Masters Theses   Graduate School

12-2012

Motivated Endorsement of Interethnic Ideologies: An Optimal Distinctiveness Approach

Kevin Lee Zabel

kzabel1@utk.edu

To the Graduate Council:

I am submitting herewith a thesis written by Kevin Lee Zabel entitled "Motivated Endorsement of Interethnic Ideologies: An Optimal Distinctiveness Approach." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Experimental Psychology.

<div align="right">Michael A. Olson, Major Professor</div>

We have read this thesis and recommend its acceptance:

Lowell Gaertner, Joe R. Miles

<div align="right">Accepted for the Council:
Carolyn R. Hodges</div>

<div align="right">Vice Provost and Dean of the Graduate School</div>

(Original signatures are on file with official student records.)

Motivated Endorsement of Interethnic Ideologies: An Optimal Distinctiveness Approach

A thesis presented for the Master of Arts Degree

The University of Tennessee, Knoxville

Kevin Lee Zabel

December 2012

Abstract

The current study examined the effects of need for inclusion and differentiation (Brewer, 1991) activations on endorsement of colorblind and multicultural ideologies, and the roles ideological endorsements played in visual social perception. A total of 238 university students were given false feedback on a personality inventory to activate needs for differentiation and inclusion, as well as completed interethnic ideology measures and a morphed-faces judgment task in which they perceived whether paired others were exactly the same or different. Bootstrapping analyses (Preacher & Hayes, 2008) confirmed that, consistent with hypotheses, need for inclusion activation participants endorsed colorblind ideology to a greater extent, as well as took longer to correctly identify ambiguously different faces, compared to need for differentiation activation participants. Moreover, colorblind ideology endorsement predicted increased reaction time in correctly categorizing ambiguously different faces. Analyses indicated that colorblind ideology fully mediated the need state activation-reaction time to correctly categorize ambiguously different faces relationship. Need state activation condition did not predict multicultural ideology endorsement, nor did multicultural ideology endorsement predict reaction time to correctly categorize ambiguously different faces. Results reveal that inclusiveness need activation may predispose one to endorse colorblind ideology, which in turn holds basic social perception implications within ambiguous contexts.

Table of Contents

List of Figures

Chapter 1: Introduction

By 2050, census projections indicate that Hispanics, Blacks, and individuals of other races/ethnicities will make up greater than 50% of the American population (compared to 35.3% in 2010). As such, an important current and future issue for America's government, employers, schools, and other organizations is how to confront increasing diversity, while simultaneously promoting harmony among United States citizens of different backgrounds and cultures. At least two major diversity models have been utilized by governments and organizations to address issues of diversity and promote harmony. One model consists of treating everyone the same, and minimizing the valuation of ethnic group differences, whereas the other consists of valuing, respecting, and celebrating ethnic group differences. The primary goal of this study is to identify the motivational antecedents of these two interethnic ideologies.

Colorblind and Multicultural Ideology

Colorblind ideology, entrenched in American ideals of individualism (Triandis, 1995), is the set of beliefs that individuals should all be 'treated the same' and that group differences should be ignored. Since the early 1960's when segregation was deemed illegal, colorblind ideological approaches have dominated diversity models of America's organizational, educational, and legal institutions (Plaut, 2002). Embedded in this ideological approach is that basic features such as race are immediately perceived and used to categorize others, but that such differences are superficial, trivial, and should be ignored by perceivers. Indeed, much empirical research has demonstrated the often adverse implications, such as stereotyping (e.g., Devine, 1989), prejudicial attitudes (e.g., Fazio & Dunton, 1997), and social inference (e.g., Gilbert, 1989) that stem from automatic perception of category differences that advance rigid ingroup-outgroup distinctions (see Hewstone, Rubin, & Willis, 2002, for a review). As such, Brewer and

Miller (1984) developed a decategorization approach to the perception of category-based distinctions, in which they posited that category salience of minority and majority group members should be reduced to a minimum in order to extinguish the negative implications of automatic categorization. Colorblind ideology is largely entrenched in this approach, and defined by the beliefs that 'treating everyone the same' and breaking down categorical distinctions will subsequently promote equal group treatment and intergroup harmony.

In comparison, multicultural ideology is the set of beliefs that group differences should be acknowledged, respected, and valued, and that valuing minorities' ethnic identities is important to the well-being of minority members and ultimately, improving intergroup relations. Diversity models entrenched in multicultural ideology emphasize that only when ethnic minorities feel their identities are safe and valued can they contribute to interethnic interactions in a way that will promote intergroup harmony and other positive outcomes (see Plaut, 2002 for a review). Inherent in this ideological approach is that categorization of individuals based on racial differences is inevitable (Brewer & Miller, 1988; Fiske & Neuberg, 1990), and thus ethnic differences must be acknowledged, accepted and valued. For example, Fiske and Neuberg's (1990) continuum model of impression formation posits that upon perception of an individual, one automatically categorizes that individual to 'privileged' social categories, which include race, age, and gender. The model contends that unless one has the motivation to move beyond the initial category impression facilitated by these 'privileged features,' as well as other physical features, (e.g., weight) and behavioral features (e.g., smiling), it is very likely that the impression one forms of an individual will be based on initial category-based designations. Accordingly, multicultural ideology is defined by the beliefs that perceptions of ethnic group differences are

inevitable, and should thus be acknowledged, respected, and valued so that intergroup harmony and racial tolerance may be achieved.

Endorsements of colorblind and multicultural ideologies have been associated with important interpersonal and intergroup outcomes, such as stereotype reliance (Wolsko, Park, Judd, & Wittenbrink, 2000), prejudice toward minority group members (Richeson & Nussbaum, 2004), and self-esteem (Verkuyten, 2009). For instance, among White participants, Wolsko et al. (2000) found that a multicultural ideology-based message caused stronger perception of group stereotypes than did a colorblind ideology-based message. Richeson and Nussbaum (2004), in a study of how colorblind and multicultural ideology messages affected implicit and explicit racial bias against Blacks (relative to Whites), found that relative to a multicultural message, a colorblind message led to greater implicit and explicit racial bias. These findings suggest that relative to colorblind ideology endorsement, multicultural ideology endorsement may lead to greater stereotype reliance, but reduced prejudice. Research has also evaluated important self-based outcomes of interethnic ideology endorsement. For instance, across two studies, Verkuyten (2009) found that multicultural ideology endorsement predicted self-esteem among ethnic minority members, but not majority group members. Thus, it appears clear that colorblind and multicultural ideologies have important implications for prejudice and intergroup contact.

Antecedents of Interethnic Ideology Endorsements

Whereas a common practice in the lab has been to manipulate or measure one's endorsement of colorblind and multicultural ideology and investigate their effects, less common has been the investigation of situation- or motivation-based factors that may predispose one toward an orientation of colorblind or multicultural ideology. To my knowledge, although the outcomes associated with colorblind and multicultural ideology endorsement have been

investigated, only two studies have investigated the origins of these ideologies (see Knowles, Lowery, Chow, & Hogan, 2009; Plaut, Garnett, Bufardi, & Sanchez-Burks, 2011). Indeed, Ryan, Casas, and Thompson (2010) proposed that 'one goal of intergroup relations researchers should be to focus on the antecedents and consequences of particular ideologies or combinations of ideologies and the ways that they are used to affect social change' (p. 41). Although the 'consequences' of particular ideologies have been investigated, an understanding of the antecedents that may predispose one to endorse colorblind or multicultural ideology is lacking.

In the first study to evaluate the antecedents of colorblind and multicultural ideology endorsements, Knowles et al. (2009) demonstrated that manipulations of intergroup threat caused Whites high in anti-egalitarianism sentiment (as measured by SDO) to more strongly endorse colorblind ideology. However, this study evaluated only how colorblind ideology endorsement was predicted by Whites' anti-egalitarianism sentiment and did not simultaneously investigate individual difference-based antecedents of multicultural ideology.

Recently, Plaut et al. (2011) investigated the associations between feelings of exclusion and inclusion with multicultural and colorblind ideologies, the self, and support for diversity initiatives among White and minority individuals. They found that multiculturalism was implicitly associated with feelings of exclusion for Whites. Furthermore, averaging across participants, the authors found that perceiving multiculturalism as inclusive to the self in a self-association matching task, as well as feeling more inclusive in organizational diversity initiatives, were positively associated with support for diversity. Finally, the authors found that individuals high in the need to belong rated an organization conveying a multicultural message as less attractive than an organization conveying a colorblind message. These findings suggest

that a strong endorsement of colorblind ideology may be especially likely among individuals high in a need for inclusion.

Inclusion and Differentiation Motives

Indeed, an abundant amount of psychological research has documented the importance of inclusion with others, or belongingness, as a basic human motive (Baumeister & Leary, 1995; Fiske, 2004; Maslow, 1943; McAdams, 1982; Snyder & Fromkin, 1980; Vignoles, Chryssochoou, & Breakwell, 2000). Over the last few decades, an increasing amount of social psychological research has either directly or indirectly examined the functionality of the affiliative motive from an evolutionary perspective (Baumeister & Leary, 1995; Kenrick, Neuberg, Griskevicius, Becker, & Schaller, 2010; Leary, 2010). More specifically, this research has examined how a need for affiliation with others, may have been evolutionarily adaptive in promoting survival and well-being. For instance, empirical evidence indicates that modern human ancestors of hunter-gather societies lived for the most part in groups (Ainsworth, 1989; Lancaster, 1976), and that this affiliation had adaptive survival benefits, such as sharing of resources, knowledge, and greater likelihood of reproduction, parenting, and protection (Henrich & Boyd, 1998; Kameda & Tindale, 2006; Leary, 2010).

In addition to survival benefits, evidence indicates that affiliation with others is directly associated with important health and emotional outcomes (see Myers, 2000). For instance, individuals with more social ties are less susceptible to ill health and premature death (Cohen, 1988; House, Landis, & Umberson, 1988). Furthermore, individuals with more close relationships appear to be happier, on average, than those with less close relationships (Pavot, Diener, & Fujita, 1990). The evidence suggests that affiliation with others was evolutionarily

adaptive for the survival of modern human ancestors, and that affiliation with others is functional in promoting individual well-being.

On the other hand, however, there appears to also be evolutionary adaptive benefits in restricting, or limiting affiliation with others (Kenrick, Griskevicius, Neuberg, & Schaller, 2010). For instance, Kenrick et al. (2010) discuss how isolation from others may have been evolutionarily adaptive in avoiding costs such as competition over local resources, socially transmitted diseases, and exploitation by other group members. As such, there appears to be opposing evolutionary adaptive benefits for limiting affiliation to a smaller group of close others. Indeed, evidence seems to suggest that humans were evolved to live in relatively small, tightly-knit groups (Dunbar, 1992). In this way, our ancestors could affiliate with others to promote survival advantages, while simultaneously limiting the number of those they affiliated with to constrain costs such as resource conflict, disease, and exploitation. Together, this work suggests that affiliation with others, as well as differentiation from others, may be basic, adaptive motives that served survival needs of our ancestors.

Indeed, the tenet that a sense of inclusion and differentiation from others are basic human needs has been demonstrated using multiple theoretical frameworks in many disciplines (Baumeister & Leary, 1995; Fromkin, 1972; McAdams, 1982; Snyder & Fromkin, 1980; Vignoles et al., 2000). Inclusiveness needs stem from the goal of being similar to valued others, whereas differentiation needs stem from the goal of being unique from relevant others. The current view of the field is that although these needs may manifest themselves differently across cultures (Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005), they are universal, basic human needs (Brewer, 1991). Fulfillment of both needs hold important affective (Fromkin, 1972; Prager, 1986), cognitive (Markus & Kunda, 1986; McAdams, 1982), and

behavioral (Duval, 1972; Greenburg & Stone, 1992) implications. Certainly, social bonds with others and a sense of differentiation from others are chief aspects of individuals' self-concepts. Although historically psychologists focused on fulfillment of these needs through persons' interactions with individuals (e.g., through intimacy building techniques, distinguishing oneself from others), the prominence of social identity theory (Tajfel & Turner, 1986) stimulated investigation as to how these motivational needs could be both activated and fulfilled through individuals' group memberships.

Brewer's (1991) optimal distinctiveness theory (ODT) is based in social identity theory, and attempts to explain the malleability of group memberships as a function of balancing needs for inclusion and differentiation through social identities. Brewer's (1991) ODT improves on other models of belongingness and differentiation needs by highlighting the dual ways through which needs for inclusion and differentiation can be activated and fulfilled at the group level (i.e., through one's group memberships). ODT argues that within any context, an optimally distinct social identity exists. With regard to ones' group memberships, optimally distinct social identities are those identities that simultaneously balance one's need for inclusion within a valued group with one's need for their valued group to be sufficiently differentiated from other relevant groups. Indeed, much empirical evidence supports the premises of ODT (see Leonardelli, Pickett, & Brewer, 2010 for a review).

Consider the example of a prejudice researcher attending the annual Association for Psychological Science convention, which is comprised of researchers from many different subfields within psychology. The social identity of 'psychologist' might be too inclusive, and thus not be optimally distinct given the situation. Conversely, the social identity of a 'prejudice researcher' might be too differentiated. However, the social identity of 'social psychologist'

would more likely be an optimally distinct social identity, in which the researcher's inclusiveness needs with a valued group (i.e., social psychologists) could be simultaneously balanced with the researcher's need to see their valued group as differentiated from other relevant groups (e.g., cognitive & personality psychologists).

The ODT framework can also be applied to better understand the interplay between inclusiveness and differentiation needs at the individual level. Similar to optimally distinct social identities, I argue that optimally distinct individual identities are those identities that simultaneously balance one's need for inclusion with others with one's need for differentiation from others. For example, regarding one's individual interactions, consider the example of a student (Keith) who transferred high schools and attended a new school in which everybody tended to have different interests and family backgrounds than him. At first, this overly differentiated identity would likely activate Keith's need for inclusion with others. On the contrary, consider the example of a student (Lane) at a high school in which everybody tended to have the same interests and similar family backgrounds as himself. This overly inclusive identity would likely activate Lane's need to differentiate from others, or in other words, the need to be seen as unique from others. In short, situations at the group (e.g., 'psychologist' at a major conference) or individual (e.g.,, 'Lane's case') level that activate differentiation needs cause one to seek out social or individual identities that promote differentiation, or uniqueness from others, whereas situations that activate inclusion needs at the group (e.g., 'prejudice researcher' at a major conference) or individual (e.g., 'Keith's case') level cause one to seek out social or individual identities that promote inclusion with others.

The implications of using ODT as a framework to understand the opposing processes of inclusion and differentiation at the individual level are fairly straightforward: A situation

prompting an overly inclusive identity (Lane's case) should activate a drive to fulfill differentiation needs, and a situation prompting an overly differentiated identity (Keith's case) should activate a drive to fulfill inclusion needs. In short, situations at the group or individual level that activate differentiation needs should cause one to seek out social or individual identities that promote differentiation from other groups or individuals, whereas situations that activate inclusion needs should cause one to seek out social or individual identities that promote inclusion with other groups or individuals.

At the social identity level, previous research points to three strategies an individual can use to reach a more balanced, optimally distinct social identity in situations in which inclusion and differentiation needs are unbalanced. These strategies include changing one's social identity within the given context (Brewer, Manzi, & Shaw, 1993), altering one's self-perceptions and self-stereotypes regarding one's ingroup memberships (e.g., Brewer & Pickett, 1999; Pickett, Bonner, & Coleman, 2002; Spears, Doosje, & Ellemers, 1997), and changing one's perceptions of ingroups and outgroups (Brewer, 1993; Pickett & Brewer, 2001; Pickett, Silver, & Brewer, 2002). Regarding the first strategy, Brewer et al. (1993) found that participants experimentally assigned to overly inclusive group memberships (i.e., college student) countered by rating their minimal group-created minority group (i.e., task underestimators) higher in positive social traits than the majority outgroup (i.e., task overestimators). No such difference in positive social trait ratings was found regarding minority or majority groups for those in a control condition.

Regarding the second strategy, as suggested by Turner and Onorato (1999), stereotyping oneself in terms of an ingroup may simultaneously increase one's sense of within group inclusion and between group differentiation. Supporting this postulate using manipulations of needs for inclusiveness and differentiation, as well as measures of self-stereotyping regarding

ingroup traits, Pickett et al. (2002) uncovered that individuals with needs for either more inclusive or differentiated social identities were more likely to self-endorse traits congruent with ingroup stereotypes than individuals in a control condition.

Regarding the third strategy, Pickett and Brewer (2001) uncovered that in comparison to those in a control group, participants in both need for inclusion and differentiation conditions had increased perceptions of ingroup and outgroup homogeneity on a group similarity trait rating task. Similar to the strategies employed regarding self-stereotyping discussed above, perceptions of ingroup and outgroup homogeneity allowed individuals to assume a more inclusive connection to their valued group, while at the same time maximizing group differentiation. These strategies highlight the ways by which perceptions of the self and one's ingroups and outgroups can be shaped by individuals' needs to achieve a more inclusive or differentiated social identity.

Collectively, these studies demonstrate that activation of needs for inclusiveness and differentiation at the social identity level can lead individuals to fulfill these needs using the strategies described above. The studies above verify the theoretical framework of ODT as an opposing process model, as well as its utility in explaining cognitive alterations or changes in one's group memberships or representations as a function of motivated need states. Given these findings, the utility of ODT's central tenets as a framework to consider how needs for inclusion and differentiation can be activated and fulfilled at the individual level appears to be a ripe area for empirical inquiry. To my knowledge, no theories regarding needs for inclusion or differentiation activated or fulfilled through one's individual interactions have utilized an opposing process model view of these mechanisms, as ODT has done. As Brewer (1991) argues, a balance of these two basic needs for inclusion and differentiation in any given situation is always the optimal state, and I aim to explore this possibility with regard to individually-

activated needs to explore the validity of ODT in predicting needs for inclusion and differentiation at the individual level of the self.

More importantly, however, I contend that ODT may be a valuable framework for beginning to understand the bases of interethnic ideology endorsements. As stated earlier, only two studies to my knowledge have investigated the bases of colorblind and multicultural ideology. Furthermore, although Plaut et al. (2011) investigated the associations between feelings of inclusion, feeling included in organizational diversity initiatives, colorblind ideology, and multicultural ideology, they did not investigate how a need for differentiation may associate with interethnic ideology endorsements. Brewer's ODT (1991) provides the theoretical compass to better understand how inclusiveness and differentiation needs may be both activated and fulfilled through one's individual identities. Moreover, using ODT as the guiding theory will permit a more complete understanding of how inclusiveness and differentiation needs may be activated as a result of one's social context or situation.

Additionally, Plaut et al. (2011) did not experimentally examine whether a feeling of inclusiveness predicted endorsement of colorblind or multicultural ideology. As such, causal relationships between a feeling of inclusiveness or activation of inclusiveness needs with colorblind ideology have not yet been demonstrated. Furthermore, Plaut et al. (2011) evaluated, in part, how an individual's need for belongingness might influence their interethnic ideological endorsements. Need for belongingness, however, was conceptualized as a personality trait variable that remained fairly consistent among individuals. This differs from ODT's social psychological conceptualization of a need for inclusiveness (or belongingness) as being activated and fulfilled through one's social identities and largely dependent on social context. By conceptualizing of a need for inclusion (or belongingness) as an individual difference variable,

one necessarily restricts investigation as to how one's social situations and interactions may have an important influence on the activation of need states and interethnic ideological endorsements.

As such, in the current study, I operationally define inclusiveness needs via ODT, in which a need for inclusion has the propensity to be activated in all individuals, regardless of trait-based need for belongingness levels. Although individuals high in a need for belongingness may be particularly likely to construe of a particular situation as threatening to feelings of inclusion, ODT argues that all individuals have the capability of having needs for inclusiveness threatened as a function of one's situations.

Consider the example of the student, Keith, discussed earlier, who had transferred high schools and attended a new school in which students had different interests and came from different family backgrounds than himself. Keith would likely feel overly differentiated from others given this situation, which would in turn activate his need for inclusion. Consequently, he may be apt to endorse colorblind ideology, and the notion that 'we are all the same,' as a means to bring his needs for inclusion and differentiation back into balance. In contrast, consider the example of Lane, a student at a high school in which everybody tended to have similar interests and come from a similar background as himself. Lane would likely feel overly similar to others given this situation, which would in turn activate his need for differentiation. Consequently, he may be apt to endorse multicultural ideology, and the notion that differences between others should be valued and respected, as a means by which to fulfill his activated need for differentiation.

In short, I expect that individuals with inclusiveness needs activated may be more likely to endorse colorblind ideology, whereas individuals with differentiation needs activated may be more likely to endorse multicultural ideology. Just as previous research has indicated that

individuals strategically alter their self- and group-perceptions to fulfill needs for more inclusive or differentiated social identities, I expect that endorsement of these interethnic ideologies may also be sufficient strategies by which to fulfill activated needs for inclusion or differentiation at the individual level of interaction.

It is important to note that interethnic ideology endorsements are increasingly being conceptualized as malleable as a function of situational concerns. For example, in her historical review of color blindness and multiculturalism, Plaut (2010) hints at the malleability of interethnic ideology, stating that the 'history of color blindness …demonstrates the malleability of models of diversity…the shifts of meanings of equality and equal protection over time depending on social and political circumstances and goals' (p. 86). This malleable conceptualization of interethnic ideology is congruent with the hypotheses that interethnic ideology may serve the function of fulfilling situationally-activated needs for inclusion and differentiation. The proposed work is unique in that it examines the malleability of interethnic ideology, as well as how basic motives for inclusion and differentiation may underlie endorsements of colorblind and multicultural ideologies.

Motivated Perception

In addition to examining the need-based antecedents of interethnic ideology endorsement, another goal of the current study is to assess the degree to which ODT-based needs influence social perception of sameness or difference between individuals. Surprisingly, to my knowledge, no research has examined the ODT-based needs-visual social perception relationship. Certainly, the study of motivated need states on perception is not a novel area of psychological inquiry. Motivated perception has its roots in the New Look movement of the 1940's and 1950's (Bruner, 1957; Bruner & Goodman, 1947). This movement was grounded in the premise that perception

was more than just a strictly bottom-up, sensory-driven process, and that individuals were not passive, helpless observers at the whims of regimented sensory processes and structures. Research since Bruner's (1957) work has demonstrated that individuals' attitudes, beliefs, emotions, motives, needs, and expectations can have a significant impact on social perception, above and beyond that of bottom-up, rigid, sensory-driven processing (e.g., Balcetis & Dunning, 2006; Ditto & Lopez, 1992; Fazio, Ledbetter, & Towles-Schwen, 2000; Fazio and Williams, 1986; Higgins & Bargh, 1987).

Higgins's work (1996) suggests that individuals' motivational orientations can powerfully influence strategies for achieving desired goals. Higgins (1996) distinguishes between two distinct types of regulatory focus central to strategies for achieving desired goals. Promotion focus concerns an orientation focused on advancement and opportunity, whereas prevention focus concerns the avoidance of loss. Prior research has found that these specific types of regulatory fit have a powerful impact on perception (Navon, 1977). Not surprisingly, the body of evidence suggests that these motivational orientations be most impactful at influencing perception and behavior in ambiguous, as opposed to clearly-defined situations (Liberman, Molden, Idson, & Higgins, 2001).

Thus, it is well-established that perception is an active process and malleable as a function of individuals' unique experiences. In addition, as proposed by ODT, perceptions of groups are one mechanism through which one can fulfill needs for more inclusive or distinctive social identities (Brewer, 1993; Pickett & Brewer, 2001; Pickett et al., 2002). However, no research speaks to the effects of ODT-based needs on social perception of individuals. I expect that motivated needs for inclusion and differentiation may influence the degree to which one perceives more 'sameness' or 'difference' between other individuals, and that colorblind and

multicultural ideologies may mediate these relationships, respectively. For example, consider a context in which one feels an overly differentiated individual identity (i.e., Keith). Given that this individual's need for a more inclusive identity (as predicted by ODT) has been activated, he may be more likely to endorse colorblind ideology, in which the notion of 'we are all the same' is paramount, as opposed to multicultural ideology, to fulfill his activated need for inclusiveness. This endorsement, in turn, may predispose him to visually perceive 'sameness' between others, as opposed to difference. It is important to note that I expect this pattern of mediation to occur specifically within contexts of ambiguous social perception. In situations of unambiguous social perception, I expect activated need states and subsequent interethnic ideology endorsements to have less of an impact on social perception (Higgins, 1996).

Contrastingly, I expect that in situations in which an individual has an overly inclusive identity in which a need for differentiation is activated, one may be more likely to perceive 'difference' between others, and that multicultural ideology may mediate this relationship. For example, consider a context in which one feels an overly inclusive identity (e.g., Lane). Given that his need for a more differentiated identity (as predicted by ODT) has been activated, he may be more likely to endorse multicultural ideology, in which the valuing of 'differences' between others is paramount, as opposed to colorblind ideology, to fulfill his activated need for differentiation. This endorsement, in turn, may predispose him to visually perceive 'differences' in others, as opposed to sameness. Again, it is important to note that I expect this pattern of mediation to occur specifically within contexts of ambiguous social perception.

The present study extends previous work that has evaluated the relationships between interethnic ideology and social perception (Ryan et al., 2007; Ryan et al., 2010) by evaluating visual social perception. This distinction is important, as a visual social perception task will force

participants to make more basic, online judgments, in comparison to the downstream social judgments of group member variability revealed in the range estimation and trait percentage tasks employed in previous research (i.e., Ryan et al., 2007; Ryan et al., 2010). An increased understanding of how interethnic ideology may influence basic social perception is important, as basic social perception is fundamental to further downstream cognitive processes, and may importantly inform the process by which more basic cognitive processes are transmitted into more downstream social perceptual outcomes and behaviors (DeWall, Maner, & Rouby, 2009) with regard to interethnic ideologies. Moreover, the current study expands upon previous research (i.e. Ryan et al., 2007; 2010) by examining the effects of activated needs and interethnic ideology endorsements on visual social perception of individuals, as opposed to groups.

Overview and Hypotheses

In the current study, I assessed the degree to which visual social perception of Whites and Blacks was influenced by activated needs for inclusion and differentiation, as well as the mediational roles of colorblind and multicultural ideology endorsements in these relationships. To my knowledge, this is the first study that has evaluated the effects of situationally-activated needs for inclusion and differentiation on endorsement of colorblind and multicultural ideologies, and ultimately, visual social perception of individual group members.

I hypothesized that individuals with activated needs for more inclusive individual identities would be more likely to endorse colorblind ideology, and to visually perceive sameness between individual others. Furthermore, I hypothesized that individuals with activated needs for more differentiated individual identities would be more likely to endorse multicultural ideology, and to visually perceive difference between individual others.

Pilot-tested morphed-faces judgment task

Developing a task in which perceptions of similarity and difference in others could be assessed required pilot testing. As such, I amassed pairings of both White and Black individuals, varying in similarity, for use in the primary study. First, a total of 32 faces of White (16) and Black (16) individuals were collected. Then, faces of the same sex and ethnicity were matched prior to creating face morphs. More specifically, eight pairings of the White faces (four female, four male) and eight pairings of the Black faces (4 female, 4 male) were created. Next, a total of fifteen morphs regarding each one of these face pairings were created using the computer software program FantaMorph. Morphs were created at 25% intervals, with each interval of 25% indicating a difference of 25% between face 1 and face 2 in a particular pairing. For instance, consider a face pairing regarding 2 faces. When these faces were completely distinct and unmorphed, they are denoted as 0% vs. 100%. However, when the faces involved in a pairing were identical and unmorphed, they were denoted, for example as 0% vs. 0%, 25% vs. 25%, 50% vs. 50%, 75% vs. 75%, and 100% vs. 100%. Differences of 25% between face pairings (e.g., 25% vs. 50%) indicated that pairings were very similar, but slightly different from each other. As percentage differences increased in pairings (to 50% & 75%), differences between faces became increasingly distinct.

I created morphed face pairings of the following degrees regarding each face pairing: 0% vs. 0%, 0% vs. 25%, 0% vs. 50%, 0% vs. 75%, 0 % vs. 100%, 25% vs. 25%, 25% vs. 50%, 25% vs. 75%, 25% vs. 100%, 50% vs. 50%, 50% vs. 75%, 50% vs. 100%, 75% vs. 75%, 75% vs. 100%, 100% vs. 100%. In sum, regarding each of the sixteen face pairings, participants viewed 5 trials (80 total trials) in which faces were exactly the same, four trials (64 total trials) in which

there was a 25% difference (i.e., faces were very similar but slightly different), three trials (48 total trials) in which there was a 50% difference (i.e., faces were somewhat similar but also somewhat different), 2 face pairings (32 total trials) in which there was a 75% difference (i.e., faces were slightly similar but quite different), and one face pairing (16 total trials) in which the faces were unmorphed and completely different (i.e., 100% difference).

The goal of pilot testing was to verify that sufficient variability in participants' (n=10) categorizing of faces as the same or different existed. This was crucial, as variability in sameness and difference judgments was essential to properly testing hypotheses as to whether or not need state activation influenced ideological endorsements and visual perception. Within the pilot study, participants were shown the aforementioned 16 face pairings (fifteen trials of varying similarity each) as described above. Each participant rated a total of 240 face pairings on whether or not the faces in each presented trial were 'exactly the same' or different. Each face pairing was presented using the computer software program MediaLab. In all face pairing trials, two faces of the same race (i.e., White or Black) and sex were simultaneously shown on a black computer screen. Faces were approximately 4 inches in height by 3 inches in width. Participants were asked to respond as quickly but as accurately as possible in categorizing the faces as 'exactly the same' (pushing the 'A' key) or 'different' (pushing the 'L' key). The presentation order of the morphed faces was completely randomized.

In total, four face pairings consisted of White males, four consisted of White females, four consisted of Black males, and four consisted of Black females. Regarding the four white male pairings, participants made 367 'exactly the same' (61.2%), compared to 233 'different' judgments (38.8%). Regarding the four White female pairings, participants made 337 'exactly the same' (56.2%), compared to 263 'different' judgments (43.8%). Regarding the four Black

male pairings, participants made 302 'exactly the same' (50.3%), compared to 298 'different' judgments 49.7%). Regarding the four Black female pairings, participants made 353 'exactly the same' (58.8%) and 247 'different' judgments (41.2%). In averaging across race, participants made 704 'exactly the same' (58.67%) judgments and 496 'different' (41.33%) judgments regarding White pairings. In comparison, participants made 655 'exactly the same' (54.58%) judgments and 545 'different' (45.42%) judgments regarding Black pairings. Thus, there seemed to be little difference in perceptions of 'exactly the same' and 'different' as a function of pairing race.

Furthermore, there appeared to be sufficient variability within face pairings regarding how many 'exactly the same' and 'different' judgments were made. For instance, on the 25% different interval morph types, participants made 454 'exactly the same' judgments (70.9%) and 186 'different' judgments (29.1%). On the 50% different morph types, participants made 114 'exactly the same' judgments (23.8%) and 366 'different' judgments (76.3%). On the 75% different morph types, participants made 275 'exactly the same' judgments (14.1%) and 45 'different' judgments (85.9%). On the 100% (completely different) morph types, participants made 11 'exactly the same' judgments (6.9%) and 149 'different' face judgments (93.1%). Finally, on the 0% (exactly the same) morph types, participants made 735 'exactly the same' face judgments (91.9%) and 65 'different' judgments (8.1%). Overall, individuals made 1,359 'exactly the same' judgments (56.6%) and 1,041 'different' judgments (43.4%). Thus, in aggregating across all trial types, it appears as if the frequency of 'exactly the same' and 'different' judgments is relatively close to being evenly distributed. Even more telling is the fact that the most variability (i.e., judgment percentages closer to 50%) in 'exactly the same' and 'different' judgments existed on the more ambiguous morph pairings (i.e., 25% and 50%

different morph trials). These morph types consisted of faces that were very close to being 'exactly the same,' but not quite identical. When aggregating across these trial types, participants made 568 'exactly the same' judgments (51%) and 552 'different' judgments (49%). Thus, it appears as if aggregating across the 25% and 50% morph types regarding judgments of sameness and difference may allow the most variability in judgments. This pilot data and its implications are important, given that I expect that activation of differentiation and inclusiveness needs will be most impactful in influencing visual perceptions in ambiguous situations (i.e., 25% and 50% morph trials).

Chapter 2: Method

Participants

A laboratory experiment employing a between-subjects design was utilized. A total of 238 White (172 female, 66 male), introduction to psychology students from the University of Tennessee participated in group experimental sessions. Participants received credit toward fulfilling an Introduction to Psychology class requirement for their participation.

Procedure

Prior to arrival to the laboratory for their primary experimental session, participants completed several online measures relevant to primary hypotheses. Specifically, participants completed an 8-item measure of social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994), an eight-item measure of racial identity adapted from Sellers, Rowley, Chavous, Shelton, and Smith's (1997)'s multidimensional inventory of Black identity (MIBI), a twenty-five item measure assessing self-monitoring (Snyder, 1974), a three-item measure of conservatism (Pratto et al., 1994), a ten-item measure of need for belongingness (Leary, Kelly, Cottrell, & Schreindorfer, 2012), and a demographic questionnaire which assessed

participants' race and sex. Upon arrival to the laboratory for their group sessions, participants were assigned to one of the three need-state activation conditions: need for differentiation activation, need for inclusion activation, or control. Participants completed all subsequent experimental measures on laboratory computers.

Participants all first completed a personality inventory (Costa & McCrae, 1992). Those in the need for inclusion and differentiation activation conditions received false feedback indicating that they scored extremely similar to (need for differentiation activation condition) or different from (need for inclusion activation condition) other students. Participants in the control condition received no feedback as to their personality score (described in more detail below).

Following the manipulation, participants completed a 20-item endorsement of colorblind ideology measure (Neville, Lilly, Duran, Lee, & Brown, 2000), as well as a 4-item endorsement of colorblind ideology and 4-item endorsement of multicultural ideology measure (Ryan et al., 2007). To assess visual perception of individuals, participants completed the pilot-tested morphed-faces judgment task in which they reported whether pairs of faces were either exactly the same or different. The order in which participants completed the interethnic ideology scales and morphed-faces judgment task was counterbalanced.[1] Following completion of the interethnic ideology measures and morphed-faces judgment task, participants completed a manipulation check question regarding their current feelings of inclusion with and differentiation from others, as well as an open response item assessing their feelings about the experiment in general.

Materials

Social dominance orientation (SDO). Prior to arriving to the library for their primary group experimental session, participants completed several online questionnaire measures. First, participants completed eight items assessing SDO from Pratto et al.'s (1994) original sixteen

item scale. Participants indicated their level of positivity or negativity toward such questions as 'Inferior groups should stay in their place' and 'Group equality should be our ideal' (*reverse-scored*) using a 1 (*very negative*) to 8 (*very positive*) response range. These items have been used in abundant psychological research (e.g., Pratto, Sidanius, Stallworth, & Siers, 1997; Thomsen, Green, & Sidanius, 2008) and demonstrated excellent psychometric properties. In the current study, $\alpha = .82$.

Racial identity. Next, participants completed the 8-item centrality subscale of Sellers et al.'s (1997) multidimensional inventory of Black identity (MIBI). The scale items were adapted and generalized to measure racial identity (as opposed to specifically Black identity). Participants indicated the degree to which they agreed or disagreed with statements such as 'Overall, my race has very little to do with how I feel about myself' (*reverse-scored*) and 'My race is an important reflection of who I am' using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range. The centrality subscale of the MIBI has been used extensively in previous research (e.g., Olson, Crawford, & Devlin, 2009) and demonstrated excellent psychometric properties. In the current study, $\alpha = .82$.

Self-monitoring. Participants next completed Snyder's (1974) 25-item measure of self-monitoring. Participants indicated the degree to which several statements, such as 'I'm not always the person I appear to be' and 'I have trouble changing my behavior to suit different people in different situations' (*reverse-coded*) were true of them using a 1 (*extremely untrue of me)* to 7 (*extremely true of me*) response range. These items have been used frequently in previous research (e.g., Snyder, Berscheid, & Glick, 1985) and demonstrated excellent psychometric properties. In the current study, $\alpha = .73$.

Conservatism. Next, participants provided their views on foreign policy issues, social issues, and economic issues using a 1 (*very liberal*) to 7 (*very conservative*) response range. Their responses were averaged together to form a measure of conservatism. These items have been used in several other studies (e.g., Zabel, Christopher, Marek, Wieth, & Carlson, 2009) and demonstrated excellent levels of reliability. In the current study, $\alpha = .86$.

Need for belongingness. Participants next completed Leary et al.'s (2012) 10-item measure assessing need for belongingness. Participants indicated the degree to which they agreed with a series of ten statements, such as 'My feelings are easily hurt when I feel that others do not accept me' and 'I want other people to accept me' using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range. In the current study, $\alpha = .80$. Following completion of the need for belongingness scale items, I collected demographic information on participants' race and sex.

Need for differentiation activation. Upon arrival to the laboratory for group experimental sessions, participants first completed Costa and McCrae's (1992) 60-item NEO-FFI of Big Five personality factors. Participants were randomly assigned to one of three need state activation conditions: need for differentiation activation, need for inclusion activation, or control. The two experimental need state activation conditions (i.e., need for differentiation activation and need for inclusion activation) utilized false feedback on the personality inventory. Specifically, participants in the need for differentiation activation condition learned that their score on the personality inventory was 302, and that the average score of students completing the inventory was 309. Furthermore, the prompt 'Your personality is extremely similar to other students who have taken this test' appeared next to participants' scores. I expected this paragraph to activate individuals' need for differentiation from others.

Need for inclusion activation. Participants in the need for inclusion activation condition learned that their personality inventory score was 252, and that the average score of students completing the inventory was 309. Furthermore, the prompt 'Your personality is extremely different from other students who have taken this test' appeared next to participants' score. I expected this paragraph to activate individuals' need for inclusion with others.

Control. In the control condition, participants completed the same personality inventory as individuals in the need for differentiation and need for inclusion activation conditions. However, these participants received no feedback as to their score, and proceeded directly to the next phase of the experiment following completion of the inventory.

Endorsement of colorblind ideology. Endorsement of colorblind ideology was assessed with two measures. First, Neville et al.'s (2000) 20-item (CoBRAS) scale was utilized. Participants indicated the degree to which they disagreed or agreed with such statements as 'Immigrants should try to fit into the culture and values of the US' and 'Racial and ethnic minorities do not have the same opportunities as white people in the US' (*reverse-coded*) using a 1 (*strongly disagree*) to 7 (*strongly agree*) response range. This measure has been used in numerous studies and has displayed excellent validity and reliability (e.g., Burkard & Knox, 2004). In the current study, $\alpha = .79$. Frequently, this measure consists of three smaller factors, which include racial privilege, institutional discrimination, and blatant racial issues. The racial privilege factor consists of blindness as to the existence of White privilege, the institutional discrimination factor consists of a limited awareness as to the implications of institutional forms of racial discrimination, and the blatant racial issues factor consists of unawareness as to the pervasiveness of racial discrimination. In the current study, racial privilege, institutional

discrimination, and blatant racial attitudes consisted of reliabilities of .70, .62, and .72, respectively.

In addition to Neville et al.'s (2000) scale, I employed Ryan et al.'s (2007) four-item scale to assess endorsement of colorblind ideology. Participants indicated the degree to which each of four statements were important to improving intergroup relations, such as 'Recognizing that all people are basically the same regardless of their ethnicity' using a 1 (*not important at all to improving intergroup relations*) to 7 (*extremely important to improving intergroup relations*) response range. In the current study, α = .60.

Endorsement of multicultural ideology. Similarly, endorsement of multicultural ideology was assessed using Ryan et al.'s (2007) four-item scale. Participants indicated the degree to which each of four statements were important to improving intergroup relations (e.g., 'Emphasizing the importance of appreciating group differences between ethnic groups') using a 1 (*not important at all to improving intergroup relations*) to 7 (*extremely important to improving intergroup relations*) response range. In the current study, α = .68.

Morphed faces judgment task.

Participants completed the pilot-tested morphed faces judgment task, in which they rated a total of 240 face pairings on whether or not the faces in each presented trial were either 'exactly the same' or 'different.' In all face pairing trials, two faces of the same race (i.e., White, Black) and sex were simultaneously shown on a black computer screen. One face was shown on the left side, and the other the right side of the screen. Participants were asked to respond as quickly but as accurately as possible in categorizing the faces as 'exactly the same' or 'different'. Participants were instructed to push the 'A' key on the computer if the faces were 'exactly the same,' and to push the 'L' key if the faces were 'different.' The presentation order of the

morphed faces was completely randomized. Response latencies, as well as participants'

judgments (i.e., 'exactly the same' or 'different') and whether or not their judgments were

correct were recorded for each of the 240 morph trial pairings.

Manipulation check. Following completion of the interethnic ideology measures and

morphed-faces judgment task, participants were asked to 'Please rate the degree to which you

feel different from or similar to others at this moment' using a 1 (*extremely different from others*)

to 7 (*extremely similar to others*) response range. Additionally, participants were provided an

open response question, in which they described their general feelings about the experiment,

whether or not they believed their personality score was indicative of their actual personality,

and any other pertinent information they wished to tell the primary experimenter. Following

completion of these items, participants were debriefed and thanked for their time.

Chapter 3: Results

Data Preparation: Morphed Faces Judgment Task

Each participant had 240 lines of initial data regarding the morphed faces judgment task,

each of which consisted of 16 pairings of Black individuals and 16 pairings of White individuals.

Each of four of the pairings consisted of two White males, each of four pairings consisted of two

White females, each of four pairings consisted of two Black males, and each of four pairings

consisted of two Black females. For purposes of clarity, and given the pilot data results, I

aggregated across pairing race. For each of the sixteen pairings, participants made similarity

judgments on 15 morphed versions of each pairing. Five of the versions were exactly the same

(0%), four versions were almost exactly the same but slightly different (25%), three versions

were moderately similar but also moderately different (50%), two versions were somewhat

similar but quite different (75%), and one version was completely different (100%). Thus, each

of the 238 participants made a total of 240 similarity judgments (57,120 total aggregate cases).

For each trial, participants' trial responses (i.e., 'exactly the same' or 'different') and response

latencies were recorded. Consistent with previous research on implicit attitudes and quick

judgments (Cunningham, Preacher, & Banaji, 2001; Greenwald, McGhee, & Schwartz, 1998),

response latencies less than 300 ms. ($n = 68$, .001% of trials) and greater than 3000 ms. ($n = 279$,

.005% of trials) were deleted prior to data aggregation. This left a total of 56,773 aggregate

cases, with a mean response latency of 1,052.87 ms. ($SD = 371.30$ ms.). Participants made

'different' judgments on 22,356 of these trials (39.38%), whereas they made 'exactly the same'

judgments on 34,417 of these trials (60.62%). Overall, participants correctly identified 38,780 of

trials (68.31%), and incorrectly identified 17,993 of these trials (31.69%).

As shown in Figure 1, regarding the five ranges of similarity between individual morph

pairings, participants correctly identified 0% (exactly the same) morphed pair trials 92.92% of

the time. Regarding 25% different morphed pair trials (slightly different but very similar),

participants correctly identified such morphed pair trials as 'different' 24.07% of the time.

Regarding 50% different morphed pair trials (moderately similar but also moderately different),

participants correctly identified such morphed pair trials as 'different' 67.80% of the time.

Regarding 75% different morphed pair trials (somewhat similar but quite different), participants

correctly identified such morphed pair trials as 'different' 83.38% of the time. Finally, regarding

100% morphed pair trials (completely different face pairings), participants correctly identified

such morphed pair trials 87.34% of the time. These descriptive statistics indicate, as in the pilot

study, that the greatest variability in 'exactly the same' and 'different judgments' existed within

the 25% different and 50% different morph trials. When aggregating across these two trial types,

participants accurately identified these morphs as 'different' 42.81% of the time. These

descriptive statistics provide preliminary evidence that the greatest variability in 'exactly the same' and 'different' judgments may exist when aggregating across 25% and 50% faces morphs.

As demonstrated in Figure 2, regarding response latencies for each of the varying degrees of similarity judgments, participants took an average of 985.47 ms. (SD = 163.56 ms.) to make judgments on exactly the same morph trials, an average of 1,111.28 ms. (SD = 193.16 ms.) to make judgments on 25% different morph trials, an average of 1,123.26 ms. (SD = 163.48 ms.) to make judgments on 50% different morph trials, an average of 1,031.64 ms. (SD = 142.34 ms.) to make judgments on 75% different morph trials, and an average of 995.24 ms. (SD = 147.86 ms.) to make judgments on completely different morph trials. These response latencies demonstrate that individuals took longer to make judgments on the 25% different and 50% different morphed face trial types, in comparison to the other three trial types. Indeed, although the difference in reaction times between 25% different and 50% different morphed face trial types was not significant, t (237) = -1.57, p = .12, there were significant differences between the 25% different and 50% different trial types with regard to each of the exactly the same, 75% different, and completely different morphed trial types (all t's > 8.77, p < .001). These differences in response latencies suggest that the 25% different and 50% different morphed trial types were the most ambiguous of all morph trial types.

As demonstrated in Figure 3, regarding response latencies for trials in which participants were correct, participants took an average of 978.13 ms. (SD = 159.33 ms.) to make judgments on exactly the same morph trials, an average of 1,292.64 ms. (SD = 242.76 ms.) to make judgments on 25% different morph trials, an average of 1,172.97 ms. (SD = 165.51 ms.) to make judgments on 50% different morph trials, an average of 1,044.88 ms. (SD = 140.20 ms.) to make judgments on 75% different morph trials, and an average of 999.66 ms. (SD = 147.40 ms.) to

make judgments on completely different morph trials. Thus, regarding trial types in general, as well as trial types that participants were correct, individuals took longer to make judgments within the 25% different and 50% different morphed face trial types, in comparison to the other three trial types. Indeed, t-tests indicated significant differences between the 25% and 50% trial types with regard to each of the exactly the same, 75% different, and completely different trial types (all t's > 18.05, p < .001), such that individuals took longer to correctly identify pairings in the 25% different and 50% different morphed trial types than in the 75% different, completely different, or exactly the same morphed trial types. It is important to note that although the reaction time means of the 25% different and 50% different morphed trial types were significantly different from each of the aforementioned morph types, they were also significantly different from one another, t (237) = 9.55, p < .001.

Given that the greatest variability in perceptions of faces being 'exactly the same' or 'different' appear to exist within the 25% different and 50% different morph trial types, I created two new variables by summing participants' correctly identified 'different' judgments on these two trial types ('exactly the same' = 0, 'different' =1), as well as computing the mean response latencies on 25% different and 50% different trial types correctly identified by participants.

Need State Manipulations

I next inspected the manipulation check to verify that participants in the need for inclusion activation condition indicated feeling less similar to others, in comparison to those in the need for differentiation activation condition. Supporting the utility of the need state manipulation, an independent samples t-test verified that participants in the need for inclusion activation condition reported feeling less similar to others (M = 3.33, SD = 1.45) than participants in the need for differentiation activation condition (M = 4.14, SD = 1.34), t (161) =

3.75, $p < .001$. There was no difference in feelings of similarity between participants in the need for differentiation activation condition or participants in the control condition ($M = 4.20$, $SD = 1.23$), $t (156) = -.27$, $p = .79$. However, the difference in feelings of similarity between participants in the need for inclusion activation and control conditions was significant, $t (153) = -4.04$, $p < .001$, such that participants in the need for inclusion activation condition felt less similar to others than those in the control condition.

In further exploring the data, a few trends that suggested that the control condition was not an appropriate comparison for the two experimental conditions' emerged. First, participants in the control condition were significantly faster ($M = 1,010.04$, $SD = 138.67$) to make judgments of 'exactly the same' or 'different,' regardless of morph type, in comparison to those in the need for inclusion activation condition ($M = 1,085.06$, $SD = 137.15$), $t (153) = 3.02$, $p = .003$. This tendency for control condition participants to be quicker in social perception, regardless of trial type, was congruent in comparison to participants in the need for differentiation activation condition ($M = 1,043.30$, $SD = 148.33$), albeit not significantly, $t (156) = 1.10$, $p = .27$. The difference in response latencies between the need for differentiation and need for inclusion activation conditions was marginally significant, and in the direction consistent with hypotheses, such that individuals in the need for inclusion activation condition took longer to make social judgments in general among all morph types, $t (161) = -1.86$, $p = .06$. These patterns indicate that in general, participants in the control condition were quicker to make social judgments than either participants in the need for inclusion activation or need for differentiation activation conditions.

I next examined correct responses across all conditions. I found that participants in the control condition ($M = 158.40$, $SD = 1.97$) provided significantly fewer correct social judgments

than those participants in the need for differentiation activation condition ($M = 163.80$, $SD = 17.14$), $t(156) = 1.98$, $p < .05$, as well as those participants in the need for inclusion activation condition ($M = 166.31$, $SD = 19.98$), $t(153) = 2.64$, $p = .009$. No significant difference in the sum of correct social judgments was found between those participants in the need for differentiation activation and need for inclusion activation conditions, $t(161) = -.86$, $p = .39$. The fact that control condition participants had higher error rates than experimental need state activation participants was troubling, and suggested that perhaps control participants differed from experimental condition participants in characteristics that might prohibit inclusion of control condition participants from this study, especially given the criticalness of the morphed faces judgment task.

In terms of individual difference variables, a t-test indicated that participants in the control condition ($M = 3.89$, $SD = .66$) were lower in self-monitoring than participants in the need for differentiation activation condition ($M = 4.19$, $SD = .62$), $t(156) = 2.94$, $p = .004$, as well as those participants in the need for inclusion activation condition ($M = 4.04$, $SD = .66$), albeit not significantly, $t(153) = 1.40$, $p = .16$. The differences in self-monitoring between the need for differentiation activation and need for inclusion activation conditions was not significant, $t(161) = 1.48$, $p = .14$. This reduced self-monitoring of control condition participants, in comparison to need for differentiation activation and need for inclusion activation condition participants, is important for a few reasons. First, previous research (Rubin & Henzl, 1984) has indicated a positive relationship between self-monitoring and cognitive complexity, which itself has been positively-linked to enhanced perception of nonverbal behaviors (Uhlemann, Lee, & Hasse, 1989) in individuals. Cognitive complexity in general has been related to enhanced social perception and perceptual discrimination skills (Burleson & Caplan,

1998). This research suggests that a predisposition to be low in self-monitoring among control condition participants may influence the degree to which individuals are able to attend to the subtle differences regarding similarity and differences within the face perception task. The elevated error rates and reaction time latencies among control condition participants, relative to need state activation participants were congruent with this intuition.

As such, in all subsequent analyses, I disregarded the control condition, and directly compared solely the need for differentiation (coded = 0) and need for inclusion activation (coded as 1) conditions in predicting endorsement of colorblind and multicultural ideology, and ultimately, visual perception of others. It is important here to note that t-tests indicated no significant differences in SDO, racial identity, self-monitoring, conservatism, or need for belongingness regarding online questionnaire measures (all p's > .14) between need for differentiation and need for inclusion activation participants.

Need State Activation and Interethnic Ideology

First, I investigated the degree to which the need state activation experimental manipulation predicted endorsement of colorblind and multicultural ideologies. Three t-tests were conducted, with the need state manipulation (0 = need for differentiation activation condition, 1 = need for inclusion activation condition) entered as the grouping variable and participants' mean scores on Ryan et al.'s (2007) 4-item endorsement of colorblind and multicultural ideologies, as well as Neville et al.'s (2000) 20-item measure of colorblind ideology entered as the test variables.

The first t-test indicated, as hypothesized, significant mean differences in colorblind ideology using Ryan et al.'s 4-item measure as a function of experimental condition, $t(158) = -2.06$, $p = .04$, such that participants in the need for inclusion activation condition endorsed

colorblind ideology ($M = 6.27$, $SD = .68$) to a greater extent than those in the need for differentiation activation condition ($M = 5.98$, $SD = 1.02$). This finding is congruent with the hypothesis that when made to feel different from others, individuals' need for inclusion is activated, causing them to endorse colorblind ideology and the notion that 'we should all be treated the same' to a greater extent. It is important here to note that none of the individual differences variables (i.e., SDO, racial identity, need for belongingness, conservatism, self-monitoring) interacted with need state activation condition in predicting colorblind ideology (all p's > .16).

No significant differences emerged regarding Neville et al.'s (2000) 20-item scale of colorblind ideology between individuals in the need for differentiation activation condition ($M = 4.11$, $SD = .75$) or need for inclusion activation condition ($M = 4.03$, $SD = .69$), t (158) = .75, $p = .45$.[2] However, one individual difference variable (i.e., conservatism) did interact with need state activation condition in predicting endorsement of Neville et al.'s (2000) measure of colorblind ideology, t (159) = -1.99, $p < .05$. The nature of the interaction was such that the discrepancy in colorblind ideology endorsement among highly conservative ($M = 4.52$) and low conservative ($M = 3.62$) individuals in the need for differentiation activation condition was greater than among highly conservative ($M = 4.28$) and low conservative ($M = 3.80$) individuals in the need for inclusion activation condition. Although I was unsure as to the interpretation of this interaction, it was not crucial to the current study's aims, especially given there were no significant differences in Neville's et al.'s (2000) measure of colorblindness as a function of need state activation condition. Given the lack of utility in the need state activation manipulation on Neville et al.'s (2000) measure of colorblind ideology, I dropped this measure from all subsequent analyses.

Regarding multicultural ideology (Ryan et al., 2007), a t-test indicated no significant differences between participants in the need for differentiation activation ($M = 5.67$, $SD = 1.08$) and need for inclusion activation ($M = 5.87$, $SD = .84$) conditions, $t(158) = -1.23$, $p = .22$. Moreover, none of the individuals differences variables (i.e., SDO, racial identity, need for belongingness, conservatism, self-monitoring) interacted with need state activation condition in predicting multicultural ideology (all p's > .13). I had expected that individuals in the need for differentiation activation condition would be more likely to endorse multicultural ideology. However, no support exists with regard to this hypothesis. As such, I dropped multicultural ideology as a chief variable of interest, and focused on the effect of need state activation condition on endorsement of colorblind ideology (Ryan et al., 2007), as well as visual perception of others. Having established that individuals with a need for inclusion activated were more likely to endorse colorblind ideology than those with a need for differentiation activated, I next set out to examine the effects of the need state activation on visual perception.

Need State Activation and Visual Perception.

I next conducted a series of t-tests to investigate the effect of the need state manipulation on visual perceptions of 'exactly the same' and 'different' in others. Again, I expected the need state manipulation to effect visual perception on ambiguous morph trial types (i.e., 25% different and 50% different) more so than less ambiguous trial types (i.e., 75% different, completely different, & exactly the same morphs). For sake of thoroughness, I first ran a series of t-tests to investigate mean differences between the need for differentiation activation and need for inclusion activation conditions in predicting perceptions of 'exactly the same.' I expected that individuals in the need for inclusion activation condition would make more 'exactly the same' judgments on ambiguous trial types (i.e., 25% different and 50% different morph types) than

individuals in the need for differentiation activation condition. Surprisingly, no significant differences in 'exactly the same' judgments between participants in need for differentiation activation and need for inclusion activation conditions were found regarding 25% different morph trials, $t(161) = 1.00$, $p = .32$, 50% different morph trials, $t(161) = .44$, $p = .66$, 75% different morph trials, $t(161) = -.18$, $p = .86$, completely different morph trials, $t(161) = 1.17$, $p = .24$, or exactly the same morph trials, $t(161) = -.71$, $p = .48$.

I next investigated correct trial responses for each of the five morph trial types (i.e., 25%, 50%, 75%, 100%, and 0%). To code for correct trial responses, correct responses to individual trials were coded with a 1 (incorrect responses coded a 0). Then, individual trial responses that were correct were summed for each morph trial type, with higher numbers reflecting a greater amount of correct responses. I expected that individuals in the need for inclusion activation condition would correctly identify ambiguous trial types (i.e., 25% different and 50% different) to a lesser extent than individuals in the need for differentiation activation condition. Surprisingly, no significant differences in correct responses between participants in need for differentiation activation and need for inclusion activation conditions were found regarding 25% different morph trials, $t(161) = -.95$, $p = .35$, 50% different morph trials, $t(161) = -.24$, $p = .81$, 75% different morph trials, $t(161) = .02$, $p = .98$, completely different morph trials, $t(161) = -1.10$, $p = .27$, or exactly the same morph trials, $t(161) = -.71$, $p = .48$.

I next ran a series of t-tests regarding individuals' response latencies to morph trials as a function need state activation and each of the five morph trial types (i.e., 25% different, 50% different, 75% different, completely different, & exactly the same). I expected that it would take need for inclusion activation condition participants longer to correctly identify face pairings as 'different' than need for differentiation activation participants, especially when the face pairings

were ambiguous (i.e., 25% different and 50% different morph trial types). As expected, on the most ambiguous trials (i.e., 25% different morph types), participants in the need for inclusion activation (M = 1,364.01, SD = 250.15) condition were slower to correctly identify faces as 'different' than participants in the need for differentiation (M = 1,274.64, SD = 236.72) activation condition, t (161) = -2.34, p = .02.

There was no difference between need for differentiation activation (M = 1,162.43, SD = 155.80) and need for inclusion activation (M = 1,195.70, SD = 166.22) conditions regarding correct 50% different trial response latencies, t (161) = -1.32, p = .19, although the trend was in the expected direction. Unexpectedly, regarding response latencies for completely different trial types, those in the need for differentiation activation (M = 978.05, SD = 133.33) condition were quicker to correctly identify individuals as 'different' than those in the need for inclusion activation (M = 1,040.23, SD = 164.92) condition, t (161) = -2.65, p = .009. There were no significant differences in response latencies for correct trials between individuals in need for differentiation activation or need for inclusion activation conditions regarding 75% different morph types, t (161) = -1.49, p = .14, as well as exactly the same morph types, t (161) = -1.82, p = .07.[3]

Given that the 25% and 50% morph trial types consisted of the greatest variability in 'exactly the same' and 'different' judgments, I aggregated these trial types and computed an average response latency for correct trials regarding these trial types. A t-test indicated that participants in the need for inclusion activation condition (M = 1,279.85, SD = 187.47) took longer to correctly identify ambiguously different trials (i.e., mean response latency of 25% different and 50% different trial types) than participants in the need for differentiation activation condition (M = 1,218.53, SD = 182.93), t (161) = -2.11, p = .04.[4] Again, this finding is consistent

with the hypothesis that activation of a need to feel included with others impedes the speed with which one is correctly able to perceive 'difference' in others. The appropriate judgment of 'different' directly opposes participants' activated need, and hence causes response conflict. Previous analyses indicated that need state activation condition significantly predicted endorsement of colorblind ideology, such that individuals in the need for inclusion activation condition endorsed colorblind ideology more than individuals in the need for differentiation activation condition. Thus, it is entirely possible that colorblind ideology may be driving the tendency for individuals with activated needs for inclusion to be slower to correctly categorize ambiguously different faces as such than individuals with activated needs for differentiation. As such, I utilized the correct response latencies for ambiguously different trials (i.e., mean response latencies of 25% different and 50% different morph types) as the chief criterion variable in reported subsequent analyses.

It is important here to note that another interpretation is that activation of one's need for differentiation may be causing endorsement of multicultural ideology, leading to quicker correct categorization of ambiguously different faces as being 'different' (compared to individuals with a need for inclusion activated). However, the lack of a significant difference between need state activation conditions in predicting multicultural ideology minimizes the likelihood of this alternative interpretation. Furthermore, a regression analysis with multicultural ideology entered as the predictor variable and correct response latencies of ambiguously different faces entered as the criterion revealed no significant differences in endorsement of multicultural ideology, t (161) = 1.54, p = .13, B = .12

Testing Mediational Hypotheses

In order to establish that colorblind ideology mediated the relationship between need state activation condition and response latencies of ambiguously different faces in the current study, I needed to demonstrate the following four sets of relationships: 1) the need state activation manipulation significantly predicted correct response latencies of ambiguously different face pairings; 2) the need state activation manipulation significantly predicted colorblind ideology endorsement; 3) colorblind ideology significantly predicted correct response latencies of ambiguously different face pairings; 4) the predictive ability of the need state activation manipulation in correct response latencies of ambiguously different face pairings was significantly reduced when controlling for colorblind ideology. Given that results already indicated that need state activation condition significantly predicted colorblind ideology (2) and correct response latencies of ambiguously different face pairings (1), confirming the mediational hypothesis concerning need state activation, colorblind ideology, and visual perception appeared promising.

Two hierarchical regressions were utilized to further examine the mediational ability of colorblind ideology in minimizing the predictive strength of need state activation condition in correct response latencies of ambiguously different face pairings. In the first regression, I entered colorblind ideology (Ryan et al., 2007) as the criterion. In the first step of the regression, I entered need state activation condition. In the second regression, I entered correct response latencies of ambiguously different face pairings as the criterion. In the first step of the second regression, I entered need state activation condition. In step 2, I entered need state activation condition and colorblind ideology. The first regression analysis revealed that need state activation condition was a significant positive predictor of colorblind ideology, $t(161) = 2.09$, p

$= .038, \beta = .16$. Specifically, individuals in the need for inclusion activation condition ($M = 6.27$, $SD = 5.98$) endorsed colorblind ideology more so than individuals in the need for differentiation activation condition ($M = 5.99$, $SD = 1.02$)

The second regression analysis revealed that colorblind ideology (while controlling for need state activation condition on step 1 of the regression) was a significant positive predictor regarding correct response latencies of ambiguously different faces[5], $t(160) = 2.25$, $p = .026$, $\beta = .18$. Thus, as colorblind ideology increased, individuals tended to take longer to correctly identify ambiguously different faces as 'different,' likely because of response conflict between their colorblind ideology ideological endorsement and the ambiguously different face primes. Furthermore, supporting mediational hypotheses, the initial significant predictive ability of need state activation condition in correct response latencies of ambiguously different faces, $t(161) = 2.11$, $p = .036$, $\beta = .16$ was reduced to below statistical significance, $t(160) = 1.74$, $p = .083$, $\beta = .14$) after controlling for the predictive ability of colorblind ideology.

Mediational Role of Colorblind Ideology

Having identified that need state activation condition predicted response latencies of ambiguously different faces, as well as evidence supporting the mediating role of colorblind ideology in this relationship, I next used bootstrapping procedures (Preacher & Hayes, 2008) to simultaneously examine the mediational abilities of colorblind and multicultural ideology in the need state activation- correct response latencies of ambiguously different faces relationship. Bootstrapping allows simultaneous testing of two mediators of a relationship between a predictor and criterion variable, and in this case, testing as to whether the reduction in predictive ability of need state activation condition in correct response latencies of ambiguously different faces was significantly reduced when controlling for the effect of colorblind ideology. Bootstrapping is

especially well-suited to this study's aims, as I want to affirm that colorblind ideology (and not multicultural ideology) mediated the predictive strength of need state activation condition in response latencies of ambiguously different faces. I used an SPSS Macro (available for download at quantpsy.org) that Preacher and Hayes (2008) created to conduct all bootstrapping procedures.

Using the SPSS Macro, I conducted a multiple regression analysis, utilizing ordinary least squared regression and bias-corrected bootstrapping (Preacher & Hayes, 2008), to further investigate the strength of need state activation condition in predicting correct response latencies of ambiguously different faces and the potential mediating roles of colorblind and multicultural ideology in diminishing these predictive strengths. In the regression, colorblind and and multicultural ideology were entered as the mediational variables, need state activation condition as the predictor variable, and correct response latencies of ambiguously different faces entered as the criterion variable. Moreover, 5,000 boot iterations and 95% confidence intervals were specified. Indirect bootstrap estimates (BEs), as well as lower and upper 95% confidence intervals were computed for colorblind and multicultural ideology to assess their mediational effects in the relationships between the predictor variable (i.e., need state activation condition) and the criterion variable (i.e., correct response latencies on ambiguously different trials). Lower and upper confidence interval ranges not containing 0 indicated a significant mediational effect pertaining to the tested relationship at a 95% confidence interval.

Bias-corrected confidence intervals indicated that, as expected, colorblind ideology (L_{CI} = .69, U_{CI} = 27.39) fully mediated the predictive strength of need state activation condition in correct response latencies of ambiguously different faces (see Figure 4), whereas multicultural ideology (L_{CI} = -4.40, U_{CI} = 15.58) did not. That is, controlling for the effects of colorblind ideology in predicting correct response latencies for ambiguously different faces significantly

reduced the predictive ability of need state activation condition in predicting correct response latencies on ambiguously different faces. The predictive ability of need state activation condition was reduced so much, that after controlling for colorblind ideology, need state activation condition was no longer a significant predictor of correct response latencies for ambiguously different faces. These findings are congruent with the hypothesis that an activation of a need to feel more included with others caused individuals to endorse colorblind ideology (more so than individuals with differentiation needs activated), which in turn was positively predicted response latencies in which individuals were able to correctly identify ambiguously different faces.

It is important to note that I also directly compared the need for inclusion activation condition participants to the control condition participants by computing a new need state activation condition coded variable (control = 0, need for inclusion activation condition = 1). A t-test indicated that those in the need for inclusion activation condition ($M = 6.27$, $SD = .67$) endorsed colorblind ideology more than individuals in the control condition ($M = 5.82$, $SD = 1.02$), $t (153) = -3.28$, $p = .001$. I next computed a regression with correct response latencies for ambiguously different trials entered as the criterion variable, the new need state activation condition coded variable entered on step 1 as a predictor, and both need state activation condition and colorblind ideology simultaneously entered in step 2 as predictors. The regression revealed a significant main effect of need state activation condition, $t (153) = 2.81$, $p = .006$, $B = .22$, such that individuals in the need for inclusion activation ($M = 1,279$, $SD = 187.47$) condition were slower to appropriately categorize ambiguously different faces than participants in the control condition ($M = 1,198.40$, $SD = 172.95$). This regression also revealed that when controlling for the effects of need state activation condition, colorblind ideology was a significant positive

predictor of correct response latencies for ambiguously different trials, t (152) = 2.42, p = .017, B = .19

These results were consistent with mediation, in that those in the need for inclusion activation condition were more likely to endorse colorblind ideology (compared to those in the control condition), and in turn slower to categorize ambiguously different faces as such (due to response conflict). Moreover, when controlling for the effects of colorblind ideology, the degree to which need state activation condition predicted correct response latencies of ambiguously different faces was reduced, t (152) = 2.13, p = .034, B = .17, but still statistically significant. To examine if the amount of variability accounted for in correct response latencies on ambiguously different trials was significantly reduced when controlling for colorblind ideology, I again utilized bootstrapping procedures (Preacher & Hayes, 2008).

In a regression, colorblind and multicultural ideology were entered as the mediational variables, need state activation condition (recoded as control = 0, need for inclusion activation =1) as the predictor variable, and correct response latencies of ambiguously different faces entered as the criterion variable. Moreover, 5,000 boot iterations and 95% confidence intervals were specified. Indirect bootstrap estimates (BEs), as well as lower and upper 95% confidence intervals were computed for colorblind and multicultural ideology to assess their mediational effects in the relationships between the predictor variable (i.e., need state activation condition) and the criterion variable (i.e., correct response latencies on ambiguously different trials).

Bias-corrected confidence intervals indicated that, as expected, colorblind ideology (L_{CI} = 4.11, U_{CI} = 38.05) attenuated the predictive strength of need state activation condition in correct response latencies of ambiguously different faces (see Figure 5), whereas multicultural ideology (L_{CI} = -11.71, U_{CI} = 5.98) did not. That is, controlling for the effects of colorblind ideology in

predicting correct response latencies for ambiguously different faces significantly reduced the predictive ability of need state activation condition in predicting correct response latencies for ambiguously different faces. However, the predictive ability of need state activation condition after controlling for colorblind ideology was not reduced below statistical significance. Overall, this line of results is consistent with hypotheses, in that activation of inclusiveness needs caused individuals to endorse colorblind ideology more so than individuals with differentiation needs activated (and control participants with no needs activated), which in turn triggered response conflict and slower correct classification of ambiguously different faces.

Chapter 4: Discussion

My first objective in the current research was to examine the predictive ability of need state activations of inclusion and differentiation on endorsements of colorblind and multicultural ideology. As expected, endorsement of colorblind ideology was a viable strategy for individuals to use in order to fulfill an activated need for inclusiveness. Surprisingly, however, endorsement of multicultural ideology was not utilized by individuals to fulfill activated differentiation needs.

My second objective in the current research was to examine the predictive ability of colorblind and multicultural ideology in perceptions of sameness and difference in others. Colorblind ideology endorsement positively predicted longer response time latencies regarding 'different' judgments on ambiguously different morphed faces, whereas multicultural ideology did not. Surprisingly, neither colorblind nor multicultural ideology predicted the number of 'different' judgments made by participants on ambiguously different morph trials.

The third objective in the current research was to investigate the effect of need state activation condition on number and response latency of 'different' judgments made by participants on ambiguously different morph trials. Individuals in the need for inclusion

activation condition took longer to accurately categorize ambiguously different morph trials than individuals in the need for differentiation activation condition. However, need state activation condition did not predict the number of 'different' judgments on ambiguously different trials. In sum, need state activation condition and colorblind ideology endorsement were significant predictors of correct response latencies regarding ambiguously different trials, but not actual judgments of difference.

The fourth objective in the current research was to investigate the degree to which activated needs for inclusiveness and differentiation influenced endorsement of colorblind and multicultural ideologies, as well as their effects on response latencies to correctly identify, ambiguously different morph trials. Using bootstrapping procedures (Preacher & Hayes, 2008), it was revealed that colorblind ideology fully mediated the predictive ability of need state activation condition regarding longer reaction times in correctly identifying ambiguously different faces. These findings are consistent with the hypothesis that endorsement of colorblind ideology is a viable strategy with which to fulfill activated needs for inclusion, and that endorsement of colorblind ideology holds implications for social perception. Specifically, greater endorsement of colorblind ideology predicted longer response times to correctly categorize ambiguously different faces. It is important to note that although inclusiveness needs also predicted longer response times to correctly categorize completely different faces, colorblind ideology was not functional in mediating this relationship. Thus, as expected, it appears as if colorblind ideology endorsement's mediational effect on the need state activation-social perception reaction time relationship is most functional in ambiguous forms of perception.

It is uncertain why need state activation condition did not significantly predict multicultural ideology endorsement. Specifically, although I expected individuals in the

differentiation activation condition to endorse multicultural ideology to a greater extent than those in the need for inclusion activation condition, no support for this hypothesis was found. One interesting aspect of the results is that need for differentiation activation participants did not differ from control condition participants regarding feelings of similarity, although both groups differed significantly from need for inclusion activation participants (need for inclusiveness activation condition participants felt much less similar due to the manipulation). This pattern suggests that the need for inclusiveness activation manipulation was successful, whereas the need for differentiation activation manipulation may not have been successful (at least in activating differentiation needs significantly more than control participants).

One explanation for the lack of a manipulation effect on multicultural ideology endorsement exists in differences within the operational definitions of multicultural and colorblind ideology. Colorblind ideology consists of the set of beliefs that 'we are all the same.' Inherent in the 'we' part of this definition is the self. That is, the self is directly implicated within colorblind ideology endorsement. Implication of the self, in turn, perhaps enhances the degree to which need state activations occurring at the individual level (i.e., need for inclusion activation) can be fulfilled via colorblind ideology endorsement. Because colorblind ideology includes a sense of sameness between oneself and others, I expect it's an especially potent means by which to fulfill activated needs for inclusion. In contrast, multicultural ideology consists of the set of beliefs that ethnic group differences should be acknowledged, valued, and appreciated. Less inherent within multicultural ideology is how the self relates to others, or more specific to ODT-activated needs, how the self is unique and different from others. Because multicultural ideology is more focused on acknowledging differences between others and not the important combination

of perceiving differences between *oneself* and others (analogous to colorblind ideology), it may not be a potent means by which to fulfill activated needs for differentiation.

Additionally, it is unclear as to why no significant findings were revealed with regard to need state activation condition predicting actual 'different' judgments. Perhaps these trends provide evidence that superseding the effects of need for inclusion activation involves a two-step process: 1) grasping that ambiguously different faces are not 'exactly the same'; and 2) appropriately categorizing the faces as 'different.' However, for need for differentiation activation condition participants, perception may only involve a one-step process. These participants were seeking out differences, and thus speed of appropriately categorizing ambiguously different faces was enhanced. The findings indicate that participants did not differ in their ability to accurately perceive ambiguously different faces as a function of need state activation condition, but that response conflict did influence response latencies to these trials. Specifically, response conflict existed regarding need for inclusion activation participants because their activated need to feel included with others and hence to perceive 'sameness' conflicted with the correct response on ambiguously different trials (i.e., 'different'). However, need for differentiation activation participants experienced no response conflict on ambiguously different trials, given that their activated needed to feel differentiated with others and hence perceive 'difference' did not conflict with the correct response on ambiguously different trials.

Nevertheless, the findings are congruent Ryan et al.'s work (2007) regarding interethnic ideological endorsements, group stereotypes, and ethnocentrism. Along with colorblind and multicultural ideology scales, Ryan et al. (2007) employed measures in which participants rated the percentage of Blacks and Whites that possessed a variety of stereotypic and counterstereotypic traits, as well as a range estimation task in which participants indicated the

highest and lowest Blacks and Whites would fall on each trait. From participants' range

estimation responses, the authors created a perceived dispersion estimate. Ryan et al. (2007)

found that as White participants' colorblind ideology scores increased, their perceptions of

variability within groups regarding traits across both Blacks and Whites tended to decrease. That

is, as Whites' colorblind ideology scores increased, they tended to perceive Blacks to be more

similar to one another, as well as Whites to be more similar to one another. The current study's

findings are congruent in that as colorblind ideology scores increased, individuals tended to have

slower reaction time latencies in correctly categorizing ambiguously different faces. As

elaborated earlier, this slower reaction time latency is likely due to the response conflict between

colorblind ideology beliefs (i.e., 'we should all be treated the same') and correct responses on

ambiguously different trials (i.e., 'different').

The present study extends previous work that has evaluated the relationships between

interethnic ideology and social perception (Ryan et al., 2007; Ryan et al., 2010) by evaluating

visual, more basic social perception, in comparison to the downstream social judgments revealed

in the range estimation and trait percentage tasks employed in previous research (i.e., Ryan et al.,

2007; Ryan et al., 2010). More basic, online judgments are driven by early cognitive perceptual

processes, such as attention, and stem from automatic processes. An increased understanding of

how interethnic ideology may influence basic social perception may importantly inform the

process by which more basic cognitive processes are transmitted into more downstream social

perceptual outcomes and behaviors (DeWall, Maner, & Rouby, 2009) with regard to interethnic

ideologies. Nevertheless, the current study's findings regarding the colorblind ideology-social

perception link are congruent with and buttress Ryan et al.'s (2007; 2010) findings.

In a similar vein, it may also be beneficial to investigate other, more downstream forms of social perception, such as perceived measures of trait variability to others (Ryan et al., 2007), and see if the patterns described in the current study are replicated. It is important to verify that the results of the current study can be replicated not only in facial perception, but other forms of social perception more broadly. Face perception is chiefly a uniquely human capability of which individuals are extremely capable. We immediately perceive emotions and make inferences about others based on their facial characteristics. In regards to perceiving others, the face is an especially important feature in which individuals interpret the emotions, mood, and goals of an interaction partner. In short, individuals are finely attuned to distinguishing differences between faces. This point in general may also help explain the lack of significant differences in actual perceptions of 'different' as a function need state activation condition. Therefore, it may be useful to evaluate the effects of need state activation on means of more basic perception less central to processes as fundamental as face perception. Nevertheless, that we found effect of need for inclusion activation and influences of colorblind ideology on a highly refined form of basic social perception such as face perception speaks to the promise of the confirmed mediational model in other forms of social perception.

In addition to other forms of social perception, future research should investigate the effects of need state activation on interethnic ideology endorsement and social perception using converging methods. Furthermore, in contrast to the individual-level manipulation of need state activation in the current study, future research may benefit from looking at the effects of group-based manipulations of need for inclusiveness or need for differentiation. Indeed, Brewer's (1991) optimal distinctiveness theory is based in the tenet that individuals' group memberships are powerful agents of basic needs for inclusion and differentiation. Past research (Pickett,

Silver, & Brewer, 2002) has investigated the effects of need activation at the group level on group-level outcomes (e.g., perceptions of ingroup size and inclusiveness). Pickett et al. (2002) utilized false feedback in a similar manner as in the current study to manipulate needs for inclusiveness and differentiation at the group level. In future research, I hope to use converging group- and individual-level manipulations to better understand the effects that need state activation at both the individual and group level of analysis may hold on individual-level interethnic ideology endorsement and social perception.

It is important to note that the correlational nature of the relationship between colorblind ideology and correct response latencies of ambiguously different trials necessarily limits causal conclusions. However, the link of the significant mediational model concerning colorblind ideology endorsement and correct response latencies of ambiguously different trials is the only link of which causal conclusions cannot be inferred. Future research should manipulate endorsement of colorblind and multicultural ideology and investigate whether or not colorblind ideology causes changes in correct response latencies of ambiguously different trials. Colorblind and multicultural ideologies have been successfully manipulated in previous research (e.g., Wolsko et al., 2000) through use of essays espousing colorblind- or multicultural-based messages, and such methods would prove invaluable to strengthening the evidence for colorblind ideology's role as a mediator in the need for inclusion activation-social perception relationship. Such evidence would add support for the current study's mediational model, and suggest that need for inclusion activation causes increases in colorblind ideology, which in turn causes increases in correct response latencies of ambiguously different trials.

Additionally, the lack of a viable control group in the current study necessarily limits comparisons to solely need for inclusion activation and need for differentiation activation

conditions. Thus, for example, I can surely conclude from the current study's findings that need for inclusion activation predicts greater endorsement of colorblind ideology, relative to need for differentiation activation. Of course, it would be ideal to directly compare need for inclusion and differentiation activation participants to participants with no needs activated with regard to ideological endorsements and social perception. Nevertheless, the current study's findings provide important theoretical contributions by integrating theory involving situationally-based motives, interethnic ideology endorsement, and social perception. Moreover, as highlighted in the results, the mediational model in which need for inclusion activation (relative to need for differentiation activation) predicted colorblind ideology, which in turn predicted longer correct response latencies on ambiguously different trials also held true when directly comparing need to inclusion activation participants to control participants. Thus, it appears as if need for inclusion activation predicts greater endorsement of colorblind ideology, relative to need for differentiation and control conditions, which in turn influences correct response latencies of ambiguously different trials. However, given the concerns with the control condition data previously discussed and in the interest of maintaining appropriate comparisons between need activation conditions, I for the most part abstained from comparing experimental need state conditions to the control condition in the current study.

One particular strength of the current study is that moderational analyses confirmed that individual differences variables (i.e., SDO, need for belongingness, self-monitoring, racial identity, conservatism) did not interact with the experimental need state activation conditions in predicting colorblind ideology, nor did they interact with colorblind ideology in predicting increased correct response latencies on ambiguously different trials. These findings suggest that regardless of trait levels of need for belongingness, situational activations of a need for

inclusiveness predicted endorsement of colorblind ideology and increased response latencies of ambiguously different trials, in comparison to need for differentiation activation. The current study's findings extend Plaut et al.'s (2011) by demonstrating that situationally-activated needs for inclusion (as compared to individual difference-based measures of need for belongingness) can significantly influence support for colorblind ideology and colorblind ideological endorsement.

The results of the current study support the malleability of interethnic ideology endorsements (specifically colorblind ideology) as a function of situationally-based motives. To my knowledge, only one other study (Knowles et al., 2009) has investigated the utility of situational variables in predicting ideological endorsements. The current study is unique in that it examined situational-based motives, and their effects on ideological endorsements. Because interethnic ideologies have been valuably implicated with intergroup interaction aspects that hold important ramifications for whether or not such interactions lead to friendship development or conflict, examination of both the individual difference- and situationally-based variables that might predispose one to endorse these ideologies is of utmost importance. The current study provides further evidence as to the malleability of interethnic ideologies as a function of situationally-based motives, as well as effects those ideological endorsements may in turn have on basic social perception processes.

List of References

Ainsworth, M. D. (1989). Attachments beyond intimacy. *American Psychologist*, *44*, 709-716.

Balcetis, E., & Dunning, D. (2006). See what you want to see: Motivational influences on visual perception. *Journal of Personality and Social Psychology*, *91*, 612-625.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497-529.

Brewer, M. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin*, *17*, 475-482.

Brewer, M. B. (1993). Social identity, distinctiveness, and in-group homogeneity. *Social Cognition, 11*, 150-164.

Brewer, M. B., Manzi, J.M., & Shaw, J. S. (1993). In-group identification as a function of depersonalization, distinctiveness, and status. *Psychological Science*, *4*, 88-92.

Brewer, M. B., & Miller, N. (1984). Beyond the contact hypothesis: Theoretical perspectives on desegregation. In N. Miller & M. B. Brewer (Eds.), *Groups in contact: The psychology of desegregation* (pp. 281-302). New York: Academic.

Brewer, M. B., & Miller, N. (1988). Contact and cooperation: When do they work? In P. A. Katz & D. A. Taylor (Eds.), *Eliminating racism: Profiles in controversy* (pp. 315-326). New York, NY: Plenum.

Brewer, M. B., & Pickett, C. L. (1999). Distinctiveness motives as a source of the social self. In T. Tyler, R. Kramer, & O. John (Eds.), *The Psychology of the Social Self*, (pp. 71-90). Mahwah, NJ: Erlbaum.

Bruner, J. S. (1957). On perceptual readiness. *Psychological Review*, *64*, 123-152.

Bruner, J. S., & Goodman, C. C. (1947). *The Journal of Abnormal and Social Psychology*, *42*, 33-44.

Burkard, A., & Knox, S. (2004). Effect of therapist color-blindness on empathy and attributions in cross-cultural counseling. *Journal of Counseling Psychology*, *51*, 387-397.

Burleson, B.R., & Caplan, S.E. (1998). Cogntive complexity. In J.C. McCroskey, J.A. Daly, M.M. Martin, & M.J. Beatty (Eds.), *Communication and personality: Trait perspectives* (233-286). Creskill, NJ: Hampton Press.

Cohen, S. (1988). Psychosocial models of the role of social support in the etiology of physical disease. *Health Psychology*, *7*, 269-297.

Costa, P. T., Jr., & McCrae, R. R. (1992). Revised NEO personality inventory and NEO five-factor inventory. Lutz, FL: Psychological Assessment Resources.

Cunningham, W. A., Preacher, K. J., & Banaji, M. R. (2001). Implicit attitude measures: Consistency, stability, and convergent validity. *Psychological Science, 12*, 163-170.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*, 5-18.

DeWall, C. N., Maner, J. K., & Rouby, D. A. (2009). Social exclusion and early-stage interpersonal perception: Selective attention to signs of attention. *Journal of Personality and Social Psychology*, *96*, 729-741.

Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and non-preferred conclusions. *Journal of Personality and Social Psychology*, *63*, 568-584.

Dunbar, R. I. M. (1992). Neocortex size as a constraint on group size in primates. *Journal of Human Evolution*, *22*, 469-493.

Duval, S. (1972). *Conformity on a visual task as a function of personal novelty on attitudinal dimensions and being reminded of the object status of the self.* Unpublished doctoral dissertation, University of Texas at Austin.

Fazio, R. H., & Dunton, B. C. (1997). Categorization by race: The impact of automatic and

    controlled components of racial attitudes. *Journal of Experimental Social Psychology*,

    33, 451-470.

Fazio, R. H., Ledbetter, J. E., & Towles-Schwen, T. (2000). On the costs of accessible attitudes:

    Detecting that the attitude object has changed. *Journal of Personality and Social*

    Psychology, *78*, 197-210.

Fazio, R. H., & Williams, C. J. (1986). Attitude accessibility as a moderator of the attitude-

    perception and attitude-behavior relations: An investigation of the 1984 presidential

    elections. *Journal of Personality and Social Psychology*, *51*, 505-514.

Fiske, S. T. (2004). *Social beings: A core motives approach to social psychology*. New York:

    Wiley.

Fiske, S. T., & Neuberg, S. L. (1990). A continuum model of impression formation, from

    category-based to individuating processes: Influences of information and motivation on

    attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social*

    psychology, (vol. 23, pp. 1-74). San Diego, CA: Academic Press.

Fromkin, H. L. (1972). Feelings of interpersonal undistinctiveness: An unpleasant affective state.

    Journal of Experimental Research in Personality, *6*, 178-182.

Gilbert, D. T. (1989). Thinking lightly about others. In J. S. Uleman & J. A. Bargh (Eds.),

    Unintended thought, (pp. 189-211). New York: Guilford Press.

Greenburg, M. G., & Stone, A. A. (1992). Emotional disclosure about trauma and its relation to

    health: Effects of previous disclosure and trauma severity. *Journal of Personality and*

    Social Psychology, *63*, 75-84.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, *74*, 1464-1480.

Henrich, J., & Boyd, R. (1998) The evolution of conformist transmission and the emergence of between-group differences. *Evolution and Human Behavior*, *19*, 215–242.

Hewstone M., Rubin M., & Willis, H. (2002). Intergroup bias. In J. T. Spence, J. M. Darley, J. Foss (Eds.), *Annual Review of Psychology,* (vol. 53, pp. 575–604). Palo Alto, CA: Annual Reviews.

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social Psychology: Handbook of Basic Principles* (pp. 133–168). New York: The Guilford Press.

Higgins, E. T., & Bargh, J. A. (1987). Social cognition and social perception. *Annual Review of Psychology*, *38*, 369-425.

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science*, *241*, 540-545.

Kameda, T., & Tindale, R. S. (2006). Groups as adaptive devices: Human docility and group aggregation mechanisms in evolutionary context. In M. Schaller, J. Simpson, & D. Kenrick (Eds.), *Evolution and social psychology* (pp. 317–341). New York: Psychology Press.

Kenrick, D. T., Griskevicius, V., Neuberg, S. L., & Schaller, M. (2010). Renovating the pyramid of needs: Contemporary extensions built upon ancient foundations. *Perspectives on Psychological Science, 5,* 292–314.

Kenrick, D. T., Neuberg, S. L., Griskevicius, V., Becker, D. V., & Schaller, M. (2010). Goal-driven cognition and functional behavior. The fundamental-motives framework. *Current Directions in Psychological Science*, *19*, 63-67.

Knowles, E. D., Lowery, B. S., Hogan, C. M., & Chow, R. M. (2009). On the malleability of ideology: Motivated construal of color blindness. *Journal of Personality and Social Psychology*, *96*, 857-869.

Lancaster, J. B. (1976). *Primate behavior and the emergence of human culture*. New York: Holt.

Leary, M. R. (2010). Affiliation, acceptance, and belonging: The pursuit of interpersonal connection. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (Vol. 2, pp. 864–897). Hoboken, NJ: Wiley.

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2012). Individual differences in the need to belong: Mapping the nomological network. Unpublished manuscript, Duke University.

Liberman, N., Molden, D. C., Idson, L. C., & Higgins, E. T. (2001). Promotion and prevention focus on alternative hypotheses: Implications for attributional functions. *Journal of Personality and Social Psychology*, *80*, 5-18.

Leonardelli, G. J., Pickett, C. L., & Brewer, M. B. (2010). Optimal distinctiveness theory: A framework for social identity, social cognition, and intergroup relations. In M. Zanna & J. Olson (Eds.), *Advances in experimental social psychology*, (Vol. 43, pp. 65-115). New York: Elsevier.

Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology*, *51*, 858-866.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*, 370-396.

McAdams, D. P. (1982). Experiences of intimacy and power: Relationships between intimacy

    motives and autobiographical memory. *Journal of Personality and Social Psychology*,

    42, 392-402.

Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist*, *55*,

    56-67.

Navon, D. (1977). Forest before trees: The precedence of global features in visual perception.

    Cognitive Psychology, *9*, 353–383.

Neville, H. A., Lilly, R. L., Duran, G., Lee, R. M., & Browne, L. (2000). Construction and initial

    validation of the color-blind racial attitudes scale (CoBRAS). *Journal of Counseling*

    Psychology, *47*, 59-70.

Olson, M. A., Crawford, M. T., & Devlin, W. (2009). Evidence for the underestimation of

    implicit in-group favoritism among low status groups. *Journal of Experimental Social*

    Psychology, *45*, 1111-1116.

Pavot, W., Diener, E., & Fujita, F. (1990). Extraversion and happiness. *Personality and*

    Individual Differences, *11*, 1299-1306.

Pickett, C. L., Bonner, B. L., & Coleman, J. M. (2002). Motivated self-stereotyping: Heightened

    assimilation and differentiation needs result in increased levels of positive and negative

    self-stereotyping. *Journal of Personality and Social Psychology*, *82*, 543-562.

Pickett, C. L., & Brewer, M. B. (2001). Assimilation and differential needs as motivational

    determinants of perceived in-group and out-group homogeneity. *Journal of Experimental*

    Social Psychology, *37*, 341-348.

Pickett, C. L., Silver, M. D., & Brewer, M. B. (2002). The impact of assimilation and

    differentiation needs on perceived group importance and judgments of ingroup size.

    Personality and Social Psychology Bulletin, *28*, 546-558.

Plaut, V. C. (2002). Cultural models of diversity in America: The psychology of difference and

    inclusion. In R. A. Shweder, M. Minow, & H. R. Markus (Eds.), *Engaging cultural*

    differences: The multicultural challenge in liberal democracies (pp. 365-395). New

    York: Russell Sage Foundation Press.

Plaut, V. C. (2010). Diversity science: Why and how diversity makes a difference. *Psychological*

    Inquiry, 21, 77-79.

Plaut, V. C., Garnett, F. G., Buffard, L. E., & Sanchez-Burks, J. (2011). *Journal of Personality*

    and Social Psychology, *101*, 337-353.

Prager, K. J. (1986). Intimacy status: Its relationship to locus of control, self-disclosure, and

    anxiety in adults. *Personality and Social Psychology Bulletin*, *12*, 91-109.

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A

    personality variable predicting social and political attitudes. *Journal of Personality and*

    Social Psychology, 67, 741-763.

Pratto, F., Sidanius, J., Stallworth, L. M., & Siers, B. (1997). The gender gap in occupational role

    attainment: A social dominance approach. *Journal of Personality and Social Psychology*,

    72, 37-53.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and

    comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*,

    879-891.

Richeson, J. A., & Nussbaum, R. J. (2004). The impact of multiculturalism versus color

blindness on racial bias. *Journal of Experimental Social Psychology*, *40*, 417-423.

Rubin, R.B., & Henzl, S.A. (1984). Cognitive complexity, communication competence, and verbal ability. *Communication Quarterly*, *32*, 263-270.

Ryan, C. S., Casas, J. F., & Thompson, B. K. (2010). Interethnic ideology, interethnic perceptions, and cultural orientation. *Journal of Social Issues*, *66*, 29-44.

Ryan, C. S., Hunt, J. S., Weible, J. A., Peterson, C. R., & Casas, J. F. (2007). Multicultural and colorblind ideology, stereotypes, and ethnocentrism among black and white Americans. *Group Processes and Intergroup Relations*, *10*, 617-637.

Sedikides, C., Gaertner, L., & Toguchi, Y. (2003). Pancultural self-enhancement: *Journal of Personality and Social Psychology*, *84*, 64-79.

Sedikides, C., Gaertner, L., & Vevea, J. L. (2005). Pancultural self-enhancement reloaded: A meta-analytic reply to Heine (2005). *Journal of Personality and Social Psychology*, *89*, 531-551.

Sellers, R. M., Rowley, S. A., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology*, *73*. 805-815.

Snyder, M. (1974). The self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, *30*, 526-537.

Snyder, M., Berscheid, E., & Glick, P. (1985). Focusing on the exterior and the interior: Two investigations of the initiation of personal relationships. *Journal of Personality and Social Psychology*, *48*, 1427-1439.

Snyder, C. R., & Fromkin, H. L. (1980). *Uniqueness: The human pursuit of difference*. New York: Plenum.

Spears, R., Doosje, B., & Ellemers, N. (1997). Self-stereotyping in the face of threats to group status and distinctiveness: The role of group identification. *Personality and Social Psychology Bulletin*, *23*, 538-553.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations*. Chicago: Nelson-Hall.

Thomsen, L., Green, E. G. T., & Sidanius, J. (2008). We will hunt them down: How social dominance oreintation and right-wing authorianism fuel ethnic persecution of immigrants in fundamentally different ways. *Journal of Experimental Social Psychology*, *44*, 1455-1464.

Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

Turner, J. C., & Onorato, R. (1999). Social identity, personality, and the self-concept: A self-categorization perspective. In T. R. Tyler, R. Kramer, & O. John (Eds.), *The Psychology of the Social Self*, (pp. 11-46). Hillsdale, NJ: Erlbaum.

Uhlemann, M. R., Lee, D. Y., & Hasse, R. F. (1989). The effects of cognitive complexity and arousal on client perception of counselor nonverbal behavior. *Journal of Clinical Psychology, 45*, 661-665.

Verkuyten, M. (2009). Self-esteem and multiculturalism: An examination among ethnic minority and majority groups in the Netherlands. *Journal of Research and Personality*, *43*, 419-427.

Vignoles, V. L., Chryssochoou, X., & Breakwell, G. M. The distinctiveness principle: Identity, means, and the bounds of cultural relativity. *Personality and Social Psychology Review*, *4*, 337-354.

Wolsko, C., Park, B., Judd, C. M., & Wittenbrink, B. (2000). Framing interethnic ideology: Effects of multicultural and color-blind perspectives on judgments of groups and individuals. *Journal of Personality and Social Psychology*, *78*, 635-654.

Zabel, K. L., Christopher, A. N., Marek, P., Wieth, M. B., & Carlson, J. J. (2009). Mediational effects of sensation seeking on the age and financial risk-taking relationship. *Personality and Individual Differences*, *47*, 917-921

Appendix

Appendix

1. No order effects regarding need for differentiation and need for inclusion activation effects on colorblind or multicultural ideology, as well as difference judgments and response latencies of 'different' judgments on ambiguously different trials (all p's > .12) were detected.

2. There were no differences in Neville et al.'s (2000) three subscales of racial privilege, institutional discrimination, and blatant racial issues regarding individuals in the need for differentiation activation and need for inclusion activation conditions (all p's > .49).

3. Five t-tests assessing response latencies on incorrect trials regarding 25%, 50%, 75%, 100%, and 0% morphed trial types indicated no significant differences in response latencies between participants in the need for differentiation activation or need for inclusion activation conditions (all p's > .09).

4. It is important to note that no individual difference variables (i.e., SDO, racial identity, need for belongingness, conservatism, or self-monitoring) interacted with need state activation to predict mean correct response latency for ambiguously different trials (i.e., 25% & 50% morph trials; all p's > .09).

5. A regression with correct response latencies regarding completely different trials types entered as the criterion, the need activation condition entered on step 1, and both need activation condition and colorblind ideology entered on step 2 was conducted to investigate the potential mediating role of colorblind ideology in the need state activation-correct response latencies on completely different trials relationship. The results indicated no significant predictive ability of colorblind ideology in correct response latencies on completely different trials, $t(160) = .78$, $p = .44$, $B = .06$.
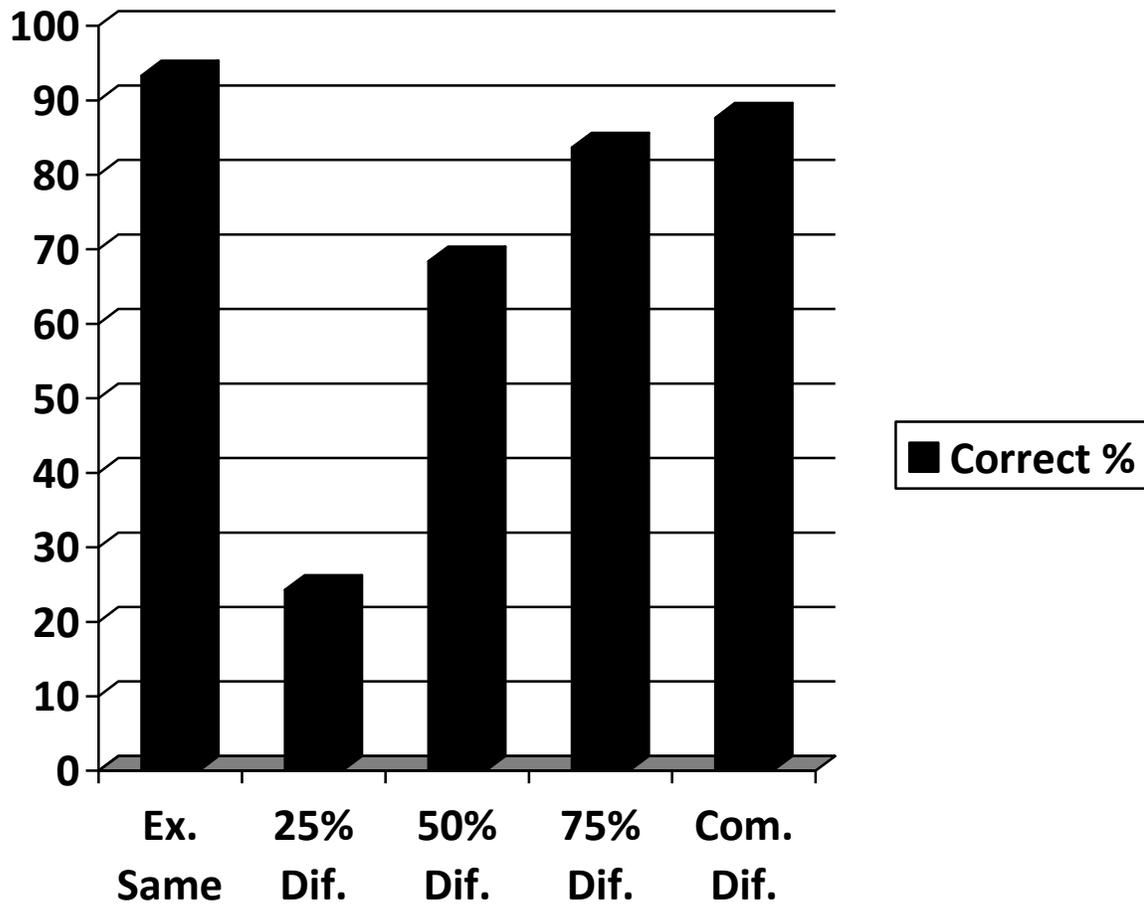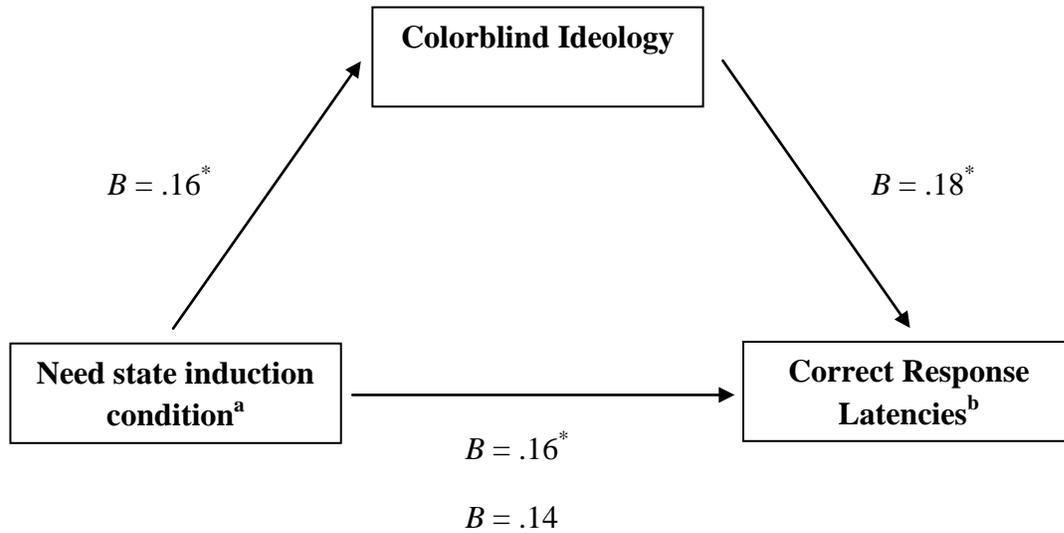
Figure 1. Percentage of correct responses as a function of morph trial type.
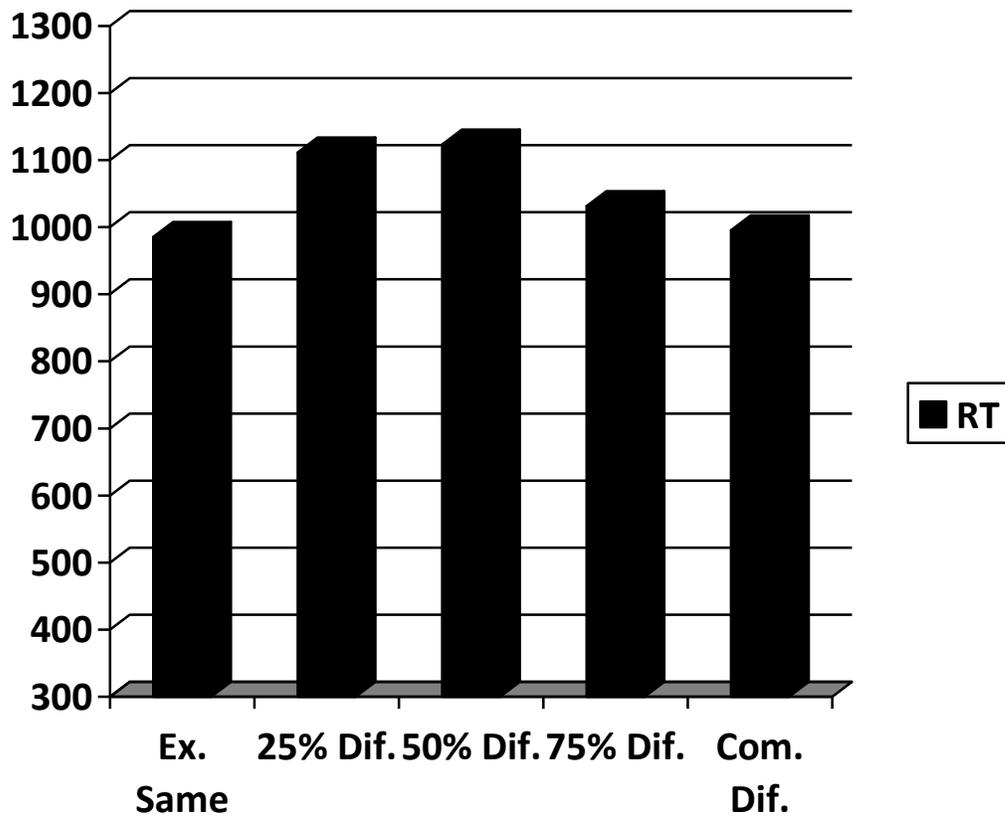
Figure 2. **Reaction time as a function of morph trial type.**
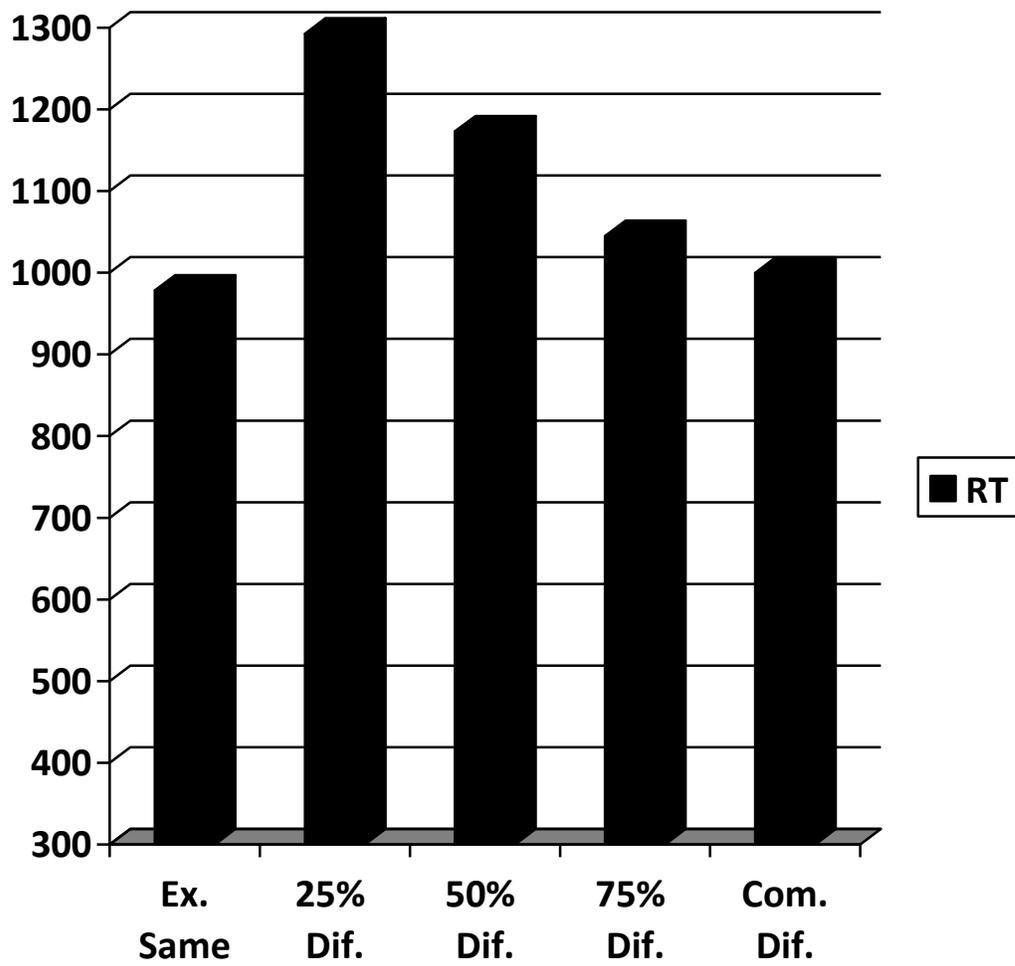
*Figure 3*. **Reaction time of correct responses as a function of morph trial type.**

*p < .05

[a] Need for differentiation activation = 0, Need for inclusion activation = 1

[b] Correct response latencies of ambiguously similar morph types (i.e., 25% & 50%)

Figure 4. **Effects of need state activation (Need for differentiation vs. inclusion) on correct response latencies and the mediational role of colorblind ideology.**
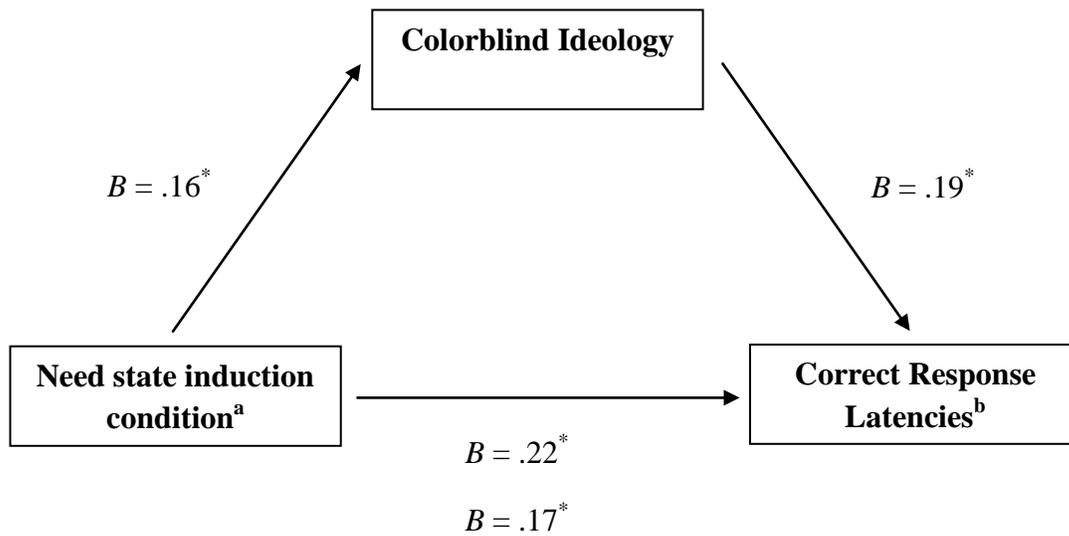
* $p < .05$

^{a} Control = 0, Need for inclusion activation = 1

^{b} Correct response latencies of ambiguously similar morph types (i.e., 25% & 50%)

Figure 5. **Effects of need state activation (Control vs. Need for inclusion) on correct response latencies and the mediational role of colorblind ideology.**

Vita

Kevin Zabel graduated from River Valley High School in Three Oaks, Michigan in 2005. He is a 2009 graduate of Albion College in Albion, MI, with a double major in both psychology and economics and management. He graduated as a Summa Cum Laude with psychology departmental honors, completing his senior thesis, under the supervision of Dr. Andrew Christopher, on the relationship between age and financial risk-taking, and the mediational role of sensation seeking in that relationship. Following graduation, he was the academic program coordinator for the Chicago Center for Urban Life and Culture in the Hyde Park neighborhood of Chicago, IL for one year. While there, he helped coordinate academic internships and both student teaching and social work placements in Chicago for undergraduate students from colleges in both the Midwest and West coast. In addition, he also directly aided the primary instructor of academic students, Dr. Scott Chesebro, with regard to the classroom component of student internship experiences. This classroom component included introduction to a variety of cultures and experiences throughout Chicago using first-voice pedagogy.

Since 2009, he has worked under the guidance of Dr. Michael Olson in the Social Psychology division of the University of Tennessee's Experimental Psychology program. Under Dr. Olson's guidance, he has conducted empirical research studies on automatic prejudice, motivation to control prejudiced reactions, and how they interact to predict social judgments and impressions. He also has conducted research on the content of interracial interactions, and how the conversation topics interracial interaction partners broach or avoid may valuably influence intergroup outcomes. In addition, a new area of empirical inquiry entails the thesis work herein, and how situationally-activated needs for inclusion and differentiation influence interethnic ideological endorsements and ultimately, social perception of one's self and others.