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## The Effect of Imagined Intergroup Contact on Heterosexism

Laurel Mertz

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LOYOLA UNIVERSITY CHICAGO

THE EFFECT OF IMAGINED INTERGROUP CONTACT ON HETEROSEXISM

A THESIS SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE OF  
MASTER OF ARTS

PROGRAM IN APPLIED SOCIAL PSYCHOLOGY

BY  
LAUREL MERTZ  
CHICAGO, IL  
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## ABSTRACT

Heterosexism and other forms of prejudice against the LGBTQ community remain prevalent across the world. Thus, the study of how to reduce heterosexism has become a much more common and necessary domain of research in recent years. Previous research has demonstrated mixed results of the effect of imagined intergroup contact on heterosexism. The current study sought to evaluate various contexts in which imagined intergroup contact would decrease or increase levels of both implicit and explicit heterosexist attitudes. I predicted that individuals who imagined winning a basketball game with a gay teammate would display more positive attitudes toward gay men whereas individuals who imagined losing a basketball game with a gay teammate would display more negative attitudes toward gay men. I further predicted that these effects would be stronger when the teammate was of higher (the team captain), rather than equal (a teammate), status. I found that there were no significant main effects nor interaction effects for the explicit attitude and behavior measures. However, there was a significant group contact by leadership status interaction when analyzing the implicit attitudes of participants. Participants who had a gay team captain associated “Gay People” with “Bad” less strongly than participants who had a straight team captain. This may have important implications for the representation of the LGBTQ community within leadership positions.

## **Background**

### **Introduction to Heterosexism**

Members of the LGBTQ community across the world are harassed, imprisoned, and even killed because of their sexual orientation or gender identity. Although there has been a recent shift towards acceptance of the LGBTQ community in the United States and multiple other countries, many studies discuss how LGBTQ individuals remain widely stigmatized (Herek & McLemore, 2013). Thus, it is vital to find new ways to facilitate positive interactions and build empathy between members of the LGBTQ community and those outside of the community. It is important to not only study how heterosexism may be reduced but to also determine contexts and conditions for when heterosexist attitudes are most likely to arise or even increase.

Understanding when and why heterosexist attitudes are most likely to occur will make it easier to find ways to decrease these attitudes or to stop the attitudes from forming in the first place.

The present study sought to understand if imagined contact in a basketball game would affect heterosexist attitudes, depending on whether their imagined teammate was gay or straight, whether their imagined teammate was of equal or higher status, and whether the outcome of the imagined contact was positive or negative. Based on previous research, I predicted that individuals who imagined winning a basketball game (positive outcome) with a gay teammate would display more positive attitudes toward gay men than those who imagined winning a basketball game with a straight teammate. By contrast, I predicted that individuals who imagined losing a basketball game (negative outcome) with a gay teammate would display more negative



attitudes toward gay men than those who imagine losing a basketball game with a straight teammate. I also hypothesized that these effects would be stronger when the teammate is of higher (the team captain), rather than equal (a teammate), status.

This current project aimed to demonstrate the influence of imagined intergroup contact on heterosexist attitudes and determine some of the conditions in which heterosexism is most likely to arise. Because the study examined how the status of the imagined teammate affected levels of heterosexism, this experiment may have significant implications for the importance of the representation of minorities in leadership positions. Specifically, it may highlight how LGBTQ leaders and other minority leaders may be able to reduce levels of prejudice within the groups that they lead. At the same time, however, the study may also indicate that LGBTQ leaders who make a mistake will have the opposite effect on prejudice because they will be blamed more for their transgression. This could help to shed light on why some see the successes LGBTQ leaders and improve their opinion of the LGBTQ community as a whole while others use the mistakes of LGBTQ leaders to confirm their prejudices.

Finally, this experiment could have significant implications for the overall positive or negative impact of sports on heterosexism and other forms of prejudice. Although previous research done by Chu and Griffey (1985) as well as Lee and Cunningham (2014) has studied intergroup contact in terms of sports, this is the first study to apply a sports-related manipulation of imagined intergroup contact to heterosexist attitudes while also studying the effect of leadership status and outcome of contact. With more LGBTQ and minority leaders being allowed to be visible in politics and in the workplace, it may also be an effective manipulation of imagined intergroup contact to have participants imagine meeting a gay politician or working

with a gay coworker. Thus, the effect of imagined intergroup contact on heterosexism may extend to other contexts besides just sports.

### **Intergroup Contact: Real and Imagined**

The intergroup contact hypothesis proposes that coming into contact with a member of a different group may improve one's attitudes towards that particular group. Previous research demonstrates that intergroup contact is effective in reducing levels of racial prejudice (Nordstrom, 2014). More specifically related to the present experiment, studies have also shown that actual intergroup contact can reduce levels of heterosexism (Graham et.al, 2014; Grack & Richman, 1996). Multiple possible moderators of the effect of intergroup contact on prejudice have been proposed in previous experiments. Gordon Allport (1954) specified four conditions in which intergroup contact could reduce prejudice. These four conditions for the contact hypothesis were equal group status within the situation, common goals, intergroup cooperation, and authority/institutional support.

The condition of equal status contact necessitates that those in the contact situation be of the same status. That is, according to Allport (1954), the members of the contact situation should not have an unequal relationship in order for prejudice to be reduced. Under this condition, members should not have a boss/employee relationship, for example. Additionally, Allport (1954) stated that the members of the contact situation should be working towards a shared goal. Examples of this would include a sports team working to win a game or coworkers working to solve a problem. Another condition, intergroup cooperation, calls for members to work together in a noncompetitive fashion, such as in cooperative workplace or group. The final described condition is support from authorities. This means that societal institutions and authorities should support contact between the two groups in question. In the past, for instance, segregation was

legal and supported by legal authorities. Thus, according to Allport (1954), that would not be an ideal condition for reducing racial prejudice through intergroup contact.

Recent research, however, has shown that these conditions do not all need to be fulfilled in order to reduce prejudice (Pettigrew, 1998). And other research has demonstrated other moderators of this relationship besides Allport's four aforementioned conditions. For example, Graham et. al. (2014) found a moderating effect of prior attitudes on intergroup contact.

Although intergroup contact has been heavily studied, it can be difficult to facilitate and may put the member of the minority group at risk. Members of the LGBTQ community can be fired, harassed, or killed for disclosing their sexual orientation or gender identity to the wrong person or in the wrong place. Apart from these risks, actual intergroup contact puts the burden of reducing prejudice on the LGBTQ community when it should instead be placed on the person who holds the prejudicial attitudes (Lee & Cunningham, 2014). For these reasons, imagined intergroup contact has become a more prevalent domain of study in recent years.

The imagined intergroup contact hypothesis suggests that even just imagining contact with a member of an outgroup may reduce prejudice towards that group by reducing intergroup anxiety. One early imagined contact study examined this idea in three different experiments (Turner, Crisp, & Lambert, 2007). Experiments 1 and 2 involved participants imagining talking to an elderly person, whereas in Experiment 3 they imagined talking to a gay man. Participants in the imagined contact condition were told to imagine meeting an elderly person or a gay man (depending on the experiment) for the first time. They were given one minute to imagine the person's appearance and the conversation that took place with this person. After the minute was over, in order to reinforce the imagined contact, they were also told to list all the different ways they could classify that person into different groups. Each experiment within this one study

found that those who imagined conversing with an outgroup member subsequently displayed less intergroup bias when compared to control groups (Turner et al., 2007). Therefore, this study confirmed the idea that intergroup contact does not necessarily need to occur in real life for it to be effective in reducing prejudice.

Imagined intergroup contact taking place specifically in a sports setting is a domain of research that has not been heavily studied; many studies, such as Turner et al. (2007), utilize imaginary conversations or chance meetings. One study done by Lee and Cunningham (2014) utilized the manipulation of a basketball game to study whether imagined contact would reduce prejudice towards gay men. Their experiment found that South Korean participants who imagined playing basketball with a gay man experienced less intergroup anxiety, whereas American participants who imagined playing basketball with a gay man reported more intergroup anxiety. These mixed results dependent on culture may change with the present experiment because of the difference in the manipulation. Their manipulation focused less on the cooperation within the game and more on the participant learning new, unexpected things about their gay teammate, whereas the present experiment will focus more on the imagined cooperation which occurs during the basketball game. Additionally, this past manipulation was also only used in a one-on-one setting, whereas the present study will use a team-based setting. Further, a study done by West, Holmes, and Hewstone (2011) emphasized the importance of enhancing imagined intergroup contact when reducing prejudice. That is, they found that positive and high-quality imagined contact (e.g., imagining meeting a person with schizophrenia on the train and engaging in a pleasant conversation with them) is a significant factor in reducing prejudice towards people with schizophrenia.

Although a meta-analysis done by Miles and Crisp (2013) found a multitude of studies demonstrating that imagining positive contact with an outgroup member can lessen levels of prejudice, other recent research has failed to replicate these findings when specifically studying imagined intergroup contact and heterosexism (Dermody, Jones & Cumming, 2013). Even Lee and Cunningham (2014) had mixed results on whether imagined intergroup contact resulted in lower levels of sexual prejudice towards gay men. Additionally, although Allport (1954) and other researchers have discussed that intergroup contact may reduce prejudice only in various contexts, researchers have not focused as heavily on the conditions necessary to reduce prejudice when just imagining intergroup contact. Therefore, one purpose of this study is to provide additional evidence for the conditions under which imagined contact will affect heterosexism.

### **The Present Research**

The present study sought examine the outcome (positive or negative) of imagined intergroup contact as a moderator of the relationship between imagined intergroup contact and heterosexism. A meta-analysis done by Pettigrew and Tropp (2008) found that affect is an important dimension of intergroup contact. That is, contact situations that bring about forms of positive affect (such as empathy) and decrease forms of negative affect (such as anxiety) are most likely to result in an improvement of intergroup relations. Thus, a positive or negative outcome (winning or losing, respectively) may also affect group relations when extended to an imagined contact situation in the present experiment. To add to this, the study done by West, Holmes, and Hewstone (2011) demonstrated that imagined intergroup contact was effective in reducing prejudice towards people with schizophrenia only when the contact was explicitly positive. The present study therefore aspired to extend these findings to imagined intergroup

contact and heterosexism by demonstrating a reduction in heterosexist attitudes only when the imagined intergroup contact is positive.

This experiment also examined how the status of the outgroup or ingroup member may affect group relations. Equal status within the intergroup contact situation is one of the four aforementioned conditions necessary for intergroup contact to reduce prejudice, as specified by Allport (1954). One study by Abrams et al. (2013) demonstrated a double standard that occurred when outgroup leaders performed poorly in a sports competition. That is, participants imagined various sports game scenarios in which their team members or members of the other team acted offensively. The results showed that participants evaluated transgressive captains in the ingroup more favorably than they evaluated transgressive captains in the outgroup. Thus, in the present study, gay team captains may be evaluated less favorably than straight team captains when they are perceived to have caused the team to lose the basketball game.

Previous research has also referenced the “leadership attribution error,” which refers to how people tend to identify leaders as the major contributing factor to collective performance (Hackman & Wageman, 2007). These findings suggest that people may blame leaders more than non-leaders for transgressions but may also celebrate leaders more than non-leaders for various successes. Therefore, in terms of the present experiment, although gay team captains may be evaluated less favorably than straight team captains when the team loses, they also may cause participants to display the least amount of heterosexist attitudes when the team wins.

Based on the studies done by Hackman and Wageman (2007) and Abrams et al. (2013), it was predicted in the present study that participants who imagined losing a basketball game with a gay team captain would blame this captain more for the loss than they would just a teammate and would thus report more heterosexist attitudes than in any other condition. In a similar way, it

was predicted that participants who imagined winning a basketball game with a gay team captain would hold the captain more responsible for the win than they would just a teammate and would thus report less heterosexist attitudes than in any other condition. I also expected a two-way interaction between imagined contact and outcome. That is, regardless of status, I hypothesized that individuals who imagined winning a basketball game with a gay teammate would have lower amounts of heterosexism than those who won with a straight teammate, and those who imagined losing with a gay teammate would have higher amounts of heterosexism than those who lost with a straight teammate.

This present research has important implications for both past and future research on the conditions in which imagined intergroup contact lessens prejudice towards an outgroup (Pettigrew, 1998). That is, this study was able to examine whether the outcome of contact, as well as the outcome and status of the outgroup member taken together, moderated the relationship between imagined intergroup contact and heterosexism. This study utilized an imagined contact manipulation extended from previous experiments studying imagined intergroup contact. All participants imagined taking part in a basketball game with an imaginary team. The sexual orientation of one of their teammates (gay or straight), the status of that same teammate (higher than the participant or equal to the participant), and the outcome of the contact (positive or negative) were manipulated in this experiment, and both implicit and explicit attitudes toward the LGBTQ community were measured after the manipulations occurred. The differences in heterosexist attitudes between the groups were then analyzed.

## **Hypotheses**

1. Individuals who imagine winning a basketball game (positive outcome) with a gay teammate will display more positive attitudes toward gay men compared to those who imagine winning

a basketball game with a straight teammate. By contrast, individuals who imagine losing a basketball game (negative outcome) with a gay teammate will display more negative attitudes toward gay men compared to those who imagine losing a basketball game with a straight teammate.

2. These aforementioned effects will be stronger when the teammate is of higher (the team captain), rather than equal (a teammate), status.
3. The participants' evaluations of their gay teammate, measured with the feeling thermometers, will be positively correlated with their evaluations of the LBGTQ community as a whole.

## Methods

### Design

The study design is a 2 (imagined contact: intergroup, intragroup) x 2 (outcome of contact: positive, negative) x 2 (status of teammate: equal status, higher status) between participants factorial.

### Participants

A total of 257 undergraduate students at Loyola University Chicago participated in the study in exchange for course credit. All participants were randomly assigned to conditions.

### Materials

**Imagined Contact Manipulation.** Participants read a short story depicting a basketball game. They completed the imagined contact manipulation by imagining that they were taking part in this basketball game (see Appendix A). This manipulation was a more descriptive extension of the manipulations done in previous imagined intergroup contact research (Turner et al., 2007; Lee & Cunningham, 2014). After reading the description, participants answered an open-ended writing prompt asking how the imagined game made them feel and several questions



regarding their perception of who was responsible for the outcome of the game. In the imagined intergroup contact conditions, participants were informed that one of their teammates is gay.

This was done with a manipulation of an interview with the teammate in which he stated that he likes to go to the movies and on other dates with his boyfriend. For participants in the imagined intragroup contact conditions, this teammate stated that he likes to go to the movies and on other dates with his girlfriend (see Appendix B).

**Status Manipulation.** Participants in the equal status conditions read in the interview that their teammate being interviewed was simply a guard on their basketball team. On the other hand, participants in the conditions with a higher status teammate read in the interview that their teammate being interviewed was the captain of the team (see Appendix B).

**Outcome Manipulation.** Participants in the positive outcome conditions read in the short story that their team ends up winning the game because the same teammate described earlier makes the final game-winning shot. Conversely, participants in the negative outcome conditions read that their team ends up losing the game because their teammate misses the final game-winning shot (see Appendix A). A more detailed description of the conditions that breaks down how the independent variables of outcome, leadership status, and imagined contact were distributed across conditions is presented in Table 1.

Table 1. A breakdown of the three independent variables within the eight conditions

Condition	Group Contact	Teammate's Leadership Status	Outcome
1	Intergroup (gay teammate)	Higher (team captain)	Positive (team wins)
2	Intergroup (gay teammate)	Equal (teammate)	Positive (team wins)
3	Intergroup (gay teammate)	Higher (team captain)	Negative (team loses)
4	Intergroup (gay teammate)	Equal (teammate)	Negative (team loses)
5	Intragroup (straight teammate)	Higher (team captain)	Positive (team wins)
6	Intragroup (straight teammate)	Equal (teammate)	Positive (team wins)
7	Intragroup (straight teammate)	Higher (team captain)	Negative (team loses)
8	Intragroup (straight teammate)	Equal (teammate)	Negative (team loses)

**Implicit Association Test.** The Sexuality (Gay-Straight) Implicit Association Test (IAT) allowed participants to associate words and symbols representing gay and straight people with good or bad words. (see Appendix C). This was given to reveal whether the participants had an implicit preference for straight people over gay people (“Project Implicit,” n.d.). Greenwald, Nosek, and Banaji (2003) developed a new scoring algorithm to improve on previous variations. According to this algorithm, a positive difference (d) score on the IAT indicates a stronger association between “Straight People: Good” and “Gay People: Bad.” The higher this positive score, the stronger this association is. On the other hand, a negative d-score indicates a stronger association between “Straight People: Good” and “Gay People: Bad,” with lower scores indicating a stronger association of these pairings.

**Feeling Thermometer Survey.** This survey assessed both participants' attitudes toward the LGBTQ community in general as well as their attitudes specifically towards their teammate that was interviewed (see Appendix D). This particular feeling thermometer survey was derived from a study done by Burke et.al. (2015). Measuring attitudes towards the community as well as towards the teammate allowed me to determine if negative evaluations of the gay teammate were associated with more negative evaluations of the LGBTQ community as a whole.

**Resource Allocation Measure.** With this measure derived from Jetten, Spears, and Manstead (1997), participants were asked to divide resources among two groups, one of which would benefit the outgroup (the Loyola LGBTQ studies department) and one of which would benefit the ingroup (the Loyola psychology department). Given that participants were drawn from Loyola's introductory psychology classes, the psychology department was the best option for an ingroup that would apply to all participants. After distributing the resources to each department, participants were also asked to explain why they chose to divide the resources in the way that they did (see Appendix E).

### **Procedure**

Participants were told that the purpose of the study was to examine teamwork and sports team dynamics. Participants were also told that prior to analyzing their own teamwork skills, they must read a story and imagine that they are participating in a basketball game. They first read over the interview with one of their imagined teammates. Participants were told that they must read carefully as they should get to know their teammates well for the purpose of this experiment. After reading through the interview, they then read the story of how the basketball game went. They were informed that they must read this carefully as well as to imagine as though they were truly there participating in the game. They then answered a writing prompt

about how they felt during the imagined game and answered questions about the impact they feel they had on the game, as well as the impact their teammate had on the game.

All participants then completed a series of implicit and explicit heterosexism measures. They first completed the intergroup resource allocation measure. Participants then completed the Sexuality Implicit Association Test and the feeling thermometer survey. Basic demographics (race, gender, sexual orientation, etc.) were collected at the end of the survey. Finally, participants completed an imagined contact manipulation check. That is, they were asked to indicate if they noticed the sexuality manipulation (see Appendix F). All participants were fully debriefed on the true purpose of the experiment after completing the final questions.

## **Results**

### **Descriptive Results**

A 2 (imagined contact: intergroup, intragroup) x 2 (outcome of contact: positive, negative) x 2 (status of teammate: equal, higher) analysis of variance (ANOVA) was performed to test the hypotheses for each dependent variable. Participants who failed the manipulation check were excluded from the analyses. A total of 257 participants completed this study, but 51 participants (19.8%) failed the check (resulting in 206 valid participants). There were 19 participants (7.4%) who did not answer the check. Because the majority (72.8%) of participants answered correctly, participants who did not respond were included in the analyses. In addition, including these 19 participants in the analyses did not alter the key results.

Of the participants who completed the demographics portion of the experiment, 30.9% were male, 68.6% were female, and 0.5% were non-binary. In addition, nearly 90% of the participants were freshmen and sophomores. The majority of participants reported their sexual orientation as heterosexual, with the next highest reported orientations being bisexual at 12.2%

and gay or lesbian at 4.8%. Finally, 60.5% of participants were white, 14.6% Hispanic or Latino, 5.4% African American, and 14.6% Asian or Pacific Islander.

To further break down the results, I ran descriptive analyses on how both males and females responded to the dependent measures. Only one participant reported being non-binary and because this sample size was so low, I chose to not include them in the descriptives. Collapsed across conditions, males reported a stronger association between “Straight People: Good” and “Gay People: Bad” on the Sexuality IAT ( $M = 0.402$ ,  $SD = 0.438$ ) when compared to females ( $M = 0.252$ ,  $SD = 0.426$ ). Males, on average, allocated less resources to the LGBTQ community ( $M = 0.473$ ,  $SD = 0.112$ ) than females as well ( $M = 0.512$ ,  $SD = 0.082$ ). Finally, males reported less favorable attitudes toward the LGBTQ community overall ( $M = 81.506$ ,  $SD = 21.902$ ) than females ( $M = 94.413$ ,  $SD = 11.116$ ).

### **Feeling Thermometer Survey**

The feeling thermometer ANOVA did not reveal significant main effects nor significant interaction effects when looking at the LGBTQ community as a whole as the dependent variable. When examining solely the participants’ feeling thermometer evaluation of their teammate, an ANOVA revealed significant main effects of group contact, leadership status, and outcome (see Table 2). In terms of group contact, participants with a straight teammate reported weaker positive attitudes toward that teammate compared to participants with a gay teammate ( $M = 77.512$ ,  $SE = 1.897$  for straight teammates;  $M = 85.533$ ,  $SE = 1.826$  for gay teammates). When Noah was reported as being the team captain, participants evaluated him more positively than when he was just a teammate ( $M = 84.295$ ,  $SE = 1.880$  for team captains;  $M = 78.750$ ,  $SE = 1.844$  for teammates). Finally, when participants lost the game, they felt more negatively toward

Noah than when they won the game ( $M = 86.090$ ,  $SE = 1.852$  for a positive outcome;  $M = 76.955$ ,  $SE = 1.872$  for a negative outcome).

Table 2. Analysis of variance for feeling thermometer surveys

	Variable	<i>df</i>	<i>F</i>	<i>p</i>
LGBTQ Feeling Thermometer	Group Contact	1	0.017	0.897
	Outcome	1	0.202	0.654
	Leadership Status	1	0.779	0.379
	Group Contact*Outcome	1	2.198	0.140
	Group Contact*Leadership Status	1	1.030	0.312
	Outcome*Leadership Status	1	0.003	0.957
	Group Contact*Outcome* Leadership Status	1	0.136	0.712
Teammate Feeling Thermometer	Group Contact	1	9.278	0.003**
	Outcome	1	12.04	0.001**
	Leadership Status	1	4.435	0.037*
	Group Contact*Outcome	1	0.094	0.760
	Group Contact*Leadership Status	1	1.874	0.173
	Outcome*Leadership Status	1	0.863	0.354
	Group Contact*Outcome* Leadership Status	1	0.930	0.336

Note. \* = significant at  $p = .05$ . \*\* = significant at  $p = .01$ .

### Implicit Association Test

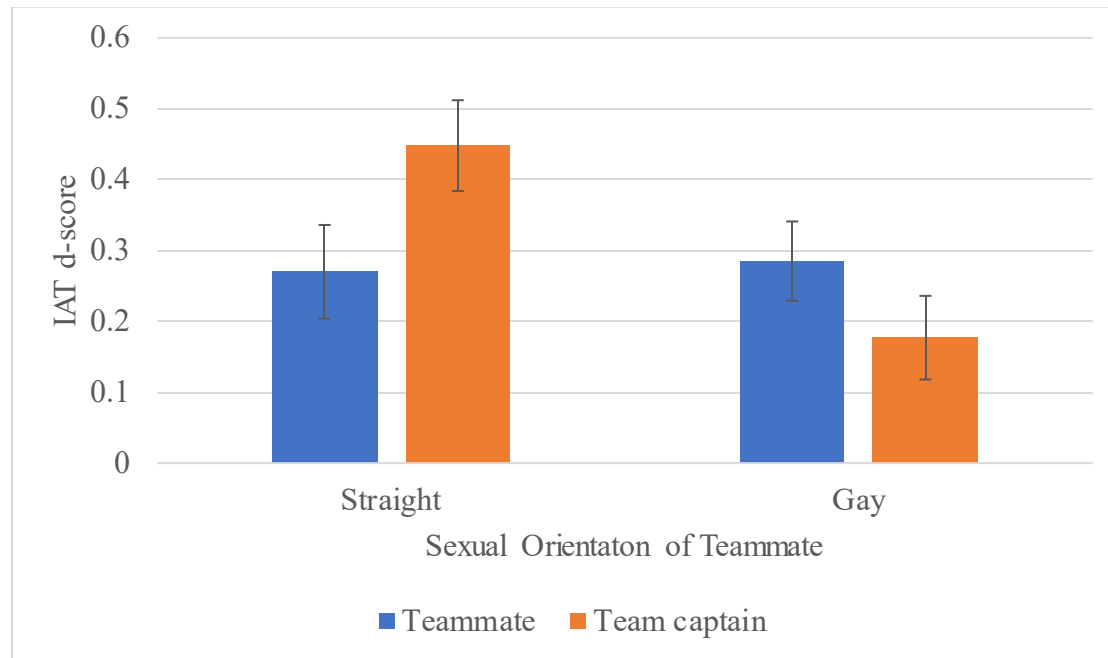
Results of the ANOVA analyzing the Sexuality Implicit Association Test indicated that there was a significant main effect of group contact (see Table 3). Additionally, there was a significant interaction between group contact and leadership status (see Table 3). Participants in the straight team captain condition reported the highest d-score ( $M = 0.448$ ,  $SE = 0.064$ ) while participants in the gay team captain condition had the lowest d-score ( $M = 0.177$ ,  $SE = 0.059$ ). The straight teammate condition ( $M = 0.270$ ,  $SE = 0.066$ ) had a similar result when compared with the gay teammate condition ( $M = 0.285$ ,  $SE = 0.056$ ). The significant result lies specifically in the difference between the gay team captain and straight team captain conditions,  $F(1,198) = 9.621$ ,  $p < 0.01$ . For a better illustration of these results, see Figure 1.

Table 3. Analysis of variance for Sexuality Implicit Association Test

Variable		<i>df</i>	<i>F</i>	<i>p</i>
Sexuality Implicit Association Test	Group Contact	1	4.305	0.039*
	Outcome	1	0.290	0.591
	Leadership Status	1	0.324	0.570
	Group Contact*Outcome	1	0.130	0.718
	Group Contact*Leadership Status	1	5.401	0.021*
	Outcome*Leadership Status	1	0.621	0.432
	Group Contact*Outcome* Leadership Status	1	0.030	0.863

Note. \* = significant at  $p = .05$ . \*\* = significant at  $p = .01$ .

Figure 1. Two-way interaction between group contact and leadership status



### Resource Allocation Measure

In accordance with Jetten, Spears, and Manstead (1997) and their use of a resource allocation measure, the number of pages assigned by the participants to each department were converted into proportions and analyzed with an ANOVA. The results of this ANOVA demonstrated no significant results (see Table 4).

Table 4. Analysis of variance for resource allocation measure

Variable		<i>df</i>	<i>F</i>	<i>p</i>
Resource Allocation Measure	Group Contact	1	2.260	0.134
	Outcome	1	3.747	0.054
	Leadership Status	1	0.020	0.888
	Group Contact*Outcome	1	0.388	0.534
	Group Contact*Leadership Status	1	0.307	0.580
	Outcome*Leadership Status	1	0.198	0.657
	Group Contact*Outcome*Leadership Status	1	0.955	0.330

Note. \* = significant at  $p = .05$ . \*\* = significant at  $p = .01$ .

### Responsibility Items

The Cronbach's alpha for the three teammate responsibility items (i.e., How responsible is Noah for the outcome of the basketball game?) is 0.765. For the three personal responsibility items (i.e., How much of an impact do you think you had on your team's performance?), the Cronbach's alpha is 0.804. These alphas indicate that the three items for each measure can be analyzed together using the average score of each scale. For the teammate responsibility scale, an ANOVA revealed a significant main effect of outcome while the personal responsibility scale yielded no significant results (see Table 5). Participants held Noah significantly more responsible when the outcome was positive ( $M = 72.547$ ,  $SE = 1.687$ ) compared to when the outcome was negative ( $M = 60.45$ ,  $SE = 1.734$ ).



Table 5. Analysis of variance for responsibility measures

	Variable	<i>df</i>	<i>F</i>	<i>p</i>
Teammate Responsibility Measure	Group Contact	1	0.492	0.484
	Outcome	1	25.00	0.000**
	Leadership Status	1	0.208	0.649
	Group Contact*Outcome	1	2.100	0.149
	Group Contact*Leadership Status	1	0.935	0.335
	Outcome*Leadership Status	1	0.699	0.404
	Group Contact*Outcome* Leadership Status	1	0.134	0.715
Personal Responsibility Measure	Group Contact	1	2.476	0.117
	Outcome	1	3.341	0.069
	Leadership Status	1	0.008	0.931
	Group Contact*Outcome	1	0.271	0.603
	Group Contact*Leadership Status	1	0.393	0.532
	Outcome*Leadership Status	1	1.242	0.266
	Group Contact*Outcome* Leadership Status	1	0.201	0.655

Note. \* = significant at  $p = .05$ . \*\* = significant at  $p = .01$ .

### Correlation Analysis

To analyze my final hypothesis, I ran a correlation between participants' feeling thermometer results for their teammate specifically and their feeling thermometer results for the LGBTQ community. This correlation was run only on the conditions in which participants had a gay teammate. The participants' evaluations of their teammate were found to be positively correlated with their evaluations of the LGBTQ community as a whole,  $r(95) = 0.468, p < 0.01$ .

### Exploratory Analyses: Examining Gender as a Factor

Exploratory ANOVAs were run in order to explore how gender may have affected the relationship between group contact and the outcome of the contact. An analysis of the LGBTQ feeling thermometer showed a significant main effect of gender,  $F(1, 178) = 25.064, p < 0.01$ . There was also a significant two-way interaction between group contact and outcome,  $F(1, 178) = 4.966, p < 0.05$  and between group contact and gender,  $F(1, 178) = 4.077, p < 0.05$ . Further,

there was a significant three-way interaction between group contact, outcome, and gender,  $F(1, 178) = 7.329, p < 0.01$ .

To examine the significant three-way interaction, two-way interactions between contact and gender were examined for males and females separately. For males, there was a significant interaction between group contact and outcome,  $F(1, 53) = 4.241, p < 0.05$  whereas for females there was no significant interaction,  $F(1, 125) = 0.345, p > 0.05$ . There were no main effects present for males and upon further examination of the scores for males specifically, a crossover interaction was revealed. For the straight, positive condition, males reported lower scores on the feeling thermometer survey ( $M = 71.833, SE = 3.860$ ) when compared to males in the straight, negative condition ( $M = 85.486, SE = 4.315$ ). In contrast, males in the gay, positive condition reported significantly higher scores on the feeling thermometer measure ( $M = 91.212, SE = 4.507$ ) when compared to males in the gay, negative condition ( $M = 81.009, SE = 3.430$ ).

Gender also impacted how people answered the resource allocation measure. An ANOVA analyzing gender, group contact, and outcome for this measure revealed significant main effects of group contact,  $F(1, 177) = 4.647, p < 0.05$ , outcome,  $F(1, 177) = 6.082, p < 0.05$ , and gender  $F(1, 177) = 8.222, p < 0.01$ . There was also a significant interaction between group contact and gender,  $F(1, 177) = 6.509, p < 0.05$ . To further examine this interaction, I analyzed the resource allocation measure scores separately for males and females. For females, there were no significant main effects nor interaction effects. For males, however, there was a significant main effect of group contact,  $F(1, 52) = 5.729, p < 0.05$ , which helps to further inform upon the significant interaction between group contact and gender. More specifically, males in the straight group contact condition allocated more resources to the psychology department vs. the LGBTQ

studies department ( $M = 0.563, SE = 0.017$ ) when compared to males in the gay group condition ( $M = 0.495, SE = 0.017$ ).

### **Discussion**

This study sought to evaluate how varying conditions of imagined intergroup contact would differentially impact levels of heterosexism. More specifically, I wanted to explore the impact of the outcome of the contact and the leadership status of the imagined teammate on heterosexist attitudes. In line with research on the outcome of contact (Pettigrew & Tropp, 2008; West, Holmes, & Hewstone, 2011), I predicted that participants who imagined winning their game with a gay teammate would display more positive attitudes toward gay men and those that imagined losing their game with a gay teammate would display more negative attitudes towards gay men. In addition, based on previous research studying the effect of transgressions on evaluation of leaders (Hackman & Wageman, 2007; Abrams et al., 2013), it was predicted that participants who imagined losing a basketball game with a gay team captain would blame this captain more for the loss than they would just a teammate and would thus report more heterosexist attitudes than in any other condition.

One interesting finding was the significant result of the outcome of the game on how responsible participants felt Noah was for the win or loss. Participants who won their imagined game held Noah more responsible than those who lost their imagined game. The high mean values found on these items also indicate that my manipulation was successful in the sense that participants did feel Noah was at least somewhat at fault for the loss and somewhat responsible for the win. However, there were no significant findings related to the personal responsibility participants felt in the outcome of the game. This may indicate that participants did not feel as involved in the imagined contact as was intended with the manipulation.

Contrary to my hypotheses, I found that participating in a basketball game with a gay teammate did not affect participants' explicit evaluations and resources allocated towards the LGBTQ community. In addition, neither winning vs. losing the game nor participating with a teammate vs. a team captain affected how people felt about the LGBTQ community. There was a lack of significant findings in terms of interaction effects as well, which indicates that my hypothesis that participants who imagined winning a basketball game with a gay teammate would have more positive attitudes towards the LGBTQ community was unsupported for these two dependent measures. Similarly, my hypothesis that participants who imagined losing their game with a gay teammate would display more negative attitudes towards the LGBTQ community was not supported. Finally, the hypothesized three-way interaction between imagined contact, outcome of contact, and status was not significant. This means that leadership status did not affect the relationship between outcome and group contact.

Based on previous literature demonstrating effects of imagined intergroup contact on prejudice under the same conditions specified in my experiment, it was surprising that few of my hypotheses were confirmed. At the same time, however, studies by Dermody, Jones & Cumming (2013) and Lee and Cunningham (2014) did demonstrate mixed results when specifically examining heterosexism. The effect of imagined intergroup contact on heterosexism may be more fragile and of a smaller effect size than previously thought. This may have made it difficult to detect an effect even with my relatively large sample size. Further research is necessary to determine those circumstances in which imagined contact will successfully reduce heterosexism.

Although the aforementioned measures did not yield significant results, when examining solely the participants' feeling thermometer evaluation of their teammate, there were significant main effects of group contact, outcome, and leadership status. Overall, participants in the

intergroup contact conditions reported higher positive attitudes toward their teammate compared to the intragroup conditions, suggesting that participants had more positive feelings toward their teammate when he reported having a boyfriend. The finding that there was a significant main effect of outcome on the participants' evaluation of their teammate is not surprising. Participants that lost their basketball game evaluated their teammate more negatively than participants that won their basketball game. This indicates that my manipulation of outcome was at least partially effective because when Noah made a mistake and the team lost, participants did evaluate him more negatively compared to when Noah helped the team win.

Participants also evaluated team captains more positively than teammates. This indicates that my manipulation did in some way differentiate teammates from team captains and that leaders were regarded more positively than people of equal status to the participants. Based on research from Hackman and Wageman (2007) and Abrams et al. (2013), I expected to find that team captains who caused a loss would be evaluated more negatively than just teammates who caused a loss and that team captains who caused a win would be evaluated more positively than just teammates who caused a win. Therefore, it is surprising that there was no interaction effect of outcome by leadership status when looking at my sample as a whole. Possible reasons for this lack of significant findings are described in the limitations and future directions section below.

Results also demonstrated that participants in the straight team captain conditions had a significantly stronger implicit association between "Straight People: Good" and "Gay People: Bad" than those in the gay team captain condition. Participants in the gay team captain condition, although they still had a positive mean score, thus had a stronger association between "Straight People: Bad" and "Gay People: Good" when compared to the straight team captain condition. More specifically, participants that had a straight person as their team captain more strongly

implicitly associated straight people with “good.” Participants that had a gay team captain still associated straight people with “good” and gay people with “bad,” but this association was significantly less strong. These effects occurred regardless of the outcome of the imagined basketball game. This may imply that simply seeing someone in a leadership position, regardless of how well they do in that position, may lead to better associations for the group they are in. These findings could have important implications for the representation of LGBTQ people in leadership positions. If more members of the LGBTQ community are put into leadership positions, implicit heterosexist attitudes may decrease.

The bivariate correlation that was run between participants’ evaluations of their teammate and their overall evaluation of the LGBTQ community was significant with a moderately strong, positive correlation coefficient. This finding, though not as strong as a finding from a causal analysis, may indicate that people could associate a member of a sexual minority group with the group as a whole. One implication of this finding is that members of sexual minority groups, and perhaps other minority groups as well, may feel an obligation to act as a “model minority” because they feel that a mistake they make may reflect on their entire community. At the same time, however, it is possible that participants’ attitudes toward the LGBTQ community impacted their evaluation of their gay teammate. The directionality and causality of this relationship must be explored further to pinpoint what led to this correlation.

Exploratory analyses revealed interesting findings in terms of gender. However, given that these exploratory analyses were not originally planned with my hypotheses, future research needs to replicate these effects in order to validate and give weight to the significant findings found in the present experiment. Analyses of scores from the feeling thermometer scale demonstrated that for males, there was a significant crossover interaction between group contact

and outcome. Males who won a game with their straight teammate reported colder attitudes toward the LGBTQ community when compared to males who lost a game with their straight teammate. On the other hand, males who won a game with their gay teammate reported warmer attitudes toward the LGBTQ community when compared to males who lost a game with their straight teammate. This suggests that males were particularly affected by the outcome manipulation when compared to females. Additionally, it may indicate that males who have a negative experience with a member of the LGBTQ community will, at least momentarily, hold more negative attitudes toward the LGBTQ community than they would have had if they had a positive experience. On a more positive note, experiencing positive contact with a member of this group did lead men to report more positive attitudes toward the LGBTQ community than in any other condition. This may have important implications for the reduction of heterosexism, particularly for males who hold these negative attitudes.

Similar to the analysis of gender and the feeling thermometer survey, the analysis of the resource allocation measure revealed significant results only for males. Males in the straight group contact condition allocated significantly more resources to the psychology department vs. the LGBTQ studies department when compared to males in the gay group condition. In other words, males who played with a gay teammate allocated more resources to the LGBTQ community compared to males who played with a straight teammate, regardless of outcome or leadership status. This may contribute to understanding on what exactly leads to improved outcomes for the LGBTQ community, as males who experienced intergroup contact with a gay individual allocated more resources to the community as a whole even when that individual did not perform well. Again, however, these results were revealed through exploratory analyses and must be further researched in order for the significant results to be confirmed.

## Limitations and Future Directions

One possible limitation of the present study is the undergraduate population that participants were drawn from. Low variability of heterosexist attitudes within this sample may have impacted my ability to find significant results. Because this study took place at a liberal university, participants may have already held strongly positive attitudes towards the LGBTQ community. Participants, on average, reported attitudes near the top of the scale ( $M = 90.509$ ,  $SD = 16.290$ ). The sample was also highly skewed with a value of  $-2.257$  ( $SE = 0.178$ ). Therefore, the manipulations that were expected to decrease positive attitudes may not have been strong enough to significantly reduce participants' previously held positive attitudes. Similarly, a ceiling effect also may have occurred because the manipulations that were expected to increase positive attitudes were not as effective on a group of people that likely already had strongly positive attitudes. In addition, many students have most likely already experienced intergroup contact by the time they reach college. It would be interesting to conduct a similar study on a population that is less likely to have had contact with sexual minority groups. For these reasons, future research should continue to explore the relationship between imagined intergroup contact and heterosexism with samples other than college students whenever possible.

The manipulation of the outcome of the basketball game may be one particular weakness regarding the manipulations of this experiment. More specifically, the negative outcome manipulation may not have been strong enough to elicit significant results. Many participants in the losing conditions still reported having a positive experience and said things like they were "still happy we made a big come-back" and that "the story ends with a loss, but I focus on how close we were to winning." Additionally, although some participants in the losing conditions were upset with their teammate for missing the final game-winning shot, others said things like



“we can't fault him for missing... it was collective effort and we are all equally responsible for the outcome of the game.” Therefore, it is possible that the manipulation of a negative outcome was not strong enough for all participants to experience negative emotions and blame their teammate. Future research should explore what may occur when a member of a sexual minority group, or any other minority group, makes a much more inexcusable and significant mistake.

Another possible limitation that is often brought up with manipulations of imagined intergroup contact is that participants did not feel engaged or involved enough in the imagined scenario. However, this seems unlikely based on overall participant responses to the manipulation. Participants reported responses to the contact such as “I felt myself get into it... almost like I was actually at the game” and “It felt realistic somehow, as I read like I would actually play... I could imagine all of the scenes pretty well, even when I actually didn't play any basketball games in my life.” Additionally, given similar successful manipulations used in Chu and Griffey (1985) as well as Lee and Cunningham (2014), there is little reason to suspect that this type of manipulation fails to engage or involve participants.

Future research should further delve into the finding that participants' evaluations of their gay teammate, measured with the feeling thermometers, were positively correlated with their evaluations of the LGBTQ community as a whole. The idea that how participants felt about one person were related to a minority group that person was in may have important implications for how heterosexist attitudes arise and persist over time. However, because I analyzed this data using a correlational analysis, future research should examine this relationship with stronger analyses that can imply causality and direction. Future studies should also seek to replicate the findings from my exploratory analyses on gender as well as to understand and explain why the findings for males and females varied.

The finding that participants with a gay team captain associated straight people with “good” and gay people with “bad” significantly less strongly than those with a straight team captain is arguably the most important finding from this study because it has the most meaningful implications for improving the outcomes of the LGBTQ community through the reduction of heterosexist attitudes. This result speaks to the importance of representation of LGBTQ people in leadership positions because these leaders, even if they perform poorly, may have the power to reduce implicit heterosexist attitudes. Future research should explore the generalizability of these findings by looking at other possible settings that these results may apply to. Sports team captains certainly are not the most visible leaders in society— it may be useful to research if members of the LGBTQ community who are politicians, managers, teachers, and other leaders can also elicit these effects.

### **Coda**

The aim of the present study was to determine conditions under which imagined intergroup contact would reduce heterosexism. This experiment manipulated group contact, outcome of the contact, and leadership status of an imagined teammate in order to analyze how these factors would impact a variety of dependent measures. Although explicit attitudes and resource allocation did not differ based on these conditions, I found that participants with a gay team captain implicitly associated “gay people” with “bad” less strongly than participants with a straight team captain. Given the stigmatization that members of the LGBTQ community often face, this study has important implications that may provide further insight into how intergroup contact may play a role in increasing positive attitudes toward the LGBTQ community.

APPENDIX A  
IMAGINED CONTACT MANIPULATION

**You will be asked to read carefully the following description of the gameplay. As you read, please try to imagine as if this were really your team, and you really played this game. Try to imagine aspects of the scene as well.**

The game begins with the opposing team, the Bayview Bengals, scoring six points in a row while your team scores zero. At the end of the first quarter, Bayview is ahead with a score of 27-16.

In the second quarter, your team does a little better. You score two three pointers in a row. The Bengals score some points too, but they don't do quite as well as they did in the first quarter. The quarter ends, and your team is less behind than before. The score is Bengals 41, Sharks 36.

At half time, your team regroups in the locker room. Your **team captain Noah/teammate Noah** gives a speech, and your team is soon ready to go back out and compete.

In the third quarter, Noah scores 8 points just by himself. For two of these baskets, you were the one to pass the ball to him right before he scored. However, the Bengals also do well. The quarter ends with your team just slightly behind, 59-57.

During the fourth quarter, the Bengals and your team, the Sharks, battle it out. The score goes back and forth the entire quarter. In the final 5 seconds, Noah is passed the ball and attempts a final three-point basket. He **makes it/misses it**, and your team **wins/loses** with a score of 78-77.

**Now, please answer the following questions:**

Write how imagining this basketball game made you feel.

How responsible is Noah for the outcome of the basketball game?

0 (Not very responsible) – 100 (Very responsible)

How significant was Noah's influence on the result of the game?

0 (Not very significant) – 100 (Very significant)

How much of an impact do you think Noah had on your team's performance?

0 (Not much impact) – 100 (A lot of impact)

How responsible do you feel for the outcome of the game?

0 (Not very responsible) – 100 (Very responsible)

How much of an impact do you think you had on your team's performance?

0 (Not much impact) – 100 (A lot of impact)


How significant was your influence on the result of the game?

0 (Not very significant) – 100 (Very significant)


APPENDIX B

INTERVIEW WITH TEAMMATE

Get to know your team, the South High Sharks! Each week we ask one of the team members a fun question so the fans can get to know the team better. This week we talked to **the team captain/one of the team's guards (unequal status/equal status)**, Noah Parker.



Noah, what's  
your favorite  
thing to do on the  
weekends?




Thanks for the question! On  
the weekends I usually like  
to go the movies and on  
other fun dates with my  
**boyfriend/girlfriend**  
**(intergroup/intragroup).**

APPENDIX C

IMPLICIT ASSOCIATION TEST CATEGORIES AND ITEMS



Category	Items
<b>Good</b>	Pleasing, Adore, Friend, Lovely, Happy, Spectacular, Joyous, Beautiful
<b>Bad</b>	Yucky, Horrific, Despise, Tragic, Hatred, Scorn, Gross, Evil
<b>Gay people</b>	 Gay People, Homosexual, Gay
<b>Straight people</b>	 Straight, Straight People, Heterosexual

APPENDIX D

FEELING THERMOMETER SURVEY

How do you feel towards your teammate Noah?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

How do you feel towards the LGBTQ community as a whole?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

How do you feel about the transgender community?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

How would you feel about having a gay or lesbian coworker?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

How would you feel about having a gay or lesbian boss?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

How do you feel about gay men?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

How do you feel about lesbian women?

0 (Very cold or unfavorable) – 100 (Very warm or favorable)

APPENDIX E  
RESOURCE ALLOCATION MEASURE

Loyola's university newspaper is interested in advertising for events both within the psychology department and within the LGBTQ studies department. They want to know which events students would want to see advertisements for. They are allowing for 10 total pages of advertisements over the next few issues, and you may split up these pages between the two events in any way you see fit. After choosing how to split up the pages, please provide reasoning for your decision.

How many pages would you want Loyola's newspaper to use for the psychology event advertisement?

How many pages would you want Loyola's newspaper to use for the LGBTQ studies event advertisement?

Why did you split the pages in the way that you did?

APPENDIX F  
DEMOGRAPHICS/MANIPULATION CHECK

1. How do you currently describe your gender identity?
  - a. Male
  - b. Female
  - c. Non-binary
  - d. Something different (please specify) \_\_\_\_\_
  
2. How do you currently describe your sexual orientation?
  - a. Heterosexual or straight
  - b. Gay or lesbian
  - c. Bisexual
  - d. Fluid
  - e. Queer
  - f. Questioning
  - g. Asexual
  - h. Something different (please specify) \_\_\_\_\_
  
3. What is your ethnicity?
  - a. White
  - b. Hispanic or Latino
  - c. Black or African American
  - d. Native American or American Indian
  - e. Asian/Pacific Islander
  - f. Something different (please specify) \_\_\_\_\_

4. What year are you in school?
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
  - e. Other (please specify) \_\_\_\_\_
5. Please tell us a little bit about your teammate/team captain Noah. What did you imagine him to be like? What was it like playing an imaginary basketball game with him?
6. What is Noah's sexual orientation?
  - a. Heterosexual or straight
  - b. Gay or lesbian
  - c. Bisexual
  - d. Don't know/not sure
  - e. Something different (please specify) \_\_\_\_\_



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## VITA

Laurel Mertz was born and raised in Omaha, Nebraska. She attended Loyola University Chicago for her undergraduate studies, where she earned a Bachelor of Science in Psychology and a Bachelor of Arts in Spanish. She spent over three years working in a clinical psychology lab focusing on positive developmental outcomes associated with physical activity. During her fourth year of undergraduate study, she began her work toward a Master of Arts degree in Applied Social Psychology through a five-year BS/MA program. She worked with Dr. Jeffrey Huntsinger in the Emotion and Social Cognition Laboratory at Loyola and now works as a Research Coordinator in Loyola's Office of Institutional Effectiveness.