. Model 1 revealed that none of the predictors significantly predicted preference for own-race political leaders amongst white participants (all p 's $> .33$; model $R^2 = .002$; $n = 891$). The addition of the demographic characteristics in Model 2 revealed that education negatively predicted support for same race political leaders, ($\beta = -.137, p = .001$; model $R^2 = .040$; $n = 688$), such that the more educated participants were, the less they preferred same-race political leaders. No other predictors approached significance in Model 2 (all p 's $> .06$).

Disapproval of Interracial Marriage. Both discrimination and system justification emerged as significant predictors of disapproval of interracial marriage. The more participants felt discriminated against, the more they disapproved of interracial marriage

($\beta = .106, p = .001$; model $R^2 = .069$; $n = 904$). Additionally, the more just participants felt the system, the more they disapproved of interracial marriage ($\beta = .224, p < .001$).

Both of these factors continued to significantly predict disapproval of interracial marriage with the addition of control variables in Model 2. Once again, the more participants felt discriminated against, the more they disapproved of interracial marriage ($\beta = .100, p = .006$; model $R^2 = .173$; $n = 698$) and the more just they thought the system was, the more they disapproved of interracial marriage ($\beta = .096, p = .018$). In addition, the older participants were, the more they disapproved of interracial marriage ($\beta = .236, p < .001$) and the more conservative participants were, the more they disapproved ($\beta = .145, p < .001$). On the other hand, the more educated participants were, the less they disapproved of interracial marriage ($\beta = -.141, p < .001$).

Blacks and Whites Can't Be Comfortable. Mirroring the result of the previous analysis, Model 1 revealed that both discrimination and system justification significantly predicted agreement with the idea that Blacks and whites can not really be comfortable with one another. The more participants felt discriminated against the more they agreed with the statement ($\beta = .115, p = .001$; model $R^2 = .047$; $n = 904$) and the more they felt that the system was justified, the more that they agreed with the statement ($\beta = .169, p < .001$).

In Model 2, both discrimination ($\beta = .122, p = .001$; model $R^2 = .109$; $n = 699$) and system justification ($\beta = .117, p = .006$) remained significant positive predictors of agreement, even after the addition of the control variables. In addition, age emerged as a significant positive predictor such that the older participants were, the more they agreed with the statement ($\beta = .160, p < .001$). Finally, both education ($\beta = -.162, p < .001$) and religiosity ($\beta = -.078, p = .043$) emerged as significant negative predictors such that the

more educated participants were, the more they disagreed with the statement and the more religious participants were, the more they disagreed with the statement.

Study 1C

Although Study 1B provided initial support for the hypothesis, the indices were imperfect. As such, Study 1C relied on more precise measures of the constructs of interest to test the hypothesis that people have more homophilous social bonds and ingroup preference to the extent that they perceive the system and institutions bias against their group.

Participants. Participants were recruited through TurkPrime, which allows for targeted recruitment of Mechanical Turk workers based on demographic characteristics; I specifically targeted Black participants. 648 American Mechanical Turk workers were recruited based on TurkPrime's filtering features. Participants took part in the study in exchange for monetary compensation. Of the 648 participants recruited through TurkPrime, 597 self-identified as Black within the survey's demographic questionnaire. Three of these participants completed the study twice; only their first survey was used. As such, the final sample was 594. The sample was composed of 196 males and 396 females (1 participant indicated "other" and 1 participant selected "prefer not to say"). The average age was 36.38 ($SD = 11.94$). About forty-three percent of participants had at least a 4-year college degree. Both the mean and median reported income was reported to be between \$40,000 and \$49,999 ($N = 95$).

Procedure and Measures. After providing informed consent, participants completed demographic information including: gender, age, race, political party, political orientation (1 = extremely liberal to 7 = extremely conservative, $M = 3.23$, $SD = 1.45$), religiosity (1

= not at all religious to 7 = extremely religious; $M = 4.18$, $SD = 2.02$), national pride (e.g. “Overall, how strongly do you agree or disagree with the statement: I am proud to be American;” 1 = strongly disagree to 7 = strongly agree; $M = 5.11$, $SD = 1.63$), highest level of education and income. Additionally, participants were asked to provide information about their zip code; 538 participants provided valid zip codes. Their zip codes were matched to the 2016 American Community Survey, which provided information about the total population ($M = 35,253$, $SD = 19,557$) and the number of Blacks in that zip code ($M = 12,219$, $SD = 14,057$). The number of Blacks was divided from the total population to create an index of *percent of same-race contacts* ($M = 33.86\%$, $SD = 28.00\%$).

In the first phase of the study, participants were asked to complete a variety of different measures, which were ultimately entered as predictors in the model. The presentation of these measures was randomized across participants. Participants completed a measure of *institutional distrust*, in which they were asked to how much they trusted a variety of institutions including: the police, the education system, the court system, the media, banking and loans, the political process (voting and representation) and their place of work. Items were reverse coded such that higher numbers indicate more distrust (recoded such that 1 = complete, 5 = not at all; $\alpha = .87$, $M = 3.44$, $SD = .83$). Participants also completed a 20-item measure of *institutional bias*, adapted from Reisig, Bratton and Gertz (2007), which measured their belief that the named institution was biased against their racial group. Participants rated their agreement with these items on a scale from 1 = strongly disagree to 4 = strongly agree. Participants were asked to complete this scale for each of the following institutions: the justice system, the political

system, the police, and the education system. Although the original scale contained five subscales – procedural justice, distributive fairness, obligation to obey, trust and efficiency – a principal components analysis with varimax rotation revealed a two-factor structure for each of the named institutions (see Table 10 - 13 for full list of items, factor loadings, variance explained and means for each named institution). For each institution, eighteen of the items loaded onto to one factor, that taps how well the institution is functioning for one’s racial group. Specifically, the items are asking if the named institution is doing its job for the members of the participant’s racial group: are members of one’s racial group being treated how one would expect institutions should treat people, with respect, dignity, fairness and efficiency? Given the consistency of factor loadings across the named institutions, I chose to average the eighteen items for each institution across institutions resulting in a single measure of *system functioning* ($\alpha = .90$, $M = 2.08$, $SD = .69$) (see Table 14 for correlations across named institutions); for this scale, higher values indicate better treatment of one’s racial group by institutions.

In contrast, two of the items, which loaded to the second factor, seem to tap how the institution is treating members of one’s racial group in comparison to members of another racial group. These items were written such that higher agreement indicated perceptions of greater mistreatment of one’s racial group relative to other racial groups. I chose to average the two items for each institution across institutions resulting in a single measure of *differential treatment by institutions* ($\alpha = .78$, $M = 2.63$, $SD = .73$) (see Table 15 for correlations across named institutions). For this scale, higher values indicate more differential treatment by institutions.

Participants were also asked to fill out two scales to measure the extent to which they felt or experienced bias based on their social category membership in their day-to-day interactions with others. These measures allowed us to examine the influence of institutional bias above and beyond effects of perceived stigma and expectations of interpersonal discrimination.

The two scales included were measures of Stigma Consciousness (Pinel, 1999) and Rejection Sensitivity-Race (RS-Race; Mendoza-Denton et al., 2002). Sample items for the 10-item measure of Stigma Consciousness include: “When interacting with white people, I feel as though they interpret all of my behaviors in terms of the fact that I am black” and “Stereotypes about black people have not affected me personally” ($\alpha = .80$, $M = 4.80$, $SD = 1.12$). Items were rated on a scale from 1 = strongly disagree to 7 = strongly agree. A sample item for the 12-item RS-Race questionnaire include: “It’s late at night and you are driving down a country road you’re not familiar with. Luckily there is a 24-hour 7-11 just ahead, so you stop there and head up to the counter to ask the young woman for directions.” Participants would be asked how concerned they are that a negative outcome would occur because of their race (e.g. “How concerned or anxious would you be that the young woman would not speak to you because of your race/ethnicity?”; 1 = very unconcerned to 6 = very concerned) and how likely it would be that the other person would reject them because of their race/ethnicity (e.g. “I would expect that the young woman would not speak to me because of my race/ethnicity”; 1 = very unlikely to 7 = very likely). Following Mendoza-Denton et al. (2002), values for this scale were the product of anxiety and expectations ($\alpha = .91$, $M = 13.54$, $SD = 7.80$).

Additionally, participants were asked to fill out an 8-item measure of system justification (e.g. “In general, you find society to be fair”; 1 = strongly disagree to 9 = strongly agree; $\alpha = .82$, $M = 4.07$, $SD = 1.58$). Participants also filled out a 12-item measure of racial identification, the Multigroup Ethnic Identity Measure (Roberts, Phinney, Masse, Chen Roberts & Romero, 1999). This questionnaire included items designed to tap into measures of pride in one’s ethnic group, knowledge and pride in the norms and customs of one’s group and feelings of belonging. Sample items include: “I have spent time trying to figure out more about my ethnic group, such as its history, traditions and customs” and “I feel a strong sense of attachment towards my ethnic group” ($\alpha = .91$, $M = 3.09$, $SD = .57$; 1 = strongly disagree to 4 = strongly agree).

In the second stage of the experiment, participants filled out measures designed to assess their preference for ingroup members. Participants completed an ego-network generator about their peer social networks (Davis, Smith & Marsden, 1998; Shea & Fitzsimons, 2016). Specifically, participants were given the following set of instructions: “From time to time, people face problems and need to seek out help and advice from others. Some common problems that people face are time management, dating and relationships, peer pressure, anxiety and worry about the future, finding a job, taking care of their families. Below, please write down the first name and last initial of people who you would approach to attain advice and support with regards to a problem you might face. These people can be friends, co-workers, acquaintances, etc.” Participants were provided with space to list up to five contacts ($M = 3.99$, $SD = 1.67$). After completing this task, participants were asked for demographic information about each of these contacts (e.g. gender, race, age). The proportion of same-race social contact was

calculated by dividing the number of same-race social contacts named from the total amount of social contacts named ($M = .71$, $SD = .31$). Participants were also asked the relationships between these contacts (1 = *do not know each other*, 2 = *Acquaintances*, 3 = *Connected*). The density of the social network was calculated by first dichotomizing this variable such that 0 represented no relationship and 1 represented acquaintances and connected. The density of the social network was calculated as the sum of reported interconnections amongst the ties in a network divided by the total possible number of interconnections in a network (Shea & Fitzsimons, 2016). For example, if a participant reported that he had five social contacts and three of them were friends with one another, the density of the network would be reported to be .30; higher numbers represent more dense networks ($M = .55$, $SD = .37$)⁵.

Participants were also asked to fill out two measures of affiliative preference (Packer & Kugler, in prep). In the first of these measures, participants indicated how much contact they would like to have with people of other races/ethnicities in cooperative contexts. For example, they were asked to rate on a scale of 1 = none at all to 6 = a great

⁵ Analyses performed on the network density variable could allow for some preliminary explorations of how institutional trust and institutional bias impact reliance on another form of trust production: reputation. More dense networks have more ties within the network and have more reputational information flow within the network as well (Shea & Fitzsimon, 2016). In contrast, less dense networks have fewer interconnections within the network; as a function of this, reputational information is typically less known within the network. It may be the case that when institutions are deemed to be biased and untrustworthy, people tend to have more dense networks. Conversely, when institutions are trusted, individuals can potentially have less dense networks, as they need not rely on reputational information as much.

None of the predictors in Model 1 were significant (all p 's > .17; model $R^2 = .016$; $n = 519$). The addition of the interpersonal discrimination controls in Model 2 revealed a significant effect of rejection sensitivity ($\beta = .099$, $p = .034$; model $R^2 = .025$; $n = 519$); the higher participants were in rejection sensitivity, the more dense their networks. The effect of rejection sensitivity became marginally significant in Model 3, with the addition of control variables ($\beta = .098$, $p = .053$; model $R^2 = .042$; $n = 460$). In addition, there were trending effects of both religiosity and national identification such that the more religious participants were, the more dense their networks ($\beta = .093$, $p = .070$) and the higher their national identity, the less dense their networks ($\beta = -.095$, $p = .083$)

deal how much contact they wish to have with different-race neighbors, colleagues, etc. Responses were recoded such that higher numbers indicated less contact with opposite race individuals, e.g. more ingroup preference. These items formed a scale of *affiliative preference – contact* ($\alpha = .94$, $M = 2.32$, $SD = 1.22$). In the second of these measures, participants were asked to indicate how comfortable they are with intergroup contact by indicating the extent to which they would be comfortable with different race accountants, lawyers, doctors, etc. These items were averaged to form an index of *affiliative preference - comfort* (answers were recoded such that 1 = very to 6 = not at all; $\alpha = .97$, $M = 2.44$, $SD = 1.47$).

Results

Analytic Strategy

Mirroring the analytic strategy of Study 1B, a series of linear regression analyses were conducted to examine the relationship between institutional bias and ingroup affiliative preference. Ingroup affiliative preference was operationalized with three different outcome variables: proportion of black social contacts named, affiliative preference – contact and affiliative preference comfort.

For each of the outcome variables, three regression analyses were conducted. As the goal of the study was to examine the effect of perceptions of institutions on preference for ingroup members, in Model 1, the primary predictors of interest – institutional distrust, differential treatment by institutions, system functioning, system justification – were entered into the model. In Model 2, stigma consciousness and rejection sensitivity were added to examine the effect of perceptions of institution and institution-level bias from concerns about interpersonal bias (see Tables 16 and 17 for

correlations between predictors). Finally, in Model 3, a number of control variables were added: age, gender, political orientation, education, religiosity, national identification, family income, ethnic identification and percent of same-race people in zip code. Similar to the logic of Model 2 in Study 1 and 2, the inclusion of demographic controls in Study 3 allowed for inferences to be made about the role of the psychological constructs of interest independently of the demographic contributors to ingroup preference. The sample for each analyses varied as a function of missing data (see Appendix A for analyses on imputed data). Full results for each of the dependent variables are available in Table 18.

Proportion of Same-Race Social Contacts. Results of Model 1 indicated that none of the hypothesized predictors significantly predicted proportion of same-race social contacts (all p 's > .18, model $R^2 = .004$; $n = 541$). The addition of the two interpersonal bias control variables – stigma consciousness and rejection sensitivity – revealed a significant predictor. Participants who reported more stigma consciousness had a higher proportion of same-race social contacts, $\beta = .122$, $p = .026$; model $R^2 = .016$; $n = 541$. Rejection sensitivity was not significant, $p > .54$.

Even with the addition of demographic controls in Model 3, stigma consciousness remained a significant positive predictor, $\beta = .118$, $p = .036$; model $R^2 = .167$; $n = 480$. In addition, several demographic characteristics significantly predicted proportion of same-race social contacts. The older respondents were, the higher their proportion of same-race social contacts ($\beta = .112$, $p = .011$). Additionally, the more religious participants were, the higher their proportion of same-race social contacts ($\beta = .135$, $p = .003$). The stronger participants' ethnic identification, the more same-race social contacts they

reported ($\beta = .063, p = .011$). Finally, percent of same-race in zip code was also revealed to be a significant predictor ($\beta = .260, p < .001$), such that the more same-race individuals were in one's zip code, the higher the proportion of same-race social contacts.

Affiliative Preference – Contact. Model 1 revealed that, in line with hypotheses, distrust in institutions was significantly related to preference for ingroup contact, $\beta = .197, p < .001$; model $R^2 = .023$; $n = 592$. The more participants distrusted institutions, the more they preferred contact with same race individuals. System justification also emerged as a significant predictor ($\beta = .117, p = .035$) indicating that the more participants believed the system was just, the more they preferred contact with same race individuals. Contrary to hypotheses, differential treatment by institutions did not emerge as a significant predictor, $p > .49$. Similarly, system functioning did not significantly predict preference for contact with same-race individuals.

In Model 2, distrust in institutions ($\beta = .190, p < .001$) and system justification ($\beta = .131, p = .027$; model $R^2 = .0256$; $n = 592$) once again emerged as significant predictors, even after entering the concerns about interpersonal bias control variables. The more participants distrusted institutions and the more participants believed the system was just, the more that they preferred contact with same-race individuals. The differential treatment by institutions, system functioning, and the additions to Model 2 – stigma consciousness and rejection sensitivity – did not emerge as significant predictors (all p 's $> .32$).

In Model 3, distrust in institutions ($\beta = .143, p = .019$) and system justification ($\beta = .205, p < .001$; model $R^2 = .110$; $n = 525$) once again emerged as significant positive predictors, even after entering the control variables. In addition, the stronger

participants' national identification, the less preference they had for same-race contacts ($\beta = -.221, p < .001$). Percent of same-race in zip code also significantly predicted preference, such that the higher the percentage of blacks in one's zip code, the more participants preferred same-race contacts ($\beta = .117, p = .006$)

Affiliative Preference – Comfort. Mirroring the results of the above analysis, Model 1 revealed that distrust in institutions positively predicted comfort with same-race individuals ($\beta = .209, p < .001$; model $R^2 = .028$; $n = 591$); the more respondents distrusted institutions, the more comfortable they felt with same-race individuals. No other predictors were significant (all p 's $> .43$).

Distrust in institutions remained a significant positive predictor in Model 2, even with the addition of the interpersonal discrimination controls ($\beta = .195, p < .001$; model $R^2 = .045$; $n = 591$). In addition, rejection sensitivity predicted comfort with ingroup contact, such that more anxious participants were about being rejected because of their race and the more they expected to be rejected because of their race, the more comfortable they were with same-race individuals ($\beta = .137, p = .001$).

Although the effect of distrust in institutions remained in the predicted direction, the predictor became marginal in Model 3, with the addition of demographic control variables ($\beta = .109, p = .078$; model $R^2 = .079$; $n = 514$). Rejection sensitivity remained a significant positive predictor, ($\beta = .145, p = .002$). Additionally, mirroring the results of the analysis for affiliative preference – contact, national identification significantly predicted comfort; the higher participants' level of national identification, the less discomfort they had with interracial contact ($\beta = -.135, p = .007$).

Mediation. The results of the regression analyses suggest that concerns about interpersonal discrimination (e.g. rejection sensitivity and stigma consciousness) predict the homogeneity of participants' social networks as well as their comfort with same-race individuals. Results of this study also indicate that participant's distrust of social institutions positively predicts their preference for contact with same-race individuals. This finding is line with hypotheses: the more people distrust institutions the more likely they are to demonstrate affiliative preference. However, this work is premised on the idea bias in institutions leads people to distrust institutions, which in turn leads them to prefer affiliating with ingroup members. In the reported regression analyses, whereas trust predicted preferential affiliation, the two indices measuring perceptions of institutions (differential trust in institutions and system functioning) did not. However, it may have been that as distrust is the more proximal predictor and it shares variance with perceptions of institutions, perceptions of institutions may have been obscured in these analyses. Although differential treatment by institutions was no significantly correlated to distrust in institutions ($r(593) = -.05, p < .001$), system functioning was significantly negatively correlated with distrust in institutions, $r(593) = -.66, p > .19$. Based on this I conducted a mediation analysis.

In the mediation analysis model, X (system functioning) affects predicted the mediator (distrust in institutions), which in turn predicted preference for contact with same-race individuals. As shown in Figure 1, results supported the hypothesized model. Specifically, I found that perceptions of system functioning were negatively related to distrust in institutions, which, in turn, was positively related to preference for contact with same-race individuals. There was a significant indirect effect, $b = -.19, SD = .07$,

95% CI = -.32, -.04. In short, the less participants believed that institutions were functioning the more they distrusted those institutions and the more they distrusted those institutions, the more they preferred contact with racial ingroup members.

Interim Discussion

Studies 1A, 1B and 1C all used a survey design to provide preliminary correlational tests of the hypothesis that perceptions of institutional bias are positively related to preference for ingroup members amongst minorities. In Study 1A, I utilized the 1985 General Social Survey which provided a measure of social-network composition. Results indicated that the higher participants scored on the scale of modern racism, the more they were opposed racial intermarriage, the more they stereotyped members of their own group and the more opposed they were to busing Black and white schoolchildren to different districts. Importantly, analyses of this dataset did not reveal any significant effects of perceptions of institutional bias on the main outcome of interest: proportion of same-race social contacts. However, this 30-year-old dataset contained a limited sample of Black respondents ($N = 152$) and imperfect indices.

Taken together, the results of Studies 1B and 1C provide evidence in favor of the hypothesis. Specifically, Study 1B found that the more Black respondents believed that the system was biased against their racial group, the more the homogenous their social networks – as measured by homogeneity of their friend group and their place of worship. In addition, Study 1B revealed a significant effect of perceptions of racial bias on attitudinal measures of ingroup preference; the more Black respondents perceived the system to be biased, the more they preferred same-race political leaders and the more they believed that Blacks and whites could not be comfortable with one another.

Importantly, both the social network and attitudinal effects held even accounting for known psychological contributors to ingroup preference like strength of group identification, and demographic contributors, including measures of geographical homogeneity. Drawing upon a sample of all Black respondents, Study 1C found that institutional distrust positively predicted preference for contact with same-race individuals, even after controlling for concerns about interpersonal bias and demographics. Importantly, I also found evidence of a full mediation such that the participants' perceptions of system functioning were related to their preference for ingroup social contact by way of their distrust in institutions. Put differently, the more respondents' believed that institutions were not functioning for members of their social group, the more they distrusted those institutions which, in turn, positively predicted their preference for ingroup social contact.

Interestingly, Study 1C also found that respondents' stigma consciousness positively predicted the homogeneity of their social network, while their sensitivity to social rejection because of their race positively predicted their comfort with same-race individuals. These results mirror previous work, which has found that minority group members tend to prefer same-race individuals to the extent to which they recognize that their racial identity is negatively stigmatized and that there is a likelihood of being rejected because of their racial identity (Branscombe, Schmitt & Harvey, 1999). Social interactions with ingroup members are less likely to be colored by the same dynamics of stereotypes as concerns about discrimination less likely to be present in social interactions with same-race individuals than different-race individuals. It makes sense that the extent to which a respondent feels concerned about these sorts of dynamics

would positively predict the extent to their comfort and preference for interactions with people of the same race.

Within the framework of the present research, these results add an important distinction to how concerns about institutional bias and interpersonal bias differentially play into preferences about same-race social interactions, depending on the nature of those interactions. Participants were given three different measures of their preference regarding ingroup preference. When participants were asked to name social contacts they would turn to for social support, their awareness of having a stigmatized identity took center stage. When participants were asked about their comfort with interracial interactions, their concerns about being rejected as a function of their race emerged as a positive predictor. Finally, when participants were asked about contact with other-race individuals in cooperative contexts, their perceptions of system functioning was important by way of their trust of those institutions. These results suggest that the specific nature of a potential interaction plays an important role in which group identity relevant psychological constructs are most relevant to that interaction.

There is some past research supporting this idea. Shea and Fitzsimons (2016) found that the pursuit of interpersonal goals (e.g. affiliation goals) and individual goals (e.g. personal advancement) differentially affects the cognitive representation of an individual's social network. The researchers argue that personal advancement goals should lead people to construe others in terms of what resources they have that can help them pursue their goals; as such, social contacts who are more diverse in terms of information and skills are more goal relevant: they should activate sparser networks (see also Burt, 1992; Seibert et al., 2001). Conversely, when people pursue affiliation goals

they tend to activate familiar, local others, resulting in a denser social network.

Supporting these hypotheses, results of their study indicate that those with strong career goals tended to activate less dense networks relative to those who pursued affiliation goals.

Results of the present work suggest that in addition to the goals of the individual, the nature of the interaction influences the understanding and preference of one's social contacts and social networks. One way to frame the results of the present work is by using Fiske's (1991) models of social relationships. Fiske argues that people use four different types of models as guides in their social relationships. One of these models is communal sharing, which is a type of relationship in which the group, as a whole, takes on responsibilities and efforts at overcoming difficulties are communal, not individual. This model of social relationship is likely the one that participants thought of when they were asked to name social contacts they would turn to for social and emotional support. The present work suggests that people may choose to enter in communal sharing relationships with those with the same group identity because of concerns about interpersonal discrimination and being negatively stereotyped. Conversely, perhaps participants' understood the measure of affiliative contact from the lens of a market-pricing relational model. According to Fiske (1991), market-pricing refers to a model of social relationship in which exchange relationships dominate; individuals use others as a way to access and exchange resources. The social contacts that were named in this measure (e.g. accountant, lawyer, dentist, real estate agent, etc.) are likely to be ones participants think of as having market-pricing relationships with; these are individuals who provide a service to participants in exchange for money. Results of the present work

suggest that the extent to which participants prefer contact with same-race individuals in these types of relationships is contingent on their perceptions of system functioning and their trust of institutions.

It is important to recognize that trust is important in both types of relationships. What the results of this study suggest that the preferred mode of trust production may differ as a function of the type of relationship. Group-based or process-based trust production may be more likely to be utilized in communal-sharing relationships because those relationships tend to be long-lasting and the psychological investment in those relationships tend to be higher; there tends to be a high degree of interdependence in these relationships. As Fiske (1991) writes, communal-sharing relationships are characterized by “unity, solidarity and wholeness of the community” (p. 9), meaning that people’s individual identities tend to merge. Concerns about how one is likely to be perceived as a function of their group identity may be very important here because people in these types of relationships tend to be treated as a bounded pair; what happens to one affects and reflects on the other. The shared history of one’s racial identity, and its associated stereotypes and stigmatization, can be an important foundation of such a relationship.

Conversely, market-pricing relationships are less likely to be organized around a common identity and more likely to be organized around an explicit expectation that resources will be exchanged for services (Haslam & Fiske, 1999). These types of relationships can be long-term but they do not necessarily need to be. In these types of relationships, people retain their individual identities and their relationship is more defined by how resources are to be divided and exchanged. As discussed, institutions

play an important role in insuring that resources are divided up fairly and that resources are exchanged properly. As such, people's perceptions of system functioning and their trust of institutions may play a more central role as these types of relationships.

One important point to note about Studies 1B and 1C is that they both relied on a survey-type measures which means that no true inferences about the causal relationship between institutional bias, institutional trust and preference for ingroup members can be made. Instead these studies simply indicate that there is positive relationship between institutional bias and ingroup affiliative preference, such that the more one increases, the more the other increases. This raises interesting possibilities with regards to the causal relationship between these two constructs. In the present research, I tended to understand the directionality in a particular way: disadvantaged group members perceive institutional bias, which leads them to associate more with their ingroup members. However, it may be the case that affiliating with disadvantaged, ingroup members increases perceptions of institutional bias. This is a particularly interesting possibility given the results of analyses on White respondents in Study 1B. To reiterate those results, analyses indicated that White respondents' reported distrust in institutions was negatively related to the homogeneity of their friend group, indicating that Whites distrusted institutions more when they had more diverse friend groups. Although this effect became non-significant with the addition of the demographic controls in Model 2, it indicates that, perhaps, being friends with disadvantaged individuals can actually lead people to be more aware of bias present in institutions (see work on consciousness-raising by Wright, Taylor & Moghaddam, 1990). In this way, the causal relationship may be that association with fellow disadvantaged group members leads to greater perceptions of institutional bias and

institutional distrust. Furthermore, reflecting the work by Yeager and colleagues (2017) discussed in the introduction, this process can be iterative. It may be the case that associating with disadvantaged group members leads to an increased perception of institutional bias, which in turn leads to an increased preference for disadvantaged group members and so on and so forth. Both of these present interesting and important directions for future work.

An additional question raised by the results of Study 1B and 1C is the relationship between system justification and preference for ingroup members. Contrary to previous work on system justification (see Jost 2001; Jost & Burgess, 2000; Jost, Pelham & Carvallo, 2002) which finds a negative relationship between system justification and preference for ingroup members amongst disadvantaged group members, the results of these two studies indicated that the more minority respondents endorsed system-justifying ideologies, the more they preferred ingroup members. Specifically, Study 1B found a positive relationship between system justification and agreement with the statement “Blacks and Whites can’t be comfortable” among Black respondents and Study 1C found a positive relationship between system justification and preference for contact with ingroup members. One possible explanation for this is by pointing to a key argument of SJT: disadvantaged group members are motivated to *justify and perpetuate* the existing status quo (Jost, Banaji & Nosek, 2004). Given that the status quo is that minorities associate with their fellow minorities, it may be the case that those who system justify are associating with ingroup members in order to adhere to the existing social arrangement. Indeed, Jost and colleagues (2004) write: “social pressures to express ingroup favoritism would be even more prevalent in groups that have traditionally been

targets of discrimination and prejudice” (p. 893). However, given that the results of the present work seem to contradict previous work on system justification theory, this remains an open question.

Study 2

Taken together, Study 1B and Study 1C provided some evidence supporting the hypothesized relationship between institutional bias and preference for homophilous social contacts. However, as these studies utilized archival data and survey-type data, no causal connections between the institutional bias and ingroup preference can be inferred. As such, the goal of Study 2 was to experimentally examine the impact of institutional bias on social contact selection, testing the prediction that institutional bias leads to an increased reliance on characteristic based trust and a preference for ingroup members because ingroup members offer the highest probability of successful interactions. Study 2 utilized a minimal group partner selection task (Packer & Ungson, in prep), in which participants chose partners for a series of one-shot trust games from an array of ingroup and outgroup potential partners. Because minimal groups are novel and arbitrary, these identities do not come saddled with a history and pre-existing stereotypes, which makes them an ideal way to test the hypothesis that institutional bias leads to preferential association with ingroup members, over and above stereotypes about particular groups, historical context and conflict, etc. The rules of the trust game varied as a function of condition such that participants were told that they would be playing the games in the presence of a third-party who would punish all unfair behavior (e.g. a fair institution) or be playing the games in the presence of a third-party who would punish behavior of their group more than the other (e.g. an unfair institution). Partners then played the trust

games with their selected partners. The proportion of ingroup partners chosen served as the primary dependent measure and the behavior during the trust games (e.g. the amount invested) served as a secondary dependent measure. I predicted that individuals would choose more ingroup members and be more trusting of ingroup members when institutions were biased against their group.

This experimental design allowed for a more precise understanding of what might driving disadvantaged group members towards selectively associating with ingroup members. Jost, Banaji and Nosek (2004) suggest that system-level and interpersonal-level bias often serve to reinforce each other to legitimize the position of disadvantaged individuals; in other words, institutional bias and stigmatized identity often go hand-in-hand such that there is often a ‘fit’ between groups which are the subject of institutional bias and groups which are stigmatized on an interpersonal-level. As such, both concerns about the interpersonal-level (e.g. discrimination) and the system-level (e.g. institutional bias) can work in concert to influence choices in social contact selection because both can serve as powerful incentives to affiliate selectively with ingroup members.

To examine the influence of system-level institutional bias independently from the influence of interpersonal stigmatization, I manipulated whether participants were told if their partner had access to their group identity or not (meaning that the participant’s identity will remain anonymous). This manipulation has been used by Yamagishi and Kiyonari (2000), to examine if preference for ingroup members during trust-based interactions is the result of liking or trust. The researchers argued that if people preferred ingroup members as partners when those partners did not know they shared a group identity, then that preference was due to liking; conversely, if people only

preferred ingroup members when they were aware of shared group identity, then that preference is based more in trust, meaning the expectation that the interaction will be more successful given common knowledge of a shared group identity. Within the present study, the manipulation of knowledge of group identity would serve to disentangle the influence of a stigmatized group identity (known to increase homophilous bond formation) and the influence of institutional bias (hypothesized to increase homophilous bond formation).

Following Yamagishi and Kiyonari (2000) I hypothesized that participants would select more ingroup members than outgroup members when knowledge of group identity was available relative to when knowledge of group identity was unavailable.

Additionally, based on the premise of this work, I hypothesize that participants would select more ingroup members than outgroup members when in the presence of a biased institution condition relative to a fair institution or no institution. I also hypothesize an interactive effect such that the difference between how many ingroup partners are selected when the knowledge of group identity is available compared to when knowledge of group identity is unavailable is greater when there is a biased institution compared to when there is a fair institution. This hypothesis is based in the idea that group identity will become even more relevant when in the presence of a biased institution relative to when in the presence of a fair institution – when in the presence of a fair institution there should be no strong need to rely upon group identity to insure trustworthy behavior; however, when in the presence of a biased institution, there is a strong need to associate with trustworthy others e.g. those who share one's group identity.

Methods

Participants. A power analysis was performed using G*Power; I aimed for 95% power to detect a small-to-medium effect size of 0.2 in a 2-between condition x 3-within condition repeated design. This required an overall sample size of 294. In order to obtain this sample, I recruited participants from two different sources; no major analyses were conducted until the full sample was recruited. 129 Lehigh undergraduate students participated in exchange for partial course credit (73 females, 56 males; 90 Whites; Average Age = 18.9). An additional 186 Mechanical Turk workers were recruited (84 females, 64 males; 112 Whites) and completed the study in exchange for \$.30⁶. No major significant differences emerged between the two samples; as such all analyses collapsed between the two samples.

Procedure. At the beginning of the study, all participants were ostensibly randomly assigned to a novel group (the Yellow Team) and told that they would be part of this group for the duration of the study and that they might potentially interact with either members of their team or another team (the Blue Team).

All participants were then provided with instructions of a standard trust game in which Player A is able to send some amount of money to Player B. Whatever money is sent to Player B is multiplied by three and then added to Player B's total. For example, if Player A chooses to send \$1, that dollar is multiplied by three and Player B is given \$3. As a result, Player B would have \$4. Whatever money is not sent to Player B will remain in Player A's possession for the entirety of the game. Player B then decides how much

⁶ Due to experimenter error, demographic information was not collected for this study. Demographic information for the Lehigh undergraduate participants was culled from a separate survey conducted earlier in the semester. Although data was collected from 129 Lehigh undergraduate participants, data from one participant was never recorded by Qualtrics. Demographic information for the Mechanical Turk workers was culled from TurkPrime.

money to keep for themselves and how much money they want to send back to Player A. All participants were assigned to the role of Player A for the duration of the experiment.

Participants were then told that the game would be monitored by a third-party observer, known as the Monitor, which functioned as a manifestation of an institution in this experimental paradigm. In order to capture the sense that the Monitor is an institution, the following description was provided to participants: "This symbol represents another player, the Monitor, who will observe the moves made by you and Player B. The Monitor has been assigned by the Committee of Academic Experimenters at Lehigh University and is not associated with either the Blue Team or the Yellow Team. As a representative of the Committee of Academic Experimenters, the monitor is acting on their behalf and his/her actions are based on the Committee's guidelines." Lehigh undergraduate participants and Mechanical Turk workers were given the same description. The exact behavior of the Monitor varied as a function of experimental condition that participants were randomly assigned to (e.g. fair institution condition, biased institution condition). Participants in the *fair institution condition* ($N = 103$) were told: "If Player B acts unfairly and sends an unfair amount back to you, the Monitor has been instructed to remove most of that Player B's points as a type of punishment. These points will disappear and nobody will get them. Importantly, however, each Player B knows that the Monitor is there and is watching their behavior." Participants in the *biased institution condition* ($N = 104$) were told: "The Monitor has been instructed to take away earnings of 30% of the Yellow team and 5% of the Blue team, if members of those teams act unfairly. These points will disappear and nobody will get them. Importantly, however, each Player B knows that the Monitor is there and is watching

their behavior.⁷ Additionally, there was also a *no institution present* ($N = 107$) condition, in which participants are given no information about the Monitor; this condition functioned as the control condition.

After receiving instructions for this game and taking a short quiz to ensure their understanding of the game, participants were then introduced to the partner selection paradigm. They were presented with a screen that allowed them to choose Player B. The screen had an array of 24 solid colored boxes on it to indicate potential ingroup and outgroup partners. Importantly, 18 of these interaction partners were members of the outgroup (represented by a blue square) and 6 were members of the ingroup (represented by a yellow square). In this way, the ingroup was also a minority group. No other personal information was given about the potential interaction partners besides their group identity.

Importantly, participants received the array twice. In the *knowledge of group identity present* condition, participants were told that they and their partners would be aware of each other's group memberships. In the *knowledge of group identity not available* condition, participants were told that, although they would be aware of their partner's group identity, their partner would be unaware of their group identity. The order of the two conditions was randomized⁸. Participants were asked to select six game partners from each of the arrays; all participants chose six partners from each of the

⁷ Pilot testing revealed that when the Monitor (called Player C in the pilot) behaved this way, participants believed that the Monitor was significantly more unfair than in the fair institution condition. Furthermore, participants were more likely to agree with the statement "[Player C] seems to be treating the Yellow Team differently than the Blue Team," in the biased institution condition relative to the fair institution condition. These results replicated when the same questions were asked of participants at the end of this study. Taken together, these results indicate that the biased institution was considered to be significantly more biased than the fair institution.

⁸ The order of presentation did not exert a significant effect on the number of ingroup partners chosen ($p > .33$).

arrays. The number of ingroup members chosen functioned as the primary dependent variable.

Participants were then given the opportunity to play the trust game with each of their selected partners. Participants were told that they could send any amount from \$0 to \$5 to their partners (hypothesized), in increments of \$1 ($M = \2.68, $SD = 1.51$). The amount that participants choose to send to their partners served as the secondary dependent variable. Participants played a total of twelve trust games. These trust games were divided into two sets of six; one set of six was with partners they identified in the knowledge of group identity present condition and the other set of six was with partners they identified in the knowledge of group identity not available condition. The order of the presentation of each of the sets was randomized⁹.

After playing both sets of trust games with their selected partners, participants filled out two different scales. The first of these scales consisted of nine items measuring participants' strength and identification with their group (e.g. "I can trust members of my team more than members of the other team" and "I feel strong ties with members of my team"; 1 = strongly disagree to 6 = strongly agree; $M = 3.94$; $SD = 1.16$; $\alpha = .95$). The second of the scales consisted of five items measured generalized trust (e.g. "Most people can be trusted"; 1 = strongly disagree to 6 = strongly agree; $M = 4.06$; $SD = .74$; $\alpha = .67$)¹⁰.

Results

Number of Ingroup Partners Selected. In order to test the primary hypothesis that people would be more likely to associate with ingroup members under conditions of institutional

⁹ The order of presentation did not exert a significant effect on the amount of money sent to partners ($p > .34$).

¹⁰ Neither identification with group nor general trust differed by institution condition, both p 's $> .49$.

bias, I conducted a 3-between subject (institution: biased, fair, not present) x 2-within subject (knowledge of group identity: available, not available) repeated measures ANOVA on the number of ingroup partners selected. Results of this ANOVA showed a significant effect of knowledge of group identity condition, $F(1, 311) = 22.642, p < .001$. Replicating the results of Yamagishi and Kiyonari (2000), participants selected more ingroup partners when their partners had knowledge of their shared group identity ($M = 4.05, SD = 2.12$) than when participants did not have knowledge of their shared group identity ($M = 3.51, SD = 2.10$). The main effect of institution condition was not significant, $F(2, 311) = 1.443, p > .2$. The interaction between the knowledge of group identity condition and the institution condition was also not significant, $F(2, 311) = 1.376, p > .25$.

Despite the overall lack of significance for the main effect of institutions, I proceeded to conduct simple effects analyses within the institution condition. Results of these simple effects analyses revealed a marginal difference in the number of ingroup members selected between the biased institution condition and the fair institution condition, $p = .09$. Collapsing across both the aware and unaware of group identity arrays, participants in the biased institution condition selected an average of 3.99 ingroup partners ($SD = 1.97$), while participants in the fair institution condition selected an average of 3.55 ingroup partners ($SD = 1.85$); no other simple effects approached significance (all p 's $> .35$). Although this simple effect is marginal, it provides partial support for the hypothesis that people associate more with ingroup members under conditions of institutional bias.

In addition, I conducted simple effects test within the knowledge of group identity available condition, $F(2, 311) = 1.653, p = .19$ (see Table 19 and Figure 2 for graph and means). Results of this simple effects tests within the knowledge of group identity available condition indicated that participants selected fewer ingroup partners in the fair institution condition relative to the biased institution condition ($p = .11$) and the fair institution relative to the no institution condition; there were no significant differences between the biased institution and no institution conditions, $p > .9$. Simple effects tests within the knowledge of group identity unavailable condition revealed a pattern such that participants selected more ingroup members in the biased institution condition relative to the fair institution condition ($p = .17$) and the no institution present condition ($p = .19$), $F(2, 311) = 1.199, p = .30$. There were no significant differences between the fair institution and the no institution present conditions within the knowledge of group identity unavailable condition, $p > .93$. The pattern of these results suggests that participants may be more willing to connect with outgroup members who are aware of their identity in the presence of fair institution. Conversely, when potential partners are unaware of their group identity and institutions are biased, participants demonstrated affiliative preference.

*Total amount of Money Sent to Partners.*¹¹ In order to examine how the institution condition and the knowledge of group identity condition affected the amount of money sent to ingroup and outgroup partners, I created a composite variable, which represented the total amount of money sent to ingroup partners and outgroup partners. The total amount of money sent to each group was calculated by summing the amount of money

¹¹ One participant did not complete any of the games, making the sample size for analyses examining behavior during game play $N = 313$.

sent to ingroup partners and summing the amount of money sent to outgroup partners. Within the aware of group identity condition, 34 participants (10.8%) did not choose ingroup partners and 147 (46.8%) did not choose outgroup partners. Within the unaware of group identity condition, 36 participants (11.5%) did not choose ingroup partners and 106 participants (33.8%) did not choose outgroup partners. For these participants, the total amount sent was entered as \$0. Treating the variable in this manner allowed me to use the full sample in this analysis.

Based on this, I conducted a 3-between subject (institution: biased, fair, not present) x 2-within subject (knowledge of group identity: available, not available) x 2-within (partner group: ingroup, outgroup) repeated measures ANOVA on the total amount of money sent to partners (see Tables 20 and 21 and Figures 4 and 5 for means and standard deviations). Results of this analysis revealed a main effect of the knowledge of group identity available condition, $F(1, 310) = 6.781, p = .01$, such that participants in the knowledge of group identity available condition sent more money to their partners relative to the partners in the group identity unavailable condition. Additionally, there was a main effect of partner group, $F(1, 310) = 76.613, p < .001$, such that participants sent more money to ingroup partners relative to outgroup partners. Both of these main effects were qualified by a significant interaction, $F(1, 310) = 20.235, p < .001$. Simple effects tests revealed that within both the aware and unaware of group identity conditions, participants sent more money to ingroup partners relative to outgroup partners (both p 's $< .001$). Replicating the findings of Yamagishi and Kiyonari (2000), these analyses indicate that participants sent significantly more money to ingroup partners in the knowledge of group identity available condition compared to the

knowledge of group identity unavailable condition ($p < .001$); for outgroup partners there was a reversal of this pattern such that participants sent more money to outgroup partners in the knowledge of group identity unavailable condition relative to the knowledge of group identity available condition ($p = .001$) (see Figure 3).

The main effect of institution condition was not significant, $F(2, 310) = 1.839, p > .16$. Despite this lack of significance, I conducted simple effects tests between each of the institution conditions. Results of this analysis revealed a marginally significant difference between the fair institution and the no institution condition, such that participants sent more money to their partners in the fair institution condition relative to the no institution condition, $p = .065$. No other simple effects approached significance, all p 's $> .17$. Neither of the two-way interactions between knowledge of group identity and institution condition or partner group and institution condition approached significance, both p 's $> .6$. Similarly, the three-way interaction between institution condition, knowledge of group identity and partner group was not significant, $F(2, 310) = .955, p > .38$.

Exploratory Correlations. In order to explore any possible differences between the institution conditions in the relationship between the average number of partners chosen (collapsing across both the knowledge of group identity conditions) and group identification and perceptions of bias, exploratory correlations were conducted. Results of these analyses indicated that there was a significant positive correlation between the degree to which participants identified with their ingroup and the average amount of ingroup partners chosen within both the biased institution condition ($r(103) = .22, p =$

.03) and the fair institution condition ($r(103) = .22, p = .03$). This relationship was not significant in the no institution condition ($r(107) = .139, p = .15$).

Interestingly, perceptions of the Monitor's fairness did not significantly relate to average number of ingroup partners chosen in either the biased or fair institution conditions, both p 's $> .11$.

Study 3

The insignificant pattern of results for Study 2 provided partial support for the hypothesis: on average, participants selected more ingroup partners for a trust game when in the presence of a biased institution relative to a fair institution. The goal of Study 3 was to continue to test the hypothesis that people displayed more ingroup affiliative preference when in the presence of biased institution than when in the presence of a fair institution and also to examine the consequences of this ingroup preference. Specifically, the question underlying Study 3 was: does the presence of a biased institution prevent disadvantaged, minority group members from pursuing incentives in an optimal way? As discussed more fully in the introduction, institutional bias can limit minorities' access to not only to the protections offered by institutions but also to the opportunities, influence and other resources, which institutions provide to the advantaged, majority group. Furthermore, if institutional bias leads disadvantaged group members to form more homophilous social networks, then they will be unable to access those resources and privileges via their social network (Lin, Dayton & Greenwald, 1978). Based on this, I predicted that the presence of institutional bias will not only increase preference for ingroup members, but will also decrease the amount of resources they accumulate.

In order to test this hypothesis, I used the same general premise as Study 2. Participants were all assigned to a minimal group and were given the opportunity to select partners to play a series of trust games with. As in Study 2, participants were told that a biased institution, a fair institution or no institution would monitor the game. Following the general premise of this work, I predicted that overall would prefer ingroup members more in the biased institution condition relative to the fair institution and no institution conditions. In addition to this manipulation of institutional bias, I included manipulation of *incentives* or resources available by associating with ingroup or outgroup members. In the constant multiplier condition, the potential resources gained through association with ingroup members was equal to the potential resources gained through association with outgroup members. In the variable multiplier condition, the potential resources to be gained through association with ingroup members was *lower* than the potential resources to be gained through association with outgroup members. I hypothesized a main effect of the multiplier condition such that participants would prefer ingroup members less in the variable multiplier condition than the constant multiplier condition because ingroup members provided less resources in the variable multiplier condition. In addition, I predicted an interactive effect such that within the fair institution condition, participants would prefer ingroup members less in the variable multiplier condition than the constant multiplier condition, but in the biased institution condition the difference in preference for ingroup partners between the constant and variable multiplier conditions would be smaller.

Methods

Participants. 346 participants were recruited from Amazon's Mechanical Turk (197 Females; Mean Age = 36.37, $SD = 12.11$; 81.2% White). Participants agreed to participate in the study in exchange for \$.30. Of those 346 participants, 40 participants failed the manipulation check (e.g. True or False: On the screens when you selected partners, there were more Blue team members than Yellow team members), leaving a final sample of 300 (174 Females; Mean Age = 35.98, $SD = 12.09$; 80.3% White). The rate of case deletion did not differ as a function of condition $\chi^2(2) = 3.18, p = .20$.

Procedure. Study 3 used the same basic premise as Study 2. All participants were ostensibly randomly assigned to a minimal group (the Yellow Group) and were presented with instructions for a trust game, in which they could send some amount of money to their partner (Player B); whatever amount of money was sent would be multiplied by a particular amount. Player B then would choose how much to send back to them. Participants were given the same description of the institution ("the Monitor") as in Study 2. Furthermore, as in Study 2, the instructions for the trust game varied as a function of institution condition: *biased institution* ($N = 96$), *fair institution* ($N = 96$) or *institution not present* ($N = 108$).¹²

Like Study 2, participants were then presented with an array of 24 squares, which were colored yellow and blue to represent six ingroup and eighteen outgroup potential partners for game play, respectively. Participants selected six partners from the screen. Unlike in Study 2, each of the squares also contained a number within it, which represented how much money sent to that potential partner would be multiplied by. For

¹² Mirroring the result of both the pilot study and Study 2, participants in Study 3 rated the biased institution as significantly more unfair than the fair institution, $t(190) = -3.672, p < .001$.

example, a square containing the number 1.5 indicated that the amount of money sent to that partner would be multiplied by 1.5, while a square containing the number 3 indicated that money sent to that partner would be multiplied by 3. The multipliers ranged from 2 to 4 in increments of .5. The overall incentives associated with ingroup and outgroup partners varied as a function of condition. In the *variable multipliers condition*, the multipliers were presented as proportional to the number of ingroup and outgroup potential partners. For example, 1/6 of potential ingroup partners and outgroup partners had the multiplier 4 associated with them, resulting in one ingroup partner with the multiplier 4 associated with them and three outgroup partners with the multiplier 4 associated with them. As such, there was an incentive to associate with outgroup partners. Assuming that partners would behave fairly (e.g. evenly split their money), associating exclusively with ingroup partners would result in maximum potential earnings of \$60 while associating with a combination of high-multiplier ingroup and outgroup partners would result in a maximum potential earning of \$72.50.

In the *constant multiplier condition*, the incentives to associate with ingroup members and outgroup members were equal such that money sent to all ingroup and outgroup members would be multiplied by 3 (see Appendix B for arrays and further details). Participants were told that their partners would always be aware of their group identity. The order of the presentation of the variable multiplier and constant multiplier conditions was randomized across participants.¹³ After selecting six partners from the array, participants played the game with each of the selected partners; as in Study 2, in

¹³ The order of presentation did not affect the average number of ingroup partners chosen ($p > .83$) or the average amount of money sent to partners ($p > .86$).

this phase, participants were able to send any amount from \$0 to \$5 to their partners, in increments of \$1 ($M = \3.09, $SD = 1.49$).

As in Study 2, participants filled out two different scales: identification and trust in their group ($M = 3.78$; $SD = 1.16$; $\alpha = .96$) and general trust ($M = 4.09$; $SD = .77$; $\alpha = .73$). Finally, participants filled out demographic information and were fully debriefed.¹⁴

Results

Number of Ingroup Partners Selected. In order to test the primary hypothesis that people would be more likely to associate with ingroup members under conditions of institutional bias, I conducted a 3-between subject (institution: biased, fair, not present) x 2-within subject (multipliers: variable, constant) repeated measures ANOVA on the number of ingroup partners selected. Results of this analysis revealed a main effect of institution condition, $F(2, 297) = 4.843$, $p = .009$. Contrary to the original hypothesis, participants chose fewer ingroup partners in the biased institution condition ($M = 2.53$, $SD = 2.05$) relative to both the no institution present condition ($M = 3.43$, $SD = 2.12$; $p = .002$) and the fair institution condition ($M = 3.04$, $SD = 1.98$; $p = .09$); there were no differences between the no institution present condition and the fair institution condition ($p > .18$).¹⁵ In addition, the results of this ANOVA revealed a main effect of the multiplier condition, $F(1, 297) = 86.362$, $p < .001$. In line with hypotheses, participants selected more ingroup partners in the constant multiplier condition ($M = 3.50$, $SD = 2.39$) relative to the variable multiplier condition ($M = 2.53$, $SD = 2.13$). The interaction between the

¹⁴ Neither identification with group nor general trust differed by institution condition, both p 's $> .49$.

¹⁵ A regression was conducted to test for moderation by group identification. Each of the institutions were dummy-coded and entered in the first model as predictors, along with group identification. In the second model, the interaction between each of the institution conditions and group identification were added. The institution condition by group identification interaction failed to reach significance (both p 's $> .13$), indicating that the effect of institution condition was not significantly moderated by group identification.

institution condition and the multiplier condition was not significant $F(1, 297) = 1.842, p = .16$ (see Figure 6 and Table 22 for graph and means).

*Total Amount of Money Sent to Ingroup and Outgroup Partners.*¹⁶ In order to examine how institution condition and multiplier condition affected the total amount of money sent to ingroup and outgroup partners, I created an aggregate variable which represented the total amount of money sent to ingroup and outgroup partners. Within the variable multiplier condition, 59 participants (20.6%) did not choose an ingroup partner and 63 participants (22%) did not choose an outgroup partner; within the constant multiplier condition 57 participants (19.9%) did not choose an ingroup partner and 122 participants (42.7%) did not choose an outgroup partner. If participants did not choose any ingroup or outgroup partners within a particular condition, the amount of money sent was entered as \$0. For all other participants, the total amount of money sent was calculated by adding the amount of money sent to their ingroup and outgroup partners within the variable and constant multiplier conditions.

Based on this, I conducted a 3-between subject (institution: biased, fair, not present) x 2-within subject (multiplier condition: variable, constant) x 2-within (partner group: ingroup, outgroup) repeated measures ANOVA on the total amount of money sent to partners (see Figure 7 and 8 and Table 23 and 24 for means). Results of this analysis revealed a trending main effect of multiplier condition, $F(1, 283) = 2.834, p = .093$.

Participants sent more money to their partners in the variable multiplier condition ($M = 9.45, SD = 4.63$) relative to the constant multiplier condition ($M = 9.19, SD = 4.67$). This

¹⁶ Due to an error in programming the study, participants ($N = 14$) who selected one of the blue squares with the multiplier 2 associated with it in the variable multiplier condition were not presented with the opportunity to play the trust game with that partner. As such, these participants only played a total of five games. Therefore, analyses that examine the total amount of money sent excluded the total amount of money sent by these participants in the variable multiplier condition.

marginal main effect was qualified by a significant interaction with partner group, $F(2, 283) = 79.451, p < .001$. Simple effects tests revealed that participants sent significantly more money to ingroup partners relative to outgroup partners in the constant multiplier condition ($p < .001$) and significantly less money to ingroup partners than outgroup partners in the variable multiplier condition ($p = .001$).

Additionally, the analysis revealed a significant main effect of institution condition, $F(2, 283) = 3.608, p = .028$. Participants sent significantly less money to their partners in the biased institution condition ($M = 8.62, SD = 4.13$) relative to the fair institution condition ($M = 10.34, SD = 4.13; p = .01$) and the no institution present condition ($M = 9.09, SD = 4.45; p = .05$). This main effect was also qualified by an interaction with partner group, $F(2, 283) = 3.949, p = .02$. Simple effects tests revealed that participants sent less money to ingroup partners in the biased institution condition relative to both the fair institution ($p = .001$) and no institution present conditions ($p = .015$). Additionally, participants sent more money to outgroup partners relative to ingroup partners in the biased institution condition ($p = .10$). In both the fair institution and no institution present conditions, participants sent marginally more money to ingroup partners relative to outgroup partners (both p 's $< .09$).

The main effect of partner group was not significant, nor was the two-way interaction between multiplier condition and institution condition or the three-way interaction (all p 's $> .26$).

Maximum Earnings by Ingroup and Outgroup Partners. The design of this study allowed me to examine how much each participant could maximally earn based on the partners they selected and the amount of money that they sent. This value was calculated by

multiplying the amount sent in each of the games by the multiplier associated with the partner selected, adding five to that amount (to represent what each hypothetical partner would have had) and dividing that amount by two to represent a fair split. For the variable multiplier condition games, the amount sent in the games was multiplied by the value associated with the partner. For the constant multiplier condition games, the amount sent in the games was always multiplied by three. Mirroring the total amount of money sent to ingroup and outgroup partners analysis, if no ingroup or outgroup partners were selected, the value of the maximum earnings was entered as zero.

The maximum earnings variable was subjected to a 3-between subject (institution: biased, fair, not present) x 2-within subject (multiplier condition: variable, constant) x 2-within (partner group: ingroup, outgroup) repeated measures ANOVA (see Figure 9 and 10 and Table 26 and 27 for full means and graphs). Results of this analysis revealed a significant main effect of multiplier condition, $F(1, 283) = 93.020, p < .001$. As hypothesized, participants earned more money in the variable multiplier condition ($M = 23.95, SD = 8.63$) than the constant multiplier condition ($M = 21.21, SD = 7.06$). This main effect was qualified by a significant interaction with partner group, $F(1, 283) = 102.382, p < .001$. Participants earned significantly more money in games played with outgroup partners relative to ingroup partners in the variable multiplier condition ($p < .001$) and significantly more money in games played with ingroup partners relative to games played with outgroup partners in the constant multiplier condition.

This analysis also revealed a main effect of institution condition, $F(2, 283) = 3.329, p = .037$. Simple effects tests revealed that participants earned significantly more in the fair institution condition ($M = 24.23, SD = 6.89$) relative to both the biased

institution ($M = 21.49$, $SD = 7.91$; $p = .014$) and no institution present conditions ($M = 22.153$, $SD = 7.49$; $p = .054$); there was no significant difference between the biased institution and no institution present conditions ($p > .53$). The main effect of institution condition was qualified by a significant interaction with partner group $F(2, 283) = 4.316$, $p = .014$. Simple effects tests revealed that participants earned significantly less money from ingroup partners in the biased institution condition relative to both the fair institution condition ($p = .002$) and the no institution present condition ($p = .006$). Additionally, participants earned more from outgroup partners than ingroup partners in the biased institution condition ($p = .033$). In the fair institution condition, participants earned equal amounts from both ingroup and outgroup partners ($p > .26$) and in the no institution present condition, participants earned more from ingroup partners than outgroup partners ($p = .085$).

The main effect of partner group was not significant, nor was the two-way interaction between multiplier condition and institution condition or the three-way interaction (all p 's $> .51$).

Discussion

Studies 2 and 3 utilized an experimental methodology to examine the effect of institutional bias on selection of social contacts, specifically testing the prediction that institutional bias increases reliance on characteristic-based trust and preference for ingroup social contacts. In both studies, participants completed a partner selection paradigm (Packer & Ungson, in prep), which allowed them to select partners for a trust game from an array of minimal ingroup and outgroup members; within the array, ingroup members were the minority and outgroup members were the majority. Participants were

then given the opportunity to play trust games with their selected partners, under the supervision of either a fair institution, a biased institution or no institution. In Study 2, the manipulation of institution condition was crossed with a manipulation of awareness of group identity, such that participants selected partners and played games with their selected partners twice: once when partners were aware of their potentially disadvantaged shared group identity and once when partners were unaware of their potentially disadvantaged shared group identity. This manipulation was used by Yamagishi and Kiyonari (2000) to disentangle the role of general liking from expectations of reciprocal trust on preference for ingroup members within cooperative contexts. Within the present work, the goal of this manipulation was to examine if the effect of institutional bias on partner selection was due to increased reliance on reciprocal characteristic-based trust or was a function of increased liking of ingroup members. Replicating the results of Yamagishi and Kiyonari (2000), analyses revealed that participants selected more ingroup partners and trusted those ingroup partners more when those partners were aware of their group identity, indicating that the expectation of reciprocal trust was the likely driver of preference for ingroup members within this paradigm. Importantly, and contrary to hypotheses, both the main effect and interaction with the institutional condition were not significant. Although the pattern of means was in the expected direction, this non-significant effect and interaction suggested that participants' decisions about who to trust were not affected by the presence of a biased institution.

This made the results of Study 3 even more unexpected. Contrary to hypotheses, results of Study 3 indicated that participants selected *fewer* ingroup partners in the biased institution condition relative to the fair and no institution condition. Furthermore,

participants earned less money from their ingroup partners in the biased institution compared to both the fair and no institution conditions; within the biased institution condition, participants earned significantly more money from their outgroup partners relative to their ingroup partners. Study 3 also included a manipulation of the potential payoffs associated with ingroup and outgroup partners. This manipulation was included in order to incentivize participants to associate with risky outgroup members; the logic behind this manipulation was that participants would need to weigh the potential rewards of associating with outgroup members against the risk they presented. I was particularly interested in the interaction between this condition and the institutional bias condition, specifically how the presence of a biased institution might impact the weighing of risk and reward. This manipulation had two conditions. In the variable multiplier condition, there were incentives to associate with outgroup members because they offered greater potential payoffs; in the constant multiplier condition, the incentives to associate with ingroup and outgroup members was equivalent. Results of Study 3 indicated that participants associated with outgroup members more when there were incentives to do so and capitalized on the higher potential rewards offered by outgroup partners, investing more with them when they offered greater potential payoffs. In contrast, when there was equal incentives to associate with both ingroup and outgroup partners, participants chose more ingroup partners than outgroup partners and invested more with ingroup partners than outgroup partners. The interaction between multiplier condition and institution condition was not significant, indicating that preference for outgroup members offering higher rewards was not influenced by the presence of an institution, biased or fair.

Taken together, the results of Studies 2 and 3 are vexing, especially in terms of the central hypothesis of this work: institutional bias increases preference for ingroup members. Although in Study 2, the non-significant pattern of the means suggested that, as hypothesized, the presence of a biased institution increased preference for ingroup members, in Study 3, the presence of a biased institution significantly *decreased* preference for ingroup members. What the results of Studies 2 and 3 may speak to is the contingencies and implications of being part of a minimal group within a cooperative context. As already argued by Yamagishi and Kiyonari (2000) and supported by the results of Study 2, people prefer to interact with ingroup members in cooperative contexts due to an expectation of reciprocal trust -- individuals choose to interact with ingroup members not simply because they like or trust those ingroup members, but because they have the expectation that their fellow ingroup members also like and trust them, which thus increases the probability of a successful interaction. If you take away that expectation based on the shared knowledge of shared group membership, then the incentive to associate with ingroup members and the probability of a successful interaction are also reduced, which ultimately results in reduced preference for ingroup members. In this way, shared knowledge of group identity can act as a contingency, which supports preference for ingroup members.

The results of Study 3 offer two additional contingencies, which support preference for ingroup members. The first is the potential payoffs associated with associating with ingroup and outgroup members. What the results of Study 3 suggest is that when the individual incentives to associate with ingroup members and outgroup members are equivalent, people prefer to associate with ingroup members. This finding

reflects much of social psychological work on ingroup favoritism, especially work that draws upon the minimal groups paradigm (Tajfel & Turner, 1986). The strength of the minimal groups paradigm is that the groups are inherently equivalent in all things except their name – they have equal amounts of resources and the logic behind assignment to one minimal group or another is equivalently random. What these groups differ on is their label, which, as it turns out is a hugely powerful psychological force. This simple difference in label leads people to prefer their ingroup members. Study 3 suggests that this preference is flexible and, perhaps, contingent on what each group has to offer (Rabbie, Schot & Visser, 1989; Rabbie, 1991; but see Gagnon & Bourhis, 1996). In changing the multipliers associated with ingroup and outgroup members, and making it more profitable to associate with outgroup members, the dynamics of the minimal intergroup context were changed. No longer were the potential partners within the array categorized simply as ingroup and outgroup members, but each of the potential partners also could be seen through the incentives they offered if selected for association. The results of Study 3 suggest that people tend to take these incentives into consideration especially when selecting partners for a game in which the goal is maximize personal incentives. Similar to the way in which people tend to rely on ingroup members because they offer the highest probability of a successful interaction (defined as a lower risk of betrayal), people choose to interact with those who offer the highest probability of a successful interaction, here defined as the greatest possible benefit. Speaking to this point, Turner (1975) argues that group members are motivated to engage in intergroup competition in which they have the goal of maximizing the advantage of their group relative to the outgroup; however, if the ingroup does not offer any particular advantage,

then differences between the ingroup and outgroup will be minimized. In this way, people can view members of their ingroup by recognizing what they have to offer. In the variable multiplier condition, ingroup members did not offer a relative advantage as they lacked resources relative to the outgroup. Perhaps, the reduced preference for ingroup members in the variable multiplier condition relative to the constant multiplier condition was due to the recognition that the outgroup presented the better opportunity for profitable interaction. In contrast, in the constant multiplier condition, the opportunities for profit presented by the ingroup and outgroup were equivalent. Preference of ingroup members in this condition was based upon the advantage they offered – higher probability of successful interaction – without needing to consider the differences in potential profits.

The results of Study 3 also suggest that institutional bias can also act as such as a consideration or potential advantage for outgroups, at least within the minimal group setting. Contrary to hypotheses, in the presence of a biased institution, participants selected less ingroup partners than when in the presence of a fair institution. Interestingly, there was no difference in strength of group identification or perceptions of ingroup members as a function of institutional condition, indicating that people viewed members of their groups similarly across all conditions. What did differ across the institution conditions is the extent to which participants believed that their group was being treated differently than the other group by the external figure within the context of the game. This difference in treatment may have served as a signal to participants that their minimal group was not the best option for selection or, perhaps, that the other group was the best option.

As Brewer (1999) notes, there is a difference between “ingroup love” and “outgroup hate” – attitudes towards the ingroup and outgroup are independent such that ingroup favoritism does not necessitate outgroup derogation (see also Allport, 1954). Supporting this, previous work has found that while participants are more likely to bestow positive outcomes on ingroup members, they are less willing to specifically give more negative outcomes to outgroup members (Mummendey et al., 1992). Using a paradigm in which participants were asked to evaluate ingroup, outgroup and non-group targets, Van Bavel and Cunningham (2009) found that participants had more positive evaluations of ingroup targets relative to non-group and outgroup targets, indicating that ingroup members were like more as opposed to outgroup members being disliked more. Brewer (1979) argues that ingroup preference is contingent on enhanced partiality towards ingroup members while evaluations of outgroup members tend to remain constant. In other words, evaluations and reactions to ingroup and outgroup members are made independently of one another.

Applied to the findings of Study 3, the orthogonal nature of ingroup and outgroup preference implies that, within the institutional bias condition it may be the case that the presence of institutional bias does not lead to a decreased preference for minimal ingroup members, but actually leads to an increased preference for outgroup members. As a function of the way the paradigm is setup, reduced preference for ingroup members is simply a consequence of that increased preference. In addition, if it were the case that institutional bias increases preference for outgroup members, then it makes sense that there was not a change in identification with the ingroup – attitudes towards the ingroup would not be changed. Instead, it would simply be an increased preference for outgroup

members driven by the cognition that outgroup members offer better opportunities, in the form of less biased supervision.

Importantly, the design of the study does not allow for specific tests of the whether that preference for minimal outgroup members is increased as a function of institutional bias or preference for minimal ingroup members is decreased as a function of institutional bias. Within the partner selection task, participants were only given the option of choosing ingroup members or outgroup members. Any choice to select an outgroup member also, implicitly, involved a choice to not select an ingroup member (and vice versa). Within this study, there were no non-group members presented, who could have acted as a baseline by which preference for ingroup and outgroup members could be measured. If less ingroup partners are selected relative to non-group members in the institutional bias condition, it would suggest that institutional bias reduces preference for minimal ingroup members. On the contrary, if more outgroup partners are selected relative to non-group members in the institutional bias condition, it would suggest that institutional bias increases preference for outgroup members. Future research will test this idea by including potential partners who belong to no group in the design.

Another lens by which to view the results of Study 3 is through the work of Sachdev and Bourhis (1991), who examined the interactive effects of power, status and group size on behavior in the minimal groups paradigm. The researchers manipulated status based on some internal quality of the group members e.g. that members of the high-status group possessed some highly valued trait while members of the low-status group lacked that trait. Members of high-power group were given the ability to make

decisions that had real-world consequence (e.g. course credit), while members of low-power groups were denied that privilege. Results of their study indicated that members of low status, low power, minority groups tended to be the least likely to exhibit ingroup favoring behavior. Indeed, members of such groups actually seemed to favor the outgroup. The researchers argue that this outgroup favoritism was the result of these low status, subordinate, minority group members having internalized the negative attributions of their own group. Specifically, the researchers argued that the “legitimized, stable intergroup structure,” (p. 19) which resulted from experimenter created differences in power and status, functioned to create the conditions for outgroup favoritism based on an internalized recognition of the outgroup’s superiority.

This argument brings to mind System Justification Theory which argues that people have a need to justify or legitimize social arrangement or status quo, even if there is a cost of that arrangement to one's self or one’s group (Jost & Banaji, 1994). As per SJT, members of disadvantaged groups may infer that institutional bias exists against their group for a reason, and that reason is that their group is, in fact, inferior in some way to the advantaged group. Jost, Banaji and Nosek (2004) argue that disadvantaged people who are provided with explanations for their status are likely to accept this explanation, rationalize the status differences and accept their disadvantaged position (see also Jost & Burgess, 2000). For example, the Protestant Work Ethic (Weber, 1905/2013) refers to the idea that hard work will be rewarded by success. An implication of this is that individuals and groups who do not achieve success do not work hard, are lazy, are inferior in some way. Thus, members of high status and low status groups can ascribe a low status group’s place in society to some trait or feature inherent in the members of that

group. According to SJT, people, even, and perhaps especially, low status individuals are highly motivated to justify and legitimize their position society and so will implicitly hold beliefs that support their position.

Within the present work, it may be the case that the biased institution indicated that the ingroup was of lower status than the outgroup on some relevant dimension. Furthermore, the experimenter-created biased institution may have served as a legitimization of the status differential between the minority ingroup and majority outgroup. Given that legitimization and acceptance of the low status of one's group is a key driver of outgroup favoritism, it may be the case that participants in the biased institution condition preferred outgroup members because the biased institution served as a signal that members of the outgroup were superior on some relevant dimension. In the biased institution condition, outgroup members were monitored less than ingroup members. This may have indicated that outgroup members were less in need of monitoring because they were more trustworthy, a trait both relevant and valuable when selecting partners for a trust game. Coupled with the fact that participants were given no opportunities to challenge the legitimacy of the institution and the game (see Sachdev & Bourhis, 1991; Tajfel & Turner, 1986; Turner & Brown, 1978; Bourhis, 1987) and that the decisions made were self-relevant, the biased institution may have served as an indication that outgroup members were somehow superior to ingroup members, which ultimately resulted in increased preference for outgroup members.

General Discussion

The current research examined the effect of institutional bias on preferences for ingroup members amongst disadvantaged minorities. Specifically, this research tested

the hypothesis that institutional bias will lead disadvantaged group members to prefer to associate with ingroup members over others because of an increased reliance on characteristic- or group-based trust. In order to test this hypothesis, two sets of studies, using different methodologies, were conducted. In the first set of studies, a survey-type design was used to provide correlational evidence. Studies 1A, 1B and 1C drew upon samples of Black Americans to examine how a real world group which is likely to experience institutional bias is affected by that bias. Although the results of Study 1A were inconclusive given the sample size and problematic outcome variables, results of Studies 1B and 1C supported the hypothesis: the extent to which Black Americans perceived institutional bias was positively related to their preference for association with racial ingroup members. In addition, the results of 1C provide a degree of nuance to the hypothesis. Specifically, the results of Study 1C indicate that participants' concerns about *interpersonal discrimination* predicted their social network composition as well as their comfort with same-race individuals, people who individuals are likely to turn to for social support. On the other hand, their concerns about *institutional bias* predicted their preference for same-race social contacts who might provide services for them. These results raise the possibility that the nature and goal of a particular relationship – whether it is practical or social support – affect how concerns about institutional bias and interpersonal bias differentially influence the selection of partners for that relationship.

The second set of studies used an experimental methodology to try to provide causal evidence for the effect of interest. Although the non-significant pattern of means in Study 2 were in line with hypotheses, the significant effects of Study 3 were contrary to hypotheses: under conditions of institutional bias, participants selected fewer ingroup

partners for a trust game than when in the presence of a fair institution or when there was no institution present. Interestingly, there was no difference in group identification or perceptions of ingroup members in Study 3, suggesting that, perhaps, within the paradigm, the presence of a biased institution leads people to select more outgroup partners (as opposed to fewer ingroup partners). One reason that this may be the case is that, within the paradigm used in Study 3, interactions with minimal outgroup members seemed to be the better option, possibly because they were more trustworthy and less in need of monitoring by institutions.

Taken together, the first set of studies provided support for the hypothesis that institutional bias increases preference for ingroup members, while Study 3 provided evidence contrary to the hypothesis that institutional bias increases preference for ingroup members. One way to explain these oppositional results is by looking at the differences in methodologies used by the first and second set of studies. The first set of studies specifically examined perceptions of institutional bias and preference for ingroup members amongst a real-world social group with a long history of disadvantage and subjection to discrimination. On the other hand, the second set of studies specifically drew upon the minimal groups paradigm and implemented group identities that have no such long history of being subjected to bias and discrimination. The minimal groups paradigm was specifically implemented because it allowed for an examination of the effect of institutional bias independent of the history and pre-existing stereotypes associated with particular groups. However, what a comparison of the first set of studies and the second set of studies suggest is that this history, and all that it implies, is important to how individuals understand their group's relationship to institutions, the

extent to which they can rely on those institutions, and how their perception of those institutions influences their development and selection of social connections. In addition, a comparison of these sets of studies can provide interesting perspective on the implications of membership in minimal groups relative to the implications of real-world social identities.

The minimal groups paradigm was developed as a way to examine if merely categorizing people into different groups is sufficient to instigate intergroup behavior independently of the contextual features of real-world social groups (e.g. conflict, cooperation, history, structure, hierarchy, etc.). Originally used by Tajfel and colleagues (1971), the minimal groups paradigm was a way to examine the question: “Can the very act of social categorization...lead...to intergroup behavior which discriminates against the outgroup and favors the ingroup?” (p. 151). Importantly, the minimal group paradigm stood in contrast to earlier studies of intergroup behavior, which argued that intergroup behavior is driven by structural features of intergroup contexts, such as competition. For example, Sherif’s (1966; Sherif & Sherif, 1969) Realistic Conflict Theory argued that intergroup tensions are driven by scarce resources, which support competition between groups and heightened interdependence within groups. In this way, Realistic Conflict Theory argued that discriminatory behavior – preference for ingroup members and derogation of outgroup members – is driven by competition between groups for resources, not merely categorization. However, as a wealth of research has demonstrated, the mere act of social categorization turns out to be a sufficient cause of discriminatory behavior (Tajfel & Turner, 1986).

Membership in a minimal group is an impermanent state – participants are randomly assigned to a novel, arbitrary group at the beginning of the study, asked to make some decisions or judgments based on that categorization, are debriefed and leave the minimal group as they leave the lab. In the original experiments using minimal groups and in the present research, participants did *not* engage in face-to-face interactions with group members and nothing was known about group members beyond the shared group membership (Tajfel et al., 1971). Where the present research’s use of minimal groups differs from the original work on minimal groups is in that the original experiment, the decisions participants made had no implications for the self; participants were choosing payoffs to ingroup and outgroup members and did not receive any part of those payoffs. One of the strengths of Tajfel and colleagues’ work is that they demonstrated that, even in the absence of personal stake (i.e. interdependence), people preferred ingroup members to outgroup members. In contrast, in the present work, the decisions included personal outcomes, meaning participants were self-interested *and* not exclusively group-interested. As evidenced by greater preference for outgroup members in Study 3’s variable multiplier condition, participants had the goal of gaining as much as they could during the games. In framing the game and the goal of the game in this way, participants may have viewed the possible partners in the game not simply as ingroup and outgroup members, but based on the probability of successful interactions they presented. The presence of institutional bias may have weighed the probability of successful interaction further in the outgroup’s favor; as elaborated on in the discussion for Study 2 and Study 3, the relative lack of supervision by the institution might have indicated that the outgroup was a more trustworthy partner. In this way the “minimal” group used in

the present research differed from the minimal groups paradigm. Perhaps, by making decisions more self-relevant, as opposed to group-relevant, the minimal groups used in the present research acted more as a contingency for cooperation as opposed to an extension of the self.

We can contrast this understanding of the minimal group used in the present research with the understanding of the real-world social category. People feel tied to real-world social identities and they use them to guide intra- and intergroup relations and their general understanding of the world (Tajfel & Turner, 1986). However, unlike minimal groups social categories like race, religion, gender and age, are more permanent and have larger real-world consequences. Social categories like race, religion and gender, come attached with vivid cultures and traditions. In addition, real-world social categories come embedded within the context of a history of intergroup competition, conflict and cooperation. These features stand in contrast with minimal groups, which were specifically designed to be devoid of the baggage of intergroup conflict, as well as broader historical and societal contexts.

Particularly relevant to the present research, disadvantaged minority groups tend to be categorized by higher degrees of interdependence. As evidenced both from the present work, and the larger body of literature on inbreeding homophily, optimal distinctiveness theory and the rejection-identification model discussed in the introduction, real-world minority groups tend to have higher identification and greater degrees of interdependence than majority group members. Relative to minimal outgroups, real-world outgroups tend to be viewed more consistently as homogenous (Ostrom & Sedikides, 1992). For these reasons, we might say that the identity and fate of members

of real-world social categories, particular minority real-world social categories, are tied together more closely than minimal groups.

The present research added to this literature by demonstrating how institutional bias is linked to preference for ingroup members. Theoretically, I argued that institutional bias increases preference for ingroup members amongst minorities because of a greater reliance on the already powerful indicator of trustworthiness, characteristic- or group-based trust: if I can not trust institutions to insure that an potential interaction partner will behave in a cooperative, trustworthy manner, then I will lose institutions as a form of trust production and rely more heavily on shared group membership. For these reasons, institutional bias increases preference for ingroup members amongst real-world disadvantaged groups, making members of these social categories even more connected and interdependent.

For real-world social categories with long histories of oppression and disadvantage at the hands of institutions and fears of interpersonal discrimination and greater degrees of interdependence, institutional bias can lead individuals to associate more with ingroup members as a self-protective strategy. By associating with members of one's disadvantaged social category, one has higher protection from betrayal and lower fears of discrimination. Furthermore, for real-world social categories with higher degrees of interdependence, there is a greater sense of communal fate. In contrast, for members of minimal groups without such history and without such strong fears, who feel less tied to group outcomes and for whom self-gain is the stronger motivation, biased institutions can serve as an indicator that the advantaged group is preferable as it leads to the highest possible advantage for the self. Future work can test this idea experimentally

by examining how increased interdependence and a stronger sense of common fate affects behavior within the minimal groups paradigm.

Future Directions

The present research raises a number of possibilities for future research. One direction for future research would be to examine the impact of institutional bias on other minority groups in America. In the first set of studies, I specifically focused on Blacks in America as this racial group has a long history of experiencing institutional bias. However, they are not the only minority group likely to have these types of experiences. For example, Native Americans have a long history of trauma and being subjected to discrimination and institutional bias (Duran, Duran & Brave Heart, 1998), which likely informs their trust and reliance on institutions as well as their preference for ingroup members. Similarly, the Latino community is likely to have perceived bias in social institutions, which may affect their preference for ingroup affiliation (Michelson, 2007).

Additionally, It would be interesting to examine how the experience of institutional bias plays into social contact selection amongst a non-minority group which experiences institutional bias: women. Just like Blacks, women have a long history of being subjected to institutional and interpersonal bias, as well as a long history of awareness and protesting that bias (LeGates, 2012). However, unlike Blacks in America, women are not a minority, but make up roughly half the population. As was discussed in the introduction, being a member of a numerical minority tends to increase identification with one's group as well as tendencies to cooperate with ingroup members, independently of concerns about interpersonal discrimination and institutional bias (Simon & Brown, 1987; Brewer & Schneider, 1990; Brewer, 1991). Examining a group,

which is likely to have concerns about both interpersonal discrimination and institutional bias but is not a minority presents an interesting demographic case which allows for exploration of how a non-minority group's experience of institutional bias affects their preference for ingroup members.

Another interesting question that this work raises is the relationship between perception of institutional bias, preference for ingroup social contacts and protest against that bias. The present work finds that experiences of institutional bias and interpersonal discrimination bring members of real-world disadvantaged social groups together. In addition, previous work has found that members of disadvantaged groups tend to be motivated to come together and protest that systematic disadvantage, politicizing their collective identity (Tajfel & Turner, 1979, 1986; Goodin & Klingemann, 1996). Simon and Klandermans (2001) argue that politicization of the collective identity is a vital step in the process of collective action and involves a realization that one is a member of a disadvantaged group and a contextualization of that disadvantage, within the broader social system of institutions and advantaged groups. Additionally, the process of consciousness-raising, in which disadvantaged group members make fellow ingroup members aware of the disadvantage and the presence of a more privileged outgroup is highly important for the formation of collective action movements. What the present research suggests is that perceiving institutional bias leads disadvantaged group members to associate with members of their group and this association with fellow disadvantaged individuals may provide opportunities for consciousness-raising and the formation of collective action movements. Sharing experiences of institutional bias can create the understanding that institutional bias is experienced by all members of a particular group,

which in turn can increase motivation to engage in collective action (Wright, Taylor & Moghaddam 1990). In this way, the present research could be expanded upon to provide another perspective on how institutional bias leads to the formation of collective action movements.

Another interesting question this work raises is how groups who cannot rely on institutions grapple with the not having the services that institutions provide. In the presence of unbiased and reliable institutions, individuals have the option of engaging in interactions with outgroup members because those institutions serve as a guarantor of a successful, cooperative interaction as well as providing a system of punishment and correction in the case of an unsuccessful interaction or a betrayal of trust. The central argument of the present work is that institutional bias increases preference for ingroup members because an inability to rely on institutions as a form of trust production leads people to rely more heavily on characteristic-/group-based trust production as ingroup members offer the lowest probability of a betrayal of trust. However, just because ingroup members are unlikely to behave uncooperatively, does not mean that they will always behave cooperatively. Indeed, some ingroup members may take advantage of the increased reliance on characteristic based trust and betray their fellow group members of personal gain. How might groups contend with an ingroup deviant when they do not trust institutions to effectively or fairly handle that individual? One prediction is that under conditions of institutional bias, individuals are more punitive towards deviant ingroup members. The presence of institutional bias can compound the saliency of intergroup comparison for minorities because it constantly makes clear that minority individuals are being treated worse, being perceived of as worse than the outgroup. Furthermore,

because there are such few numbers of a minority group (relative to majority group), the actions of each individual minority member are more impactful to their group's image relative to the actions of any given majority member to their group's image. As a result deviant minority members maybe held more accountable than deviant majority members because their transgressive behavior carries more weight vis a vis the image of the group than a majority member's transgressive behavior would respective to their group.

Research on the black sheep effect argues an intergroup context increases derogation of undesirable ingroup members as a means by which individuals can sustain their favorable social comparison of their group compared to other groups (Marques, Yzerbyt & Leyens, 1988; Marques, Paez & Abrams, 1998).

Finally, it would also be fruitful to further explore the contingencies that distinguish minimal groups from real-world social groups. Or, put more simply, to examine how different features of groups affect how institutional bias may or may not increase ingroup affiliative preference. I have already argued how people are likely to be less tied and less invested in their minimal group identities relative to their real-world social identities; future studies can further explore how the flexibility of a particular identity may interact with institutional bias. Additionally, the entitativity of a group may affect the effect of interest. Entitativity refers to the degree to which members of a group are perceived as bonded together in a single unit (Campbell, 1958). Previous work has shown that entitativity has important implications for the extent to which those groups are perceived as homogenous in terms of characteristics and goals (Brewer & Harasty, 1996; McGarty, Haslam, Hutchinson & Grace, 1995) and threatening and willing to engage in collective action (Abelson, Dasgupta, Park & Banaji, 1998). Lickel

and colleagues (2000) find that the more group members interact with one another, the higher their entitativity. Given that institutional bias tends to increase the preference for interactions with same-race individuals, amongst real-world social groups, it may be the case that institutional bias also increases the perceived entitativity of a group. In this way, it may be the case that institutional bias increases the perception that a group will be negatively stereotyped by way of increasing the entitativity of the group.

Conclusion

The opportunity to connect and cooperate with people of different races and ethnicities, economic and religious backgrounds is hugely important in our increasingly globalized world. Fair institutions can help support successful, cooperative connections between people of different backgrounds, which may ultimately provide people with access to more opportunities and information. However, unfair or biased institutions can lead people to selectively affiliate with ingroup members. The results of the first set of studies demonstrated how perceiving institutional bias can lead individuals from real-world disadvantaged social groups to prefer associating with members of their racial group. In addition, the results of the second set of studies suggest that shared minimal group membership can act as one possible reason to select another for cooperation, but is not the only one: the resources that that other has and the relative advantage they are granted by an institution can each act as impetuses for preference in association. In this way, minimal group membership may be more flexible than membership in real-world social categories, which in turn, may affect one's group-based behavior. Taken together, these results suggest that institutions and institutional bias are powerful forces in determining preference for ingroup members. The differences between the two sets of

studies suggest that the effect of institutional bias on preference for ingroup members likely varies as a function of the nature of the group.

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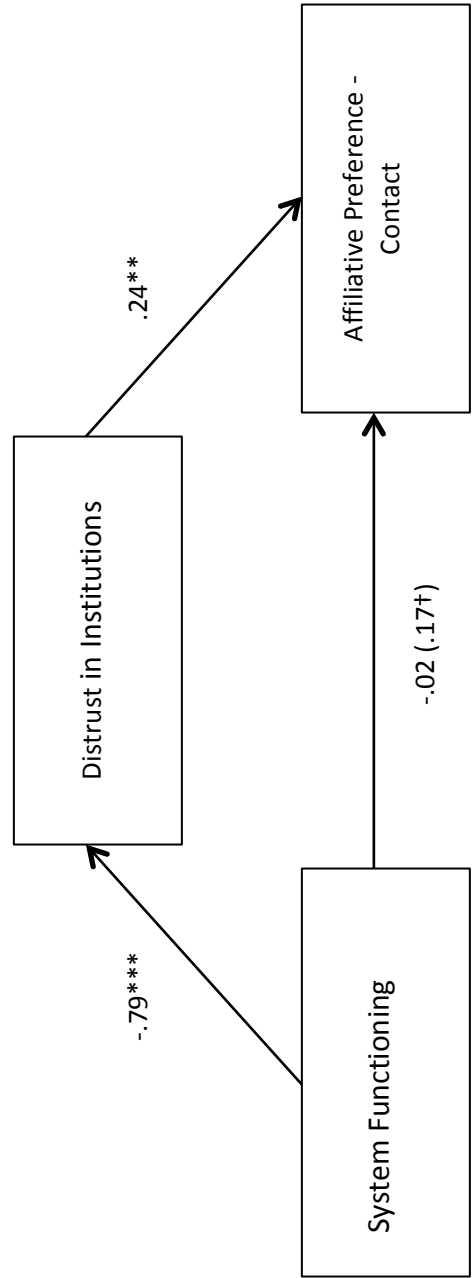
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Figure 1. Mediation analysis – System functioning decreases distrust in institutions, which increases preference for same-race contacts. *** $p < .001$, ** $p < .01$, † $p < .10$



Bias-corrected bootstrap for the indirect effect: 95% CI $(-.33, -.04, N = 5,000)$

Figure 2. Number of ingroup partners chosen, Study 2. Bars represent standard error.

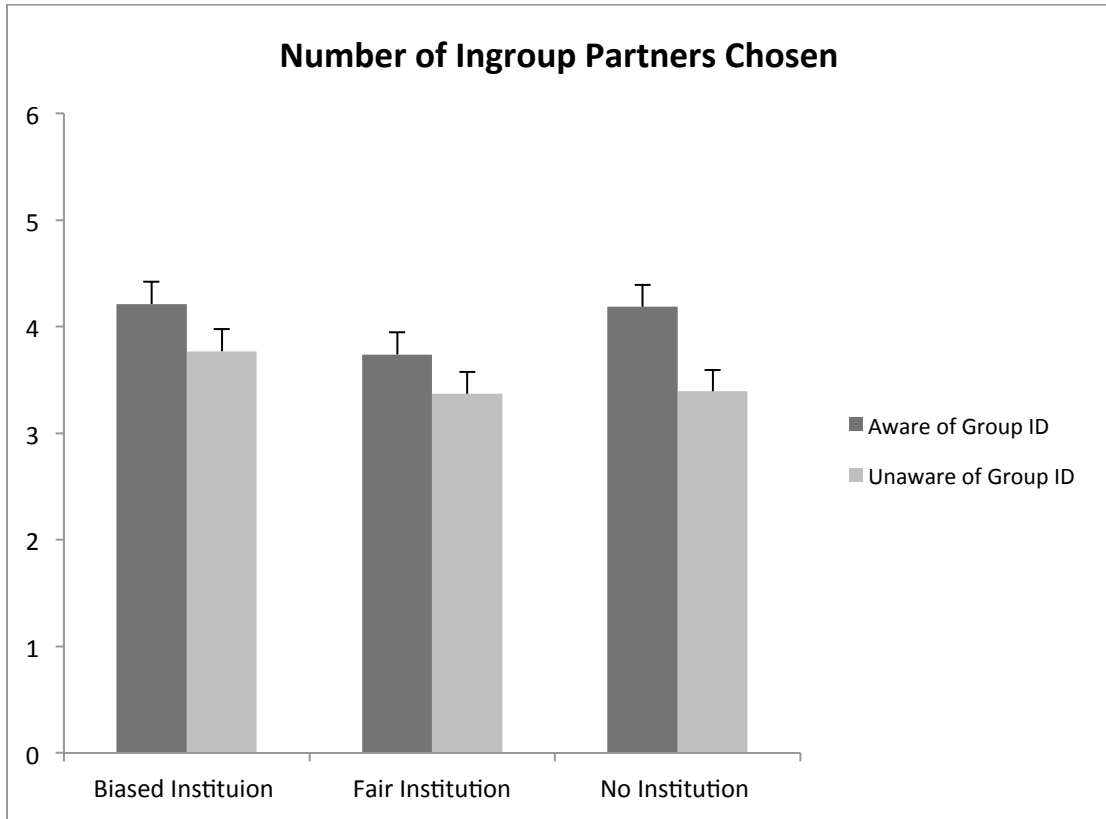


Figure 3. Group identity by awareness interaction, Study 2. Bars represent standard error.

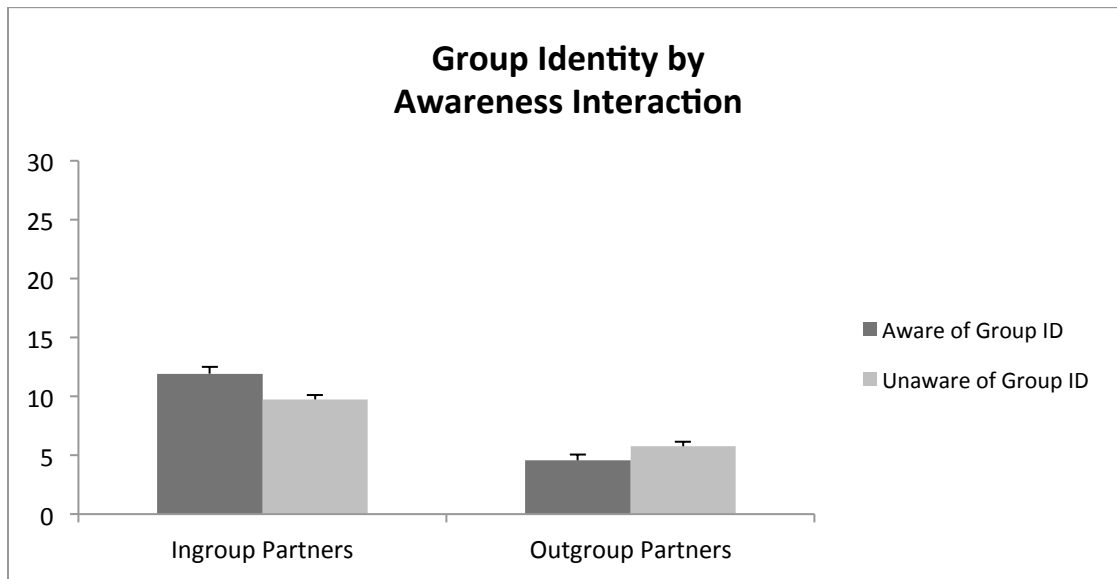


Figure 4. Total money sent to ingroup partners, Study 2. Bars represent standard error.

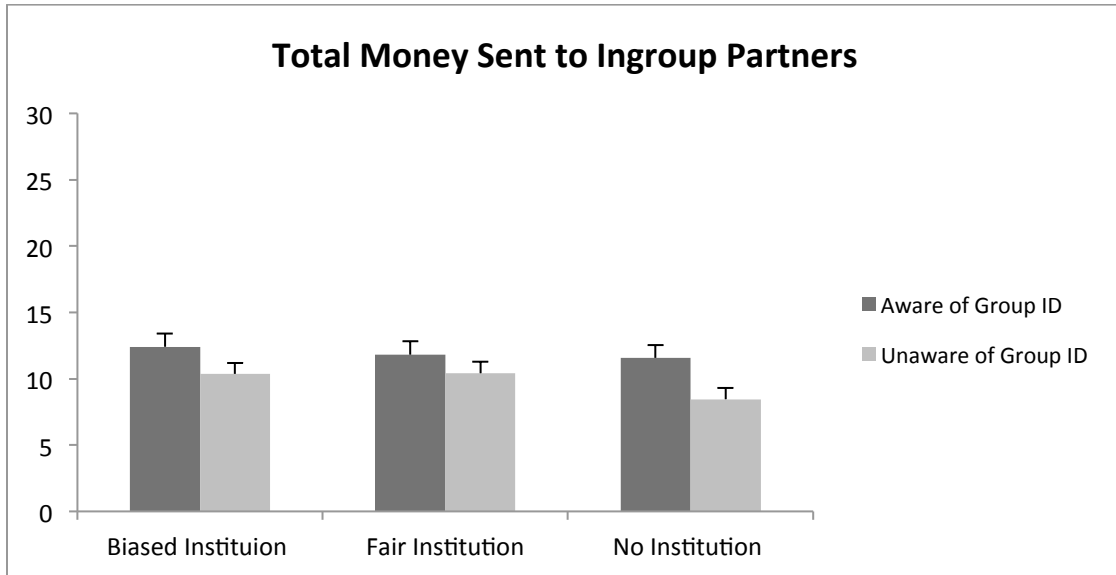


Figure 5. Total money sent to outgroup partners, Study 2. Bars represent standard error.

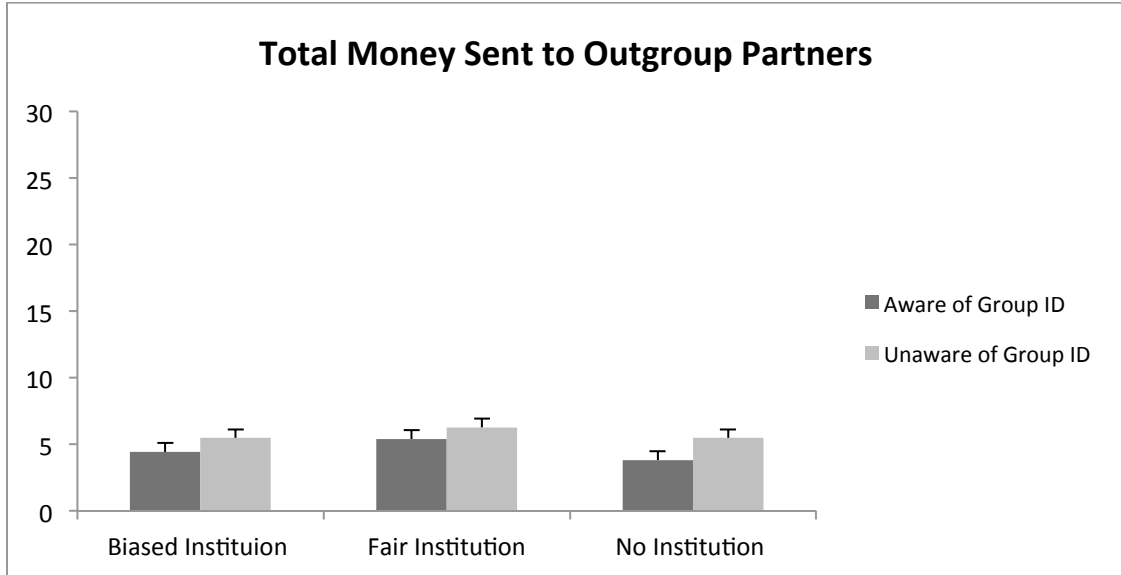


Figure 6. Number of ingroup partners chosen, Study 3. Bars represent standard error.

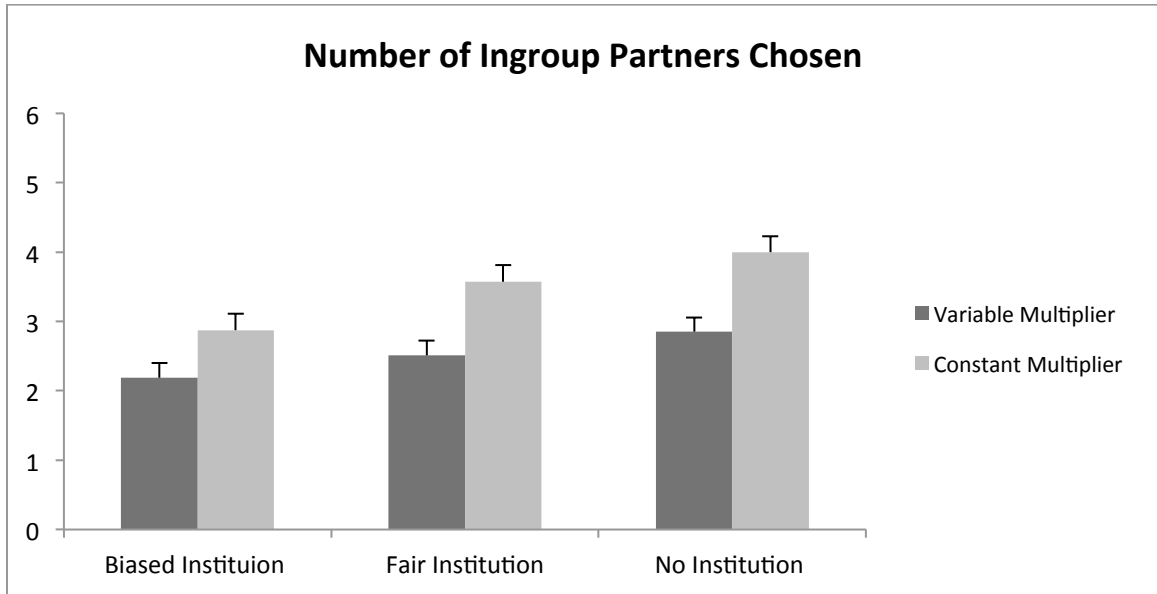


Figure 7. Total money sent to ingroup partners, Study 3. Bars represent standard error.

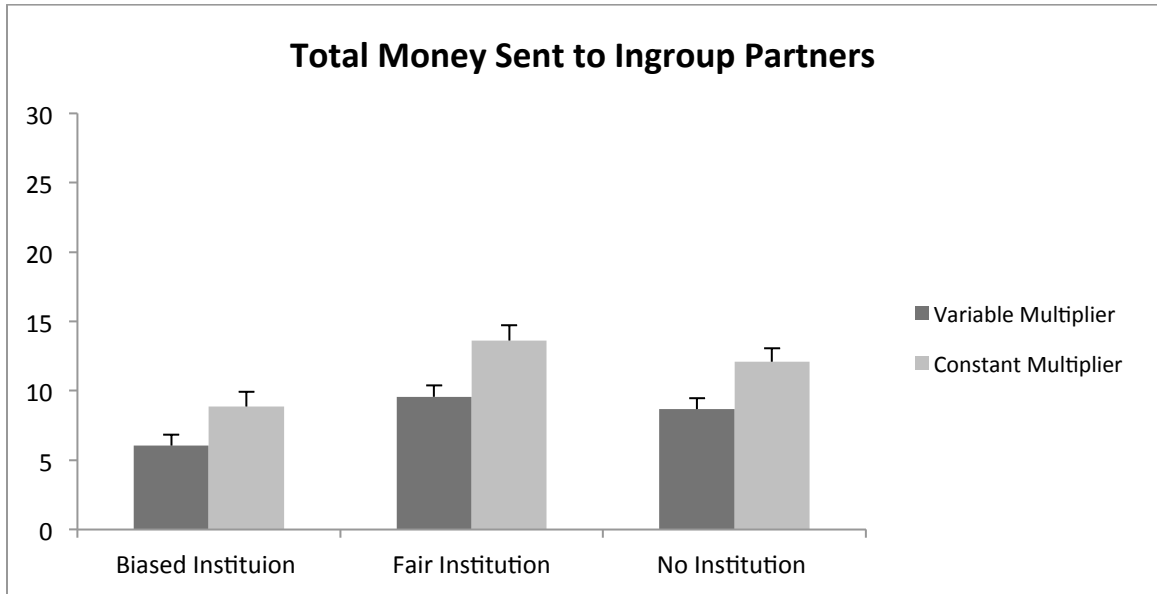


Figure 8. Total money sent to outgroup partners, Study 3. Bars represent standard error.

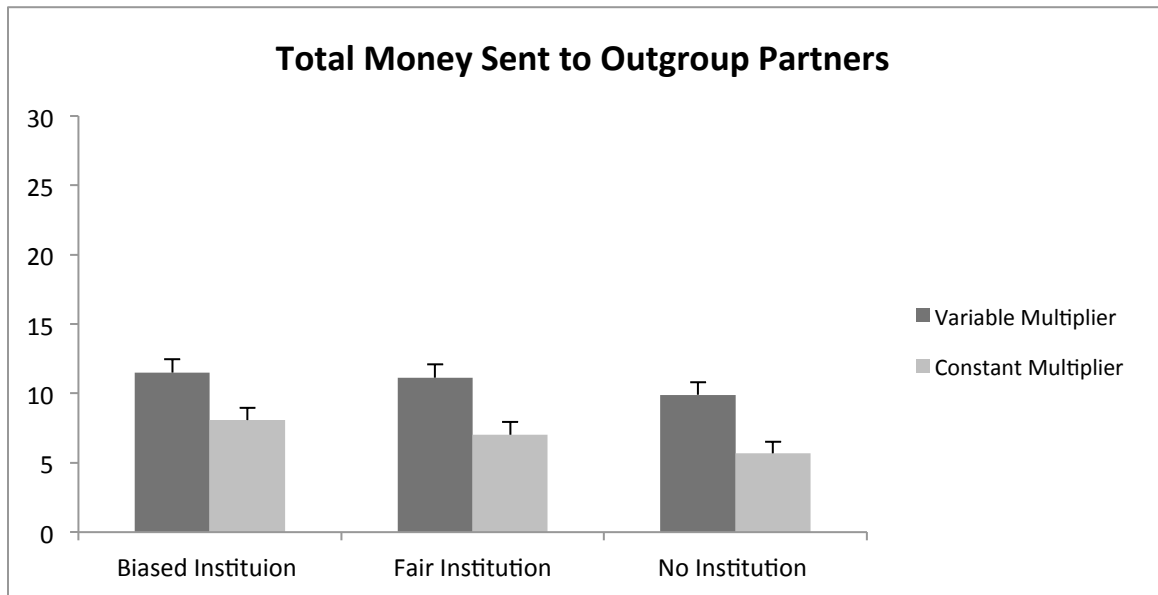


Figure 9. Maximum potential earnings for ingroup partners, Study 3. Bars represent standard error.

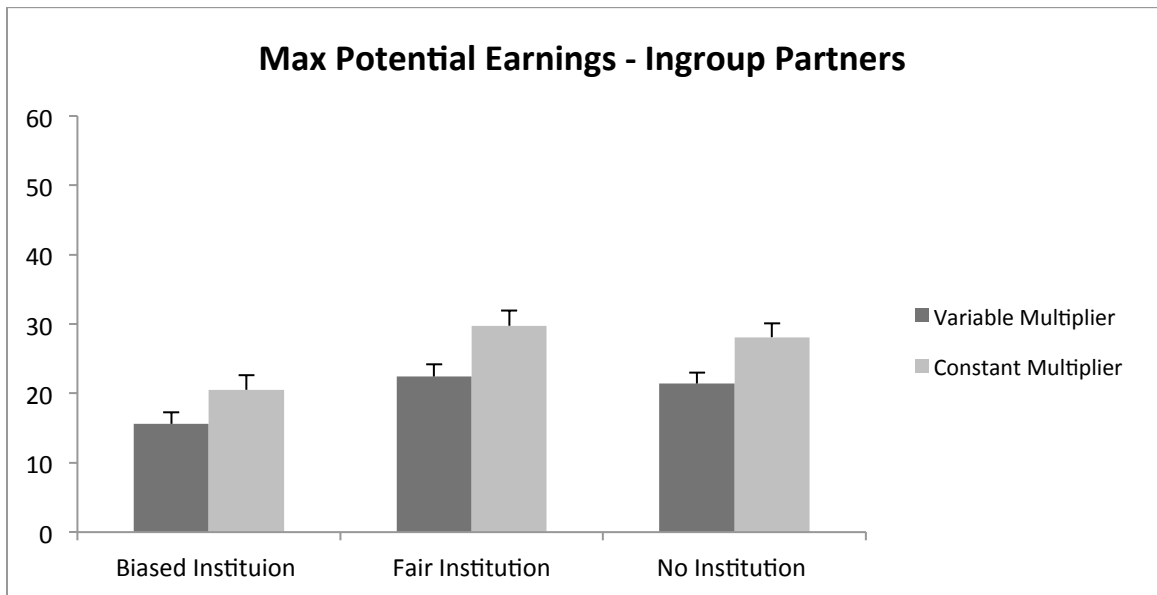


Figure 10. Maximum potential earnings for outgroup partners, Study 3. Bars represent standard error.

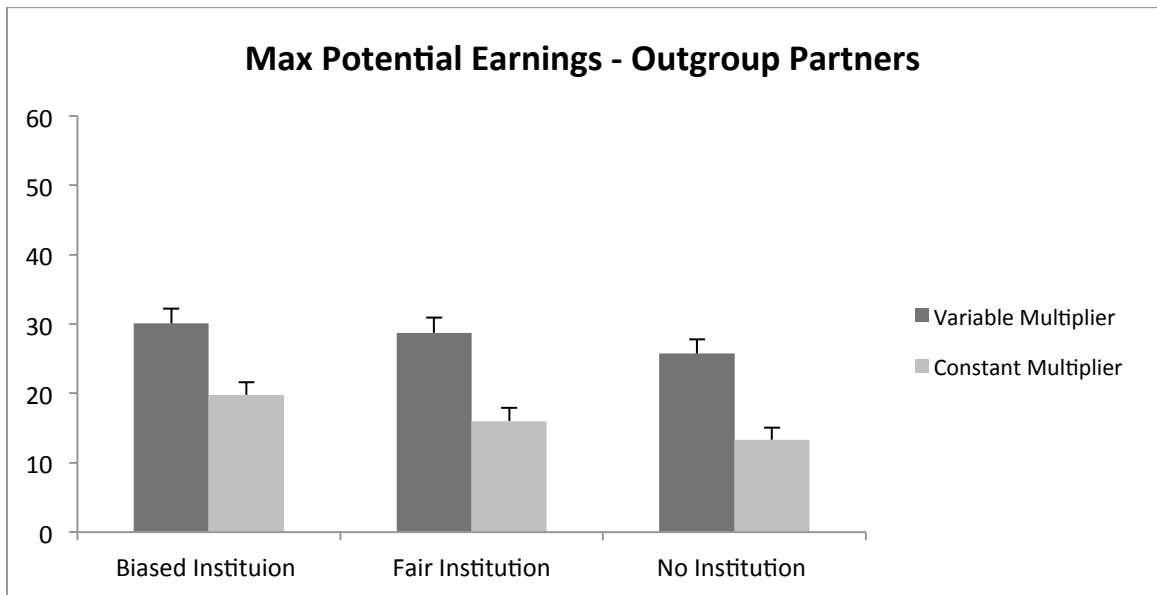


Table 1. Regression Analyses for Study 1A

Predictor	Proportion of Same Race Social Contacts		Bringing an opposite race friend home to dinner		Laws Against Inter-marriage			Busing School Children		
	Beta	t-value	Beta	t-value	B	Wald χ^2	Odds Ratio	B	Wald	Odds Ratio
Situational Contributors to Difference	0.045	0.374	0.112	0.663	-0.102	0.013	0.903	-0.644	2.589	0.525
Internal Contributors to Difference	0.081	0.621	-0.022	-0.114	-0.1	0.014	0.905	1.039	6.312*	2.826
Modern Racism	-0.025	-0.193	-0.073	-0.396	1.224	4.52*	3.401	0.282	1.188	1.326
Distance to nearest opposite race person	0.089	0.719	-0.004	-0.023	1.058	1.848	2.88	-0.341	0.618	0.711
Age	0.082	0.514	-0.116	-0.549	0.073	1.906	1.076	-0.001	0.003	0.999
Education	0.019	0.15	-0.121	-0.577	0.027	0	1.028	0.137	0.223	1.147
Income	0.038	0.299	0.155	0.818	-0.366	3.467	.694	-0.102	1.596	.903
Strength of Religious Affiliation	0.207	1.474	-0.167	-0.904	-0.716	0.755	0.489	0.104	0.118	1.109
Sex	0.18	1.314	-0.081	-0.439	0.513	0.123	1.67	0.263	0.22	1.301

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

Table 2. Principal Components Analysis on Potential Institutional Bias Items for Black Participants, Study 1B

Item	Component		
	1 System Bias $\alpha = .684$	2 System Justification $\alpha = .694$	3 Distrust in Institutions $\alpha = .762$
How strongly do you agree or disagree with the following statements: American society just hasn't dealt fairly with people from my background?	0.554		
More good jobs for Whites means fewer good jobs for people like me.	0.676		
The more influence Whites have in politics, the less influence people like me will have in politics.	0.689		
Over the past few years, Blacks have gotten less than they deserve. Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?	0.621		
Do you think the following groups face a lot of discrimination, some, a little, or no discrimination at all: African Americans?	0.539		
How much discrimination or unfair treatment do you think YOU have faced in the U.S. because of your ethnicity or race?	0.503		
America is a land of opportunity in which you only need to work hard to succeed.		0.606	
If racial and ethnic minorities don't do well in life they have no one to blame but themselves. Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?		0.541	
Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors. Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree?		0.585	
It is not really that big of a problem if some people have more of a chance in life than others.		0.576	
How strongly do you agree or disagree with the following statements: Law enforcement should be able to stop or arrest people of certain racial or ethnic backgrounds if they are thought to be more likely to commit crimes?		0.641	
Inferior groups of people should stay in their place.		0.738	
How much of the time do you think you can trust the following institution: the government in Washington?			0.79
"...the media or journalists?"			0.728
"...the police?"			0.711
"...the legal system?"			0.765
Would you say that over the past year the economic position of [R RACE]s has gotten better, stayed about the same, or gotten worse?			

All items (except the last one) loaded at .5 or above on a single component. Only loadings of > .5 are shown.

Table 3. Principal Components Analysis on Potential Institutional Bias Items for White Participants, Study 1B

Item	Component		
	1 Distrust in Institutions $\alpha = .656$	2 Discrimination $\alpha = .556$	3 System Justification $\alpha = .441$
How much of the time do you think you can trust the following institution: the government in Washington?	0.652		
“...the media or journalists?”	0.633		
“... the police?”	0.723		
“... the legal system?”	0.717		
How strongly do you agree or disagree with the following statements: American society just hasn't dealt fairly with people from my background?		0.691	
Do you think the following groups face a lot of discrimination, some, a little, or no discrimination at all: Whites?		0.642	
How much discrimination or unfair treatment do you think YOU have faced in the U.S. because of your ethnicity or race?		0.667	
America is a land of opportunity in which you only need to work hard to succeed.			0.605
Would you say that over the past year the economic position of [R RACE]s has gotten better, stayed about the same, or gotten worse?			0.555
How strongly do you agree or disagree with the following statements: Law enforcement should be able to stop or arrest people of certain racial or ethnic backgrounds if they are thought to be more likely to commit crimes?			0.619
It is not really that big of a problem if some people have more of a chance in life than others.			0.566
Inferior groups of people should stay in their place.			

All items (except the last one) loaded at .5 or above on a single component. Only loadings of > .5 are shown.

Table 4. Correlations of primary outcome variables for Black participants, Study 1B.

Measure	1	2	3
1. Preference for Own Race Political Leaders	-		
2. Disapproval of Interracial Marriage	.061	-	
3. Blacks and Whites Can't Be Comfortable	.107**	0.145***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 5. Correlations of primary outcome variables for White participants, Study 1B.

Measure	1	2	3
1. Preference for Own Race Political Leaders	-		
2. Disapproval of Interracial Marriage	.117***	-	
3. Blacks and Whites Can't Be Comfortable	.244***	.313***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 6. Correlations of primary predictors variables for Black participants, Study 1B.

Measure	1	2	3
1. System Bias	-		
2. System Justification	-.233***	-	
3. Distrust in Institutions	.323***	-0.162***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 7. Correlations of primary predictors variables for White participants, Study 1B.

Measure	1	2	3
1. Distrust in Institutions	-		
2. Discrimination	.143***	-	
3. System Justification	-.190***	.127***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 8. Full analyses for Black participants, Study 1B

Predictor	Friend Ethnic Mix		Place of Worship Ethnic Mix		Preference for Own Race Political Leaders		Disapproval of Interracial Marriage		Blacks and Whites Can't Be Comfortable		Neighborhood Ethnic Mix	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Distrust in Institutions	-0.024	-0.542	-0.078	-1.789	-0.106	-2.471*	-0.002	-.046	0.045	1.068	1.046	0.296
System Bias	0.135	3.014**	0.117	2.597*	0.244	5.51***	0.009	.192	0.247	5.659***	0.456	0.648
System Justification	-0.072	-1.504	-0.046	-0.951	0.065	1.372	0.028	.590	0.165	3.569***	-0.092	0.927
Age	0.002	0.035	-0.002	-0.043	-0.099	-2.307*	0.089	2.028*	-0.024	-.556	0.394	0.694
Gender	0.087	2.055*	0.023	0.552	-0.051	-1.228	0.057	1.343	0.03	.734	1.816	0.07
Political Orientation	-0.025	-0.582	0.008	0.191	0.002	0.052	0.074	1.687	0.032	.765	0.934	0.351
Education	-0.075	-1.633	-0.008	-0.175	-0.063	-1.374	-0.078	-1.664	-0.125	-2.771**	-2.75	.006**
Religiosity National Identification	-0.021	-0.483	0.082	1.917	0.019	0.459	-0.068	-1.571	0.044	1.056	-0.598	0.55
Family Income	-0.075	-1.714	-0.032	-0.721	-0.008	-0.186	-0.126	-2.878**	-0.006	-.150	0.455	0.649
Group Identification	0.003	0.063	0.093	2.192*	0.047	1.124	0.001	.029	0.022	.530	0.301	0.763
Neighborhood Ethnic Mix	0.032	0.735	0.088	2.054*	0.086	2.032*	-0.029	-.660	-0.026	-0.609	1.21	0.227
	0.098	2.361*	0.236	**	0.018	0.431	0.067	1.595	0.015	0.379		

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

Table 9. Full analyses for White participants, Study 1B

Predictor	Friend Ethnic Mix		Place of Worship Ethnic Mix		Preference for Own Race Political Leaders		Disapproval of Interracial Marriage		Blacks and Whites Can't Be Comfortable		Neighborhood Ethnic Mix	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Distrust in Institutions	-0.027	-0.687	-0.011	-0.282	-0.01	-0.244	0.027	0.744	0.008	0.219	-0.041	-1.037
Discrimination	-0.039	-1.029	-0.039	-0.984	0.062	1.574	0.1	2.75**	0.122	3.231**	-0.142	-3.655***
System Justification	-0.045	-1.051	-0.083	-1.856	-0.002	-0.052	0.096	2.361*	0.117	2.77**	-0.009	-0.198
Age	0.181	4.923***	0.077	1.99*	0.068	1.8	0.236	6.74***	0.16	4.415***	-0.013	-0.339
Gender	0.065	1.714	0.052	1.297	0.036	0.906	-0.07	-1.945	-0.046	-1.224	0.017	0.433
Political Orientation	0.082	1.965*	0.062	1.422	-0.013	-0.298	0.145	3.663***	0.025	0.599	0.106	2.498*
Education	0.04	1.04	0.029	0.72	-0.137	-3.433**	-0.141	-3.822***	-0.162	-4.241***	-0.03	-0.756
Religiosity	-0.062	-1.586	-0.129	-3.23**	-0.075	-1.864	0.002	.060	-0.078	-2.025*	0.01	0.25
National Identification	0.038	0.901	0.016	0.371	-0.076	-1.744	0.019	0.479	-0.044	-1.065	0.024	0.554
Family Income	0.04	1.074	0.041	1.07	0.004	0.095	0.038	1.093	-0.032	-0.881	-0.025	-0.658
Group Identification	0.015	0.404	-0.036	-0.92	0.047	1.204	0.017	0.467	0.047	1.272	-0.007	-0.172
Neighborhood Ethnic Mix	0.168	4.504***	0.285	7.28***	-0.011	-0.296	0.058	1.646	0.022	0.581		

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

Table 10. Principal Components Analysis on *Institutional Bias – Justice System*, Study 1C.

Item	Component	
	1	2
	System Functioning $\alpha = .98$	Differential Treatment by Institutions $\alpha = .72$
Treats members of my racial group with respect	0.899	
Takes time to listen to members of my racial group	0.903	
Treat members of my racial group fairly	0.909	
Respect the rights of members of my racial group	0.914	
Is courteous to members of my racial group	0.905	
Make decisions based upon facts for members of my racial group	0.828	
Explain their decisions to members of my racial group	0.841	
Make decisions to handle the problems of members of my racial group fairly	0.892	
Provide the same quality of service to all people, including members of my racial group	0.882	
Give members of my racial group less help because of my race		0.878
Provide better services to members of other racial groups		0.878
Protect the rights of members of my racial group	0.879	
Can be trusted to make decisions that are right for members of my racial group	0.906	
Overall, tend to do their job well for members of my racial group	0.907	
Are effective at reducing negative behavior amongst members of my racial group	0.863	
Respond quickly when approached for help by members of my racial group	0.853	
Try to be of assistance towards members of my racial group	0.884	
Are effective at providing help for members of my racial group	0.897	
Should be trusted by members of my racial group, even if we think they are wrong	0.745	
Should be listened to by members of my racial group, even if we disagree	0.563	
Variance Explained:	67.20%	7.94%
Mean	1.96	2.61
SD	0.81	0.97

Table 12. Principal Components Analysis on *Institutional Bias – Political System*, Study 1C.

Item	Component	
	1 System Functioning $\alpha = .98$	2 Differential Treatment by Institutions $\alpha = .71$
Treats members of my racial group with respect	0.864	
Takes time to listen to members of my racial group	0.865	
Treat members of my racial group fairly	0.890	
Respect the rights of members of my racial group	0.881	
Is courteous to members of my racial group	0.853	
Make decisions based upon facts for members of my racial group	0.843	
Explain their decisions to members of my racial group	0.846	
Make decisions to handle the problems of members of my racial group fairly	0.897	
Provide the same quality of service to all people, including members of my racial group	0.863	
Give members of my racial group less help because of my race		0.874
Provide better services to members of other racial groups		0.875
Protect the rights of members of my racial group	0.878	
Can be trusted to make decisions that are right for members of my racial group	0.867	
Overall, tend to do their job well for members of my racial group	0.896	
Are effective at reducing negative behavior amongst members of my racial group	0.821	
Respond quickly when approached for help by members of my racial group	0.866	
Try to be of assistance towards members of my racial group	0.881	
Are effective at providing help for members of my racial group	0.893	
Should be trusted by members of my racial group, even if we think they are wrong	0.802	
Should be listened to by members of my racial group, even if we disagree	0.636	
	Variance Explained:	65.81% 7.84%
	Mean	2.04 2.61
	SD	0.79 0.92

Table 12: Principal Components Analysis on *Institutional Bias – Police, Study 1C*

Item	Component	
	1 System Functioning $\alpha = .98$	2 Differential Treatment by Institutions $\alpha = .69$
Treats members of my racial group with respect	0.902	
Takes time to listen to members of my racial group	0.907	
Treat members of my racial group fairly	0.911	
Respect the rights of members of my racial group	0.905	
Is courteous to members of my racial group	0.897	
Make decisions based upon facts for members of my racial group	0.794	
Explain their decisions to members of my racial group	0.867	
Make decisions to handle the problems of members of my racial group fairly	0.901	
Provide the same quality of service to all people, including members of my racial group	0.870	
Give members of my racial group less help because of my race		0.857
Provide better services to members of other racial groups		0.848
Protect the rights of members of my racial group	0.869	
Can be trusted to make decisions that are right for members of my racial group	0.869	
Overall, tend to do their job well for members of my racial group	0.905	
Are effective at reducing negative behavior amongst members of my racial group	0.831	
Respond quickly when approached for help by members of my racial group	0.849	
Try to be of assistance towards members of my racial group	0.884	
Are effective at providing help for members of my racial group	0.893	
Should be trusted by members of my racial group, even if we think they are wrong	0.735	
Should be listened to by members of my racial group, even if we disagree	0.560	
Variance Explained:	66.13%	8.00%
Mean	1.89	2.67
SD	0.80	0.98

Table 13: Principal Components Analysis on *Institutional Bias – Education System, Study 1C*

Item	Component	
	1 System Functioning $\alpha = .97$	2 Differential Treatment by Institutions $\alpha = .69$
Treats members of my racial group with respect	0.870	
Takes time to listen to members of my racial group	0.880	
Treat members of my racial group fairly	0.882	
Respect the rights of members of my racial group	0.854	
Is courteous to members of my racial group	0.833	
Make decisions based upon facts for members of my racial group	0.817	
Explain their decisions to members of my racial group	0.824	
Make decisions to handle the problems of members of my racial group fairly	0.863	
Provide the same quality of service to all people, including members of my racial group	0.807	
Give members of my racial group less help because of my race		0.856
Provide better services to members of other racial groups		0.882
Protect the rights of members of my racial group	0.857	
Can be trusted to make decisions that are right for members of my racial group	0.859	
Overall, tend to do their job well for members of my racial group	0.883	
Are effective at reducing negative behavior amongst members of my racial group	0.825	
Respond quickly when approached for help by members of my racial group	0.827	
Try to be of assistance towards members of my racial group	0.858	
Are effective at providing help for members of my racial group	0.883	
Should be trusted by members of my racial group, even if we think they are wrong	0.747	
Should be listened to by members of my racial group, even if we disagree	0.599	
Variance Explained:	62.74%	7.79%
Mean	2.44	2.62
SD	0.76	0.86

Table 14. Correlation matrix for each institution in *system functioning*, Study 1C

Measure	1	2	3	4
1. Justice System	-			
2. Police	.783***	-		
3. Education System	.617***	.606***	-	
4. Political System	.782***	.736***	.614***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 15. Correlation matrix for each institution in *differential treatment by institutions*, Study 1C

Measure	1	2	3	4
1. Justice System	-			
2. Police	.602***	-		
3. Education System	.339***	.364***	-	
4. Political System	.519***	.587***	.402***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 16. Correlation matrix for each of the predictors in Model 1, Study 1C

Measure	1	2	3	4
1. Institutional Distrust	-			
2. Differential Treatment by Institutions	-0.053	-		
3. System Functioning	-0.658***	0.017	-	
4 .System Justification	-0.582***	-0.045	0.639***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 17. Correlation matrix for each of the predictors in Model 2, Study 1C

Measure	1	2	3	4	5	6
1. Institutional Distrust	-					
2. Differential Treatment by Institutions	-0.053	-				
3. System Functioning	-0.658***	0.017	-			
4 .System Justification	-0.582***	-0.045	0.639***	-		
5. Stigma Consciousness	0.404***	.083	-.517***	-0.52***	-	
6. Rejection Sensitivity	0.164***	0.064	-0.127**	-0.154***	0.309***	-

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 18. Full Analyses, Study 1C

Predictor	Affiliative Preference - Contact		Affiliative Preference - Comfort		Proportion Same Race Social Contacts		Network Density	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Institutional Distrust	0.143	2.35*	0.109	1.766	0.074	1.162	0.007	0.105
Differential Treatment by Institutions	0.022	0.514	-0.002	-0.049	-0.004	-0.103	-0.045	-0.947
System Functioning	0.056	0.86	-0.005	-0.081	0.070	1.076	0.055	0.762
System Justification	0.205	3.312***	0.065	1.024	0.081	1.331	0.086	1.277
Stigma Consciousness	0.074	1.323	-0.015	-0.271	0.118	2.108*	-0.034	-0.558
Rejection Sensitivity	0.059	1.303	0.145	3.153**	0.013	0.287	0.098	1.932
Age	0.063	1.447	-0.028	-0.643	0.112	2.542*	0.071	1.471
Gender	0.077	1.729	0.062	1.382	0.077	1.718	-0.033	-0.674
Political Orientation	0.086	1.906	-0.049	-1.069	0.002	0.039	-0.034	-0.674
Education	0.062	1.381	0.003	0.059	0.024	0.527	0.051	1.019
Religiosity	-0.074	-1.618	0.026	0.567	0.135	2.942**	0.093	1.818
National Identification	-0.221	-4.504***	-0.135	-2.696**	-0.096	-1.933	-0.095	-1.737
Family Income	-0.060	-1.317	-0.075	-1.62	-0.066	-1.436	-0.014	-0.282
Ethnic ID	-0.060	-1.328	-0.072	-1.571	0.117	2.553*	0.016	0.328
Percent of Same Race in Zip Code	0.117	2.741**	0.070	1.595	0.260	5.973***	0.022	0.461

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 19. Means and standard deviations for number of ingroup partners chosen, Study 2.

	Aware of Group Identity		Unaware of Group Identity	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	4.2115	2.11179	3.7692	2.15078
Fair Institution	3.7379	2.04825	3.3689	2.12359
No Institution	4.1869	2.17243	3.3925	2.00827

Table 20. Means and standard deviations for total amount sent to ingroup partners, Study 2.

	Aware of Group Identity		Unaware of Group Identity	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	12.4078	9.2952	10.3495	8.56773
Fair Institution	11.8155	9.91013	10.4175	9.30162
No Institution	11.5514	10.86038	8.4579	8.12204

Table 21. Means and standard deviations for total amount sent to outgroup partners, Study 2.

	Aware of Group Identity		Unaware of Group Identity	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	4.4369	7.27293	5.4854	6.97174
Fair Institution	5.4078	6.97817	6.2816	6.89475
No Institution	3.8224	6.48483	5.486	6.12043

Table 22. Means and standard deviations for total number of ingroup partners chosen, Study 3.

	Variable Multiplier		Constant Multiplier	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	2.1875	2.11418	2.875	2.36754
Fair Institution	2.51	1.97348	3.573	2.33844
No Institution	2.852	2.23738	4	2.36406

Table 23. Means and standard deviations for total amount sent to ingroup partners, Study 3.

	Variable Multiplier		Constant Multiplier	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	6.0323	7.04095	8.8602	9.97561
Fair Institution	9.5682	8.4633	13.625	10.88742
No Institution	8.6857	8.16337	12.0762	10.08778

Table 24. Means and standard deviations for total amount sent to outgroup partners, Study 3.

	Variable Multiplier		Constant Multiplier	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	11.5054	9.48067	8.0753	8.12837
Fair Institution	11.1364	8.62259	7.0114	8.99616
No Institution	9.9048	9.057	5.6857	8.5556

Table 25. Means and standard deviations for maximum potential earnings – ingroup partners, Study 3.

	Variable Multiplier		Constant Multiplier	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	15.5753	15.32083	20.5215	19.83408
Fair Institution	22.4205	17.17739	29.7557	21.28015
No Institution	21.419	16.79949	28.1143	19.53058

Table 26. Means and standard deviations for maximum potential earnings – outgroup partners, Study 3.

	Variable Multiplier		Constant Multiplier	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Biased Institution	30.0672	21.36583	19.8011	17.01121
Fair Institution	28.7273	19.8627	16.0284	18.59433
No Institution	25.7405	21.40408	13.3381	17.88942

Table 27. Imputed Analyses for Study 1A.

Predictor	Laws Against Inter-marriage			Busing School Children		
	b	t-value	df	b	t-value	df
Situational Contributors to Difference	0.014	.014	106.89	-0.074	-1.103	99.02
Internal Contributors to Difference	-0.004	-.004	115.27	0.133	1.998*	115.36
Modern Racism	0.038	.038	127.65	0.062	1.324	131.41
Distance to nearest opposite race person	0.088	.088*	68.85	-0.018	-0.222	82.11
Age	0.003	.003	128.02	0.001	0.21	127.38
Education	0.000	.0001	131.13	0.011	0.219	100.37
Income	-0.010	-.010	90.58	-0.007	-0.484	97.21
Strength of Religious Affiliation	-0.026	-.026	122.17	-0.004	-0.076	128.75
Sex	0.046	.046	123.35	0.015	0.158	133.74

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

Table 28. Imputed Analyses for Black participants, Study 1B

Predictor	Friend Ethnic Mix			Place of Worship Ethnic Mix			Preference for Own Race Political Leaders			Blacks and Whites Can't Be Comfortable		
	b	t-value	df	b	t-value	df	b	t-value	df	b	t-value	df
Distrust in Institutions	0.010	0.213	702.18	-0.164	-2.186*	727.200	-0.162	-2.138*	691.87	0.086	1.138	712.23
System Bias	0.132	3.243***	688.35	0.454	6.783***	670.412	0.459	6.809***	651.40	0.499	7.416***	690.26
System Justification	-0.051	-1.319	666.69	0.133	2.100*	678.383	0.132	2.088*	679.92	0.261	4.057***	632.04
Age	0.000	-0.102	655.96	-0.006	-2.215*	596.619	-0.006	-2.189*	577.13	-0.001	-0.347	680.91
Gender	0.086	1.808	706.65	-0.049	-0.620	702.964	-0.048	-0.605	678.55	0.040	0.512	721.12
Political Orientation	-0.017	-0.641	354.01	0.002	0.037	247.422	0.004	0.095	381.42	0.032	0.699	281.00
Education	-0.020	-0.930	684.17	-0.035	-1.011	572.473	-0.038	-1.065	567.19	-0.126	-3.636***	696.95
Religiosity	-0.018	-0.524	433.14	0.023	0.424	490.534	0.028	0.517	599.68	0.062	1.092	447.10
National Identification	-0.030	-0.798	659.38	0.008	0.134	682.069	0.010	0.169	709.68	-0.075	-1.218	636.20
Family Income	0.000	0.905	675.40	0.000	0.351	699.791	0.000	0.486	540.81	0.000	0.437	532.56
Group Identification	0.021	0.649	624.06	0.089	1.682	644.086	0.087	1.643	658.23	-0.062	-1.158	685.67
Neighborhood Ethnic Mix	0.079	2.542**	663.43	0.026	0.521	709.455	0.027	0.534	697.19	0.048	0.950	708.81

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

Table 29. Imputed analyses for White participants, Study 1B.

Predictor	Friend Ethnic Mix			Disapproval of Interracial Marriage			Blacks and Whites Can't Be Comfortable			Neighborhood Ethnic Mix		
	b	t-value	df	b	t-value	df	b	t-value	df	b	t-value	df
Distrust in Institutions	-0.081	-1.813	813.91	-0.038	-0.541	814.64	0.008	0.132	837.25	-0.066	-1.223	861.13
Discrimination	-0.064	-2.048*	890.72	0.140	2.893**	859.32	0.132	3.113**	673.49	-0.120	-3.179**	870.04
System Justification	-0.024	-0.615	876.55	0.200	3.211**	839.92	0.219	4.100***	802.54	-0.031	-0.634	884.86
Age	0.006	4.773***	865.60	0.015	8.216***	806.76	0.007	4.360***	698.82	0.000	0.330	895.57
Gender	0.063	1.546	865.78	-0.112	-1.766	876.70	-0.080	-1.477	866.20	0.031	0.616	853.46
Political Orientation	0.042	1.743	750.90	0.161	4.33***	681.59	0.004	0.114	654.10	0.060	2.050*	691.36
Education	0.012	0.677	835.00	-0.100	-3.601***	857.26	-0.105	-4.392***	835.17	-0.006	-0.294	874.36
Religiosity	-0.059	-2.290*	320.46	0.001	0.035	506.39	-0.076	-2.322*	566.88	0.003	0.081	341.44
National Identification	0.022	0.608	803.99	0.005	0.086	878.25	-0.092	-1.954	822.22	0.066	1.532	841.39
Family Income	0.000	0.967	902.71	0.000	0.939	902.64	0.000	-1.339	895.51	0.000	-0.315	903.06
Group Identification	0.031	0.935	571.55	0.023	0.449	678.64	0.028	0.641	778.71	-0.005	-0.134	705.51
Neighborhood Ethnic Mix	0.131	4.768***	875.98	0.073	1.695	848.96	0.031	0.852	823.22			

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

Table 30. Imputed analyses, Study 1C.

Predictor	Affiliative Preference - Contact			Affiliative Preference - Comfort			Proportion Same Race Social Contacts		
	b	t-value	df	b	t-value	df	b	t-value	df
Institutional Distrust	0.208	2.491*	571.94	0.264	2.589**	575.07	0.039	1.700	159.95
Differential Treatment by Institutions	0.021	0.312	571.53	-0.001	-0.017	570.63	-0.006	-0.333	320.42
System Functioning	0.056	0.516	566.71	0.008	0.057	570.85	0.031	1.115	325.73
System Justification	0.166	3.640***	572.55	0.094	1.686	573.20	0.020	1.656	279.91
Stigma Consciousness	0.064	1.131	574.18	-0.051	-0.734	575.17	0.026	1.804	414.81
Rejection Sensitivity	0.010	1.585	574.65	0.030	3.710***	575.00	0.000	0.109	121.70
Age	0.004	0.9	574.32	-0.001	-0.293	575.48	0.003	2.407*	148.33
Gender	0.181	1.707	569.39	0.180	1.393	573.18	0.059	2.128*	292.14
Political Orientation	0.080	2.231*	572.73	-0.036	-0.816	571.39	-0.001	-0.075	316.82
Education	0.085	2.078*	572.63	0.009	0.179	574.63	0.001	0.081	130.30
Religiosity	-0.043	-1.645	563.87	-0.001	-0.033	566.02	0.023	2.286***	332.31
National Identification	-0.151	-4.330***	571.39	-0.108	-2.527*	564.82	-0.018	-2.029	472.61
Family Income	-0.025	-1.38	562.68	-0.035	-1.573	574.30	-0.006	-1.161	148.88
Ethnic ID	-0.177	-1.913	571.48	-0.265	-2.358*	573.63	0.085	3.514***	282.90
Percent of Same Race in Zip Code	0.587	3.116**	256.92	0.453	1.991*	294.37	0.285	5.878***	141.37

* $p < .05$, ** $p < .01$, *** $p < .001$

Appendix A

In the sections below, I detail the multiple imputations conducted for Study 1A, 1B and 1C. Multiple imputations analyses were conducted because of the amount of missing data in the final models in each of the studies (Model 2 in Study 1A and 1B and Model 3 in Study 1C). This missing data does not allow for a clear comparison of these the first model conducted and the model which included all relevant controls. All multiple imputations were conducted in R using the package “mice” (Buuren, S. van & Groothuis-Oudshoorn, 2011). Following the recommendation of White and colleagues (2011), the amount of imputations conducted were comparable to the percentage of missing data. Note that this package does not report pooled standardized effects; as such all effects reported are unstandardized.

For each analysis, I specify the percentage of missing data and the subsequent number of imputations conducted. I then report the significant and relevant results for each dependent variable of interest. Finally, I present a tables, which includes the unstandardized coefficients, t-values, significance levels and degrees of freedom for each variable entered into the model. I only include analyses for dependent variables for which there were significant predictors in Model 1.

Study 1A

In both of the following analyses, the dependent variable was originally coded as dichotomous. However, as I used predictive mean matching to impute the missing data, the variables were converted into continuous variables. As such, the results reported are based of a linear regression.

Laws Against Intermarriage. Model 1 included 139 respondents and Model 2 included 96 respondents, indicating that 30.93% in Model 2 were missing data. Based on this, I conducted 30 imputations.

In contrast to the results of the non-imputed dataset, Results of the analysis indicated that distance to nearest opposite race person was a significant predictor, $b = .088$, $t(68.85) = 2.15$, $p = .035$, indicating that the further away the closest opposite race person was to the respondent, the more the respondent believed there should be laws against racial intermarriage. Although modern racism emerged as a significant predictor in the non-imputed dataset, there was only a trending effect in the imputed dataset, $b = .038$, $t(127.65) = 1.65$, $p = .102$.

Busing School Children. Model 1 included 134 respondents and Model 2 93 respondents, indicating that 30.60% in Model 2 were missing data. Based on this, I conducted 30 imputations.

Mirroring the results presented in the main body of this document, the results of the analyses on the imputed data indicated that internal contributors to difference significantly predicted views on busing school children, $b = .133$, $t(115.36) = 2.00$, $p = .048$. The more participants believed that internal factors were the cause of differences between blacks and whites, the more opposed they were to busing school children to other districts.

Study 1B

Black Respondents

Friend Ethnic Mix. Model 1 included 737 respondents and Model 2 included 569 respondents, indicating that 22.80% in Model 2 were missing data. Based on this, I conducted 20 imputations.

Mirroring the results of analyses conducted on the unimputed data, analyses conducted on the imputed data revealed that perceptions of system bias and neighborhood homophily both significantly predicted the homophily of respondent's friend groups. Specifically, system bias emerged as a positive predictor, $b = .132$, $t(688.35) = 3.24$, $p = .001$, indicating that the more biased the system was perceived to be, the more homophilous respondents reported their friend group as being. Additionally, the more homophilous respondents neighborhoods, the more homophilous their friend groups, $b = .079$, $t(663.43) = 2.54$, $p = .011$.

Unlike the results of the analyses performed on the non-imputed data, the imputed data indicated that gender did not significantly predict the ethnic mix of friends, $p > .07$.

Place of Worship Ethnic Mix. Model 1 included 652 respondents and Model 2 included 542 respondents, indicating that 16.87% in Model 2 were missing data. Based on this, I conducted 15 imputations.

Similar to the results of analyses using non-imputed data, the more biased respondents believed the system to be, the more homophilous their place of worship, $b = .454$, $t(670.41) = 6.78$, $p < .001$.

Unlike the previously reported results, both distrust in institutions and system justification were revealed to be significant predictors. The more respondents distrusted

institutions, the less homophilous their place of worship, $b = -.164$, $t(727.20) = -2.19$, $p = .029$, and the more just respondents believed the system to be, the more homophilous their place of worship, $b = .133$, $t(678.38) = 2.10$, $p = .036$. Additionally, the younger respondents were, the less homophilous their place of worship, $b = -.006$, $t(596.62) = -2.21$, $p = .027$. In contrast to the previously reported analyses, family income, group identification and neighborhood ethnic mix were not significant predictors, all p 's $> .09$.

Preference for Own-Race Political Leaders. Model 1 included 736 respondents and Model 2 included 569 respondents, indicating that 22.69% in Model 2 were missing data. Based on this, I conducted 20 imputations.

The results of the analyses using the imputed data were similar to the results of the analyses using the non-imputed data. System bias emerged as a positive predictor, $b = .459$, $t(651.40) = 6.81$, $p < .001$, indicating that the more biased participants believed the system to be, the more they preferred same-race political leaders. Additionally, the less participants distrusted institutions, the more they preferred own-race political leaders, $b = -.162$, $t(691.87) = -2.14$, $p = .033$. Also reflecting the results of the non-imputed data, younger respondents preferred own-race political leaders more than older respondents, $b = -.006$, $t(577.13) = -2.19$, $p = .029$.

In contrast to the analyses performed on the non-imputed data, analyses on the imputed data indicated that system justification positively predicted preference for own-race political leaders, $b = .132$, $t(679.92) = 2.09$, $p = .037$, indicating that even with the addition of the controls, the more participants justified the existing system, the more they preferred own-race political leaders. Additionally, the effect of group identification was not significant in these analyses, $p > .10$.

Blacks and Whites Can't Be Comfortable. Model 1 included 743 respondents and Model 2 included 569 respondents, indicating that 22.42% in Model 2 were missing data. Based on this, I conducted 20 imputations.

The results of the pooled imputed analyses mirrored the results of non-imputed analyses. The more biased respondents believed the system was, the more they endorsed the idea that Blacks and Whites cannot be comfortable with each other, $b = .499$, $t(690.26) = 7.42$, $p < .001$. In addition, the more respondents justified the system, the more they believed that Blacks and Whites cannot be comfortable with one another, $b = .261$, $t(632.04) = 4.06$, $p < .001$. Finally, the more educated participants were, the less they agreed that blacks and whites cannot be comfortable with one another, $b = -.126$, $t(696.95) = -3.64$, $p < .001$.

White Respondents

Friend Ethnic Mix. Model 1 included 907 respondents and Model 2 included 698 respondents, indicating that 23.04% in Model 2 were missing data. Based on this, I conducted 20 imputations.

As indicated in the analyses reported in the main text of this document, the older respondents were, the more homophilous their friend groups, $b = .006$, $t(865.60) = 4.77$, $p < .001$. Additionally, the more homophilous their neighborhoods, the more same-race friends respondents reported as having, $b = .131$, $t(875.98) = 4.77$, $p < .001$.

In contrast to the analyses reported in the main text, discrimination emerged as a significant predictor, $b = -.064$, $t(890.72) = -2.05$, $p = .041$, indicating that the more respondents felt that they had been discriminated against, the less homophilous their friend group. In addition, religiosity was revealed to be a significant predictor, $b = -.059$,

$t(320.46) = -2.29, p = .023$, such that the more religious respondents were, the less homophilous their friend group. Although the non-imputed data indicated that political orientation was a significant predictor, the effect of political orientation was non-significant in analyses on imputed data, $p > .08$.

Disapproval of Interracial Marriage. Model 1 included 904 respondents and Model 2 included 698 respondents, indicating that 22.79% in Model 2 were missing data. Based on this, I conducted 20 imputations.

The results of the analyses on the imputed data mirrored the results of the analyses on the non-imputed data. The more White respondents felt discriminated against, the more they disapproved of interracial marriage, $b = .140, t(859.32) = 2.89, p = .004$. Additionally, the more respondents endorsed system justifying items, the more they disapproved of interracial marriage, $b = .200, t(839.92) = 3.21, p = .001$. The older respondents were, the more they disapproved of interracial marriage, $b = .015, t(806.77) = 8.22, p < .001$, and the more conservative respondents were, the more they disapproved of interracial marriage, $b = .160, t(681.59) = 4.30, p < .001$. Finally, the more educated respondents were, the less they disapproved of interracial marriage, $b = -.100, t(857.26) = -3.60, p < .001$.

Blacks and Whites Can't Be Comfortable. Model 1 included 904 respondents and Model 2 included 699 respondents, indicating that 22.67 % in Model 2 were missing data. Based on this, I conducted 20 imputations.

Analyses using the imputed data were comparable to analyses reported in the main body of this document. The more respondents felt discriminated against, the more they endorsed the idea that blacks and whites cannot be comfortable with each other, $b =$

.132, $t(673.49) = 3.11, p = .002$. Additionally, the more respondents justified the system, the more they agreed with the statement, $b = .219, t(802.54) = 4.10, p < .001$. Amongst the demographic characteristics, the older participants were, the more likely they were to believe blacks and whites cannot be comfortable, $b = .007, t(698.82) = 4.36, p < .001$. In addition, the more educated respondents were, the less they agreed with the statement, $b = -.105, t(835.17) = -4.39, p < .001$

Unlike the previously reported analyses, the present analysis found that the more religious respondents were, the less they agreed with the statement, $b = -.076, t(566.88) = -2.32, p = .020$. In addition, the present analyses found no significant effect of political orientation, $p > .90$.

Neighborhood Ethnic Mix. Model 1 included 910 respondents and Model 2 included 704 respondents, indicating that 22.64% in Model 2 were missing data. Based on this, I conducted 20 imputations.

The results of the imputed data analyses mirrored those of the earlier reported analyses. The more White respondents felt they had been discriminated against, the less homophilous their neighborhood, $b = -.120, t(870.04) = -3.18, p < .001$. Additionally, the more conservative respondents were, the more homophilous their neighborhood, $b = .060, t(691.36) = 2.05, p = .041$.

Study 1C

Proportion of Same Race Social Contacts. Model 1 included 541 respondents and Model 3 included 480 respondents, indicating that 11.27% in Model 3 were missing data. Based on this, I conducted 10 imputations.

Unlike the significant of stigma consciousness in the non-imputed data, the effect of stigma consciousness in the imputed dataset was marginal, $b = .026$, $t(414.81) = 1.80$, $p = .072$, indicating a trending effect such that the higher respondent's stigma consciousness, the higher their proportion of same-race social contacts. In addition, several of the added control variables were significant. Older participants had more homophillous social contacts, $b = .003$, $t(148.33) = 2.41$, $p = .017$. The more religious participants were, the more same-race social contacts were reported, $b = .022$, $t(332.31) = 3.39$, $p = .008$. The stronger participants' ethnic identification, the more homophilous their social networks, $b = .085$, $t(282.90) = 3.51$, $p = .005$. Additionally, the homophilous one's zip code, the higher the proportion of same-race social contacts were named, $b = .285$, $t(141.37) = 5.88$, $p < .001$.

In addition, with the multiple imputations analysis both gender and national identification emerged as significant predictors. These variables were not significant in the non-imputed Model 3 with 480 respondents. Women had more same-race social contacts than men, $b = .059$, $t(292.14) = 2.13$, $p = .034$. In addition, those with weaker national identification had more homophilous social networks, $b = -.018$, $t(472.61) = -2.03$, $p = .043$.

Affiliative Preference – Contact. Model 1 included 592 respondents and Model 3 included 525 respondents, indicating 11.32% of the data was missing from Model 3.

Based on this, I based my analyses on 10 imputations.

The pattern of effects using the imputed data was similar to the pattern of effects in the non-imputed data. Institutional distrust emerged as a positive significant predictor, $b = .208$, $t(571.94) = 2.49$, $p = .013$, as did system justification, $b = .166$, $t(572.55) =$

3.64, $p < .001$. The more respondents distrusted institutions, the more they preferred same-race contact and the more system justifying respondents were, the more they preferred same-race contact.

In addition, national identification was a significant negative predictor, $b = -.151$, $t(571.39) = -4.33$, $p < .001$, and percentage of same-race individual's in one's zip code was a significant positive predictor $b = .587$, $t(256.92) = 3.12$, $p = .002$.

In contrast to the non-imputed Model 3, the imputed dataset revealed political orientation as a significant predictor, $b = .080$, $t(572.73) = 2.23$, $p = .026$, indicating that the more conservative respondents identified as, the more they preferred contact with same-race individuals.

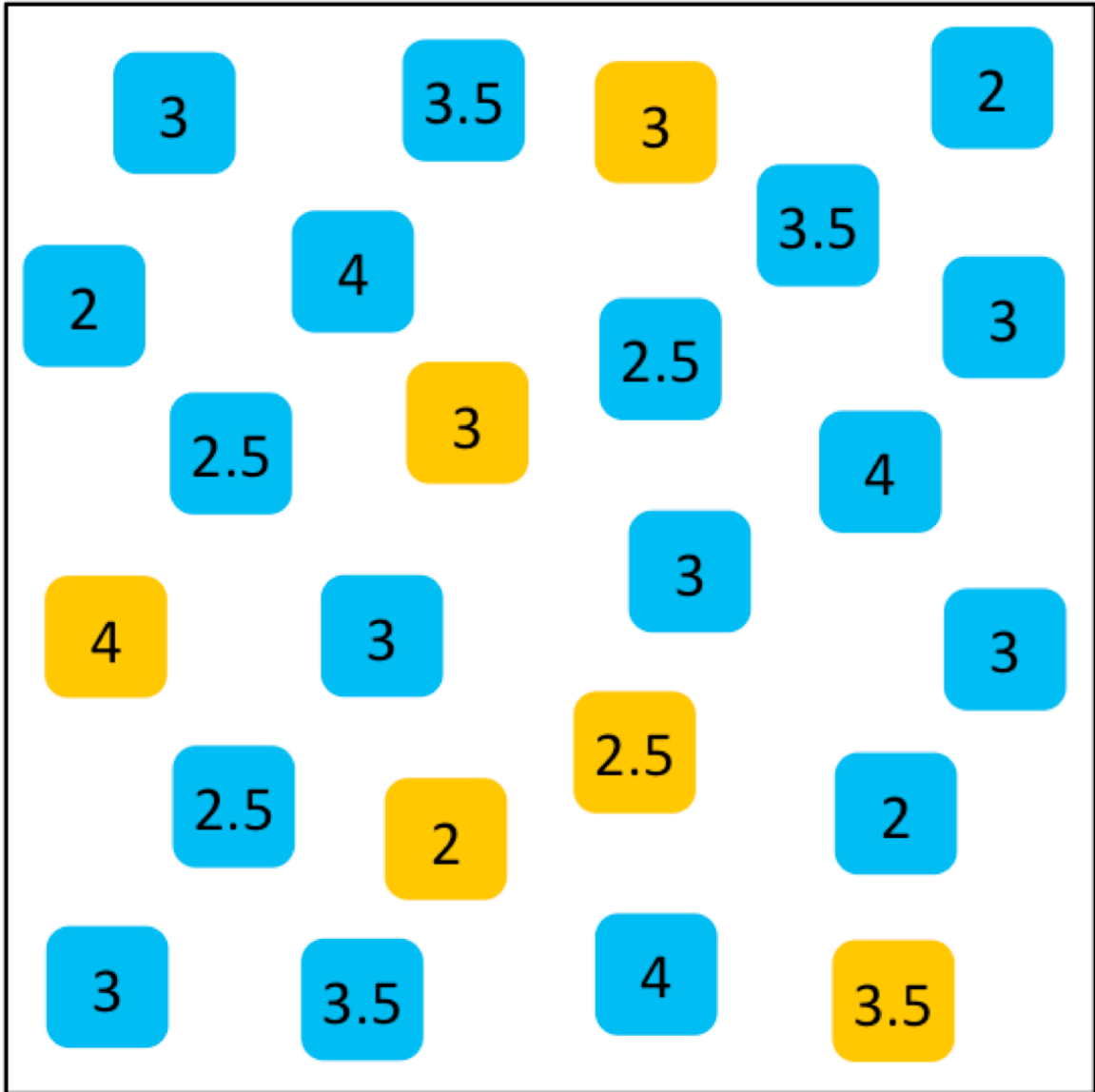
Affiliative Preference – Comfort. Model 1 included 591 respondents and Model 3 included 514 respondents, indicating 13.02% of the data was missing from Model 3. As such, I based my analyses on 10 imputations.

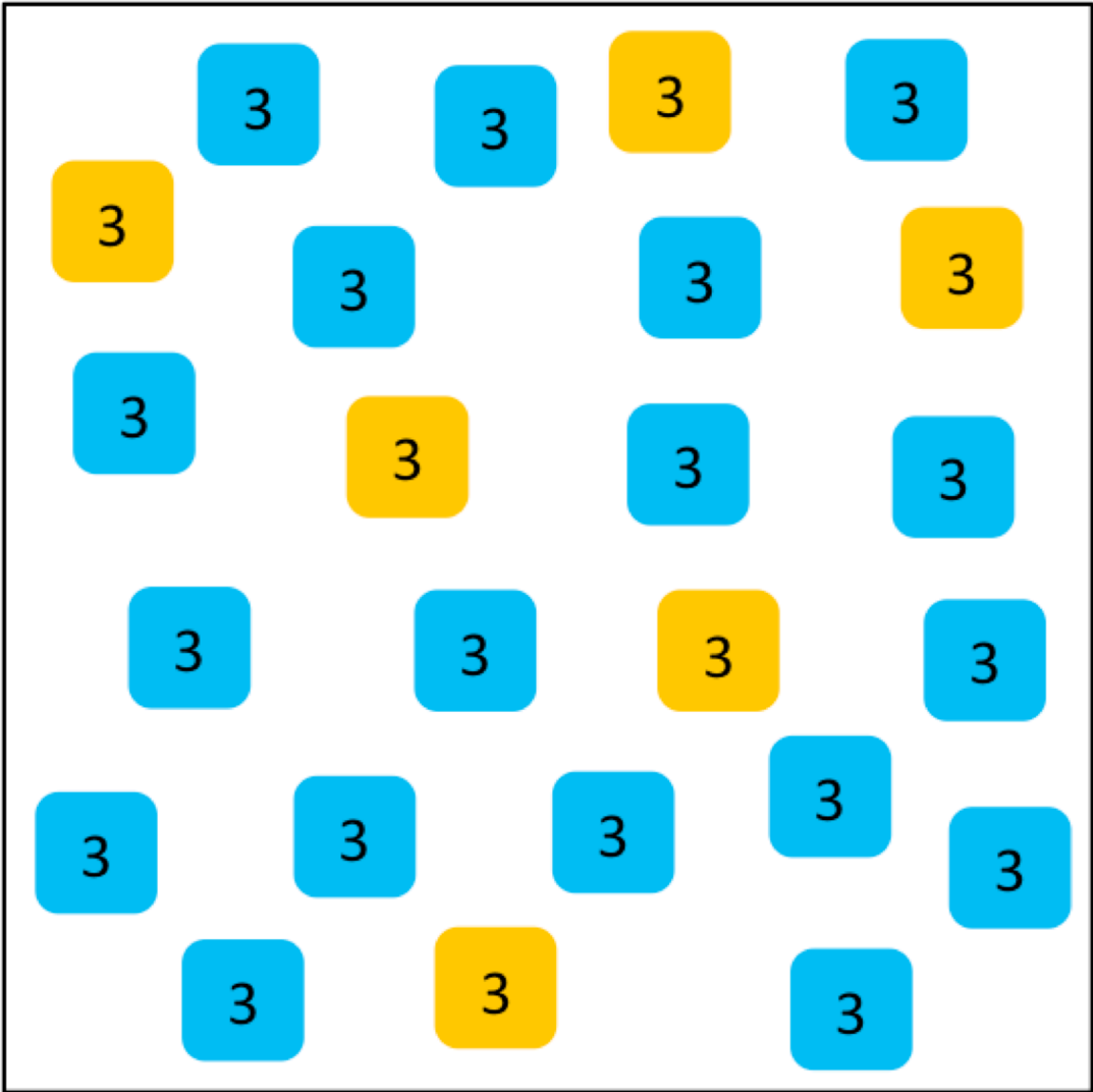
Similar to the analysis performed on the non-imputed data, rejection sensitivity emerged as a significant, positive predictor, $b = .030$, $t(575.00) = 3.71$, $p < .001$. In addition, national identification was a significant, negative predictor, $b = .108$, $t(564.82) = -2.53$, $p = .012$. Percent of same-race individuals in zip code was also a significant, positive predictor, $b = .453$, $t(294.37) = 1.99$, $p = .005$.

Unlike the non-imputed analysis, distrust in institutions also emerged as a significant predictor, $b = .264$, $t(575.07) = 2.59$, $p = .010$, indicating that the more participants distrusted institutions, the more comfortable they were with contact with same-race individuals (relative to different race-individuals).

Appendix B

Below are the arrays participants saw in the *variable multiplier condition* and the *constant multiplier condition*.





Natasha L. Thalla

Education

- Ph.D.** Social Psychology
Lehigh University Bethlehem, PA
- M.S.** Social Psychology (2015)
Lehigh University Bethlehem, PA
- B.A.** Psychology (2013) with Honors
New York University New York, NY
- B.A.** Anthropology/Classical Civilization (2013)
New York University New York, NY

Research Interests

Group Identity	Trust and Cooperation
Stereotyping and Intergroup Relations	Blame and Punishment
Morality	Deception
Collective Action	Ritual and religion

Publications and Manuscripts

- Yudkin, D. A., Rothmund, T., Twardawski, M., **Thalla, N.**, & Van Bavel, J. J. (2016). *Reflexive intergroup bias in third-party punishment*. *Journal of Experimental Psychology: General*.
- Gill, M. J. & **Thalla, N. L.** (under review). *Telling his story: Self-aware historicist narratives are less effective at reducing blame*.
- Thalla, N. L.**, Lin, S., Aoki, J. T., Ungson, N. D., & Packer, D. J. (in prep). *Four faces of moral regulation: Integrating broad approach/avoidance distinctions in moral motivation with ideal vs. ought regulatory strategies*.
- Thalla, N. L.**, & Packer, D. J. (in prep). *Swindling the similar: Reduced social vigilance increases vulnerability to affinity fraud*.

Grants and Fellowships

APS Travel Award (\$200)	2016
SPSP Diversity Fund Travel Grant (\$500)	2016
<i>College of Arts and Sciences Summer Research Fellowship</i> Lehigh University (\$4,444)	2014
<i>Not in my house: Ingroup policing and the effect of reputation on ingroup punishment</i> NYU Dean's Undergraduate Research Fund (\$1,000)	2012 - 2013

Presentations

- Thalla, N. L.**, (2016, December) *Telling His Story: Self-aware historicist narratives are less efficient at reducing blame*. Talk presented at Lehigh Psychology Departmental Brown Bag, Bethlehem, PA.
- Thalla, N.** & Packer, D. J. (2016, March). *Swindling the similar: Reduced social vigilance increases vulnerability to affinity fraud*. Talk presented at Annual Meeting of Eastern Psychological Association, New York, NY.
- Thalla, N.** (2016, March). *Swindling the similar: Reduced social vigilance increases vulnerability to affinity fraud*. Talk presented at Lehigh Psychology Departmental Brown Bag, Bethlehem, PA.
- Thalla, N.** (2015, April). *For what its worth: 'Negative' ritual actions increase the value of ritual objects*. Talk presented at Lehigh Psychology Departmental Brown Bag, Bethlehem, PA.
- Twardawski, M., Yudkin, D., Rothmund, T., Van Bavel, J. J., & **Thalla, N.** (2014, June). *Limited working memory capacity promotes in-group favoritism in punishment*. Paper presented at the annual meeting of the International Society for Justice Research, New York, NY.
- Yudkin, D., **Thalla, N.**, & Van Bavel, J. J. (2014, June). *Not in my house: Group membership changes crime and punishment*. Paper presented at the annual meeting of the International Society for Justice Research, New York, NY
- Thalla, N.** & Gill, M.J, (2014, April). *Effect of ritual on evaluation of mundane objects*. Talk presented at Lehigh Psychology Departmental Brown Bag, Bethlehem, PA.
- Thalla, N.**, Yudkin, D., & Van Bavel, J. J., (2013, April). *'Its okay, he's one of us': The limits of in-Group Favoritism with regards to moral transgressions*. Talk presented at the NYU Undergraduate Research Conference, New York, NY.

Posters

- Thalla, N.** & Gill, M. J. (2017, January) *Telling His Story: Self-aware historicist narratives are less efficient at reducing blame*. Poster presented at Society for Personality and Social Psychology, San Antonio, TX.
- Thalla, N.** & Packer, D. J. (2016, November) *Examining the influence of social categories on logic and reasoning skills*. Poster presented at Annual Meeting of Psychonomic Society, Boston, MA.
- Thalla, N.** & Packer, D. J. (2016, May) *Exceeding expectations: Demonstrating egalitarianism by favoring outgroup members*. Poster presented at Annual Meeting of Association of Psychological Science, Chicago, IL.
- Thalla, N.**, Gill, M. J., & Packer, D.J. (2016, January). *For all it's worth: "Negative" ritual actions increase monetary valuations of ritual objects*. Poster presented at Society for Personality and Social Psychology, San Diego, CA.
- Thalla, N.** & Packer, D. J. (2015, June). *Your friendly neighborhood conman: People are more likely to be deceived by members of their ingroup*. Poster presented at Annual Meeting of Association of Psychological Science, New York, NY.

Thalla, N. & Gill, M. J. (2015, March). *Raising the threat level: Threat increases punitiveness towards actors without volitional control*. Poster presented at Annual Meeting of Eastern Psychological Association, Philadelphia, PA.

Thalla, N. & Gill, M. J. (2015, February). *Synchronous action affects more than "Fellow Feeling": Group rituals involving synchrony can increase the perceived monetary value of mundane objects*. Poster presented at Society for Personality and Social Psychology, Long Beach, CA.

Thalla, N., Yudkin, D., & Van Bavel, J. J., (2014, February). *Heightened out-group punishment for moral misdeeds*. Poster presented at Society for Personality and Social Psychology, Austin, TX.

Teaching Experience

Introduction to Psychology Teaching Assistant under Dr. Nancy Carlisle, *Lehigh University*
Fall 2017
Guest lecture on Emotion and Motivation (1 class)

Introduction to Psychology Primary Instructor, *Lehigh University*
Summer 2017

Research Methods Teaching Assistant, Drs. Padraig O'Seaghdha and Tom Collins, *Lehigh University*
Spring 2017
Guest lecture on SONA Systems and Qualtrics (1 class)

Social Psychology Primary Instructor, *Lehigh University*
Summer 2016

Social Psychology Primary Instructor, *Lehigh University*
Summer 2015

Social Psychology Lab Primary Instructor, *Lehigh University*
Spring 2015

Social Psychology Teaching Assistant under Dr. Erica Schneid, *Lehigh University*
Spring 2015
Guest lecture on Attitudes and Persuasion (3 classes)

Personality Teaching Assistant under Dr. Michael Gill, *Lehigh University*
Spring 2014
Guest lecture on Personality Assessment (1 class)

Introduction to Psychology Teaching Assistant under Dr. Michael Gill, *Lehigh University*
Fall 2013
Guest lecture on Social Psychology (2 classes)

Professional Development

Teacher Development Workshop *Lehigh University*
2014 - 2015

Professional Service

Ad-Hoc Reviewer *Group Processes and Intergroup Relations*

Ad-Hoc Reviewer *Eastern Psychological Association Annual Conference*

Ad-Hoc Reviewer *SPSP Student Poster Award*

University and Department Service

Council of Equity and Community *Lehigh University*
2016 -

Diversity and Inclusion Committee *Lehigh University*
2016 -

Graduate Student Senate – Department Representative *Lehigh University*
2016 - 2017

University Committee on Academic Discipline *Lehigh University*
2015 -

Special Consultant, Mountaintop Project *Lehigh University*
2015

Colloquium Assistant *Lehigh University*
2014 - 2015

Professional Affiliations

Association for Psychological Sciences

Society for Personality and Social Psychology

Society for Psychological Study of Social Issues

Eastern Psychological Association

International Society for Justice Research

Psychonomic Society