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Patrick R. Harrison
Loyola University Chicago

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LOYOLA UNIVERSITY CHICAGO

REMEMBER THE GOOD TIMES: DOES SAVORING A PREVIOUS INTERGROUP INTERACTION INCREASE WHITES’ POSITIVE INTERGROUP EMOTIONS AND WILLINGNESS TO DEVELOP FUTURE INTERGROUP FRIENDSHIPS?

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN SOCIAL PSYCHOLOGY

BY

PATRICK R. HARRISON

CHICAGO, IL

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For my family.
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ABSTRACT

Although racial prejudice remains a prevalent social phenomenon, research has demonstrated that positive contact – most notably intergroup friendship – predicts decreased prejudice. Whites, however, may be hesitant to develop intergroup friendships because they experience negative emotions like anxiety when faced with the prospect of interacting with outgroup members (i.e., Blacks). Past research has countered this obstacle by relying on manipulations that reframe how individuals feel about intergroup interactions to increase willingness to engage with outgroup members. Building on this framework, I tested whether savoring a previous intergroup interaction could increase friendship willingness by increasing positive intergroup emotions (Study 1) and whether processing style would moderate this effect (Study 2). Results indicated that although White individuals were able to savor previous interactions with Blacks, encouraging them to do so did little to increase intergroup friendship willingness and this effect was not mediated by positive intergroup emotions. Moreover, processing style did not moderate this effect. However, trait savoring was linked with both positive intergroup emotions and increased intergroup friendship willingness. These findings suggest that although savoring a previous intergroup interaction may not be an effective way to encourage intergroup friendship willingness, individual differences in the capacity to savor may explain why some are more willing to seek intergroup friendships.
CHAPTER ONE
THE CURRENT STATE OF INTERGROUP RELATIONS

The Prevalence of Prejudice

In 1995, conservative social theorist Dinesh D’Souza called for a reevaluation of racial prejudice in the United States. D’Souza claimed that Americans are beholden to the idea that they live in a racist society when, in reality, racism is no longer systematically harmful to African American interests (D’Souza, 1995). In addition, many Americans (56%) believe that an end to racism will eventually come about and only half (51%) of Americans believe that prejudice against African Americans is widespread (Gallup, 2009). The image of a post-racial society was ironically perpetuated by the election of the first African American President of the United States: On the night of Barack Obama’s election, the New York Times claimed “…a strikingly symbolic moment in the evolution of the nation’s fraught racial history, a breakthrough…” (Nagourney, 2008, para 3). Unfortunately, research suggests that these beliefs are largely flawed.

Despite the view that American society has largely overcome its tendency to hold negative attitudes toward racial outgroup members (i.e., Whites toward Blacks), prejudice is still widespread (for a review, see Livingston, 2011). Although it may be increasingly unacceptable to explicitly reject racial outgroup members, there is a prevalent tendency among Whites to see Blacks as threatening to White values (Sears, 1988) or to see Blacks as unfairly receiving society’s benefits (McConahay, 1986). Blacks in particular are often
the target of negative stereotypes (e.g., lazy or aggressive) based on their group membership and elicit negative emotions (e.g., anxiety or threat) and negative action (e.g., exclusion from social organizations or neighborhoods) based on their group membership (Fiske, 1998). Beyond this, individuals also tend to subtly and implicitly reject outgroup members on the basis of their race, sometimes without even realizing it (Gaertner & Dovidio, 1986). Research shows that Whites exhibit greater bias against Blacks, relative to Whites, on implicit, unconscious measures of prejudice (Nosek, Banaji, & Greenwald, 2002) and fewer than 10% of Whites exhibit both low implicit and explicit prejudice (Livingston & Drwecki, 2007). Taken together, this research implies that the beginning of the end for racial prejudice may be farther off than D’Souza (1995) and many Americans (Gallup, 2009) believe.

**The Detrimental Effects of Prejudice**

Pervasive racial prejudice has detrimental effects for targets of discrimination. The same Gallup poll that indicated half of Americans believed prejudice against Blacks was widespread showed that 72% of African Americans believe prejudice is indeed widespread (Gallup, 2009). Beliefs that they are the target of prejudice increase feelings of psychological distress in Blacks (Broman, Mavaddat, & Hsu, 2000). Perceptions of racial prejudice and discrimination are also predictive of many disorders including major depression, anxiety, agoraphobia, posttraumatic stress disorder, and substance abuse among Blacks and other minority groups (Chou, Asnaani, & Hofmann, 2012; Martin, Tuch, & Roman, 2003).

Pervasive racial prejudice also manifests behaviorally. Prevalent housing discrimination not only prevents Blacks from the same educational attainment as their
White counterparts (Orfield & Lee, 2005), but also results in de facto segregation in many American communities (Turner, Ross, Galster, & Yinger, 2002). The same is true for occupational attainment: Black job candidates without a criminal past are less likely to be hired to entry level positions than White candidates with a criminal record, suggesting racial prejudice continues to play a major role in employment opportunities (Pager, 2003). In more extreme cases, racial prejudice can result in hate crimes and genocide: In 2010, for example, Florida Attorney General Pam Bondi reported that 46% of hate crimes in her state were motivated by racial prejudice (Bondi, 2010) and negative race relations have been a consistent predictor of racial violence and genocide throughout history (Weitz, 2003).

**Call to Action**

The ubiquity and detrimental effects of racial prejudice in modern society highlights the need to develop and apply strategies to reduce it. Heeding this call, social psychologists have developed programs of research over the past 50 years to do just that. Collectively, this research demonstrates that it is possible to reduce the prevalence of racial prejudice by fostering close, positive personal relationships between ingroup (e.g., Whites) and outgroup members (e.g., Blacks) (Pettigrew & Tropp, 2006). Until recently, however, a relative dearth of research has explored ways to increase Whites’ willingness to engage in close, personal relationships with Blacks. Instead, intergroup relations research has tended to focus on the mechanisms through which positive intergroup contact reduces racial prejudice (e.g., Pettigrew & Tropp, 2008).

I review this important literature on the effectiveness of positive intergroup contact – especially friendship – and its role in reducing racial prejudice. I also explore
the emotional antecedents that promote or inhibit positive intergroup contact. The present research adds to this literature by proposing a new framework for understanding how reframing individuals’ emotions regarding intergroup contact and friendship formation can successfully improve Whites’ willingness to develop intergroup friendships. Drawing from the positive psychology literature, I propose and test the role of savoring a previous intergroup interaction as one reframing strategy that may increase Whites’ intergroup friendship willingness by bringing about more positive intergroup emotions.
CHAPTER TWO

POSITIVE INTERGROUP CONTACT AND FRIENDSHIP

Early Intergroup Contact Research

Early intergroup research suggested that positive contact with outgroup members could be an effective way to reduce prejudice. In their landmark research on prejudice, Sherif, Harvey, White, Hood, and Sherif (1954/1961) demonstrated that not only was it possible to increase prejudice by creating intergroup competition, but that it was also possible to decrease prejudice by fostering intergroup cooperation. They noted that when boys at a summer camp were put into groups, competition for scarce camp resources led the campers to develop negative outgroup-directed attitudes and behaviors. However, when they were encouraged to work to achieve a common goal under conditions of cooperation and positive contact, intergroup attitudes and behaviors improved (Sherif et al., 1954/1961). These early findings not only provided evidence that prejudice could be reduced, but also suggested that positive, cooperative contact with outgroup members could be an effective way to do so.

In line with Sherif and colleagues (1954/1961), Allport (1954; Allport & Kramer 1946) noted that the nature of previous interactions with outgroup members seemed to be predictive of prejudice toward members of those groups. He found that individuals with a history of negative interactions (e.g., conflict) with outgroup members tended to report higher levels of prejudice while those with a history of positive contact (e.g., friendship)
with outgroup members reported lower levels of prejudice. In his formulation of the “contact hypothesis,” Allport (1954) noted that positive outgroup contact was especially associated with reduced levels of prejudice when that contact was characterized by equal status (i.e., both partners holding the same level of power), cooperation (i.e., both partners holding common goals), support of authorities (i.e., the contact is sanctioned by law or social norms), and common humanity (i.e., both partners respect each other as part of a common sense of humanity). Allport’s (1954) initial findings would go on to stimulate a movement in social psychology.

**Intergroup Contact Theory**

In the over half century since the formulation of the contact hypothesis, researchers have continued to explicate the link between positive outgroup contact and prejudice reduction. Now more commonly known as the intergroup contact theory (ICT) (Brown & Hewstone, 2005; Pettigrew & Tropp, 2006), this research has shown that positive intergroup contact is a powerful method for reducing prejudice between a multitude of different racial (e.g., Blacks and Whites; Aberson & Haag, 2007), ethnic (e.g., Germans and Turks; Wagner, Christ, Pettigrew, Stellmacher, & Wolf, 2006) and religious groups (e.g., Catholic and Protestant Irish; Tausch, Hewstone, Kenworthy, Cairns, & Christ, 2007). Contact effects are present in both correlational (Pettigrew, 1997) and experimental research (Page-Gould, Mendoza-Denton, & Tropp, 2008) and tend to be effective regardless of location (e.g., where the contact takes place), age group, or contact setting (e.g., the nature of the situation). In fact, meta-analytic data suggest that although the association between contact and prejudice is small to medium in magnitude (rs ranging from .205 to .214), it is relatively consistent across the literature (Pettigrew &
As such, positive intergroup contact is considered the most effective and well-established way to reduce racial prejudice.

Extensions of ICT have demonstrated that direct positive contact is not always required for prejudice reduction to occur. Extended contact theory (ECT) posits that direct positive contact with outgroup members is difficult, if not impossible, to foster in segregated communities. When contact does occur in these communities, it may be fraught with tension. In cases like these, Wright, Aron, McLaughlin, Volpe, and Ropp (1997) speculated that the benefits of positive contact could be harnessed even without direct contact. They hypothesized that knowing about the presence of positive contact among other ingroup and outgroup members would act as a positive example even in the absence of personal experience. As predicted, their research showed that extended contact reduced prejudice because observing vicarious positive contact precludes negative intergroup emotions and is less intimidating because it entails no risk to the self (Davies, Wright, & Aron, 2011; Vonofakou, Hewstone, Voci, Paolini, Turner, Tausch, et al., 2008; Wright et al., 1997). Indirect contact is also associated with direct positive interactions with outgroup members such that those who report high levels of indirect contact also tend to report higher levels of direct contact (Pettigrew, Christ, Wagner, & Stellmacher, 2007).

More recent research has extended ICT to the realm of the imaginary: According to the imagined contact hypothesis (Crisp, Birtel, & Meadeay, 2011; Crisp & Turner, 2009), individuals need only imagine positive intergroup contact to experience prejudice reduction. Crisp and colleagues (2011; 2009) have noted the difficulties of using direct and extended contact to reduce prejudice because in segregated communities, individuals
may have the opportunity for neither direct nor extended positive contact. They proposed that imaging positive intergroup contact should provide the benefits of contact without contact itself. Their research has demonstrated that those who are instructed to image a scenario where they had a positive interaction with an outgroup member (i.e., elderly individual, homosexual man) reported less ingroup bias than those instructed to imagine an outdoor experience or to simply think about that outgroup member (Turner, Crisp, & Lambert, 2007). These findings allude not only to the importance of positive intergroup contact in prejudice reduction, but also the flexibility and utility of using such contact to reduce prejudice.

**Intergroup Friendship Effects**

While positive intergroup contact is linked with reduced prejudice, close personal relationships formed as a result of intergroup contact are especially effective at reducing prejudice (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Pettigrew & Tropp, 2006). Because friendship normally satisfies the conditions for “ideal contact” (equal status, cooperation, support of authorities, and common humanity), Allport (1954) hinted that intergroup friendship might be an especially effective type of positive intergroup contact. More recently, Pettigrew (1997) revived the case that friendship could be one particular type of close, positive intergroup contact worthy of exploration in its own right. He demonstrated that intergroup friendship was more strongly related to lower levels of prejudice than other types of casual intergroup contact (e.g., co-workers, neighbors). Additional research on the topic has shown the effectiveness of these close interpersonal relationships in improving intergroup attitudes and emotions of children (Feddes, Noack, & Rutland, 2009; McGlothlin & Killen, 2005), college students (Levin, Taylor, &
Caudle, 2007; Levin, vanLaar, & Sidaneus, 2003), and the general adult population (Pettigrew, 1997). A recent meta-analysis has demonstrated that this relation is stronger than contact in general ($r_s = .23-.26$ for friendship versus $r = .21$ for general contact) (Davies, Tropp et al., 2011; Pettigrew & Tropp, 2006), suggesting that above and beyond positive intergroup contact, intergroup friendship may be especially important factor in reducing racial prejudice.

Some research implies that intergroup friendship may be such an effective way to reduce prejudice because it goes beyond simple prejudice reduction and contributes to genuinely positive intergroup feelings (Davies et al., 2011). Above and beyond prejudice reduction, intergroup friendship brings about a more positive social climate. For example, Tam, Hewstone, Kenworthy, and Cairns (2009) have extended ICT by exploring how intergroup contact and friendship can lead not only to reduced hatred of the outgroup but also to increased trust between previously conflicted groups (e.g., Catholics and Protestants in Northern Ireland). Intergroup friendship may also stimulate compassionate love towards outgroup members. Trust and love are predictive of positive behavioral intentions (e.g., helping someone in need) directed toward these outgroups above and beyond reduced prejudice (Brody, Wright, Aron, & McLaughlin-Volpe, 2008; Tam et al., 2009).

**Mechanisms Underlying Intergroup Contact and Friendship Effects**

Positive intergroup contact and friendship are effective at reducing prejudice because they alter factors closely linked with prejudice. Positive intergroup contact reduces prejudice because it reduces the negative emotions associated with prejudice itself (Binder, Zagefka, Brown, Funke, Kessler, & Mummendey, 2009; Pettigrew et al.,
2007; Pettigrew & Tropp, 2008; Prestwich, Kenworthy, Wilson, & Kwan-Tat, 2008; Tausch, Hewstone, & Roy, 2009; Turner, Hewstone, & Voci, 2007). When faced with an outgroup member, individuals are often anxious or feel threatened because they perceive outgroup members as different, strange, or even dangerous (Riek, Mania, & Gaertner, 2006; Stephan & Stephan, 2000; Stephan & Stephan, 1985). When individuals experience direct, extended, or imagined positive contact, they realize that the outgroup member that elicits these negative emotions may not be all that different, strange, or dangerous. For example, college students who report having outgroup friends before and during college also report lower levels of intergroup anxiety compared to those who do not report having outgroup friends when interacting with outgroup members, likely because they realize these outgroups are not threatening (Levin et al., 2003). Similarly, college students who report interracial dating in college also report lower levels of anxiety and less ingroup bias (Levin et al., 2007; vanLaar, Levin, & Sidanius, 2008), possibly increasing friendship willingness with other outgroup members in the future. These effects are also present in extended intergroup contact (Turner, Hewstone, Voci, & Vonofakou, 2008).

Intergroup contact and friendship also reduces prejudice because it stimulates self-disclosure, increased knowledge about outgroup members, empathy, and a common sense of identity. Increased self-disclosure (Turner, Hewstone, & Voci, 2007) and knowledge (Pettigrew & Tropp, 2008) are two factors that are especially effective at bringing individuals closer together. If individuals become close, they feel empathy and a sense of a superordinate identity (Davies et al., 2011). These effects may extend to other outgroup members, precluding feelings of prejudice: Self-disclosure, knowledge, and empathy negatively relate to prejudice because they make individuals feel more attracted
to and more trusting of outgroup members (Davies et al., 2011; Turner, Hewstone, & Voci, 2007). Self-disclosure, knowledge, and empathy may also help make individuals of different groups feel they have a shared identity as human beings rather than being competing members of different social groups (Davies et al., 2011; Dovidio, Gaertner, Saguy, & Halabi, 2008; Gaertner & Dovidio, 2011; Turner, Hewstone, & Voci, 2007).

**Conclusions**

Taken together, the intergroup contact and friendship literature has shown that positive intergroup contact, especially intergroup friendship, is reliably effective at reducing prejudice because it reduces negative emotions and encourages self-disclosure, knowledge, empathy, and a common sense of humanity. It is no surprise that influential social psychologists (e.g., Pettigrew, 1997) have argued the importance of harnessing the influence of positive intergroup contact and friendship to reduce prejudice. The pervasive nature of racial prejudice, however, makes it difficult to stimulate conditions under which positive intergroup contact or friendship formation can occur. Thus, more recent research on the topic of positive intergroup contact has begun to shift its focus to understanding how to increase intergroup friendship formation.
CHAPTER THREE

ENCOURAGING INTERGROUP FRIENDSHIP FORMATION

Intergroup Friendship Formation as an Outcome

While most research to date has explored positive intergroup contact and friendship as predictors of reduced prejudice, intergroup friendship is an important outcome worthy of study in its own right (Binder et al., 2009; Davies, Tropp et al., 2011). In a longitudinal field study, for example, Binder and colleagues (2009) showed that not only did positive intergroup contact predict lower levels of prejudice through the pathway of reduced negative intergroup emotions, but also that prejudice and negative intergroup emotions inhibited positive intergroup contact and friendship formation. Binder and colleagues’ (2009) research was unique in that called attention to the relative lack of research exploring the variables that influence intergroup friendship formation. However, this and similar research (Birtel & Crisp, 2012; Davies, Tropp et al., 2011; Esses & Dovidio, 2002) has begun to understand intergroup friendship formation by understanding the antecedents of positive intergroup contact.

Antecedents of Intergroup Friendship Formation

Binder and colleagues (2009), Birtel and Crisp (2012), and Esses and Dovidio’s (2002) research highlights emotions as the most important antecedent to intergroup contact and friendship formation. Individuals use emotions to make initial assessments of stimuli in their lives. Regardless of whether these appraisals are conscious or
unconscious, they guide individuals' behavior (Fredrickson, 2001; Watson, Wiese, Vaidya, & Tellegen, 1999). For example, negative emotions signal a threat to be avoided whereas positive emotions may signal an opportunity to be taken. In instances where an intergroup interaction may be likely, individuals often experience negative emotions because they feel threatened (Stephan & Stephan, 2000) or they worry that interaction may not go well (Butz & Plant, 2011; Mallett, Wilson, & Gilbert, 2008). These negative emotions act as the initial gatekeepers for the possibility of intergroup contact.

Negative intergroup emotions reflect the negative affective reaction individuals often have when faced with interacting with outgroup members (Mackie, Devos, & Smith, 2000; Riek, Mania, & Gaertner, 2006; Stephan, Renfro, & Davis, 2008; Stephan & Stephan, 1985). Anxiety and fear are two specific intergroup emotions that inhibit positive intergroup contact. According to intergroup anxiety theory (Stephan & Stephan, 1985), outgroup members elicit negative emotions like anxiety. Intergroup anxiety often results from previous negative contact with outgroup members (Stephan & Stephan, 1985); although some research suggests that even without conflict, outgroup members elicit feelings of anxiety and threat (Stephan & Stephan, 2000; Riek et al., 2006).

In line with intergroup anxiety theory, integrated threat theory (Riek et al., 2006; Stephan & Stephen, 2000) posits that outgroup members elicit feelings of threat based upon the perceived negative impact of outgroup individuals on ingroup individuals (e.g., direct threat). Outgroup members are often seen as threats to ingroup resources: When resources are limited, individuals are inclined to favor ingroup, as opposed to outgroup, members. Outgroup members may also elicit feelings of threat based on their perceived negative impact on ingroup norms (e.g., symbolic threat): Outgroup members often have
customs that are different from ingroup customs and as such, threatening to the ingroup way of life (Riek et al., 2006). Individuals who see others as possible threats are more likely to experience negative emotions like fear or anger when faced with interacting with certain outgroup members and more likely to lead to avoidant or approach action tendencies (Mackie et al., 2000).

Research has focused on the emotional antecedents of intergroup friendship formation because emotions are important motivators of behavior. Many individuals expect the worst from intergroup interactions (Mallett et al., 2008) and these expectations lead to negative emotions (anxiety and threat) that influence both negative approach and avoidant behavior (Butz & Plant, 2011; Butz & Plant, 2006; Plant & Butz, 2006). Those who have negative emotions about intergroup interactions also tend to exhibit more negative expectations about these types of contact and consequently, less desire to develop close outgroup relationships. Bandura (1977) argues that when individuals feel anxious and threatened, their self-efficacy regarding the source of that anxiety decreases. Negative emotions toward outgroup members are especially predictive of avoidance when the situation is unscripted and uncertain relative to when it is scripted, suggesting that negative emotions about how a situation will play out interact to prevent intergroup contact in many situations (Towles-Schwen & Fazio, 2003). Consequently, when individuals do not feel they can successfully navigate an experience, they do not cope well with that experience or may avoid it altogether.

Conversely, increasing positive emotions leads individuals to go beyond their zone of comfort and expand their sense of self. For example, individuals may seek out new opportunities or relationships because their appraisals of the situation have informed
them that all is well (Fredrickson, 2001). In the intergroup domain, positive emotions directed toward an outgroup member or interaction predict an increased willingness to become close to that outgroup member as a means to broadening one’s horizons. Birtel and Crisp (2012) have shown that reducing intergroup anxiety predicts future contact willingness. Likewise, Esses and Dovidio (2002) suggest that focusing on positive emotions in intergroup situations may be the driving force that encourages positive intergroup contact.

Although many researchers (e.g., Diener & Emmons, 1984) have explicated the differences between increasing positive emotions as opposed to decreasing negative emotions, intergroup researchers tend to conceptualize the increase of positive emotions and the reduction of negative emotions as the same construct. The same patterns are found for increased positive emotions and reduced negative emotions when reverse scoring items to create a single indicator of intergroup emotions (e.g., Mallett & Wilson, 2010). To provide a parsimonious discussion of the emotional antecedents of intergroup friendship formation, I subsume discussion of both the increase of positive emotions (e.g., comfortable) and the reduction of negative emotions (e.g., anxiety) under the overarching construct of positive intergroup emotions.

**Reframing to Encourage Intergroup Friendship Formation**

Although not previously characterized in this way, a common thread linking efforts to increase intergroup friendship willingness involves reframing how individuals feel about intergroup interactions. Reframing refers to the process whereby people change the way they feel or think about an experience (cf, Watzlawick, Weakland, & Fisch, 1974; Wilson, 2011). At its most basic level, reframing operates by changing the
way individuals approach an experience and how they feel about it after it is over.

Reframing can be used to understand negative events to make them less emotionally damaging (Pennebaker, 1997) or to amplify the awareness of the positive attributes of an experience (Bryant & Veroff, 2007; Seligman, Steen, Park, & Peterson, 2005). For example, an individual who has had negative intergroup interactions in the past may feel anxious about interacting with an outgroup member in the future. However, after a reframing exercise that individual may realize that the negativity was a function of the situation rather than the racial groups to which the interaction partners belonged.

Similarly, an individual might choose to mindfully focus on the salient positive attributes of that experience to draw positive emotions from an experience.

Traditional reframing strategies aimed at dealing with overcoming negative experiences encourage individuals to change the way they see these experiences by gaining perspective. Pennebaker’s (1997) writing activity, for example, has been shown effective at improving the physical and emotional well-being of individuals faced with a negative or traumatic life event. In this paradigm, individuals are instructed to think of a traumatic event, distance themselves from it, and explore their deepest thoughts and feelings to make sense of a negative emotion-provoking experience. Doing so helps individuals understand the cause of their negative emotions and improves individuals’ emotions relating to those types of experiences (Pennebaker, 1997; 2003).

Though most previous discussion on reframing (e.g., Pennebaker, 1997; 2003; Wilson, 2011) focuses on how individuals overcome negative experiences by writing and understanding the negative aspects of those experiences, recent research (e.g., Bryant, 2003; Bryant & Veroff, 2007; Seligman et al., 2005) has begun to highlight the utility of
positive reframing strategies. These reframing strategies focus individuals’ attention on
the positive attributes of events by drawing attention to the happy, enjoyable, or even
beautiful aspects of those experiences. In turn, individuals who are mindful of positive
experiences report increased levels of positive emotions relative to those who do not
(Bryant & Veroff, 2007). These findings suggest that it is possible to change, to reframe,
how individuals see life experiences.

**Previous Attempts to Reframe and Encourage Intergroup Friendship**

Although not previously characterized as reframing, researchers have begun to
explore ways to reframe emotions and encourage positive intergroup contact and
friendship formation. Aron, Melinat, Aron, Vallone, and Bator (1997), for example,
developed the fast friends paradigm for encouraging intergroup friendship in laboratory
settings. In the fast friends paradigm, participants engage in a series of activities designed
to help them develop friendships over a course of three interactions, each characterized
by gradual progression of self-disclosure and bonding (Aron et al., 1997; Page-Gould et
al., 2008).

Fast friends (Aron et al., 1997) seems to rely on reframing in that it puts
individuals together and changes the way these individuals feel about experiences with
outgroup members. By gradually promoting bonds through increased disclosure, fast
friends creates a new way of looking at that outgroup member as a comrade rather than a
competitor. Though they did not directly test the mediating role of increased positive
intergroup emotions in intergroup friendship formation, there seems to be a logical
connection between fast friends and these emotions: If individuals work together under
conditions of equal status, cooperation, support of authorities, and with an eye toward
common humanity, they should feel more positively about such interactions in the future. Indeed, implicitly prejudiced participants who take part in fast friends are more likely to seek out intergroup friendship in the future than those who did not develop an intergroup friendship in a laboratory setting (Page-Gould et al., 2008).

Beyond the laboratory, Aronson (2000; 1992) developed the jigsaw classroom intervention with the stated goal of increasing positive educational outcomes and positive intergroup contact. In the jigsaw classroom, students in classrooms are assigned into diverse groups of five or six and are responsible for learning a specific topic subdomain. In order to succeed in the jigsaw classroom, students must develop their understanding of the material and teach other students in their group about what they have learned. In addition to fostering a positive learning environment, the jigsaw classroom seems to also stimulate liking, empathy, and positive intergroup contact that may lead to friendship formation (Aronson, 2000; 1992).

The jigsaw classroom reframes how individuals think about intergroup contact in a similar way as fast friends: By creating a common goal and mutual interdependence, individuals of different groups see others not as outgroup members, but as ingroup members critical to the team’s success. By working together toward a common goal, the jigsaw classroom facilitates the norm of positive intergroup contact through teamwork. Doing so presumably increases positive emotions directed toward individuals who may be of a different background. Like fast friends, jigsaw classroom utilizes principles of positive reframing in that it encourages individuals to focus on learning, caring, and working together while developing a common identity. As with fast friends, however, the mechanisms linking the jigsaw classroom and intergroup friendship formation have not
been explicated in detail. However, there is reason to believe that the jigsaw classroom increases positive intergroup emotions and intergroup friendship willingness because working together in a positive setting makes individuals feel more comfortable with their peers (Aronson, 2000).

More recently, Mallett and colleagues (Mallett & Wilson, 2010; Mallett et al., 2008) developed an intervention designed to encourage intergroup friendship formation by increasing positive intergroup emotions directly. Mallett and colleagues (2008) have shown that asking White individuals to focus on similarities they share with Black outgroup members is effective in making individuals think an interaction will go better than they might have initially thought. Doing so also increases positive emotions toward that experience. With this in mind, Mallett and Wilson (2010) developed an intervention which presented college students with videos depicting an intergroup friendship that had occurred in college in spite of expectations that they would have nothing in common with that outgroup member. Participants were then asked to write about a time when an interaction went better than they thought it would, a time when an interaction did not go better than they thought it would, or not write at all. Results indicated that those who watched a video about an intergroup friendship and wrote about a time when something similar happened to them (i.e., they wrote about a better than expected interaction with an outgroup member) reported increased positive intergroup emotions relative to those who wrote about an as expected interaction (i.e., an intergroup interaction that did not go well) or those who did not write. Furthermore, those who wrote about a similar experience initiated more intergroup friendships (self-report and Facebook) after the intervention.
Mallett and Wilson’s (2010) findings again suggest that improving how individuals feel about intergroup interactions is critical in encouraging intergroup friendship formation. Mallett and Wilson’s (2010) efforts to encourage intergroup friendship also seem to rely on positive reframing. Focusing on similarities (Mallett et al., 2008) and thinking about how a previous intergroup interaction went better than expected (Mallett & Wilson, 2010) both encompass changing how individuals see their relations with outgroup members. This technique draws attention to the positive attributes of a previous intergroup interaction and in doing so, increases intergroup friendship willingness through positive intergroup emotions.

Turner, Crisp, and Lambert (2007) developed a similar manipulation harnessing the power of positive imagined intergroup interactions. In this manipulation, individuals image a positive interaction with an outgroup member without any actual contact taking place. By conjuring up an imaginary positive scenario about an intergroup interaction, individuals change how they feel about intergroup interactions (Crisp et al., 2011; Crisp & Turner, 2009). Crisp and Turner (2009) argue that thinking about the positive attributes of intergroup interactions increases the desire to develop intergroup friendships as a result of increased positive emotions toward those outgroup members. This positive imagined contact (Crisp et al., 2011; Turner, Crisp, & Lambert, 2007) relies on reframing in that it changes individuals’ perspective on intergroup relations. Mindfully attending to the positive attributes of an experience, even when one does so about an imaginary interaction, increases positive emotions toward outgroup members (Birtel & Crisp, 2012; Crisp & Turner, 2009).
Conclusions

Although previously limited, research has begun to show that intergroup friendship willingness is an important outcome in its own right. The growing literature on promoting positive intergroup contact and friendship formation suggests that reframing intergroup emotions may be the factor that underlies the effectiveness of these manipulations and interventions. In other words, this research suggests that efforts targeting intergroup friendship formation should continue to focus on reframing strategies than can increase Whites’ willingness to develop intergroup friendships with Blacks by increasing positive intergroup emotions.
CHAPTER FOUR

SAVORING AND INTERGROUP FRIENDSHIP FORMATION

Savoring as a Reframing Strategy

Savoring is one specific type of reframing strategy that can increase positive emotions and encourage feelings of social closeness. In fact, savoring is a strategy by which individuals maximize positive emotions and increase feelings of satisfaction and well-being in their lives (Bryant & Veroff, 2007). Savoring is in essence an in-the-moment mindful focus on and regulation of the good things in life: “… a search for the delectable, delicious, almost gustatory delights…” of an experience (Bryant & Veroff, 2007, p. 3). Savoring can be harnessed to increase positive emotions relating to specific life experiences like interpersonal – or possibly even intergroup – interactions (Bryant, Smart, & King, 2005; Bryant & Veroff, 2007), making it a worthwhile topic of investigation in the intergroup domain.

Qualitative data suggest that savoring previous experiences is effective at increasing positive emotions and social competence. For example, one participant interviewed by Bryant and colleagues (2005) said:

Thinking of good times from the past makes me feel better about the present. It helps me appreciate things more. It gives me an idea of where I was then, where I am now, and where I ultimately want to be. It helps me understand the present and deal with it... These memories also give me a sense of confidence, kind of a “you did it before, you can do it again” type of thing. If things are bad, I use my memories to start thinking of ways to make it better rather than thinking about how bad it is. (p. 237)
This quote – especially the “you did it before, you can do it again” – demonstrates that becoming mindfully aware of the positive aspects of a past situation can assuage lingering fears that one might not be able to successfully navigate a similar experience in the future. It also illustrates how savoring can help individuals focus not on “how bad it is” but rather on “how good it is”.

Savoring is promising as a reframing strategy to encourage intergroup friendship formation because individuals often savor the time they spend with others. Although savoring is by definition an in-the-moment process (Bryant & Veroff, 2007), the connection between savoring previous interactions with others is of particular relevance when considering ways to increase intergroup friendship willingness. Although individuals can savor any positive experience (e.g., food, sex, achievement), the most commonly reported object of past-focused savoring is other people (e.g., family, friends, coworkers, acquaintances) (Bryant et al., 2005). When individuals think about good experiences they had in the past, they often consider times they have spent with others (Wildschut, Sedikides, Arndt, & Routledge, 2006). Full awareness of the positive feelings one experiences in social interactions is pleasurable and encourages individuals to want to immerse themselves in these situations in the future (Bryant & Veroff, 2007).

Savoring is also associated with positive emotions in general (Bryant & Veroff, 2007) and as such, may be related to positive intergroup emotions. Correlational research (Bryant, 2003) demonstrates that self-reported savoring is positively associated with general and specific positive emotional and affective states like happiness ($r = .25$) and gratitude ($r = .39$). Conversely, savoring is negatively associated with negative emotions like hopelessness ($r = -.41$), social anhedonia ($r = -.57$), and depression ($r = -.25$). In
addition, longitudinal experience-sampling research also shows that daily positive events predict greater momentary savoring, which in turn predicts greater daily happiness (Jose, Lim, & Bryant, 2012). Savoring of positive events from the past is also positively associated with enjoyment and reports of happiness (Bryant et al., 2005).

Experimental research also demonstrates the potential role of savoring in increasing positive intergroup emotions. In one experimental test of savoring previous experiences (positive reminiscence), participants who were instructed to bring to mind positive imagery from a past experience into the present reported increased positive emotions relative to those simply instructed to reflect on a past experience (Bryant et al., 2005). In another experimental test of savoring, participants who were randomly assigned to savor a past experience reported higher levels of positive emotions (e.g., enthusiasm, excitement, interest) relative to those who were instructed to think about a past experience that caused them hassles (Emmons & McCullough, 2003). These findings suggest that bringing to mind the positive aspects of a past intergroup interaction could bring about increased positive intergroup emotions.

Despite being a strategy that encourages awareness and regulation of the positive attributes of life experiences, savoring is especially versatile as a reframing strategy because it can be utilized to increase positive emotions in response to negative experiences. In fact, individuals sometimes use savoring as a way to improve their outlook on life in the face of negative emotion-provoking events (Bryant et al., 2005; Bryant & Veroff, 2007). For example, when individuals are lonely or feeling down, they often report bringing to mind a positive experience from the past and savoring the positive attributes of that experience. Doing so increases positive emotions (Bryant et al.,
2005; Wildschut et al., 2006), again suggesting that savoring an intergroup interaction from the past could perhaps increase positive intergroup emotions and encourage intergroup friendship formation, even in the face of negative emotions like anxiety and fear present when facing intergroup interactions.

Another link between savoring and increased friendship willingness is the bonding that occurs as a result of savoring. Bryant and Veroff (2007) suggest that when savoring occurs, a sense of bonding develops with those who are objects of this savoring experience and this bonding should lead to reinforcement of social connections. Bryant and Veroff (2007) go as far as to suggest “those who savor together, stay together” (p. 72) because savoring presumably accelerates the process of acquaintance (i.e., getting to know the other person) crucial in friendship development (e.g., Aron et al., 1997). While savoring does not have to occur in the physical presence of others, if one person savors a social interaction they will likely feel closer to their interaction partner regardless of whether or not the interaction partner does the same (Bryant & Veroff, 2007). Thus, if individuals are able to reframe how they see intergroup interactions by savoring an interaction with a outgroup member, they may experience enhanced positive emotions when faced with interacting with similar others. Indeed, research on positive imagined contact demonstrates that the effects of imagining a positive interaction projects to other outgroup members (Stathi & Crisp, 2008).

In addition, previous attempts to encourage intergroup friendship using reframing strategies may have inadvertently used principles of savoring in improving intergroup emotions and friendship willingness. For example, Aron and colleagues' (1997) fast friends paradigm encourages the benefits of savoring with another person. Mixed-race
dyads in fast friends are asked to discuss questions like “What constitutes a perfect day for you?” and share “…something you consider to be a positive characteristic of your partner” (Aron et al., 1997, p. 374; Page-Gould et al., 2008). Though not all the discussion topics are savoring-oriented, the sharing of these positive experiences and perceptions with one another essentially reflects “savoring together” route to developing close bonds (Bryant & Veroff, 2007).

Similarly, instructions shown to be effective at getting individuals to reframe and consider the positivity of intergroup interactions (e.g., Mallett et al., 2008; Turner, Wildschut, & Sedikides, 2011) reflect savoring in that they draw attention to the positive attributes of those interactions. For example, Mallett and colleagues (2010) asked participants to think about a similar positive experience, thereby drawing attention to the good rather than the bad. Turner and colleagues (2011) have shown that simply recalling a nostalgic interaction with an outgroup member (i.e., someone who was overweight) was associated with improved attitudes toward other members of that stigmatized social group relative to those instructed to simply recall an interaction with someone from that outgroup. Similarly, Birtel and Crisp (2012) have shown that simply conjuring up an imaginary positive interaction is effective at improving intergroup emotions. Much like savoring, this manipulation brings attention to the positive aspects of an experience that might not necessarily come to mind without this reframing instruction.

The Role of Processing Style in Savoring Effectiveness

Research hints that reframing in general and savoring in particular may be more effective at increasing positive emotions and subsequent friendship willingness if approached from a particular mindset. Because reframing strategies rely on changing the
way individuals think, feel, attend to, and process life experiences, processing style could be an important variable underlying the effectiveness of these strategies in fostering positive emotions. Processing style refers to the different ways that individuals think about stimuli or experiences; a way of perceiving the world (Förster, 2012; Förster, 2011; Förster & Dannenberg, 2010). Processing style concerns the type of attentional focus that individuals employ when attending to an event. According to GLOMOSys (the “global versus local processing model, a systems account” Förster, 2012, p. 15), individuals either approach experiences with an eye to the overall experience (i.e., the big picture) or to the individual pieces (i.e., the details; Förster & Dannenberg, 2010). When individuals focus on the gestalt – for example, the forest rather than the trees, they are said to be processing globally. In comparison, when individuals focus on the details – for example the trees rather than the forest, they are said to be processing locally (Förster & Dannenberg, 2010). When defining the differences between global and local processing, Förster notes that the “…fundamental distinction is whether they attend to the event as a whole or whether they focus on its details…” (Förster, 2012, p. 15).

As a way of taking in information, processing style is not a trait attribute, but rather tends to be situational, depending on which approach is more adaptive. Global processing helps individuals be in the moment and understand the overall meaning or feeling of an experience (e.g., understanding the meaning or message of a story). When faced with new experiences, for example, individuals typically process globally to become aware of the overall meaning of that experience. Doing so helps individuals successfully navigate and even enjoy these experiences. Conversely, local processing helps individuals understand an experience and problem solve (Förster, 2012). When an
experience is threatening, for example, individuals may use local processing to figure out how they can overcome that threat. When individuals focus on the details, they can systematically evaluate their options and understand the nature of a specific threat (Förster, 2012). As such, global and local processing helps one to adapt and deal with one’s experiences.

Much research alludes to the importance of local processing in reframing the way individuals feel about negative experiences, suggesting that attributing causation and insight into traumatic events through local processing is the mechanism that drives the influence of writing on positive outcomes. For example, in one experimental test of the Pennebaker (1997) writing activity, individuals were instructed to write in detail about events eliciting emotional responses (i.e., their feelings about their romantic relationship and problems that arise within). In the expressive writing condition, participants wrote in detail about intimate thoughts and feelings relating to their romantic relationship and those in the control condition simply wrote about something that happened that day (Slatcher & Pennebaker, 2006).

After writing about these negative or traumatic events in detail, a computer program (i.e., Linguistic Inquiry and Word Count - LIWC) is used to analyze participants’ narratives (Tausczik & Pennebaker, 2010) and different types of words are linked with different outcomes. Those in expressive writing conditions tend to write more positive and negative emotion words and phrases (e.g., “I was angry”), causal words (e.g., “I brought this upon myself”), and insight words and phrases (e.g., “I guess I didn’t have anything to be upset about”) relative to those asked to write about daily activities. Increased use of emotion, causal, and insight words (indicating more thought and
reconstrual of an event, local processing) leads to greater positive physical and emotional outcomes (Pennebaker, 1997; Pennebaker, Mayne, & Francis, 1997). The expressive writing condition exemplifies local processing because it encourages individuals to think about the details relating to thoughts and feelings rather than the overall experience. This suggests that thinking and writing about these details may help individuals overcome problems when they occur in important life events.

Although it might be logical to assume that local processing through writing in detail about positive experiences would similarly amplify positive emotional outcomes, research demonstrates that Pennebaker’s (1997) writing activity does not seem to be as effective when directed toward positive events. According to Wilson, Centerbar, Kermer and Gilbert (2005), individuals have an inherent desire to understand positive events so they may make them predictable and replicable. However, when individuals make positive experiences predictable, they attenuate the overall positive feelings associated with them. This “pleasure paradox” suggests that the more individuals try to make sense of positive experiences, the less they enjoy them (Wilson et al., 2005). Thus, local processing could be responsible for taking away the magic, the uncertainty that makes pleasant events so enjoyable by encouraging individuals to focus on detail-related aspects (e.g., why did it happen, what was my role in this experience). According to the pleasure paradox, making it predictable should draw attention away from the overall feelings of happiness associated with the experience (Wilson et al., 2005).

Whereas local processing facilitates habituation and sense making, global processing seems to allow individuals to experience positive outcomes without intellectualizing and making them predictable (Förster, 2012). Therefore, an attentional
focus on the overall experience (i.e., global processing) may be the driving force behind positive outcomes associated with reframing strategies like savoring. With savoring, there is a constant interplay between cognitions and emotions. However, if over-intellectualization occurs, awareness and regulation of positive emotions can fade (Bryant & Veroff, 2007). Bryant and Veroff (2007) use optimal-level theory to explain why focusing on the “big picture” should be more effective than dwelling on the details with positive reframing strategies like savoring. According to optimal-level theory, individuals prefer stimuli that are relatively novel (Berlyne, 1960). Because positive experiences often strike us as unique or special occurrences, we tend to notice and feel especially happy about them (Bryant & Veroff, 2007). When we become habituated to positive events, however, these experiences no longer elicit the same responses.

Because processing on a global level facilitates a broad focus on the experience rather than the details of why an experience might (or might not be) enjoyable, those who process a positive experience locally may be less likely to savor effectively (Bryant & Veroff, 2007). Systematically evaluating whether or not they were happy is associated with lower levels of happiness relative to those who simply thought about their happiness (Lyubomirsky, Sousa, & Dickerhoof, 2006). Global processing seems to mirror the latter condition whereby individuals simply think without analyzing whereas local processing seems to mirror the former condition whereby individuals think, write, and process the details of a positive experience. In comparison, empirical evidence supports the idea that writing or talking about a positive experience in detail with an eye toward understanding it reduces positive outcomes whereas privately thinking about such events without making sense of them increases positive outcomes (Lyubomirsky et al., 2006).
The Synergy of Global Processing and Savoring Manipulations

Although both global and local processing seem to have their place in positive experiences, savoring-based manipulations seem to especially rely on global processing style to be effective. In the classic retrospective savoring manipulation developed by Bryant and colleagues (2005), participants were asked to spend some time two times each day where they were to relax and think about the events in their lives. They were then given one of three sets of instructions which seem to reflect varying degrees of local and global processing: In a first condition (cognitive imagery savoring condition), participants were asked to think about a positive memory and allow images relating to that memory to come to mind as they basked in that memory in the present (retrospectively savoring). Because they were instructed to simply allow that positive experience to come to mind, these instructions seem to encourage a global processing approach to recalling a positive experience. In a second (memorabilia savoring condition), participants were asked to choose a piece of memorabilia (an actual object) from a positive memory and bask in that memory. This condition arguably fosters more local processing by encouraging individuals to focus on a specific aspect of a positive experience. In a third (control condition), participants were simply asked to think about a topic of interest and reflect on it. Following these instructions, participants in all conditions were asked to list their thoughts and time they spent savoring. They were also asked how detailed and vivid these experiences were to them, followed by dependent measures assessing emotions.

Results indicated that although those who were in either savoring condition reported higher levels of positive emotions compared to those in the control condition,
those in the cognitive imagery savoring condition reported higher levels of positive emotions relative to those in the memorabilia savoring condition (Bryant et al., 2005). As the imagery condition seemed to utilize principles of global processing and the memorabilia condition seemed to utilize principles of local process, these findings could allude to the special importance of being in the moment rather than thinking too much about the details of an experience. Those in the imagery condition could presumably only focus on the big picture in their minds and consequently felt better about that experience whereas those in the memorabilia condition actually had something that could conjure up details of that experience thereby taking away from the overall positive experience.

Other retrospective savoring-based manipulations also seem to rely on global processing style. In the gratitude visit manipulation (Emmons & McCullough, 2003), participants were asked to think back over the past week. They then received one of three sets of instructions. In line with principles of global processing, participants in a first condition (gratitude/savoring condition) were asked to simply list up to five things that they were grateful or thankful for that past week. This condition reflects global processing in that it encourages a general awareness without attention to the details – the how, what, and why – of that experience. In a second condition (hassles condition), participants were asked to list up to five hassles that week and in a third condition (control condition), participants were asked to list how they were faring better than others. They were then asked to report levels of positive emotions (e.g., enthusiasm, excitement, interest, joy). Results indicated that those in the gratitude/savoring condition reported higher levels of positive emotions than those in the hassles and control conditions. Once again, this manipulation did not ask participants to focus on the details,
but rather asked them to simply think of things for which they were thankful. As participants were not asked to focus on the details, this approach to savoring seemingly relies on global processing to be effective.

The possible influence of processing style on the effectiveness of savoring manipulations is also demonstrated in a similar retrospective savoring-based intervention (i.e., three good things; Seligman et al., 2005). In this intervention, individuals were encouraged to become mindful of the good things that happened to them that day. Without making sense of those experiences, participants were instructed to simply list each positive event and briefly attribute a cause to it: Participants in this intervention were instructed to write down three daily positive events over the course of one week. Like the retrospective savoring manipulation (Bryant et al., 2005) and the gratitude visit manipulation (Emmons & McCullough, 2003), global processing seems to foster savoring in that it stimulates mindfulness without dissecting the meaning of positive experiences. In line with these the savoring-related manipulations, Seligman and colleagues (2005) have shown that this intervention is more effective at improving happiness relative to a control where individuals were asked to write about early memories.

These manipulations and interventions suggest that savoring can be encouraged even when individuals are not experiencing an entirely positive event. This is especially true for past experiences: By asking individuals to become mindfully aware of the positive attributes of an event, retrospectively savoring instructions can make the past seem more positive (Bryant & Veroff, 2007). Although savoring, by definition, requires awareness of a positive experience, the reality of that positive experience is not critical:
“Whether these embellishments actually happened is irrelevant because they become part of the web of associations that operate to prolong the original savoring moment well into the future” (Bryant & Veroff, 2007, p. 114). Again, this alludes to the importance of global as opposed to local processing in the effectiveness of savoring. Unlike present experiences, a past event does not necessarily have to be as positive as it is recalled and individuals often embellish past events when reflecting. This suggests that savoring as a positive reframing strategy may be especially effective at increasing positive emotions when looking back with an eye to the positive aspects of a past experience without trying to recall or understand the event in detail.

Conclusions

Savoring is one type of reframing strategy that could increase intergroup friendship willingness by increasing positive intergroup emotions. If individuals recall a positive experience with an outgroup member and are instructed to retrospectively savor that experience, they may experience more willingness to engage in intergroup friendship in the future compared to those who simply recall an interaction with an outgroup member or even compared to someone who recalls how they felt during that positive experience. Savoring should encourage individuals to reframe how they see intergroup interactions by focusing on the positives in an intergroup context. The present research provides a direct test of savoring a previous intergroup interaction as a reframing strategy that could encourage Whites’ intergroup friendship willingness with Blacks through an increase in positive intergroup emotions. In addition, the present research tests the role of processing style on the effectiveness of savoring a previous intergroup interaction. More
specifically, it tests whether global processing, relative to local processing, is critical in promoting savoring and consequently, intergroup friendship willingness.
CHAPTER FIVE
THE PRESENT RESEARCH

Research Questions

Intergroup friendship is an effective approach to reducing prejudice and research shows that positive intergroup emotions must be fostered to encourage intergroup friendship formation. I conducted two studies to test whether savoring a previous intergroup interaction is a useful reframing strategy to increase intergroup friendship willingness by increasing positive intergroup emotions. As a reframing strategy, savoring has been linked with increased positive emotions and friendship formation in general, suggesting that savoring a previous intergroup interaction may increase positive intergroup emotions and stimulate willingness to develop intergroup friendships. To date, no research has directly examined the role of a savoring-specific reframing strategy in intergroup interactions. Although there are many types of intergroup interactions worthy of study, I focus on the one with the most history of conflict in the United States, namely White’s relations with Blacks. The present research tests whether savoring has a place in the intergroup contact and friendship formation literature.

First, can White individuals savor previous positive interactions with Black individuals? If so, does savoring (as opposed to recalling positive emotions or simply recalling) a past intergroup interaction increase Whites’ willingness to develop future intergroup friendships with Blacks? Is this effect explained by an increase in positive
intergroup emotions (Study 1)?

Second, is savoring a previous intergroup interaction more effective at increasing encouraging Whites’ willingness to develop future intergroup friendships with Blacks when a global processing style is induced first? Conversely, is savoring a previous intergroup interaction less effective at encouraging Whites’ willingness to develop future intergroup friendships with Blacks when a local processing style is induced first? Is this effect explained by an increase in positive intergroup emotions (Study 2)?

**Study 1 Overview**

Research suggests that reframing how individuals feel about intergroup interactions is crucial in determining the likelihood that these individuals will develop friendships with outgroup members (Crisp et al., 2009; Esses & Dovidio, 2002; Mallett & Wilson, 2010; Mallett et al., 2008). Savoring, however, has yet to be explored as a reframing strategy that may facilitate this process. The purpose of Study 1 is threefold. First, it explores whether or not Whites can savor previous intergroup interactions. Second, Study 1 explores the impact of a past-oriented savoring manipulation on increasing intergroup friendship willingness. If Whites can savor a previous intergroup interaction, it stands to reason that further encouraging this process might result in increased friendship willingness. Third, Study 1 explores whether the predicted effect of savoring is mediated by an increase in positive intergroup emotions.

In Study 1, I utilized a 2 (interaction type) x 3 (savoring instructions) between subjects design with intergroup friendship willingness as the primary outcome and intergroup emotions as the mediating outcome. White participants were randomly assigned to either a) bring to mind a past interaction with someone of a Black racial
background (intergroup condition) or b) bring to mind a past interaction with someone of a White racial background (intragroup condition). Then, participants were randomly assigned to a) bring to mind the positive emotional attributes of that situation in the present (savoring condition), b) recall the positive emotions they felt in the past (positive emotion recall condition), or c) simply recall a positive intergroup experience (control condition). Finally, participants’ self-reported emotions and friendship willingness directed toward Black (intergroup) and White (intragroup) individuals in response to a set of photos of individuals from these groups.

**Hypothesis 1a**

Can Whites savor previous interactions they have with Black individuals? If so, are they as able to savor these interactions to the same extent as they might savor an interaction with another White individual? Although intergroup interactions in the United States have been characterized by prejudice and tension (Livingston & Drwecki, 2007; Nosek et al., 2002), interactions with other individuals are the most common savored experience (Bryant et al., 2005). Research suggests that individuals can reframe how they experience intergroup interactions (e.g., Crisp & Turner, 2009; Mallett & Wilson, 2010; Mallett et al., 2008) and savoring a previous interaction, in turn, may set the stage for reframing how individuals feel about interacting with others (Bryant & Veroff, 2007). Thus, I predict that when encouraged to do so, Whites will be able to savor previous interactions they have with Blacks.

**Hypothesis 1b**

Does encouraging Whites to savor a previous interaction with a Black individual increase intergroup friendship willingness, relative to simply recalling positive emotions
associated with the interaction or simply recalling a positive interaction, increase intergroup friendship willingness? As it harnesses the power of recalling positive emotions from the past and getting in touch with them in the present, retrospective savoring is different than simply remembering good times (Bryant & Veroff, 2007). Remembering good times from the past can be tinged with sadness (e.g., Wildschut et al., 2006) or not bring about strong emotions in the present (Bryant & Veroff, 2007), whereas savoring brings positive experiences to the forefront of consciousness. Therefore, I predict a significant spreading (ordinal) interaction between interaction type and savoring instructions. In the intergroup condition, I predict savoring a previous interaction will significantly increase intergroup friendships willingness relative to both the positive emotion recall and the control conditions while those in the positive emotion recall condition should report higher intergroup friendship than those in the control condition. In the intragroup condition, I predict savoring a previous interaction will have a weaker effect on intergroup friendship willingness relative to the positive emotion recall and the control conditions because savoring an intragroup experience should not influence how one feels about an intergroup experience.

**Hypothesis 1c**

Is the predicted interaction between interaction type and savoring instructions on intergroup friendship willingness explained by the increased presence of positive intergroup emotions? Because savoring is positively associated with positive emotions in general (Bryant, 2003) and positive intergroup emotions are the gatekeepers of intergroup friendship willingness (Mallett & Wilson, 2010), I predict positive intergroup emotions
will mediate the relation between the interaction type by savoring interaction on intergroup friendship willingness (i.e., mediated moderation).

**Study 1 Methods**

**Participants**

Participant sample size was based on a prospective power analysis using G*Power statistical software (Faul, Erdfelder, Lang, & Buchner, 2007). Previous research has demonstrated a small to medium effect of savoring on positive emotions in general (Bryant, 2003), and a small effect of intergroup emotions to intergroup contact willingness (Binder et al., 2009). To provide a conservative sample estimate, I used a small to medium effect size estimate ($f^2 = .20$) to determine sample size. With these criteria, G*Power indicated that a sample of 230 would be sufficient to achieve 80% power to detect effects using the proposed factorial ANOVA and mediation analyses using multiple regression and Hayes’ (2013) PROCESS for SPSS macro for testing moderated mediation. I over-sampled by approximately 25% (52 participants) to account for participants who did not meet study criteria or those who failed to complete the manipulations and measures as instructed.

I recruited a sample of 282 adults (158 males, 123 females, 1 missing; $M_{age} = 35.28$, $SD_{age} = 12.76$, range 18-72 years) from Amazon’s Mechanical Turk website (Mturk; Amazon Web Services, LLC, 2011). I excluded 48 participants failed to meet basic requirements for enrollment. Exclusions included participants who were non-White ($n = 17$), those who mistakenly enrolled in the study multiple times ($n = 9$), and those who did not complete the study manipulations as instructed ($n = 22$). The processes used for excluding those who did not complete the study manipulations as instructed are
described in more detail in the Savoring Instructions Manipulation Coding subsection, below, and Table 1 illustrates the process of exclusion.

Table 1. Process of Exclusion (Study 1)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Males</th>
<th>Females</th>
<th>Age_{Mean} (SD)</th>
<th>Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 282</td>
<td>56%</td>
<td>44%</td>
<td>35.28(12.76)</td>
<td>Initial Sample</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>minus N = 17 (non-White)</td>
</tr>
<tr>
<td>N = 265</td>
<td>55%</td>
<td>45%</td>
<td>35.99(12.77)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>minus N = 9 (repeated study)</td>
</tr>
<tr>
<td>N = 256</td>
<td>56%</td>
<td>44%</td>
<td>36.07(12.78)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>minus N = 5 (no interaction described)</td>
</tr>
<tr>
<td>N = 251</td>
<td>55%</td>
<td>45%</td>
<td>36.27(12.83)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>minus N = 17 (no emotions described)</td>
</tr>
<tr>
<td>N = 234</td>
<td>56%</td>
<td>44%</td>
<td>36.29(12.92)</td>
<td>Final Sample</td>
</tr>
</tbody>
</table>

The final sample was comprised of 234 White, U.S. citizens (131 males, 102 females, 1 missing; \( M_{age} = 36.29, SD_{age} = 12.92 \), range 18-72 years). Participants ranged from high school dropouts to holders of graduate degrees and income levels ranged from less than $25,000 per year to over $100,000. Full descriptive information for the final sample is presented in Table 2.
Table 2. Final Sample ($N = 234$) Descriptive Statistics (Study 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>56</td>
<td>44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>36.29</td>
<td>12.92</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>College graduate</td>
<td></td>
<td>Some HS-Graduate school degree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Level</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than HS</td>
<td>0.40</td>
</tr>
<tr>
<td>HS degree</td>
<td>10.7</td>
</tr>
<tr>
<td>Some college</td>
<td>33.8</td>
</tr>
<tr>
<td>College degree</td>
<td>38.0</td>
</tr>
<tr>
<td>Some grad school</td>
<td>5.10</td>
</tr>
<tr>
<td>Grad school degree</td>
<td>12.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25,000-$49,999</td>
<td></td>
<td>less than $25,000-more than $100,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income Level</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $25,000</td>
<td>32.9</td>
</tr>
<tr>
<td>$25,000-$49,999</td>
<td>30.8</td>
</tr>
<tr>
<td>$50,000-$74,999</td>
<td>23.9</td>
</tr>
<tr>
<td>$75,000-$99,999</td>
<td>8.50</td>
</tr>
<tr>
<td>$100,000 or more</td>
<td>3.40</td>
</tr>
</tbody>
</table>

**Procedure**

All procedures were approved by the Loyola University Institutional Review Board (IRB) prior to data collection.

After agreeing to participate through the Mturk participant pool and providing electronic consent, participants were presented with a link to the study using the online survey creation and distribution software Snap 10 (Snap Surveys, 2013). An online
platform used to post tasks or experiments for participants, Mturk is frequently used to recruit participants who complete studies through other electronic programs (e.g., MediaLab, Opinio, Snap 10), making it a flexible and highly efficient mode of recruitment and data collection for social psychologists (Buhrmester, Kwang & Gosling, 2011). Mturk participants have the opportunity to select from thousands of HITS based on topic of interest or level of compensation. Fair pay for HITS is based on a market rate for tasks taking a similar amount of time and effort (Amazon Web Services, LLC, 2011). For example, ten minute questionnaires may pay $0.25 whereas an hour-long audio transcription HITs may pay upwards of $10.00. Because the present research explores White-Black intergroup interactions in America – specifically Whites willingness to engage in intergroup friendships with Blacks – I advertised for White American males and female adults (ages 18 and over) and offered $0.50 for compensation based on an estimated completion time of approximately 15-20 minutes.

To limit self-presentation bias that the present research was about White-Black relations in the United States, participants were told that the research they would be taking part in explored how people interact and form relationships. They were told:

This study is about how we interact with other people and form relationships. In this study, you will be asked to think back and remember a time when you interacted with someone and answer some questions about that interaction. In our lives, we may interact with all sorts of people. When we say interact, we mean times we meet, talk, or spend time with other people. Sometimes we interact with people who are just like us (for example, they have the same background, religion, age, or education level). Sometimes we interact with people who are very different from us (for example, they have a different background, religion, age, or education level). In order to keep the study short, we want you to focus in on an interaction with just one type of person.
Participants then completed the manipulations, outcome measures of intergroup emotions and intergroup friendship willingness, reported demographic information, and completed a brief debriefing to assess hypothesis guessing and suspicion.

**Materials**

**Interaction type manipulation.** First, participants were randomly assigned to one of two interaction type conditions: intergroup or intragroup. To make it appear as though they had selected the type of interaction themselves, participants were asked to choose a random number from 1 to 20 which they were told would be used to determine what type of interaction they were asked to think about. Specifically, they were told:

To help you narrow it down, we would like you to pick a random number from 1 to 20. The number you pick will determine which type of interaction you will be asked to think about. For example, if you pick a certain number, you might be asked to think about a time you interacted with a gay person and if you pick another number, you might be asked to think about a time you interacted with an elderly person.

Although instructions indicated that they could be asked to think about multiple types of interactions with different people (e.g., people of different backgrounds, levels of education), the number they selected did not determine the condition to which they were assigned. In reality, participants were randomly assigned by Snap 10 to either recall an interaction with a Black person (intergroup condition) or an interaction with a White person (intragroup condition). In the intergroup condition, participants were told (capitalization added for emphasis to participants):

Based on the number you selected, we would like you to think about a time you had an interaction with a BLACK AMERICAN.

In the intragroup condition, participants were told:
Based on the number you selected, we would like you to think about a time you had an interaction with a WHITE AMERICAN.

Participants were then asked whether or not they could recall an interaction as instructed. Those who could not were routed out of the study and not included in the initial sample size (see Appendix A for Interaction Type Manipulation).

**Savoring instructions manipulation.** Second, participants were randomly assigned to one of three savoring conditions: savor, positive emotion recall, and control. Prior to any specific condition-related instructions, all participants were asked to recall a previous interaction as assigned and, in a few sentences, describe that interaction in a modified version of Bryant and colleagues (2005) imagery condition (p. 242):

> We would like for you to spend some time recalling an interaction you had with a BLACK [WHITE] person that ended up going pretty well. To start, please take a deep breath, relax, close your eyes, and begin to remember that interaction. Allow images related to that memory to come to mind. Try to picture the events associated with that interaction. In a couple of sentences, please briefly describe that interaction.

In line with Bryant and colleagues’ (2005) retrospective savoring manipulation, participants in the savoring condition were then asked to recall the interaction they were assigned above and then spend two minutes thinking about the positive things associated with that interaction that they were experiencing in that moment. Specifically, they were told:

> Now that you have described that interaction, we would like you to FOCUS ON HOW YOU FEEL RIGHT NOW. Try to get in touch with ANY POSITIVE FEELINGS you have when you think about this interaction. Before you proceed to the next page, please spend the next TWO MINUTES focusing on the POSITIVE FEELINGS YOU HAVE RIGHT NOW as you recall the interaction with a BLACK [WHITE] person that ended up going pretty well.
Then, participants were instructed to briefly describe how they feel in the moment. As savoring relies on a focus on the positive attributes of the moment (Bryant & Veroff, 2007), this first savoring instructions condition reflects the “in the moment” nature of the construct of savoring (i.e., retrospectively savoring) despite the request that participants think about an interaction that occurred in the past.

In the positive emotion recall condition, participants responded to a similar prompt. The primary difference was the participants were not told to focus on the feelings they had in the moment, but rather on the feelings they had in the past to differentiate savoring from simply recalling a positive emotional experience:

Now that you have described that interaction, we would like you to FOCUS ON HOW YOU FELT BACK THEN. Try to get in touch with ANY POSITIVE FEELINGS you remember when you think about this interaction. Before you proceed to the next page, please spend the next TWO MINUTES remembering the POSITIVE FEELINGS YOU HAD BACK THEN as you recall the interaction with a BLACK [WHITE] person that ended up going pretty well.

Then, participants were instructed to briefly describe how they felt during the interaction.

In the control condition, participants were simply asked to recall and write about a past interaction as described, above.

Finally, participants indicated how easy it was to recall an interaction as instructed as well as the overall positivity of that interaction on a scale from 1 not at all to 7 very much. Average ease ($M = 6.27, SD = 1.09$) and positivity scores ($M = 6.08, SD = 1.27$) ranged from 1 to 7 (see Appendix B for Savoring Instructions Manipulation).

**Savoring instructions manipulation coding.** Open-ended participant responses were coded in to verify that participants followed manipulation instructions and to
determine the extent to which participants savored the interaction (see Appendix C for Open-Ended Data Coding).

Participants in all three savoring instruction conditions were instructed to briefly describe a previous positive interaction in a few sentences. Two independent coders used a pre-defined coding scheme to determine whether or not participants actually recalled and described an interaction as instructed in the first step of all three savoring instruction conditions. Using a yes/no format, coders independently responded to the prompt:

Did the participant write about a time they interacted with someone? In other words, did the participant describe a time when they met, talked to, or spent time with another?

Coders exhibited 99% agreement on whether or not participants recalled an interaction as instructed. Five participants (1 in the intergroup savor condition, 1 in the intergroup positive emotion recall condition, 1 in the intergroup control condition, 1 in the intragroup savor condition, and 1 in the intragroup control condition) did not describe a previous interaction as instructed and were excluded from analysis.

Coders also rated the overall positivity of the interaction on a scale from 0 negative to 3 very positive to detect differences in recalled interactions that might impact the effectiveness of the manipulations and measures. Average positivity scores ranged from 0 to 3 with a median score of 2 ($M = 1.74$, $SD = 0.77$). Correlations among coder ratings were acceptable for ratings of positivity of the interaction described, $r = .89$.

Participants in the savoring and positive emotion recall conditions were instructed to write about their own emotions experienced as a result of that interaction. Participants in the control condition were not coded as they were not instructed to provide any data. As participants in the savoring condition were specifically instructed to describe the
emotions they were presently experiencing in response to a previous interaction while those in the positive emotion recall were instructed to recall the emotions they experienced in the past as a result of that interaction, the tense of the description of participants’ emotions was coded using the same yes/no format:

Did the participant write about their own emotions? In other words, did the participant write about how they felt/feel?

Did the participant write about how they feel right now in response to the interaction they described... In other words did the participant describe the emotions they are experiencing right now as a result of that interaction in present tense?

Did the participant write about how they felt about the interaction... In other words did the participant describe the emotions they experienced in the past tense?

Coders exhibited 99% agreement on whether or not participants described the positive emotions they experienced as a result of that interaction as instructed, 97% percent agreement on whether or not participants described the emotions in the present tense, and 98% agreement on whether or not participants described the emotions in the past tense. Seventeen participants (6 in the intergroup savor, 8 in the intergroup positive emotion recall group, 2 in the intragroup savor, and 1 in the intragroup positive emotion recall group) did not describe their emotions as instructed and were excluded from analysis. In all, 22 participants were excluded from the initial data set for not describing an interaction or not describing their emotional experience as instructed.

Lastly, coders rated the overall intensity, positivity, and extent of savoring exhibited in participants’ emotional descriptions on a scale from 0 not at all to 3 very much to detect differences in recalled emotions that might impact the effectiveness of the manipulations and measures. Average coder-rated intensity of emotions described ranged
from 0 to 3 with a median score of 2 ($M = 2.14$, $SD = 0.59$), average coder-rated positivity ranged from 0 to 3 with a median score of 2 ($M = 2.22$, $SD = 0.62$), and average coder-rated extent of savoring ranged from 0 to 3 with a median score of 1.50 ($M = 1.60$, $SD = 0.69$). Correlations among coder ratings were acceptable for intensity ($r = .74$), positivity ($r = .83$), and savoring ($r = .79$).

**Savoring instructions manipulation LIWC coding.** An additional supplementary qualitative analysis was carried out by Linguistic Inquiry and Word Count (LIWC) software (Pennebaker, Booth, & Francis, 2007). In addition to providing a word count for each participants' interaction description and, for those in the savoring or positive emotion recall conditions, each participants' description of their emotional experience, LIWC assesses the proportion of social words (e.g., friend, person, husband), emotion words (e.g., feel, grief, love), and positive emotion words (e.g., happy, sweet, nice), among others. I used LIWC as an additional coding scheme to assess the level of effort and depth of experience, measured indirectly through number of words used as well as the overall positivity of the descriptions as measured by proportion of positive emotion words.

LIWC indicated that in describing an interaction, word count ranged from one to 181 words ($M = 50.64$, $SD = 30.87$) with an average of 17 words per sentence ($SD = 8.22$). The proportion of positive words ranged from zero to 22 ($M = 4.96$, $SD = 4.17$). In describing their emotions, word count ranged from one to 196 words ($M = 31.31$, $SD = 23.04$) with an average of 16 words per sentence ($SD = 8.38$). The proportion of positive words ranged from zero to 100 ($M = 16.32$, $SD = 16.17$).
**Outcome measures.** Immediately following the interaction type and savoring instruction manipulations, participants were presented with a series of four counterbalanced pictures. All pictures were pilot tested attractive and friendly. A volunteer sample of 41 college students rated eight pictures (two Black females, and two black males and two White females, two White males) obtained from the Park Aging Mind Laboratory face database (Minear & Park, 2004) on physical attractiveness, friendliness, and age. From this pilot testing, four pictures (one Black female, one Black male and one White female, one White male) with equivalent attractiveness, friendliness, and age were selected. Participants were told that they were to imagine that they were about to interact with the person in the picture. Specifically, they were told:

Please look at the picture below and imagine you are about to have an interaction with this person. How do you feel when you think about interacting with the person in the picture?

Participants then completed a self-report measure of emotions based on Binder and colleagues’ (2009) modification of Stephan and Stephan’s (1985) original intergroup anxiety scale (p. 847). Specifically, they indicated the extent to which they felt three positive (comfortable, at ease, accepted) and three negative (nervous, anxious, awkward) emotions on a scale from 1 *not at all* to 7 *very much*. As positive and negative emotions generally reflect the same underlying construct in the intergroup domain (e.g., Mallett & Wilson, 2010), negative emotion items were reverse scored and aggregated with positive emotions items to form an overall indication of positive intergroup and intragroup emotions for the Black and White pictures, respectively. Both intergroup emotions scores ($M = 4.88$, $SD = 1.15$, $\alpha = .93$) and intragroup emotions scores ($M = 5.16$, $SD = 1.07$, $\alpha = .92$) demonstrated high reliability.
Participants also completed a self-reported measure of intergroup friendship willingness using the same pictures. They were told:

Please look at the picture and imagine you are about to have an interaction with this person. How much would you want to …

This prompt was followed by five types of relationships (get to know this person better, spend time with this person, work with this person, work at your job with this person, become friends with this person, learn more about this person’s background and experiences) on a scale from 1 not at all to 7 very much. As with the intergroup and intragroup emotions scales, items were averaged to form an overall indication of intergroup and intragroup friendship willingness for the Black and White pictures, respectively. Both intergroup friendship willingness scores ($M = 4.36$, $SD = 1.20$, $\alpha = .95$) and intragroup friendship willingness scores ($M = 4.44$, $SD = 1.17$, $\alpha = .95$) demonstrated high reliability (see Appendix D for Outcome Measures).

The primary purpose of the White pictures was to reduce suspicion that the present research was about willingness to interact with Blacks. However, the responses to the White pictures were also used to examine whether the interaction type and savoring instruction manipulations would influence White responses toward ingroup members. Specifically, I used a ratio score of intragroup friendship willingness to intergroup friendship willingness to measure how much more likely a White individual would be to be friends with another White person relative to a Black person (1.0 would reflect equal willingness to be friends with both while numbers above one would indicate a higher desire to be friends with other Whites). Ratio scores of intragroup friendship willingness to intergroup friendship willingness ($M = 1.07$, $SD = 0.47$) ranged from 0.31 to 5.90.
**Demographics and debriefing.** Following the completion of the study manipulations and measures, participants reported their age, gender, race, education, and income level. They were also asked to also guess the study hypothesis and indicate any suspicion they had regarding the purpose of the present research (see Appendix E for Demographic Information and Debriefing).

**Study 1 Results**

**Preliminary Analyses (Effectiveness of the Savoring Manipulation)**

Before determining whether or not White participants could savor previous interactions with Black individuals and if so, whether they could savor these interactions to the same extent as they might savor an interaction with another White individual, I examined the effectiveness of the savoring instructions manipulation. To conceptually distinguish between the savoring and positive emotion recall condition, I examined the extent of coder-rated savoring across these two conditions. Results indicated that those in the savoring condition were rated to have savored significantly more ($M = 1.73, SD = 0.66$) than those in the positive emotion recall condition ($M = 1.47, SD = 0.70$), $t(153) = 2.49, p = .01, d = .40$. In addition, those in the savoring condition spent more time ($M = 684.60, SD = 341.66$) and were rated to have written about more positive experiences ($M = 2.33, SD = 0.53$) than those in the positive emotion recall condition ($M = 543.87, SD = 267.53$), $t(153) = 2.85, p < .01, d = .46$, and ($M = 2.10, SD = 0.69$), $t(153) = 2.34, p = .02, d = .38$, respectively.\(^1\) These findings suggest that not only did those in the savoring condition savor more than those in the positive emotion recall condition (and that the

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\(^1\) No comparison between the savoring and positive emotion recall condition could be made with the control condition because those in the control condition did not have emotional experiences to code.
savoring manipulation was successful, but that the savoring condition represents a unique experimental condition conceptually different from other positive reframing strategies. As it represented neither another savoring condition nor a true control condition, I only analyzed the positive emotion control condition when testing Hypothesis 1b (Hypothesis 1b called for this condition in the analysis of the predicted 2 x 3 interaction) but excluded it from all other subsequent analyses.

**Hypothesis 1a**

Can Whites savor previous interactions with Black individuals? If so, can Whites savor these interactions to the same extent as they might savor an interaction with another White individual? I predicted that when encouraged to do so, Whites in the intergroup savoring condition would be able to savor previous interactions they have with Blacks.

To test Hypothesis 1a, I examined the frequency that participants were rated to have savored the interaction they described both overall and between the intergroup and intragroup conditions. Results indicated extensive variability in the extent to which White participants savored previous intergroup interactions: Coder-rated savoring suggested that 40.5% of participants instructed to savor a previous interaction with a Black person (i.e., those in the intergroup savoring condition) exhibited low levels of savoring and 45.2% exhibited moderate levels of savoring. Only 14.2% of participants were rated to have savored their interaction “very much”. Despite the range in ability or willingness to savor a previous intergroup interaction, results did indicate that there were no significant differences in coder-rated savoring between those instructed to savor an interaction with a

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2 This pattern was not unique to the intergroup savoring condition. When examining all participants instructed to describe emotions from their interaction, results indicated similar variability: 51.6% exhibited low levels of savoring and 36% exhibited moderate levels of savoring. Only 12.3% exhibited high levels of savoring.
Black person ($M = 1.71$, $SD = 0.64$) and those instructed to savor an interaction with a
White person ($M = 1.76$, $SD = 0.69$), $t(76) = 0.33$, $p = .74$, $d = .08$, suggesting that Whites
are equally able to savor previous interactions with both Whites and Blacks when
instructed to do so. Thus, Hypothesis 1a was generally supported.

Further exploration of factors that might influence individuals’ ability and
willingness to savor intergroup interactions demonstrated that the only factors that
accounted for variability in the coder-rated savoring of previous intergroup interactions
were self-rated ($r = .35$, $p < .05$) and coder-rated ($r = .32$, $p < .05$) (but not LIWC-rated ($r
= .09$, $p = .57$)) positivity of the interaction participants recalled. Demographic variables
such as age, education level, and income level were not significantly associated with
coder-rated savoring ($ps > .50$) and there were no gender differences in coder-rated
savoring, $p > .50$). Individual differences in the extent of savoring and their relation to
intergroup friendship willingness were further explored in the Supplementary Analyses,
below.

**Hypothesis 1b**

Does encouraging Whites to savor previous interactions with Black individuals
increase intergroup friendship willingness relative to simply recalling positive emotions
associated with the interaction or simply recalling a positive interaction? I predicted it
would. Specifically, I predicted a significant (ordinal) spreading interaction between
interaction type and savoring instructions. In the intergroup condition, I predicted
savoring a previous interaction would significantly increase intergroup friendship
willingness relative to both the positive emotion recall and the control conditions while
those in the positive emotion recall condition would report higher intergroup friendship
than those in the control condition. In the intragroup condition, I predicted savoring a previous interaction would have less of an effect on intergroup friendship willingness relative to the positive emotion recall and the control conditions.

I utilized a 2 (interaction type: intergroup, intragroup) x 3 (savoring instructions: savoring, positive emotion recall, control) between-subjects analysis of variance (ANOVA) with intergroup friendship willingness as the criterion. I also conducted the same analysis using a ratio score of intragroup friendship willingness to intergroup friendship willingness as the outcome to take into account whether interaction type or savoring instructions could influence how much more participants were willing to be friends with Whites relative to Blacks. This type of ratio analysis has been used in the past to take into account within subjects comparisons like that in the present case (cf. Bryant & Brockway, 1997). For this ratio index, higher values reflect greater willingness to befriend Whites relative to Blacks while lower levels reflect less ingroup bias toward Whites.

Results of the first set of analyses indicated that there was no significant main effect of interaction type: No significant mean differences in intergroup friendship willingness emerged between the intergroup (\(M = 4.35, SD = 1.27\)) and intragroup condition (\(M = 4.38, SD = 1.12\)), \(F(1, 228) = 0.05, p = .82, \eta^2_p < .001\). Similarly, there was no significant main effect of savoring instructions: No significant mean differences in intergroup friendship willingness emerged between the savoring (\(M = 4.29, SD = 1.08\)), positive emotion recall (\(M = 4.35, SD = 1.23\)), and the control condition (\(M = 4.45, SD = 1.28\)), \(F(2, 228) = 0.25, p = .78, \eta^2_p = .002\). Contrary to hypotheses, there was no
significant interaction between interaction type and savoring instructions, $F(2, 228) = 1.75, p = .18, \eta^2_p = .015$ (see Figure 1).

![Figure 1](image)

Figure 1. Intergroup friendship willingness as a function of interaction type (intergroup, intragroup) and savoring instructions (savor, positive emotion recall, control) (Study 1).

Despite the lack of a significant interaction between interaction type and savoring instructions (and thus the lack of justification for testing simple effects), the pattern of results contradicts predictions and suggests that in the intergroup condition, retrospectively savoring and recalling positive emotions from a previous interaction are actually less effective at increasing intergroup friendship willingness relative to the control. Conversely and as predicted, in the intragroup condition there were no clear differences between the savoring instruction conditions on intergroup friendship willingness.

Results for the second set of analyses examining the ratio of intragroup friendship willingness to intergroup friendship willingness yielded similar findings. No significant

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3 A similar 2 x 3 ANOVA indicated nearly identical results when controlling for self-reported interaction positivity and when alternatively controlling for coder-rated and LIWC-rated positivity of the interaction. This was true for all subsequent analyses in Study 1.
mean differences in the ratio of intragroup friendship willingness to intergroup friendship willingness emerged between the intergroup ($M = 1.11$, $SD = 0.58$) and intragroup conditions ($M = 1.03$, $SD = 0.29$), $F(1, 228) = 1.67, p = .20$, $\eta_p^2 = .007$. Similarly, there was no significant main effect of savoring instructions: No significant mean differences in the ratio of intragroup friendship willingness to intergroup friendship willingness emerged between the savoring ($M = 1.05$, $SD = 0.22$), positive emotion recall ($M = 1.10$, $SD = 0.73$), and control conditions ($M = 1.07$, $SD = 0.32$), $F(2, 228) = 0.21, p = .80$, $\eta_p^2 = .002$. Finally, there was no significant interaction between interaction type and savoring instructions, $F(2, 228) = 1.77, p = .17$, $\eta_p^2 = .015$ (see Figure 2).

![Figure 2](image)

**Figure 2.** Ratio of intragroup friendship willingness to intergroup friendship willingness as a function of interaction type (intergroup, intragroup) and savoring instructions (savor, positive emotion recall, control) (Study 1).

Analyses examining the ratio of intragroup friendship willingness to intergroup friendship willingness yielded similar findings to those examining intergroup friendship willingness. Despite the lack of a significant interaction between interaction type and savoring instructions (and once again lack of justification for testing simple effects), the
pattern of results contradicts predictions and suggests that savoring a previous intergroup interaction is no more effective than either the positive emotion recall or the control conditions at reducing the ratio of intragroup friendship willingness to intergroup friendship willingness. If anything, it appears the positive emotion recall condition is the least effective at reducing this discrepancy.

As those in the savor condition were rated to have savored more than those in the positive emotion recall condition (see Preliminary Analyses) and to provide a more parsimonious and statistically powerful comparison to the savoring condition, I dropped the positive emotion recall condition from this point forward and utilized a 2 (interaction type: intergroup, intragroup) x 2 (savoring instructions: savor, control) between-subjects design with intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness as the criterion variables.4

As with the first two sets of analyses, results of this analysis indicated there was no significant main effect of interaction type: No significant mean differences in intergroup friendship willingness emerged between the intergroup \((M = 4.43, SD = 1.21)\) and intragroup condition \((M = 4.30, SD = 1.16)\), \(F(1, 153) = 0.44, p = .51, \eta_p^2 = .003\).

Similarly, there was no significant main effect of savoring instructions: No significant mean differences in intergroup friendship willingness emerged between the savoring \((M = 4.29, SD = 1.08)\) and the control condition \((M = 4.45, SD = 1.28), F(1, 153) = 0.51, p = .48, \eta_p^2 = .003\). Contrary to hypotheses, there was no significant interaction between

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4 Alternatively, I combined the positive emotion recall condition with the control condition and found the same pattern of results exhibited below. Conceptually, however, it did not make sense to combine these two conditions as positive emotion recall was developed to be more similar to the savor condition.
interaction type and savoring instructions, $F(1, 153) = 1.42, p = .24, \eta_p^2 = .009$ (see Figure 3).

![Bar chart](image)

Figure 3. Intergroup friendship willingness as a function of interaction type (intergroup, intragroup) and savoring instructions (savor, control) (Study 1).

Despite the lack of a significant interaction between interaction type and savoring instructions (and thus the lack of justification for testing simple effects), the pattern of results mirrors that of the previous analyses with all three savoring conditions included. In the intergroup condition, savoring a previous interaction is slightly, but not significantly, less effective at increasing intergroup friendship willingness relative to the control. In the intragroup condition, there are no clear differences between the savoring instruction conditions on intergroup friendship willingness.

Results for the analyses examining the ratio of intragroup friendship willingness to intergroup friendship willingness yielded similar findings. No significant mean differences in the ratio of intragroup friendship willingness to intergroup friendship willingness emerged between the intergroup ($M = 1.06, SD = 0.25$) and intragroup conditions ($M = 1.06, SD = 0.30$), $F(1, 153) = 0.00, p = .99, \eta_p^2 < .001$. Similarly, there
was no significant main effect of savoring instructions: No significant mean differences in the ratio of intragroup friendship willingness to intergroup friendship willingness emerged between the savoring ($M = 1.05, SD = 0.22$) and control conditions ($M = 1.07, SD = 0.32$), $F(1, 153) = 0.25, p = .61, \eta^2_p = .004$. Finally, there was no significant interaction between interaction type and savoring instructions, $F(1, 153) = 0.67, p = .41, \eta^2_p = .004$ (see Figure 4).

![Figure 4](image)

**Figure 4.** Ratio of intragroup friendship willingness to intergroup friendship willingness as a function of interaction type (intergroup, intragroup) and savoring instructions (savor, control) (Study 1).

In line with all analyses for Hypothesis 1b, the previous analyses demonstrated that in the intergroup condition, savoring a previous interaction was not more effective at either increasing intergroup friendship willingness or decreasing the ratio of intragroup to intergroup friendship willingness relative to a control. In the intragroup condition, there were no clear differences between the savoring and control conditions, suggesting that savoring is not effective at increasing intergroup friendship willingness. Thus, Hypothesis 1b was not supported.
Hypothesis 1c

Is the predicted interaction between interaction type and savoring instructions on intergroup friendship willingness explained by the increased presence of positive intergroup emotions? I predicted positive intergroup emotions would mediate the relation between the interaction type (intergroup, intragroup) by savoring instructions (savor, control) interaction on intergroup friendship willingness.

Although there was no significant interaction between interaction type and savoring instructions on either intergroup friendship formation or the ratio of intragroup friendship willingness to intergroup friendship willingness (Hypothesis 1b) and thus no formal justification for testing mediated moderation (Muller, Judd, and Yzerbyt, 2005), I used Hayes’ (2013) PROCESS for SPSS macro (Model 8; 1000 bootstrap resamples) to examine for the presence of an indirect effect between interaction type, savoring instructions, and intergroup friendship willingness through intergroup emotions.

Mediated moderation analyses indicated no significant indirect effect of intergroup emotions, \( \text{coeff}_{\text{indirect}} = -0.04, SE = 0.05, 95\% \ CI = [-0.14, 0.07] \). Intergroup emotions were, however, significantly predictive of intergroup friendship willingness, \( \text{coeff} = 0.58, SE = 0.07, 95\% \ CI = [0.44, 0.72] \).

When replacing intergroup friendship willingness with the ratio of intragroup to intergroup friendship willingness, similar results emerged. Results indicated no significant indirect effect of intergroup emotions, \( \text{coeff}_{\text{indirect}} = 0.01, SE = 0.01, 95\% \ CI = [-0.01, 0.03] \). Intergroup emotions were, however, significantly predictive of the ratio of
Despite the finding that positive intergroup emotions were related to both intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness, positive intergroup emotions did not explain any relation between the interaction type by savoring instructions outcome and the outcome measures. Thus, Hypothesis 1c was not supported.

**Supplementary Analyses**

Results examining Hypothesis 1a indicated that although the overall extent of savoring a previous intergroup interaction was variable, participants savored interactions with Black and White participants equally. Results examining Hypothesis 1b and 1c, however, indicated that savoring a previous intergroup interaction was no more effective than recalling emotions or a control condition at increasing intergroup friendship willingness and that intergroup emotions did not explain this effect. To address the lack of support for Hypotheses 1b and 1c, I conducted several supplementary analyses. Taking the variability in the extent of savoring into consideration, I explored the role of coder-rated savoring as a predictor of intergroup friendship willingness, the ratio of intragroup friendship willingness to intergroup friendship willingness, and the mediating role of positive intergroup emotions.

---

5 A piecemeal approach using ANOVA and regression yielded similar results with no significant effects of interaction type, savoring instructions, or the interaction between the two. The only significant effects to emerge were the relation between positive intergroup emotions and intergroup friendship willingness, $b = .63, SE = .06, \beta = .60, t(232) = 11.34, p < .001, R^2 = .36$, and positive intergroup emotions and the ratio of intragroup friendship willingness to intergroup friendship willingness, $b = -.15, SE = .03, \beta = -.37, t(232) = -6.10, p < .001, R^2 = .14$. 


Examining only those in the savoring condition (i.e., not the positive emotion recall or control conditions), I used multiple regression analysis to test the interaction between interaction type (intragroup coded -1, intergroup coded 1) and coder-rated savoring (centered; replacing the savoring instructions variable) on intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness. Although no main effect of interaction type or interaction by coder-rated savoring interaction emerged, results indicated a marginally significant positive main effect of coder-rated savoring on intergroup friendship willingness, suggesting that overall, the higher the coder-rated savoring, the more participants were willing to engage in intergroup friendship (see Table 3).

Table 3. Regression Analysis Examining the Influence of Interaction Type and Coder-rated Savoring on Intergroup Friendship Willingness (Study 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.25</td>
<td>.13</td>
<td>-</td>
<td>33.92</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Interaction Type</td>
<td>-0.06</td>
<td>.13</td>
<td>-0.05</td>
<td>-0.47</td>
<td>.64</td>
</tr>
<tr>
<td>Coder-rated Savoring</td>
<td>0.34</td>
<td>.19</td>
<td>.21</td>
<td>1.81</td>
<td>.07</td>
</tr>
<tr>
<td>InteractionXSavoring</td>
<td>0.12</td>
<td>.19</td>
<td>.07</td>
<td>0.64</td>
<td>.53</td>
</tr>
</tbody>
</table>

Note. Dependent variable intergroup friendship willingness. b = unstandardized regression coefficient, SE = standard error. Model summary: $F(3, 74) = 1.28, p = .29, R$-squared = .05.

This pattern also emerged for the ratio of intragroup friendship willingness to intergroup friendship willingness. Although no main effect of interaction type emerged, results indicated a significant negative main effect of coder-rated savoring on the ratio of intragroup friendship willingness to intergroup friendship willingness, suggesting that overall, the higher the coder-rated savoring, the less the bias toward intragroup – as opposed to intergroup – friendship willingness. In other words, the more participants in
the savoring condition were rated to have savored, the more friendship willingness they reported toward both Blacks and Whites, regardless of whether or not they savored an intergroup or intragroup interaction. In addition, there was a significant interaction between interaction type and coder-rated savoring (see Table 4).

Table 4. Regression Analysis Examining the Influence of Interaction Type and Coder-rated Savoring on the Ratio of Intragroup Friendship Willingness to Intergroup Friendship Willingness (Study 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.06</td>
<td>.02</td>
<td>.4391</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>Interaction Type</td>
<td>0.03</td>
<td>.02</td>
<td>.12</td>
<td>1.09</td>
<td>.28</td>
</tr>
<tr>
<td>Coder-rated Savoring</td>
<td>-0.09</td>
<td>.04</td>
<td>-.26</td>
<td>-2.38</td>
<td>.02</td>
</tr>
<tr>
<td>InteractionXSavoring</td>
<td>-0.08</td>
<td>.04</td>
<td>-.23</td>
<td>-2.08</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. Dependent variable ratio of intragroup to intergroup friendship willingness. b = unstandardized regression coefficient, SE = standard error. Model summary: $F(3, 74) = 3.52, p = .02, R^2 = .13$.

Further examination of the significant interaction between interaction type and coder-rated savoring indicated that in the intergroup condition, coder-rated savoring was significantly associated with a lower intragroup friendship willingness to intergroup friendship willingness ratio, $b = -0.16, SE = .04, b = -0.53, t(40) = -3.96, p < .001, R^2 = .28$.

In the intragroup condition, coder-rated savoring was not associated with the intragroup friendship willingness to intergroup friendship willingness ratio, $b = -0.01, SE = .06, b = -0.03, t(34) = -0.18, p = .86, R^2 = .001$. This suggests that when they were assigned to savor an intergroup interaction, the more participants savored, the less likely they were to prefer White friends to Black friends. When they were assigned to savor an intragroup interaction, there was no relation between the extent they savored and the likelihood they were to prefer White friends to Black friends.
In both sets of analyses, above, none of the independent variables were predictive of positive intergroup emotions \((p > .10)\). As such, positive intergroup emotions did not mediate or indirectly influence the relation between coder-rated savoring and the ratio of intragroup friendship willingness to intergroup friendship willingness.

**Study 1 Discussion**

In Study 1, I predicted that Whites could savor previous interactions with Blacks when encouraged to do so (Hypothesis 1a). Results demonstrated that there was much variability in the extent to which participants savored previous intergroup interactions. Despite this, White participants were equally able and willing to retrospectively savor interactions with Blacks and Whites. These findings support Hypothesis 1a in that White individuals are at least somewhat able to savor previous interactions with Blacks.

I also predicted a significant spreading (ordinal) interaction between interaction type and savoring instructions. In the intergroup condition, I predicted savoring a previous interaction would significantly increase intergroup friendships willingness relative to both the positive emotion recall and the control conditions while those in the positive control condition would report higher intergroup friendship than those in the control condition. In the intragroup condition, I predicted savoring a previous interaction would have a weaker effect on intergroup friendship willingness relative to the positive emotion recall and the control conditions (Hypothesis 1b). Contradicting Hypothesis 1b, manipulating intergroup savoring, relative to recalling positive emotions or simply recalling a positive interaction, is not an effective approach increasing intergroup friendship willingness. If anything, the pattern of results suggests that those who simply recall a positive intergroup interaction are slightly (but not significantly) more willing to
seek out intergroup friendships than those in the savoring or positive emotion recall conditions.

Finally, I predicted that positive intergroup emotions would mediate the relation between the interaction type by savoring interaction on intergroup friendship willingness (Hypothesis 1c). Contradicting Hypothesis 1c, the effects from Hypothesis 1b--or lack thereof--were not explained by positive intergroup emotions.

Despite the lack of support for Hypotheses 1b and 1c, supplementary analyses revealed that the more participants in the savoring condition were rated to have savored, the higher their levels of intergroup friendship willingness. When examining the ratio of intragroup friendship willingness to intergroup friendship willingness, this effect was moderated by interaction type: In the intergroup condition, increased savoring was positively associated with a lower ratio of intragroup friendship willingness to intergroup friendship willingness. This was not present in the intragroup condition. These findings suggest that although manipulating savoring had little effect on intergroup friendship willingness, the more participants are able and willing to savor, the higher the tendency to report higher willingness to be friends with Blacks (although these effects are not mediated by positive intergroup emotions).

Support for Hypothesis 1a--that White individuals can retrospectively savor both intergroup and intragroup interactions--could be attributable to the growing body of research that shows individuals can recall and focus on the positive aspects of previous intergroup interactions (Mallett & Wilson, 2010; Turner et al., 2011). In line with the intergroup literature on reframing to improve intergroup emotions (e.g., Mallett et al., 2008), simply shifting focus to the positives of intergroup interactions are effective at
reframing how individuals experience intergroup contact. Support for this hypothesis could also reflect the research of Bryant and colleagues (2005) that showed that time spent with others was the most common object of past-focused savoring experiences. In the present research, participants were just as likely to savor a previous interaction with a Black, outgroup member as they were to savor an interaction with a White, ingroup member.

Even though White individuals are equally able to retrospectively savor interactions with other Whites and Blacks, the present research also demonstrated that the White participants in this research had a difficult time savoring overall. The difficulty that many participants have savoring could allude to the importance of understanding savoring as an individual difference variable (e.g., Bryant, 2003) rather than a manipulated, situational variable. Indeed, more recent research suggests savoring is a stable response to a given set of stimuli (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Bryant and Veroff (2007) and Quoidbach and colleagues (2010) both allude to the importance of individual savoring experiences. The importance of individual differences in savoring is further addressed in Study 2.

The lack of support for Hypothesis 1b and 1c might be explained not only by individual differences in savoring ability, but by recent developments in the imaged contact literature. Birtel and Crisp (2012) have demonstrated that positive imagined contact is especially effective when positive imagined is preceded by a perceived negative interaction. In the present research, savoring had the opposite effect – it resulted in slightly lower levels of intergroup friendship willingness relative to the control condition. Birtel and Crisp (2012) found that having participants imagine positive
intergroup interactions is more effective when positive imagined or recalled contact is proceeded by a perceived negative encounter. Without a point of contrast (i.e., a negative baseline), the savoring instructions independent variable may not have taken hold. Similarly, variability in the actual positivity of the interaction recalled likely reduced the power of the savoring manipulation, thereby masking the predicted effects. Study 2 takes into consideration that some individuals may be better able to savor than other.

These unexpected results could also allude to the importance of the processing style in enhancing or limiting one's ability to savor. Participants in the savoring condition were asked to spend more time reflecting on a positive interaction whereas those in the condition simply wrote and moved on. It is possible that those in the control condition processed on a more global level whereas those in the savoring condition were inadvertently made to process more locally. In addition to taking into account individual differences in savoring, Study 2 addresses the issue of processing style in savoring manipulations by testing whether priming a global or local mindset can enhance or inhibit the effects of savoring a positive intergroup interaction. If individuals can be primed to process globally, the present savoring manipulation might be more powerful at increasing intergroup friendship willingness.

**Study 2 Overview**

The purpose of Study 2 is two-fold. First, it addresses the possible role of processing style in bolstering the effectiveness of savoring a previous intergroup interaction at increasing intergroup friendship willingness. Study 1 suggested that savoring a previous intergroup interaction is not more effective relative to a control at increasing intergroup friendship willingness, possibly because individuals instructed to
savor processed their experience in a detailed or local way. If participants are made to focus on the global attributes of a previous positive intergroup interaction and then savor it, perhaps savoring could prove a useful technique for increasing intergroup friendship formation. Second, Study 2 again tests the mediating role of positive intergroup emotions that was not present in Study 1. Additionally, Study 2 addresses the importance of individual differences in savoring while addressing each of the aforementioned aims. Study 1 results showed a great deal of variability in individuals’ ability or willingness to retrospectively savor interactions with others. Study 2 includes a measure of trait savoring to take into account this important individual difference when manipulating savoring.

In Study 2, I measured trait savoring (SBI) as an individual difference variable and then utilized a 2 (processing style: global, local) x 2 (savoring instructions: savoring, control) between subjects design with intergroup friendship willingness as the primary outcome and intergroup emotions as the mediating outcome. White participants were randomly assigned to a global or local processing condition. Participants were then randomly assigned to either bring to mind the positive attributes of a previous intergroup interaction (savoring condition) or simply recall an interaction (control condition). All participants were asked to bring to mind an experience with someone of a different (i.e., Black) race. Finally, participants’ self-reported positive emotions and friendship willingness directed toward Black (intergroup) and White (intragroup) individuals in response to a set of photos of individuals from these groups.
Hypothesis 2a

Does processing style moderate the impact of Whites' savoring previous interactions with Black individuals on subsequent intergroup friendship willingness? Because global processing may enhance the savoring experience while local processing may inhibit an individual’s ability to savor (Bryant & Veroff, 2007; Lyubomirsky et al., 2006), I predict a crossover (disordinal) interaction between savoring and processing style. When induced to process globally, savoring a previous intergroup interaction should increase willingness to develop intergroup friendships relative to the control condition (as global processing may make the savoring process easier and/or more effective). However, when induced to process locally, savoring a previous intergroup interaction should decrease willingness to develop intergroup friendships relative to the control condition (as local processing may make savoring more difficult and/or less effective and this pattern was exhibited in Study 1).

Hypothesis 2b

Is the predicted interaction between processing style and savoring instructions on intergroup friendship willingness explained by the increased presence of positive intergroup emotions? Because savoring is positively associated with positive emotions in general (Bryant, 2003) and positive intergroup emotions are the gatekeepers of intergroup friendship willingness (Mallett & Wilson, 2010), I predict positive intergroup emotions will mediate the relation between the processing style by savoring interaction on intergroup friendship willingness.
Study 2 Methods

Participants

Participant sample size was based on a prospective power analysis using G*Power statistical software (Faul et al., 2007). I used a small effect size estimate ($f^2 = .17$) to determine sample size. With these criteria, G*Power indicated that a sample of 240 would be sufficient to achieve 80% power to detect effects using the proposed factorial ANOVA and mediation analyses using multiple regression and Hayes’ (2013) PROCESS for SPSS macro for testing moderated mediation. I over-sampled by approximately 25% (68 participants) to account for participants who did not meet study criteria or those who failed to complete the manipulations and measures as instructed.

I recruited a sample of 308 adults (169 males, 139 females; $M_{age} = 34.86, SD_{age} = 16.84$, range 18-81 years) from Amazon’s Mechanical Turk website (Mturk; Amazon Web Services, LLC, 2011). I excluded 56 participants who failed to meet basic requirements for enrollment. Exclusions included participants who were non-White ($n = 17$) or U.S. citizens ($n = 2$), those who mistakenly enrolled in the study multiple times ($n = 18$), or did not complete the study manipulations as instructed ($n = 18$). The processes used for excluding those who did not complete the study manipulations as instructed are described in more detail in the Processing Style Manipulation and the Savoring Instructions Manipulation Coding subsection, below, and Table 5 illustrates the process of exclusion.
Table 5. Process of Exclusion (Study 2)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Males</th>
<th>Females</th>
<th>Age Mean (SD)</th>
<th>Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 308</td>
<td>55%</td>
<td>45%</td>
<td>34.86(16.84)</td>
<td>Initial Sample minus n = 17 (non-Whites)</td>
</tr>
<tr>
<td>N = 291</td>
<td>55%</td>
<td>45%</td>
<td>34.54(13.13)</td>
<td>minus n = 2 (non-U.S. citiz.)</td>
</tr>
<tr>
<td>N = 289</td>
<td>54%</td>
<td>46%</td>
<td>34.58(13.16)</td>
<td>minus n = 18 (repeated study)</td>
</tr>
<tr>
<td>N = 271</td>
<td>53%</td>
<td>47%</td>
<td>34.15(12.76)</td>
<td>minus n = 8 (failed processing man. check)</td>
</tr>
<tr>
<td>N = 263</td>
<td>54%</td>
<td>46%</td>
<td>34.27(12.87)</td>
<td>minus n = 2 (no interaction described)</td>
</tr>
<tr>
<td>N = 261</td>
<td>54%</td>
<td>46%</td>
<td>34.38(12.86)</td>
<td>minus n = 9 (no emotions described)</td>
</tr>
<tr>
<td>N = 252</td>
<td>54%</td>
<td>46%</td>
<td>34.46(12.85)</td>
<td>Final Sample</td>
</tr>
</tbody>
</table>

The final sample was comprised of 252 White, U.S. citizens (136 males, 116 females; $M_{age} = 34.46$, $SD_{age} = 12.85$, range 18-81 years). Participants ranged from high school dropouts to holders of graduate degrees and income levels ranged from less than $25,000 per year to more than $100,000. Full descriptive information for the Study 2 sample is presented in Table 6.
Table 6. Final Sample \(N = 252\) Descriptive Statistics (Study 2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>54</td>
<td>46</td>
</tr>
<tr>
<td>Age (Years)</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td></td>
<td>34.46</td>
<td>12.85</td>
</tr>
<tr>
<td>Education</td>
<td>Median</td>
<td>Range</td>
</tr>
<tr>
<td>College graduate</td>
<td>%</td>
<td>Some HS-Graduate school degree</td>
</tr>
<tr>
<td>Education Level</td>
<td>%</td>
<td>Less than HS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HS degree</td>
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<td>Some college</td>
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<td>Some grad school</td>
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<td></td>
<td></td>
<td>Grad school degree</td>
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<td>$25,000-$49,999</td>
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<td>less than $25,000-more than $100,000</td>
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<tr>
<td>Income Level</td>
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<tr>
<td>$25,000-$49,999</td>
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<td>$25,000-$49,999</td>
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<tr>
<td>$100,000 or more</td>
<td></td>
<td>$100,000 or more</td>
</tr>
</tbody>
</table>

Procedure

All procedures were approved by the Loyola University Institutional Review Board (IRB) prior to data collection.

As with Study 1, participants were recruited through MTurk and the manipulations and measures were delivered via a link to Snap 10 survey software (Snap Surveys, 2013). I recruited White American males and female adults (ages 18 and over)
and offered $0.50 for compensation based on an estimated completion time of approximately 15-20 minutes. After reading the same brief description used in Study 1, participants volunteered and electronic informed consent was obtained. Unlike Study 1, a trait measure of savoring was included to gauge pre-existing differences in savoring. Another difference was that all participants were asked to bring to mind an intergroup interaction from the past. Participants then responded to the outcome measures of intergroup emotions, friendship willingness, demographics, and debriefing items.

**Materials**

**Savoring measure.** Participants completed the 24-item Savoring Beliefs Inventory (SBI) to assess individuals’ stable tendency to savor (see Bryant, 2003, and Bryant & Veroff, 2007, for specific items and evidence supporting the construct validity of the SBI). The SBI contains items assessing proclivity for savoring the past (reminiscence), savoring the present, and savoring the future (anticipation) rated on a scale from 1 *not at all* to 7 *very much*. Items were averaged to form an overall indication of trait savoring as well as three subscales for past, present, and future savoring. Average SBI scores (*M* = 5.21, *SD* = 1.05, *α* = .96) were reliable, as were all subscales (past *α* = .91; present *α* = 91; future *α* = .91).

**Processing style manipulation.** Participants were randomly assigned to one of two processing conditions (global, local) based on procedures used by Isbell and colleagues (Isbell, Lair, & Rovenpor, 2013). To reduce the likelihood of demand characteristics, participants were told we were interested in visual processing and memories of social interactions. Participants were told the processing style manipulation
is a study on visual processing. In the global processing condition, participants were told (text for the local processing condition appears in brackets):

You are going to complete a task on visual processing. You will see a picture of a state. The picture will remain on the screen for ten seconds. Please study the general shape of the state [names of the cities], as you will be tested on it later. There will be 7 trials in all.

All participants were presented with a series of images. These images consisted of an outline of a U.S. state with several cities within the outline labeled. Participants completed a practice trial and then engaged in seven experimental trials. After each trial, participants were asked to identify if a given city was on the map (local condition) or were asked to identify the overall shape of the state from a selection of three (global condition).

As a manipulation check, Isbell and colleagues (2013) removed participants who selected more than two incorrect responses. Those who provide the incorrect response to two or more have likely not devoted their full attention to the task. As such, I excluded eight participants (3 in the global savor condition, 2 in the local savor condition, 2 in the global control condition, and 1 in the local control condition) who selected more than two incorrect map task responses.

**Savoring instructions manipulation.** Participants were randomly assigned to one of two retrospective savoring instruction conditions (savor, control) utilized in Study 1. All participants ostensively chose the type of interaction they thought about (i.e., by choosing numbers) but in reality, all participants were assigned to think about a previous interaction with a Black person (intergroup).
Participants indicated how easy it was to recall an interaction as instructed as well as the overall positivity of that interaction on a scale from 1 *not at all* to 7 *very much*. Average ease ($M = 6.27$, $SD = 1.02$) and positivity scores ($M = 6.00$, $SD = 1.36$) ranged from 1 to 7.

**Savoring instructions manipulation coding.** As with Study 1, open-ended participant responses were coded to verify that participants followed manipulation instructions and to determine the extent to which participants savored the interaction using the same coding scheme. Coders exhibited 100% agreement on whether or not participants recalled an interaction as instructed. Two participants (1 in the global savor condition and 1 in the local savor) did not describe an interaction as instructed and were excluded from analysis.

Coders also rated the overall positivity of the interaction described on a scale from 0 *negative* to 3 *very positive* to detect differences in recalled interactions that might impact the effectiveness of the manipulations and measures. Average positivity scores ranged from 0 to 3 with a median score of 1.20 ($M = 1.63$, $SD = 0.66$). Correlations among coder ratings were acceptable for ratings of positivity of the interaction described, $r = .85$.

Coders exhibited 100% agreement on whether or not participants described the positive emotions they experienced as a result of that interaction as instructed, 98% percent agreement on whether or not participants described the emotions in the present tense, and 98% agreement on whether or not participants described the emotions in the past tense. Nine participants (2 in the global savor and 7 in the local savor) did not describe their emotions as instructed (i.e., did not write about their emotions) and were
excluded from analysis. In all, 11 participants were excluded from the initial data set for not describing an interaction or not describing their emotional experience as instructed.

Lastly, coders also rated the overall positivity, and extent of savoring exhibited in participants’ emotional descriptions on a scale from 0 not at all to 3 very much to detect differences in recalled emotions that might impact the effectiveness of the manipulations and measures. Average coder-rated intensity of emotions described ranged from 0 to 3 with a median score of 1.75 ($M = 1.68$, $SD = 0.64$), average coder-rated positivity ranged from 0 to 3 with a median score of 2 ($M = 2.00$, $SD = 0.57$), and average coder-rated extent of savoring ranged from 0 to 3 with a median score of 1.5 ($M = 1.52$, $SD = 0.81$). Correlations among coder ratings were acceptable for intensity ($r = .76$), positivity ($r = .74$), and savoring of participants’ emotional experience ($r = .82$).

**Savoring instructions manipulation LIWC coding.** As with Study 1, an additional supplementary qualitative analysis was carried out by Linguistic Inquiry and Word Count (LIWC) software (Pennebaker et al., 2007). I used LIWC as an additional coding scheme to assess the level of effort and depth of experience, measured indirectly through number of words used as well as the overall positivity of the descriptions as measured by proportion of positive emotion words.

LIWC indicated that in describing an interaction, word count ranged from eight to 157 words ($M = 50.01$, $SD = 26.18$) with an average of 16 words per sentence ($SD = 6.32$). The proportion of positive words ranged from zero to 18 ($M = 4.82$, $SD = 3.99$), suggesting much variability in the extent of effort, depth, and positivity in the interactions participants recalled. A similar picture emerged for those who were asked to savor the interaction they recalled: LIWC indicated that in describing their emotions, word count
ranged from one to 79 words ($M = 27.98$, $SD = 17.17$) with an average of 14 words per sentence ($SD = 9.54$). The proportion of positive words ranged from zero to 100 ($M = 16.16$, $SD = 16.57$), again suggesting much variability in the extent of effort, depth, and positivity participants’ savoring experience.

**Outcome measures.** Following the processing style and savoring manipulations, participants completed the same self-report measure of intergroup emotions and friendship willingness as Study 1. Intergroup emotions scores ($M = 4.98$, $SD = 1.07$, $\alpha = .92$), intragroup emotions scores ($M = 5.17$, $SD = 0.98$, $\alpha = .91$), intergroup friendship willingness scores ($M = 4.41$, $SD = 1.26$, $\alpha = .96$) and intragroup friendship willingness scores ($M = 4.45$, $SD = 1.13$, $\alpha = .94$) demonstrated high reliability. Ratio scores of intragroup friendship willingness to intergroup friendship willingness ($M = 1.08$, $SD = 0.51$) ranged from 0.41 to 5.80.

**Demographics and debriefing.** As with Study 1, participants reported their age, gender, race, education, and income level. They were also asked to also guess the study hypothesis and indicate any suspicion they had regarding the purpose of the present research.

**Study 2 Results**

**Preliminary Analyses**

Before testing Hypotheses 2a and 2b, I examined frequencies of coder-rated savoring as in Study 1 to determine the extent of retrospective savoring in the savoring condition. As with Study 1, results indicated extensive variability in the extent to which White participants savored previous intergroup interactions: Coder-rated savoring suggested that 39.3% of participants instructed to savor a previous interaction with a
Black person (i.e., those in the savoring condition) exhibited low levels of savoring and 49.2% exhibited moderate levels of savoring. Only 11.5% of participants were rated to have savored their interaction “very much”. This pattern closely resembles that found in Study 1, and this replication again alludes to the importance of individual differences in savoring that is further accounted for in Study 2 by the inclusion of a measure of trait savoring (SBI). Despite this, coder-rated extent of savoring and SBI were not correlated (r = .10, p = .28). I therefore examined both coder-rated savoring and SBI separately in the Supplementary Analyses and Hypothesis 2a, respectively.

As with Study 1, code-rated savoring was correlated with self-rated (r = .51, p < .001) and coder-rated (r = .55, p < .001) (but not LIWC-rated (r = .18, p > .05)) positivity of the interaction participants recalled. Demographic variables such as age, education level, and income level were not significantly associated with coder-rated savoring (ps > .50) and there were no gender differences in coder-rated savoring, p > .50).

**Hypothesis 2a**

Does processing style moderate the impact of Whites’ savoring a previous interaction with a Black individual on subsequent intergroup friendship willingness? I predicted a crossover (disordinal) interaction between savoring and processing style. When induced to process globally, savoring a previous intergroup interaction should increase willingness to develop intergroup friendships relative to the control condition. However, when induced to process locally, savoring a previous intergroup interaction should decrease willingness to develop intergroup friendships relative to the control condition.
To test Hypothesis 2a, I utilized a 2 (processing style: global, local) x 2 (savoring instructions: savoring, control) between-subjects ANOVA with intergroup friendship willingness as the criterion. I also conducted the same analysis using a ratio score of intragroup friendship willingness to intergroup friendship willingness as the outcome to take into account whether interaction type or savoring instructions could influence how much more participants were willing to be friends with Whites relative to Blacks. Given the importance of ability or willingness to savor in Study 1, I controlled for trait savoring (SBI) to hold constant differences in trait savoring. I used the mean total SBI score rather than any SBI subscale (i.e., reminiscence) to take into account the general tendency to savor rather than any specific type of savoring. Moreover, all savoring subscales were highly correlated with the mean total SBI score, rs < .90.

Results of the first set of analysis indicated that there was no significant main effect of processing style: No significant mean differences in intergroup friendship willingness emerged between the global (M = 4.42, SD = 1.25) and local processing conditions (M = 4.39, SD = 1.28), F(1, 247) = 0.00, p = .97, $\eta^2_p < .0001$. Similarly, there was no significant main effect of savoring instructions: No mean differences in intergroup friendship willingness emerged between the savoring (M = 4.33, SD = 1.25) and control conditions (M = 4.48, SD = 1.28), F(1, 247) = 0.28, p = .60, $\eta^2_p = .001$. Contrary to hypotheses, there was no significant crossover interaction between processing style and savoring instructions, F(1, 247) = 0.13, p = .72, $\eta^2_p < .001$ (see Figure 5).^6

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^6 A similar 2 x 2 ANOVA indicated similar results when controlling for trait savoring and self-reported interaction positivity and when alternatively controlling for coder-rated and LIWC-rated positivity of the interaction. This was true for all subsequent analyses in Study 2.
I also conducted the same analysis using a ratio score of intragroup friendship to intergroup friendship to take into account whether interaction type or savoring instructions could influence how much more participants were willing to be friends with Whites relative to Blacks. Similar results were obtained from this analysis. Results indicated that, when controlling for trait savoring and the positivity of the interaction, there was no significant main effect of processing style: No mean differences in the White to Black friendship willingness ratio emerged between the global ($M = 1.07, SD = 0.49$) and local processing conditions ($M = 1.09, SD = 0.53$), $F(1, 247) = 0.00, p = .94, \eta^2_p < .0001$. Similarly, there was no significant main effect of savoring instructions: No mean differences in the White-to-Black friendship willingness ratio emerged between the savoring ($M = 1.09, SD = 0.59$) and control conditions ($M = 1.06, SD = 0.41$), $F(1, 247) = 0.05, p = .83, \eta^2_p < .0001$. Finally, there was no significant interaction between
interaction type and savoring instructions, $F(1, 247) = 1.30, p = .26, \eta^2_p = .005$ (see Figure 6).

To examine Hypothesis 2a differently, I tested the role of trait savoring as a moderator of the processing style by savoring instructions interaction. Following procedures for testing interactions in multiple regression (Aiken & West, 1991), I centered trait savoring (SBI) scores and effect coding processing style (-1 = local, 1 = global) and savoring instructions (-1 = control, 1 = savor). I included trait savoring (SBI), processing style, savoring instructions, and all the two- and three-way interactions between trait savoring (SBI), processing style, and savoring instructions as predictors of intergroup friendship willingness.

Results of this analysis indicated no significant two- or three-way interactions between trait savoring, processing style, and savoring instructions. Only a main effect for trait savoring emerged, suggesting that higher levels of trait savoring were positively
associated with higher levels of intergroup friendship formation. However, trait savoring did not moderate the processing style by savoring instructions influence on intergroup friendship willingness (see Table 7).

Table 7. Regression Analysis Examining the Influence of Trait Savoring (SBI), Processing Style, and Savoring Instructions on Intergroup Friendship Willingness (Study 2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>b</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.41</td>
<td>.08</td>
<td>55.72</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>SBI</td>
<td>0.30</td>
<td>.08</td>
<td>.24</td>
<td>3.89</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Processing Style</td>
<td>-0.01</td>
<td>.08</td>
<td>.00</td>
<td>-0.11</td>
<td>.91</td>
</tr>
<tr>
<td>Savoring Instructions</td>
<td>-0.04</td>
<td>.08</td>
<td>-0.03</td>
<td>-0.46</td>
<td>.64</td>
</tr>
<tr>
<td>SBI x Processing Style</td>
<td>0.03</td>
<td>.08</td>
<td>.02</td>
<td>0.34</td>
<td>.74</td>
</tr>
<tr>
<td>SBI x Savoring Instructions</td>
<td>0.00</td>
<td>.08</td>
<td>.00</td>
<td>-0.03</td>
<td>.98</td>
</tr>
<tr>
<td>Processing x Savoring Instructions</td>
<td>0.03</td>
<td>.08</td>
<td>.02</td>
<td>0.37</td>
<td>.71</td>
</tr>
<tr>
<td>SBI x Processing x Savoring</td>
<td>-0.10</td>
<td>.08</td>
<td>-0.08</td>
<td>-1.28</td>
<td>.20</td>
</tr>
</tbody>
</table>

Note. Dependent variable intergroup friendship willingness. \( b = \) unstandardized regression coefficient, \( SE = \) standard error. Model summary: \( F(7, 244) = 2.53, p = .02, R\text{-squared} = .07 \). Similar results were obtained when self-report interaction positivity controlled or replaced with other measures of interaction positivity.

I also conducted the same analyses using the ratio of intragroup friendship willingness to intergroup friendship willingness. As with the previous analyses, a significant negative main effect of trait savoring emerged, suggesting that higher levels of trait savoring were negatively associated with preferring Whites to Blacks. No other significant main effects emerged, but analyses did indicate the presence of a significant two-way interaction between trait savoring and processing style. No significant three-way interaction between trait savoring, processing style, and savoring instructions on the ratio of intragroup friendship willingness to intergroup friendship willingness (see Table 8).
Table 8. Regression Analysis Examining the Influence of Trait Savoring (SBI), Processing Style, and Savoring Instructions on the Ratio of Intragroup Friendship Willingness to Intergroup Friendship Willingness (Study 2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.08</td>
<td>.03</td>
<td>.33</td>
<td>33.88</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SBI</td>
<td>-0.07</td>
<td>.03</td>
<td>-.14</td>
<td>-2.27</td>
<td>.02</td>
</tr>
<tr>
<td>Processing Style</td>
<td>0.00</td>
<td>.03</td>
<td>-.02</td>
<td>-0.24</td>
<td>.81</td>
</tr>
<tr>
<td>Savoring Instructions</td>
<td>0.00</td>
<td>.03</td>
<td>.00</td>
<td>0.08</td>
<td>.94</td>
</tr>
<tr>
<td>SBI x Processing Style</td>
<td>0.08</td>
<td>.03</td>
<td>.16</td>
<td>2.57</td>
<td>.01</td>
</tr>
<tr>
<td>SBI x Savoring Instructions</td>
<td>0.05</td>
<td>.03</td>
<td>.11</td>
<td>1.68</td>
<td>.09</td>
</tr>
<tr>
<td>Processing x Savoring Instructions</td>
<td>0.04</td>
<td>.03</td>
<td>.08</td>
<td>1.33</td>
<td>.18</td>
</tr>
<tr>
<td>SBI x Processing x Savoring</td>
<td>-0.02</td>
<td>.03</td>
<td>-.04</td>
<td>-0.56</td>
<td>.58</td>
</tr>
</tbody>
</table>

Note. Dependent variable ratio of intragroup to intergroup friendship willingness. $b$ = unstandardized regression coefficient, $SE$ = standard error. Model summary: $F(7, 244) = 2.44$, $p = .02$, $R^2 = .07$. Similar results obtained when interaction positivity not controlled or replaced with other measures of interaction positivity.

Further examination of the significant trait savoring by processing style interaction indicated that in global condition, trait savoring had no association with the ratio of intragroup friendship willingness to intergroup friendship willingness, $b = 0.02$, $SE = .04$, $b = .02, t(131) = 0.24, p = .81, R^2 < .00$. In the local condition, trait savoring was negatively associated with the ratio of intragroup friendship willingness to intergroup friendship willingness, $b = -0.15$, $SE = .04$, $b = -.30, t(117) = -3.35, p = .001, R^2 = .09$.

These findings suggest that individual differences in savoring are especially important at reducing Whites' preference for other Whites over Blacks when they process locally as opposed to globally.
Taken together, these results suggest that processing style did not moderate the relation between savoring instructions and intergroup friendship willingness, even when controlling for differences in trait savoring. Thus, Hypothesis 2a was not supported.

**Hypothesis 2b**

Does an increase in positive intergroup emotions explain the hypothesized interaction between processing style and savoring instructions on intergroup friendship willingness? I predicted positive intergroup emotions would mediate the relation between the processing style (global, local) by savoring instructions (savor, control) interaction and intergroup friendship willingness.

Although there was no significant interaction between processing style and savoring instructions on either intergroup friendship formation or the ratio of intragroup friendship willingness to intergroup friendship willingness (Hypothesis 2a) and thus no formal justification for testing mediated moderation (Muller et al., 2005), I followed procedures outlined by Hayes (2013) to examine for the presence of an indirect effect between the processing style by savoring instructions interaction and intergroup friendship willingness through intergroup emotions. I used Hayes’ (2013) bootstrapping PROCESS for SPSS macro (Model 8; 1000 bootstrap resamples) to test the indirect effect of intergroup emotions on intergroup friendship willingness and the ratio of intragroup to intergroup friendship willingness separately, controlling for trait savoring.

Mediated moderation analyses indicated no significant indirect effect of intergroup emotions, $\text{coeff}_{\text{indirect}} = -0.03$, $SE = 0.04$, 95% CI = [-0.09, 0.05]. Intergroup emotions were, however, significantly predictive of intergroup friendship willingness, $\text{coeff} = 0.56$, $SE = 0.7$, 95% CI = [0.43, 0.69].
When replacing intergroup friendship willingness with the ratio of intragroup to intergroup friendship willingness, similar results emerged. Results indicated no significant indirect effect of intergroup emotions, $\text{coeff}_{\text{indirect}} = 0.01$, $SE = 0.01$, 95% CI = [-0.01, 0.03]. Intergroup emotions were, however, significantly predictive of intergroup friendship willingness, $\text{coeff} = -0.14$, $SE = 0.03$, 95% CI = [-0.19, -0.08].

Despite the finding that positive intergroup emotions were related to both intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness, positive intergroup emotions did not explain any relation between the processing style by savoring instructions outcome and the outcome measures. Thus, Hypothesis 2b was not supported.

As there was a significant main effect of trait savoring on both intergroup friendship willingness and the ratio of intragroup to intergroup friendship willingness, I alternatively used the centered measure of trait savoring (SBI) to predict intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness. Results of the first set of analyses indicated that SBI scores were positively and significantly associated with both positive intergroup emotions and intergroup friendship willingness. Moreover, the relation between trait savoring and intergroup friendship willingness was mediated by positive intergroup emotions, indirect effect 95% CI = [0.08, 0.27], Sobel $z = 4.00$, $p < .001$ (indirect effect of intergroup emotions accounted for 54% of the total variance) (see Figure 7).

---

7 A piecemeal approach using ANOVA and regression yielded similar results with no significant effects of processing style, savoring instructions, or the interaction between the two. The only significant effects to emerge were the relation between positive intergroup emotions and intergroup friendship willingness, $b = .59$, $SE = .06$, $\beta = .50$, $t(250) = 9.21$, $p < .001$, $R^2 = .25$, and positive intergroup emotions and the ratio of intragroup friendship willingness to intergroup friendship willingness, $b = -.14$, $SE = .03$, $\beta = -.30$, $t(250) = -5.03$, $p < .001$, $R^2 = .09$. 
Figure 7. Intergroup friendship willingness predicted by trait savoring (SBI) and mediated by positive intergroup emotions (unstandardized coefficients presented) (Study 2).

The same pattern was exhibited when examining the ratio of intragroup friendship willingness to intergroup friendship willingness. Results of these analyses indicated that SBI scores were positively and significantly associated with both positive intergroup emotions and negatively with the ratio of intragroup friendship willingness to intergroup friendship willingness. The relation between trait savoring and the ratio was mediated by positive intergroup emotions, indirect effect 95% CI = [-0.08, -0.02], Sobel $z = 3.21, p < .01$ (indirect effect of intergroup emotions accounted for 58% of the total variance) (see Figure 8).

Figure 8. Ratio of intragroup friendship willingness to intergroup friendship willingness predicted by trait savoring (SBI) and mediated by positive intergroup emotions (unstandardized coefficients presented) (Study 2).
Although Hypothesis 2b was technically not supported, the alternative mediation analyses showed that the main effect of savoring on intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness was mediated by intergroup emotions.

**Supplementary Analyses**

To further explore the role of individual differences in savoring and their relation to intergroup friendship willingness detected in Study 1 and further exhibited when testing the Preliminary Analyses and Hypotheses 2a and 2b, I conducted a series of supplementary analyses. I explored the role of coder-rated savoring as a predictor of intergroup friendship willingness, the ratio of intragroup friendship willingness to intergroup friendship willingness, and the mediating role of positive intergroup emotions.

Examining only those in the savoring condition (i.e., not the control condition), I used multiple regression analysis to test the interaction between processing style (local coded -1, global coded 1) and coder-rated savoring (centered; replacing the savoring instructions variable) on intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness.

Although no main effect of processing style or processing style by coder-rated savoring interaction emerged, results indicated a marginally significant positive main effect of coder-rated savoring on intergroup friendship willingness, suggesting that overall, the higher the coder-rated savoring, the more participants were willing to engage in intergroup friendship. The marginal main effect of coder-rated savoring was not, however, predictive of positive intergroup emotions. As such, positive intergroup
emotions did not mediate the relation between coder-rated savoring and intergroup friendship willingness (see Table 9).

Table 9. Regression Analysis Examining the Influence of Processing Style and Coder-rated Savoring on Intergroup Friendship Willingness (Study 2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.37</td>
<td>.11</td>
<td></td>
<td>38.10</td>
<td>&lt;.001</td>
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<tr>
<td>Processing Style</td>
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<td>.11</td>
<td>.04</td>
<td>0.41</td>
<td>.70</td>
</tr>
<tr>
<td>Coder-rated Savoring</td>
<td>0.24</td>
<td>.14</td>
<td>.16</td>
<td>1.72</td>
<td>.08</td>
</tr>
<tr>
<td>Processing Style x Savoring</td>
<td>-0.11</td>
<td>.14</td>
<td>-.07</td>
<td>-0.80</td>
<td>.43</td>
</tr>
</tbody>
</table>

Note. Dependent variable intergroup friendship willingness. $b =$ unstandardized regression coefficient, $SE =$ standard error. Model summary: $F(3, 118) = 1.25, p = .30, R$-squared = .03.

The same pattern was demonstrated for the ratio of intragroup friendship willingness to intergroup friendship willingness (see Table 10).

Table 10. Regression Analysis Examining the Influence of Processing Style and Coder-rated Savoring on the Ratio of Intragroup Friendship Willingness to Intergroup Friendship Willingness (Study 2)

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>SE</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
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<td></td>
<td>20.31</td>
<td>&lt;.001</td>
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<tr>
<td>Processing Style</td>
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<td>.05</td>
<td>.06</td>
<td>0.71</td>
<td>.48</td>
</tr>
<tr>
<td>Coder-rated Savoring</td>
<td>-0.14</td>
<td>.07</td>
<td>-.19</td>
<td>-2.08</td>
<td>.04</td>
</tr>
<tr>
<td>Processing Style x Savoring</td>
<td>0.05</td>
<td>.07</td>
<td>.07</td>
<td>0.80</td>
<td>.43</td>
</tr>
</tbody>
</table>

Note. Dependent variable ratio of intragroup to intergroup friendship willingness. $b =$ unstandardized regression coefficient, $SE =$ standard error. Model summary: $F(3, 118) = 1.62, p = .18, R$-squared = .04.

These findings closely mirror those in the Supplementary Analyses of Study 1 and again highlight the importance of understanding not only trait savoring, but differences in the extent of savoring in predicting intergroup friendship willingness.
**Study 2 Discussion**

In Study 2, I predicted a crossover (disordinal) interaction between savoring and processing style. When induced to process globally, I predicted savoring a previous intergroup interaction would increase willingness to develop intergroup friendships relative to the control condition. However, when induced to process locally, I predicted savoring a previous intergroup interaction would decrease willingness to develop intergroup friendships relative to the control condition (Hypothesis 2a). Contradicting Hypothesis 2a, there was no interaction between processing style and savoring instructions.

I also predicted that positive intergroup emotions would mediate the relation between the interaction type by savoring interaction on intergroup friendship willingness (Hypothesis 2b). Contradicting Hypothesis 2b, the effects exhibited in Hypothesis 2a – or lack thereof – were not explained by positive intergroup emotions. However, trait savoring (SBI) was significantly predictive of both intergroup friendship willingness and the ratio of intragroup friendship willingness to intergroup friendship willingness and this effect was mediated by positive intergroup emotions.

Despite the lack of support for Hypotheses 2a and 2b, supplementary analyses once again revealed that the more participants in the savoring condition were rated to have savored, the higher their levels of intergroup friendship willingness. Unlike Study 1, this effect was not moderated by any study variable (interaction type – intergroup or intragroup – was not an independent variable in Study 2; all participants recalled an intergroup interaction) but was predictive of both intergroup friendship willingness (marginally) and the ratio of intragroup friendship willingness to intergroup friendship
willingness (significantly). These findings suggest that although manipulating retrospective savoring again had little effect on intergroup friendship willingness – and that this effect was not moderated by processing style – the more participants are able and willing to savor, the higher their positive intergroup emotion and the greater their willingness to be friends with Blacks.

Although Hypothesis 2a was not borne out statistically, the pattern of results suggested that priming global processing reduced the non-significant discrepancy between the savor and control conditions from Study 1. Although the differences in intergroup friendship willingness between the savoring and control conditions were not significant in Study 1, the pattern of results showed that those in the control group seemed to be more willing to be friends with Blacks relative to those who savored. I speculated this might be due to the processing style used while retrospectively savoring these interactions and that priming global processing might reverse this effect. Study 2 showed the pattern of results was not reversed but rather equalized to relative to Study 1. These findings could allude to the importance that processing style might play in savoring, although future research will have to clarify and extend this research.

Study 2’s primary contribution was to replicate and extend the findings regarding individual differences in savoring that emerged in Study 1. Although not initially hypothesized, the Preliminary Results from Study 2 again demonstrated that not only is there extensive variability in the ability and willingness to savor previous intergroup interactions, but that savoring in general is difficult for some people. The extent to which White participants savored a previous intergroup interaction closely mirrored the extent to which Whites savored an intergroup interaction in Study 1. Moreover, those who
report a greater likelihood of savoring positive experiences are also more likely to report positive intergroup emotions and intergroup friendship willingness. This goes one step beyond the Supplementary Analyses of Study 1 which showed that the more participants savor an intergroup interaction, the more willing they are to be friends with outgroup members. Study 2 replicates this effect and shows there is more to just savoring a previous intergroup interaction. There is something about individuals who have a greater capacity to savor that also makes them more likely to experience positive intergroup emotions and seek out friendships with Blacks.

Savoring research offers several possible explanations for why this may be the case. For example, Berenbaum (2002) shows that pleasure in social situations is linked with personality characteristics like extraversion. Building on the work of Fredrickson (2001), Bryant and Veroff (2007) suggest that savoring facilitates a broaden-and-build approach to life which may further promote the experience of positive emotions. Bryant and Veroff (2007) also note that those who spend the time and effort savoring social interactions are often rewarded with pleasant reciprocation. In other words, when individuals who savor approach novel experiences with gusto and positive energy, others are more likely to respond positively. This could partially explain why those who report a greater capacity to savor feel better about intergroup interactions and are more willing to partake of them.

Regardless of why trait savoring is especially important, the present research shows that manipulating past-oriented savoring it not effective at increasing positive intergroup emotions or intergroup friendship willingness. Rather, there is something about those with the ability and willingness to savor that makes them more open to
friendships that might make others who are less able or willing to savor uncomfortable.

This is not to say that researchers should give up on manipulating savoring in attempting to improve intergroup relations, but rather represents a call to better understand those who report a greater capacity to savor, when considering how such manipulations might work. Indeed, boosting people’s dispositional ability to appreciate positive experiences in general may enhance their willingness to develop intergroup friendships.
CHAPTER SIX

GENERAL DISCUSSION

Summary of Results

I conducted two studies to test whether savoring a previous intergroup interaction could be a useful reframing strategy to encourage intergroup friendship willingness by increasing positive intergroup emotions. The purpose of Study 1 was threefold. First, it explored whether or not Whites could savor previous interactions with Black outgroup members. Second, Study 1 explored the impact of savoring a previous intergroup interaction on increasing intergroup friendship willingness. Third, Study 1 explored whether the predicted effect of savoring a previous intergroup interaction would be explained by an increase in positive intergroup emotions. The purpose of Study 2 was two-fold. First, it addressed the role of processing style in bolstering the effectiveness of savoring a previous intergroup interaction at increasing intergroup friendship willingness when taking into consideration individual differences in savoring. Second, Study 2 explored whether the predicted effect of savoring a previous intergroup interaction would be explained by an increase in positive intergroup emotions.

In Study 1, I predicted that when encouraged to do so, Whites would be able to savor previous interactions they have had with Blacks (Hypothesis 1a). Study 1 demonstrated that there is a great deal of variability in the extent to which White participants are able and willing to savor previous interactions with Blacks. Despite this,
Whites exhibited the same levels of savoring when recalling interactions with Blacks and Whites, suggesting that Whites can and do savor previous intergroup interactions just as much as they do intragroup interactions. Thus, Hypothesis 1a was supported and White individuals can retrospectively savor interactions with Blacks, albeit to a low degree.

I also predicted savoring a previous intergroup interaction would significantly increase intergroup friendship willingness relative to both the positive emotion recall and the control conditions while those in the positive emotion recall condition would report higher intergroup friendship than those in the control condition. In the intragroup condition, I predicted the effect of savoring a previous interaction on intergroup friendship willingness relative to the positive emotion recall and the control conditions would be weaker (Hypothesis 1b). Contradicting Hypothesis 1b, manipulating retrospective intergroup savoring, relative to recalling positive emotions or simply recalling a positive interaction, is not an effective approach increasing intergroup friendship willingness. If anything, the pattern of results suggests that those who simply recall a positive intergroup interaction are more willing to seek out intergroup friendships than those in the savoring or positive emotion recall conditions.

Finally, I predicted positive intergroup emotions would mediate the relation between the interaction type by savoring interactions on intergroup friendship willingness (Hypothesis 1c). Contradicting Hypothesis 1c, these effects – or lack thereof as the interaction between interaction type and savoring instructions was not significant – are not explained by positive intergroup emotions. Despite this, positive intergroup emotions were significantly predictive of intergroup friendship willingness but Hypothesis 1c was not supported.
To address the overall lack of support for Hypotheses 1b and 1c, I conducted supplementary analyses that revealed the more participants in the savoring condition were rated to have savored, the higher their levels of intergroup friendship willingness. These findings suggest that although manipulating savoring had little effect on intergroup friendship willingness, the more participants are able and willing to savor, the higher the tendency to report willingness to be friends with Blacks. This effect, however, was not mediated by positive intergroup emotions. Thus, Study 1 showed that although Whites can savor interactions with Blacks, encouraging them to do so is not an effective approach to increase intergroup friendship willingness and this lack of an effect was not explained by intergroup emotions. However, individual differences in the extent to which Whites savored previous intergroup interactions did predict intergroup friendship willingness, suggesting that individual differences in savoring may be the key to understanding this relationship.

The purpose of Study 2 was to determine if manipulating processing style could clarify the lack of effects found in Study 1 while taking into account individual differences in savoring. In Study 2, I predicted that when induced to process globally, savoring a previous intergroup interaction would increase willingness to develop intergroup friendships relative to the control condition. However, when induced to process locally, I predicted savoring a previous intergroup interaction would decrease willingness to develop intergroup friendships relative to the control condition (Hypothesis 2a). Contradicting Hypothesis 2a, Study 2 demonstrated that manipulating processing style did not reverse the unexpected, but non-significant, pattern of intergroup friendship willingness from Study 1, even when taking into consideration individual
differences in trait savoring. In other words, encouraging individuals to focus on the
global as opposed to the local aspects of a positive experience did not make savoring a
previous intergroup interaction effective at increasing intergroup friendship willingness.

Second, I predicted positive intergroup emotions would mediate the relation
between the processing style by savoring interaction and intergroup friendship
willingness (Hypothesis 2b). Once again and contradicting Hypothesis 2b, intergroup
emotions had no role in explaining these null effects despite once again being predictive
of intergroup friendship willingness. Trait savoring (SBI) was, however, significantly
predictive of intergroup friendship willingness and this effect was mediated by positive
intergroup emotions.

As with Study 1, individual experiences and differences in savoring seemed to
have been the most important factors in intergroup friendship formation: Analyses
revealed that trait savoring significantly and positively predicted intergroup friendship
willingness. Thus, although manipulating savoring once again had little effect in the
predicted direction, Study 2 results indicated Whites who savored intergroup interactions
also tend to report higher willingness to be friends with Blacks (although again this effect
is not explained by positive intergroup emotions). Moreover, those who exhibit high
levels of trait savoring also tend to report higher willingness to have intergroup
friendships, and this effect was due in large part to an increase in positive intergroup
emotions.

It is important to note that some participants in both Study 1 and 2 were able and
willing to savor previous intergroup interactions. Despite the variability in coder-rated
savoring from both studies, a subgroup emerged who seemed to wholeheartedly attend to,
regulate, and focus on the positive aspects of an intergroup interaction from their past. These findings demonstrate that some are indeed able and willing to use savoring as a reframing strategy with implications for future intergroup contact (i.e., that the savoring manipulation was effective at promoting savoring). Although they did not explicitly explore race as a factor in the content of interpersonal savoring, Bryant and colleagues (2005) showed that memories of time spent interacting with others are among the most commonly savored experiences from the past. The present research shows that even when taking into account those who experienced low levels of coder-rated savoring, participants did not differ in their savoring tendencies as a function of whether they recalled a previous interaction with a Black or White individual. In other words and in line with the work of Bryant (2003), savoring in the present research seems to have been more an individual difference than a context-dependent aspect brought about by the savoring manipulation. This is not to say savoring cannot be manipulated in this context, but rather alludes to the importance of the common theme of understanding individual differences in savoring that was a consistent theme in the present research.

While the experimental hypotheses from both Study 1 and 2 were not borne out in the data, there were several other interesting findings worthy of further discussion. The general pattern of results from Study 1 indicating that simply recalling a previous intergroup interaction is slightly but not significantly more effective than savoring and recalling positive emotions at increasing intergroup friendship willingness is itself interesting. Why would a simple recall be more effective at increasing intergroup friendship willingness relative to a mindful focus on the positives of such a positive interaction? As noted in the Study 1 Discussion, detailed focus on the positives of an
experience, especially to gain a greater general understanding (e.g., Lyubormirsky et al., 2006; Wilson et al., 2005) reverses the effects of focusing on the positives. This possibility was explored in explicit detail in Study 2. Although global processing did not significantly amplify the effects of savoring relative to local processing, intergroup friendship willingness levels were equivalent between the savor and control conditions. This null finding could indicate that a global processing prime did indeed reduce the discrepancy between the savor and control conditions on intergroup friendship willingness found in Study 1. That global processing did not raise levels of intergroup friendship willingness relative to the local processing condition could allude to the delicate balance between (a) focusing on and regulating positive feelings in the moment and (b) analyzing these feelings to the point where they are no longer as enjoyable.

The lack of support for the experimental hypotheses in both Study 1 and 2 could also be attributable to the very thing the present research set out to indirectly reduce: prejudice. Prejudice reduces individuals' willingness for contact with outgroup members (Binder et al., 2009) and when those high in prejudice experience positive intergroup contact, they may subtype to maintain their worldview (Riek, Mania, & Gaertner, 2013). Riek and colleagues (2013) show that when positive contact does overcome negative intergroup emotions among those high in prejudice, those individuals are especially likely to subtype positive intergroup interactions as being exceptions rather than the standard. They speculate that many positive contact-based manipulations might inadvertently cause those high in prejudice to subtype the positive experience as an exception, thereby limiting the predicted positive effects of these manipulations. Given prejudice's high prevalence in the general population (Livingston & Drwecki, 2007; Nosek et al., 2002), it
is possible that participants saw their savored intergroup experience as rare events, thus negating any positive intergroup emotions or friendship willingness.

Although I drew heavily on previously used reframing strategies (e.g., Aron et al., 1997; Aronson, 2000; Crisp & Turner, 2009; Mallett & Wilson, 2010) and their similarities to savoring, the savoring manipulation was based more on the theoretical definition of savoring and thus deviated from these other reframing strategies in complexity. While one might use this as a potential criticism of the savoring manipulation, I explicitly demonstrated the validity of my savoring manipulation by showing that those in the savoring condition spent more time and were rated to have more positivity and higher levels of savoring than those in the positive emotion control condition. In other words, the savoring instructions from the present research seem to be conceptually different from similar manipulations whereby participants simply recall positive emotions. This change from the simple, proxy manipulations used before could have influenced results – or savoring could be an altogether different type of reframing strategy, unrelated to those of Aron et al. (1997), Aronson (2000), Crisp and Turner (2009), Mallett and Wilson (2010) and others as suggested by the present research, thus explaining the discrepancy between previous findings and my own.

My cross-sectional design could also explain the lack of effects: In the positive psychology realm, many savoring manipulations are longitudinal, multi-day interventions that encourage mindful regulation of positive experiences over time (Bryant et al., 2005; Emmons & McCullough, 2003; Seligman et al., 2005). A one-time manipulation, while convenient, may have been insufficient to encourage savoring to an effective degree. As savoring seems to be something that is learned by reframing one’s mindset (Bryant &
Veroff, 2007), a one-time intervention may not have given participants adequate practice. Taken together, these small but important differences between previous reframing strategies and my savoring manipulation could explain the lack of support for the experimental hypotheses in Studies 1 and 2.

The findings from the present research go against much of what has been found regarding imagined intergroup contact. Turner, Crisp, & Lambert (2007) have shown that positive imagined contact with an outgroup member is an effective way to change how individuals change how they feel about intergroup interactions (Crisp et al., 2011; Crisp & Turner, 2009). Crisp and Turner (2009) argue that thinking about the positive attributes of intergroup interactions increases the desire to develop intergroup friendships as a result of increased positive emotions toward those outgroup members. Why then did savoring, arguably a more powerful type of imagined contact, not have the predicted effects on intergroup friendship willingness? One possibility is the complexity of the savoring manipulation. The control conditions in both Studies 1 and 2 more closely mirrored the experimental positive imagined interaction conditions used in imagined intergroup contact research (e.g., Crisp & Turner, 2009; Turner et al., 2011). Another possibility, mentioned above in the Study 1 Discussion, is that the lack of a negative point of contrast weakened the effects of savoring: Birtel and Crisp (2012) have shown that positive imagined contact is more effective when proceeded by a perceived negative interaction. The present research had no such point of contrast. These two primary deviations from imagined contact literature may be the factors limiting manipulated savoring from having the predicted effects.
The present research did highlight an unpredicted but important link between savoring and intergroup friendship willingness. Supplementary analyses showed that the more participants were have rated to savor an intergroup interaction (Study 1 and 2) or the higher their levels of trait savoring (Study 2), the higher their self-reported intergroup friendship willingness. These findings are in line with Bryant's (2003) conceptualization of savoring as a trait attribute. In developing the Savoring Beliefs Inventory (SBI), Bryant (2003) acknowledged that savoring is a skill set that some possess to a greater degree than others. In their research on savoring, Quiodbach and colleagues (2010) also note that there are important differences in how individuals regulate positive emotions. Moreover, individuals tend to use different savoring strategies as a function of these individual differences.

Regardless, it is not surprising that coded and trait savoring were associated with intergroup friendship formation: This supports Bryant and Veroff’s (2007) speculation that savoring is a reframing strategy that encourages friendship formation because individuals often savor the time they spend with others. Full awareness of the positive feelings one experiences in social interactions is pleasurable and encourages individuals to want to immerse themselves in these situations in the future (Bryant & Veroff, 2007). Bryant and colleagues (Bryant & Veroff, 2007; Bryant et al., 2005) also speculate that savoring accelerates the process of acquaintance (i.e., getting to know the other person) crucial in friendship development. Thus, individuals who tend to savor are likely more able to reframe how they see intergroup interactions and experience enhanced positive emotions when faced with interacting with similar others. Consequently, Fredrickson’s (2001) broaden-and-build model would suggest that increased awareness and regulation
of positive emotions might lead individuals out of their comfort zone and into the realm of intergroup friendships. Although Study 1 (Hypothesis 1a) suggests that individuals can seemingly be encouraged to savor positive interactions they have with others, certain individuals (i.e., those high in trait savoring) more than others seem more apt to respond positively to this savoring manipulation, Study 2 (Hypothesis 2a) showed that trait savoring did not moderate the effect of manipulated savoring on intergroup friendship willingness. On the contrary, the relationship seems to be simple and linear: Those with a proclivity toward savoring have a tendency to experience more positive intergroup emotions and increased friendship willingness.

**Implications**

What do the results of the present research mean for the fields of intergroup relations and positive psychology? Despite the absence of the predicting findings, several important findings relevant to the field of intergroup emotions emerged. First, individuals can and do savor previous interactions they have with other people. Although I found much variability in the extent to which this was the case, there are cases where individuals truly focused and amplified the positive feelings they experienced as a result of a previous positive interaction. Along with the growing body of research on encouraging intergroup friendship formation (e.g., Birtel & Crisp, 2012; Crisp & Turner, 2009; Mallett et al., 2008; Mallett & Wilson, 2010), the present research supports the contention that it is possible to bring about more positive behavioral intentions toward outgroup members by understanding individual differences like savoring.

Second, although the experimental results did not conform to predictions, the present research introduced the topic of savoring into the intergroup domain. Reframing
strategies, some similar, others different, to savoring in concept and methodology, have made their debut (e.g., Aron et al., 1997; Crisp & Turner, 2009; Page-Gould et al., 2008, Mallett & Wilson, 2010). But nothing as purely “positive psychology-based” as savoring has been explored to date. Although these preliminary results suggest savoring may not be a reliable way to situationally encourage intergroup friendship willingness, it does demonstrate that individuals can savor interactions with outgroup members and individuals who have a proclivity towards savoring are more likely to experience more positive emotions and higher levels of intergroup friendship willingness than those who do not. Future research will undoubtedly continue to explore the role of savoring in intergroup relations and perhaps other positive psychology-based strategies will start to make their way into the intergroup domain.

Perhaps most importantly, the present research extends intergroup relations literature by continuing to explore ways to encourage intergroup friendship formation, an important antecedent of prejudice reduction. Previous research has demonstrated the positive effects of intergroup friendship on prejudice reduction (Pettigrew, 1997; Pettigrew & Tropp, 2006). More recent research has demonstrated the effectiveness of certain positive reframing strategies (e.g., Crisp & Turner, 2009; Turner et al., 2011) in improving intergroup attitudes and willingness to develop these prejudice-reducing friendships. While the present research does not support the role of a savoring-based reframing strategy, it does compliment the work of Binder and colleagues (2009) in exploring a new individual difference variable useful in predicting how people approach intergroup interactions and friendship formation. It also highlights the limits of arguably simpler strategies like those employed by like Turner and colleagues (2011), especially in
light of limited replicability (recent research has demonstrated a small (Miles & Crisp, 2014) or nearly null effect of imagined contact (Klein et al., in press)).

The present research also extends the positive psychology literature by further testing the concept of savoring. Despite its commonsense appeal, relatively little empirical work has elucidated savoring as a concept. In differentiating savoring from recalling positive emotions (Study 1) by showing those in the savoring condition spent more time considering their positive emotions, reported more positive emotions, and were rated to have savored more than those in the positive emotion recall condition, this work has differentiated two related but conceptually different conditions previously untested. By showing that savoring relies on a present focus, mindful regulation of positive experiences from the past as opposed to simply remembering positive emotions, Study 1 demonstrated the benefit of using a conceptually-relevant manipulation of savoring. Many savoring manipulation conditions are untested or yield differing results (Smith, Harrison, Kurtz, & Bryant, in press). Thus, any efforts to directly test a new savoring manipulation are welcome in the field of positive psychology.

Second, the present research extends the positive psychology literature by highlighting another practical application of savoring. Much as integrating savoring into the intergroup domain is a benefit for that area, applying savoring in attempting to alter or understand an intergroup phenomenon is a benefit to positive psychology. Many leading figures in positive psychology (e.g., Seligman et al., 2005) have called for these types of interventions and manipulations to be applied to the greater good of humanity. By taking two seemingly disparate concepts in savoring and intergroup friendship willingness and
highlighting the connections between the two, the present research has taken this challenge.

**Limitations**

The present research relied on a relatively new manipulation of savoring, borrowing from previous research's conceptualizations. As savoring is a relatively new construct, no definitive manipulation exists. Bryant and colleagues' (2005) savoring manipulation seemed to mirror the positive emotion control condition from Study 1 more than it did the actual savoring condition. Similarly, the three good things (Seligman et al., 2005) and gratitude visit (Emmons & McCullough, 2003) manipulations seem to more closely resemble the true control condition more than the savoring condition. The present research's savoring condition was more strongly based on the definition of savoring as an in-the-moment mindful focus on and regulation of the good things in life: “… a search for the delectable, delicious, almost gustatory delights…” of an experience from the past, present, or future (Bryant & Veroff, 2007, p. 3). However, this manipulation was untested (and cross-sectional) and thus limited relative to other manipulations, despite their possible conceptual shortcomings.

Extraneous variance in the experimental setting could also partially account for the lack of predicted findings. Participants exhibited variability in the characteristics of the interaction they recalled. Some chose to focus on interactions they had earlier that week while some recalled interactions years in the past. Some participants chose qualitatively more positive interactions than others (e.g., “He and I refereed a soccer game together... It was a pleasant experience.” versus “I was laying in my bed when my roommate Charles walked in wearing dorky glasses and a tight-fitting, short-sleeve dress...”)
shirt...I was surprised and burst out laughing. He laughed too and asked me if I would join him in walking around campus dressed as he was. We spent the next twenty minutes randomly running into people and pretending to be geeky. It was a good time and one of my best memories with Charles.”). In turn, participants who were able to recall a more positive interaction were more likely to report positive emotions and friendship willingness. Thus, the diversity of types of interactions recalled – from brief run-ins to memorable college antics – likely added uncontrolled variance to the experimental setting.

Perhaps most importantly, participants exhibited a large degree of variability in the ability and/or willingness to savor these positive interactions. Some participants clearly savored the interactions they recalled (e.g., “I have a lot of smiles going on. It brings me up just thinking about the pleasant relationship we maintained...”), while others did not (e.g., It was a very unremarkable interaction, and I can't recall many positive feelings). Fortunately, I was able to quantify the extent of positivity and savoring using coder ratings and LIWC. Even so, reducing the sample to include only those who truly savored would have reduced the sample size by over half.

The mode of data collection could have also limited my ability to find predicted effects. Although it has been used to great success in much social science research (Buhrmester et al., 2011), Mturk has been critiqued in the past for recruiting participants who do not devote their full attention to reliably completing a task. Indeed, unsupervised Mturk participants may perform worse on tasks relative to other, more traditional participants (Paolacci, Chandler, & Ipeirotis, 2010). Furthermore, Mturk participants may not focus on instructions to the same extent as laboratory participants, thereby adding
variability to the experimental setting and reducing statistical power (Goodman, Cryder, & Cheema, 2012).

While I was able to recruit a highly heterogeneous sample to represent a highly diverse population, increased variance in the experimental setting likely attenuated any effects of savoring that might be present in a more homogeneous setting. With participant age ranging from 18-81 across studies, income ranging from less than $25,000 to more than $100,000, and education ranging from high school dropouts to graduate school graduates, it is likely that the experimental manipulations were interpreted differently by different participants. More directly relevant to the present research, participants exhibited much variability in all aspects of the interaction recall and savoring experience. Time spent completing the task, number of words used to describe their interaction, the positivity of the experience, and demand characteristics, among other factors could have weakened any effect more reliably exposed under more controlled, laboratory conditions.

Demand characteristics could have accounted for lack of variability in willingness to become friends with outgroup members. Most participants guessed that the hypothesis had something to do with race, perceptions of others of different races, and prejudice. Many said they felt the study would expose them a prejudiced and several even suggested they might have changed their response because they did not want to appear biased. Some participants also reported suspicion that the ostensive randomization procedure was not actually used to assign them to condition. For example, one participant said “I have a feeling that no matter what number I picked it would be ‘Black’ person.” Such suspicions likely changed not only the interactions they described, but also how participants responded to the dependent measures of intergroup emotions and friendship willingness.
Thus, these outcome measures may have been too reactive when taking into account these demand characteristics.

**Future Directions**

Future research on the role of savoring in encouraging intergroup friendship formation should consider limiting extraneous variance by conducting similar research in a laboratory setting. In addition to conducting this research with a more homogeneous sample to establish that such effects might exist in the first place, future research might limit variance by controlling more aspects of the design. In line with the research of Quiodbach and colleagues (2010), participants could be presented with a “stock” story, pretested for positivity, of an intergroup interaction. Doing so would presumably reduce variance associated with having each participant recall their own positive interactions from the past. In the same vein, eliminating variance associated with the temporal distance of the interaction could provide a cleaner picture of the influence of savoring on intergroup friendship willingness. The stock story provided to participants could be recent or even a hypothetical interaction in the present. Doing so could control differences in positivity, ease of recall, and intergroup emotions influenced by the difficulty of actually bringing these past interactions to mind that likely occurred in both Study 1 and 2.

Another possibility for future research on the topic of savoring and intergroup friendship willingness could extend to an actual manipulation of positive intergroup interaction. For example, participants could interact in real time with a confederate, enjoying varying degrees of positive activity followed by savoring or control instructions. This could provide maximum control over the actual characteristics of the interaction and
reduce extraneous variance brought about by the quality of individuals’ recalled interactions. Moreover, this would allow for an in-the-moment savoring experience as opposed to the past-focused savoring manipulation used in the present research.

To address concerns about demand characteristics, future lab research could also utilize unobtrusive or more sensitive measures of intergroup emotions and friendship willingness. Implicit Associations Tasks (IATs) have been used to this end and might yield more truthful responses from participants. For example, after experiencing the aforementioned manipulation, participants could complete a race IAT to gauge their intergroup emotions and friendship willingness. Another possibility is the use of more sensitive measures like the manikin (DeHouwer, Combez, Baeyens, & Hermans, 2001) or joystick/lever task (Chen & Bargh, 1999) to assess approach-avoidance behaviors. These measures have been shown to be reliable and sensitive indicators of approach-avoidance behavior with the added benefit less reactance than the measures used in the present research.

Also crucial for future studies on this topic is a more precise and clearly-focused conceptual definition of the process of savoring, which would better inform not only future experimental manipulations but also appropriate control conditions. Many studies have examined the effects of savoring, but few have defined, measured, or manipulated it in the same way (Smith, Harrison, & Bryant, in preparation). In the present research, I borrowed from several savoring manipulations and interventions (Bryant et al., 2005; Emmons & McCullough, 2004; Seligman et al., 2005) in constructing my experimental savoring conditions. In spite of this, it is unclear whether my conceptualization of savoring fully integrated the most important parts of the aforementioned manipulations.
A consensus definition of the savoring process, taking into account past, present, and future-oriented regulation and enhancement of positive emotions associated with a positive life experience could address this limitation. As savoring can be past, present, and future-oriented all at the same time, I would propose a conceptual definition of savoring as encompassing these three aspects at once. Such a manipulation might be stronger than that used in the present research and might therefore yield altogether different effects.

**Conclusions**

The present research's purpose was to explore the potential role of savoring in increasing individuals' willingness to develop intergroup friendships through an increase in positive intergroup emotions. Much research shows that an effective way to reduce prejudice is through the formation of friendships between individuals of different social groups. Less research, however, has explored ways to encourage intergroup friendship formation. The present research shows that although White individuals are able to savor previous interactions with Blacks, encouraging them to do so does little to increase positive intergroup emotions or intergroup friendship willingness. Moreover, encouraging White individuals to savor previous intergroup interactions is not influenced by processing style as predicted. However, individuals with a proclivity toward savoring report more positive intergroup emotions and higher levels of intergroup friendship willingness. These findings suggest that state induction of savoring may not be a reliable solution to encouraging intergroup friendship willingness, but that savoring may be important individual difference variables in the positive intergroup psychology literature.
that can explain why some take this important step toward prejudice reduction whilst others do not.
APPENDIX A

INTERACTION TYPE MANIPULATION
INSTRUCTIONS: This study is about how we interact with other people and form relationships. In this study, you will be asked to think back and remember a time when you interacted with someone and answer some questions about that interaction.

In our lives, we may interact with all sorts of people. When we say interact, we mean the times we meet, talk, or spend time with other people. Sometimes we interact with people who are just like us (for example, they have the same background, religion, age, or education level). Sometimes we interact with people who are very different from us (for example, they have a different background, religion, age, or education level). In order to keep the study short, we want you to focus in on an interaction with just one type of person.

To help you narrow it down, we would like you to pick a random number from 1 to 20. The number you pick will determine which type of interaction you will be asked to think about. For example, if you pick a certain number, you might be asked to think about a time you interacted with a gay person and if you pick another number, you might be asked to think about a time you interacted with an elderly person.

Let’s get started.

PLEASE PICK A NUMBER FROM 1-20. THIS NUMBER WILL DETERMINE WHAT TYPE OF INTERACTION YOU ARE ASKED TO RECALL.
INSTRUCTIONS: Based on the number you selected, we would like you to think about a time you had an interaction with a [BLACK/WHITE] AMERICAN.

Are you able to recall an interaction you had with a [BLACK/WHITE] person?

Yes
No

If you cannot remember this type of interaction, you cannot participate in this study. Please click "Next" to exit.
APPENDIX B

SAVORING INSTRUCTIONS MANIPULATION
[SAVORING] INSTRUCTIONS: We would like for you to spend some time recalling an interaction you had with a BLACK [WHITE] person that ended up going pretty well.

To start, please take a deep breath, relax, close your eyes, and begin to remember that interaction. Allow images related to that memory to come to mind. Try to picture the events associated with that interaction.

In a couple of sentences, please briefly describe that interaction.
INSTRUCTIONS: Now that you have described that interaction, we would like you to FOCUS ON HOW YOU FEEL NOW. Try to get in touch with ANY POSITIVE FEELINGS you recall when you think about this interaction.

Before you proceed to the next page, please spend the next TWO MINUTES remembering the POSITIVE FEELINGS YOU HAVE RIGHT NOW as you recall the interaction with a BLACK [WHITE] person that ended up going pretty well.
INSTRUCTIONS: In a couple of sentences, please briefly describe the POSITIVE FEELINGS YOU HAVE RIGHT NOW as you recall that interaction.
[POSITIVE EMOTION RECALL] INSTRUCTIONS: We would like for you to spend some time recalling an interaction you had with a BLACK [WHITE] person that ended up going pretty well.

To start, please take a deep breath, relax, close your eyes, and begin to remember that interaction. Allow images related to that memory to come to mind. Try to picture the events associated with that interaction.

In a couple of sentences, please briefly describe that interaction.
INSTRUCTIONS: Now that you have described that interaction, we would like you to focus on how you felt back then. Try to get in touch with any positive feelings you remember when you think about this interaction.

Before you proceed to the next page, please spend the next two minutes remembering the positive feelings you had back then as you recall the interaction with a BLACK [WHITE] person that ended up going pretty well.
INSTRUCTIONS: In a couple of sentences, please briefly describe the POSITIVE FEELINGS YOU HAD BACK THEN as you recall that interaction.
[CONTROL] INSTRUCTIONS: We would like for you to spend some time recalling an interaction you had with a BLACK [WHITE] person that ended up going pretty well.

To start, please take a deep breath, relax, close your eyes, and begin to remember that interaction. Allow images related to that memory to come to mind. Try to picture the events associated with that interaction.

In a couple of sentences, please briefly describe that interaction.
INSTRUCTIONS: Thinking about that interaction...

What was the gender of the person you interacted with?
Male Female

Where did this interaction take place? For example, was it at work, home, at the grocery store? ______________________________________________________

Approximately how long ago (in months) did this interaction take place? ________

How easy was it for you to remember this interaction?

Not at all Somewhat Very much
1 2 3 4 5 6 7

How positive was the interaction you recalled?

Not at all Somewhat Very much
1 2 3 4 5 6 7
APPENDIX C

OPEN-ENDED DATA CODING
OPEN-ENDED QUESTION #1

Please answer Q1 and then determine whether or not to answer Q2.

Q1. Did the participant write about a time they interacted with someone? In other words, did the participate describe a time when they met, talked to, or spent time with another person? YES NO

If NO, skip to OPEN-ENDED QUESTION #2. If YES, code the following item:

Q2: How positive was the overall tone of the answer to Open-Ended Question 1? In other words, what was the overall “vibe” you got from the description of their interaction?

<table>
<thead>
<tr>
<th>Negative</th>
<th>Neutral</th>
<th>Moderately positive</th>
<th>Very positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Please answer Q3, Q4, and Q5.

Q3: Did the participant write about their own emotions? YES NO
In other words, did the participant write about how they felt/feel?

Q4: Did the participant write about how they felt about the interaction they described in OPEN-ENDED QUESTION #1? YES NO
In other words did the participant describe the emotions they experienced as a result of that interaction in past tense?

Q5: Did the participant write about how they feel right now in response to the interaction they described in OPEN-ENDED QUESTION #1? YES NO
In other words did the participant describe the emotions they are experiencing right now as a result of that interaction in present tense?

If NO to Q3, Q4, and Q5, please STOP. If you answered YES to Q3, Q4, or Q5 (or all), please code the following items.

Q6: How intense were the emotions that the participant described?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Q7: How positive was the overall tone of the answer to Open-Ended Question 2? In other words, what was the overall “vibe” you got from the description of their emotions?

<table>
<thead>
<tr>
<th>Negative</th>
<th>Neutral</th>
<th>Moderately positive</th>
<th>Very positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Q8: Savoring is defined as “attending to, appreciating, and enhancing positive experience.” To “savor” a positive event is to consciously reflect on it, identify those aspects of it that one finds enjoyable, and focus on the positive feelings that are associated with it. In your judgment, to what extent did this participant “savor” the experience that they wrote about?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
INSTRUCTIONS: Thank you for telling us a little about an interaction you had in the past. Now we would like you to imagine you are going to have another interaction right now.

On the next few pages, you will see some pictures of people. Please look at the pictures and tell us how you would feel if you were just about to interact with that person.
INSTRUCTIONS: Please look at the picture below and imagine you are about to have an interaction with this person.

How do you feel when you think about interacting with the person in the picture?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfortable</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>At ease</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Anxious</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Awkward</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Accepted</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Thinking about the person in the picture, how much would you want to...

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get to know this person better?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Spend time with this person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Work with this person at your job?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Become friends with this person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Learn more about this person's background and experiences?</td>
<td>1</td>
<td>2</td>
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</tr>
</tbody>
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Thinking about the person in the picture...

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
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<tbody>
<tr>
<td>How attractive is this person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How nice do you think this person is?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

How old (in years) do you think this person is? _____
**INSTRUCTIONS:** Please look at the picture below and imagine you are about to have an interaction with this person.

![Image of a person](image)

How do you feel when you think about interacting with the person in the picture?

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Not at all</th>
<th>Somewhat</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfortable</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
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<td>Nervous</td>
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Thinking about the person in the picture, how much would you want to…

<table>
<thead>
<tr>
<th>Activity</th>
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<tbody>
<tr>
<td>Get to know this person better?</td>
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</tr>
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<td></td>
<td></td>
</tr>
<tr>
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How old (in years) do you think this person is? ______
INSTRUCTIONS: Please look at the picture below and imagine you are about to have an interaction with this person.

How do you feel when you think about interacting with the person in the picture?

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<td></td>
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How old (in years) do you think this person is? _____
APPENDIX E

DEMOGRAPHIC INFORMATION AND DEBRIEFING
INSTRUCTIONS: Please answer the following questions about yourself.

Age: ___________

Gender: Male  Female

Country of Residence: ________________________

Race:
1 White
2 Black
3 Hispanic
4 Asian
5 Native American/Alaska Native
6 Other ___________

Education Level:
1 some high school
2 high school graduate
3 some college
4 college graduate
5 some graduate school
6 graduate school degree

Personal Income:
1 under $20,000
2 between $20,000-$50,000
3 between $50,000-$75,000
4 between $75,000-$100,000
5 between $100,000-$200,000
6 above $200,000
INSTRUCTIONS: Thank you for completing this study! We appreciate your time. Before we pay you, please let us know what you thought about the study.

If you had to guess, what do you think we were trying to find with this study?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Were you suspicious at any point during this study? If so, please describe what you were suspicious about
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

[STUDY 2]
Have you ever participated in a study that used the state pictures before? YES  NO
REFERENCES


Smith, J. L., Harrison, P. R., & Bryant, F. B. (in preparation). Savoring: A meta-analysis.


VITA

Before attending Loyola University Chicago to pursue his Ph.D., Dr. Patrick Ryan Harrison attended Aquinas College in Grand Rapids, Michigan. In 2007, he graduated Summa Cum Laude with a Bachelor of Science (B.S.) degree in Psychology and a minor in History. In August 2007, he began graduate study in Applied Social Psychology under the direction of Dr. Robyn K. Mallett. In 2009, Patrick was awarded a Master of Arts (M.A.) degree in Social Psychology from Loyola.

While at Loyola, Dr. Harrison was awarded a Graduate Research Assistantship from 2007 to 2010, a Pre-Doctoral Teaching Fellowship from 2012-2013, and an Advanced Doctoral Fellowship from 2013-2014. In addition, he was awarded the James E. Johnson Award for Outstanding Teaching in Psychology in 2011 and the John D. Edwards Graduate Scholarship in 2012.

Currently, Dr. Harrison teaches Research Methods, Statistics, Lab in Social Psychology, and Personality Psychology at Loyola University Chicago. His basic research interests include social justice issues, intergroup relations, positive psychology, and quality of life.