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A MEDIATED MODEL OF RELATIONSHIPS AMONG BELONGING, IDENTIFICATION, AND COHESION IN COLLEGE ATHLETES

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A MEDIATED MODEL OF RELATIONSHIPS AMONG BELONGING, IDENTIFICATION,
AND COHESION IN COLLEGE ATHLETES

A Thesis Defense
Presented to
The Faculty of the Department of Psychology
Murray State University
Murray, Kentucky

In Partial Fulfillment
of the Requirements for the Degree
of Masters of Science in
General Experimental Psychology

By Michelle R. Sherman
August 2017

A MEDIATED MODEL OF RELATIONSHIPS AMONG BELONGING, IDENTIFICATION,
AND COHESION IN COLLEGE ATHLETES

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ABSTRACT

In an attempt to add to the limited literature measuring team identification and sense of belonging, a sample of 147 current student athletes completed measures of team identification with his or her current sport team, sense of belonging, and levels of cohesion. Four mediation analyses were computed to investigate that sense of belonging mediated the relationship between team identification and a) social integration cohesiveness, b) social attraction cohesion, c) task integration cohesion, and d) task attraction cohesion. Despite what was expected, only one hypothesis was significant: sense of belonging mediated the relationship between team identification and social attraction cohesion. Implications of why this is true while the other mediation models were not significant are discussed, as well as limitations and next steps.

In their seminal examination of the affiliation needs of humans, Baumeister and Leary (1995) concluded that humans have an innate fundamental need to belong. However, it is critical to distinguish *need to belong* from *sense of belonging*. An individual's need to belong can be met by establishing and maintaining healthy social relationships, such as membership on a sport team (Lambert et al., 2013). However, individuals still may not feel as if they truly belong, that is, experience a sense of belonging. Sense of belonging, as introduced by Lambert and colleagues (2013), is an individual's "subjective experience of having relationships that bring about a secure sense of fitting in" (p. 1418). This concept is different from need to belong, which has been described as "the desire for interpersonal attachments" (Baumeister & Leary, 1995, p. 520). Thus, sense of belonging differs from forming social relationships. This sense of belonging could be defined as group membership, or more so defined as whether or not people feel they fit in while developing positive relationships (Brewer, 2008; Lambert et al., 2013).

Belongingness is an important component of mental health (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). Without belongingness, people may experience psychological outcomes such as anxiety, depression, and stress (Levett-Jones, Lathlean, Maguire, & McMillan, 2007), as well as a reduced capability for intelligent thought (Baumeister, Twenge, & Nuss, 2002). For example, Hagerty and colleagues (1992) examined psychiatric nurses' interactions with patients having issues with belonging (i.e., the patients lacked a sense of belonging). While conversing with the patients, several of nurses noted that the patients frequently reported a poor sense of belonging, both in their personal and work lives.

In a related study, Levett-Jones and Lathlean (2008) found that nursing students who felt a sense of belonging with their nursing program were often able to devote greater attention to caring for patients and learning. Simultaneously, they exerted less effort into forming

relationships with others. Thus, when the nurses believed they were in a place where they felt a sense of belonging, they spent less time trying to make friends. This freed up time they could dedicate to their studies and their patients, and other areas of clinical practice. The authors noted that these experiences of belongingness should be further studied in different groups.

Sport and Belonging

According to Baumeister and Leary's (1995) theory of general belonging, interactions between group members must be pleasant and positive for humans to fulfill their need to belong. Applying this rationale to sport teams, this implies that the support and encouragement athletes receive from their teammates, coaches, and others should assist in meeting their belongingness needs. Indeed, researchers have argued that athletes have access to an established group (i.e., their teammates) to which they can belong (Aries, McCarthy, Salovey, & Banaji, 2004).

Unfortunately, research regarding sport and belonging is limited. However, some work has targeted themes related to athletes and their sense of belonging. For instance, Walseth (2006) interviewed women with varying levels of athletic experience. Some participants were elite athletes, some were moderately active in athletics, and others were inactive (i.e., they did not participate in sport). Walseth (2006) found that belonging to a sport team could become a person's place of refuge, or somewhere he/she feels a sense of belonging. Subsequently, participating in athletics can lead to increased feelings of belonging, while consequently, if athletes memberships are threatened, they may experience feelings of isolation (Sadewater, 1991).

Identification

Identification is defined as the qualities, social relationships, roles, and group memberships that help express who the self is (Holland, 1997; Oyserman, Elmore, & Smith,

2012). In a two-part study design, Theodorakis, Wann, Nassis, and Luellen (2012) found that sport team identification (i.e., the degree to which a fan feels connected to a sport team; Wann & Branscombe, 1993) had a strong positive relationship with a person's need to belong. Study 1 tested 119 United States university students while Study 2 replicated Study 1 using 100 Greek university students. Study 1 had participants complete a survey packet containing five sections: demographic items, the Sport Fandom Questionnaire (SFQ; Wann, 2002), two versions of the Sport Spectator Identification Scale (SSIS; Wann & Branscombe, 1993), and the Need to Belong Scale (NBS; Kelly, 1999). The first version of the SSIS asked participants to target their current university's men's basketball team while the second version targeted a team 250 miles from the participants' university. Study 2 had the participants complete a survey packet containing three sections: demographic items, the Greek version of the SSIS (SSIS-G; Theodorakis, Vlachopoulos, Wann, Afthinos, & Nassis, 2006), and the NBS. The SSIS-G for this study had participants focus on a local professional soccer team. The results from Study 1 indicated that participants who identified as a fan of a local sport team had a higher need to belong (that is, need to belong was positively correlated with identification with a local team). This pattern of effects was not found for identification with the distant team. The results of Study 2 were similar to that of Study 1, revealing that there was a significant positive relationship between need to belong and level of identification with the local professional soccer team. Unfortunately, the correlational nature of this research resulted in an inability to specifically determine causal patterns (Theodorakis et al., 2012).

In an attempt to provide evidence for a potential causal model between belongingness and identification, Wann, Hackathorn, and Sherman (in press) used a meditational model to examine the interrelationships among identification, belonging, and meaning in life. This type of

analysis is particularly informative because it examines a mediator, which is affected by a predictor variable. The mediator, then, hypothetically causes a change in the outcome (dependent) variable, which might have been due from a direct effect of the predictor variable (Baron & Kenny, 1986; Hayes, 2013). Although this methodology does not provide absolute information on causation, it does offer a potential explanation for a pathway linking the predictor and outcome variables. Wann and his colleagues tested a sample comprised of 380 university students. The participants completed measures assessing meaning of life, belongingness, sport fandom, and team identification. Specifically, the scales used were the Presence of Meaning subscale from the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006), the Sense of Belonging Scale (Lambert et al., 2013), the Sport Fandom Questionnaire (Wann, 2002), and the Sport Spectator Identification Scale (Wann & Branscombe, 1993). Meaning in life was measured to assess the participants' positive well-being, specifically, the degree to which they perceived their lives as meaningful. Wann et al. were testing the prediction that belonging mediated the relationship between identification and well-being. The order of the scales was randomized so that, once participants had completed the demographics and the Sport Fandom Questionnaire, the meaning in life and belongingness items were counterbalanced with the identification questions. The findings indicated that belongingness mediated the relationship between sport team identification and meaning in life and provided further evidence that identification has a deep-seated relationship with belongingness (Wann et al., in press). Thus, sport identification led to belongingness, which in turn, led to meaning in life.

The two aforementioned studies (Theodorakis et al., 2012; Wann et al., in press) indicate that fans' sport team identification is positively related to belonging and that belonging mediates the relationship between identification and psychological well-being. However, researchers have

yet to examine these interrelationships among athletes. Although related concepts, sport team identification and identifying as an athlete are different constructs. For instance, individuals may choose to identify as a “Denver Broncos Fan”, but they are not “Von Miller, Denver Broncos Outside linebacker.” The former is the fan, while the latter is the athlete.

Collegiate athletes often separate their lives into three domains: athletic, academic, and social (Miller & Kerr, 2002). Younger athletes focus most of their time and energy into bettering themselves as athletes, often neglecting their roles as students and sometimes even their roles as friends (Brewer, Van Raalte, & Linder, 1993; Miller & Kerr, 2002). For some student athletes, their greatest accomplishment involves their identity as an athlete, specifically a “football player” or a “volleyball player.” Instead of focusing on the student component of student athlete role (“I am a Murray State student”), most will put more emphasis on their athlete identity (“I am a volleyball player at Murray State”), often excluding the student component. These identities often become their roles within their groups (Brewer et al., 1993; Good, Brewer, Petitpas, Van Raalte, & Mahar, 1993). This form of identity is commonly referred to as athletic identity, that is, the level in which an individual identifies with the role of being an athlete (Brewer et al., 1993).

Athletes are often categorized based on their level of athletic identity into three groups: high, medium, and low. According to Brewer and his colleagues (1993), highly identified athletes place greater importance on their ability to refer to themselves as athletes than do their medium to low athlete identified counterparts. These authors also found that those with high athlete identification were at a higher risk for emotional and psychological problems if they were injured or forced off their team. When this occurs, a person’s subjective sense of belonging is at risk because he or she no longer has an important group with which he or she had felt a strong

sense of belonging. Incidents such as a career ending injury or being removed from a team (e.g., disciplinary reasons, involuntary retirement) forces the individual to form or adapt a new role in society. That is, they now are required to view themselves as a non-athlete (Good et al., 1993). Adapting to a new role or identification can have a dramatic affect on an individual's well-being (Theodorakis et al., 2012; Wann et al., in press)

Cohesion

Cohesion is a common topic among researchers interested in studying group membership and satisfaction with those groups (Carron et al., 2003; Gruber & Grey, 1981; Gruber & Grey, 1982). Cohesiveness is a process in which individuals unite to accomplish specific goals while remaining as an integrated group (Carron, 1982). Working as an integrated unit can ultimately facilitate a group's success (Carron et al., 2003). That is, work and sport teams are often more successful if the members comprising the group work well together (Carron et al., 2003; Carron, Colman, Wheeler, & Stevens, 2002; Martens & Peterson, 1971). Indeed, group cohesiveness is often a driving factor behind continued athletic participation, especially on elite teams (Carron, Widmeyer, & Brawley, 1988). Furthermore, group cohesion and team success both have a significant impact on whether an individual remains involved (i.e., united) on a team (Carron et al., 1988). Taken together, this research suggests that teams comprised of members who feel a strong sense of cohesion likely will have higher levels of success, which in turn leads to higher retention of team members. As a result, the team members receive a sense of belonging via their team membership. For persons on sport teams, having a strong sense of belonging (or strong feeling of team membership) could predict their sense of cohesion on the team (Martens, Landers, & Loy, 1972; Terry et al., 2000).

Researchers have found that the type of team impacts cohesiveness. Cohesiveness is more noticeable in interacting sports (i.e., sports in which participants cooperate, such as volleyball and basketball; Klein & Christiansen, 1969) than in coacting sports (i.e., sports in which participants perform separately with scores combined into one team score, such as bowling and golf; Landers, Wilkinson, Hatfield, & Barber, 1982). This could be due to the fact that, to succeed in interacting sports, team members typically must have positive relationships with one another. Working together as a unified team, rather than as separate individuals, facilitates success, suggesting that group membership influences success (Carron et al., 2003; Klein et al. 1969; Levett-Jones et al., 2008; Martins & Peterson, 1971; Terry et al., 2000). Not surprisingly, success is often linked to positive group relationships among members (i.e., a strong sense of belonging; Levett-Jones et al., 2008).

Not only does the type of team matter when determining the cohesion of a team, but also the type of cohesion, specifically task and social cohesion. Task cohesion refers to the level that teammates work together to fulfill a common goal (i.e., winning a game), whereas social cohesion refers to the degree that team members enjoy each other and interact with each other (Carron, Widmeyer, & Brawley, 1985). Additionally, there are two other categories of cohesion: group integration and attraction to the group. Group integration refers to the individual's perception of his or her team, whereas attraction to the group refers to the individual's desire for personal involvement (Carron et al., 1985). This "attraction" is more so the appeal the group gives to the individual. With these subgroups, researchers can measure cohesion more accurately using four subscales: group integration-task (i.e., an individual's feelings about the closeness of the team regarding the group's task.); group integration-social (i.e., an individual's feelings about the closeness of the team as a social unit); attraction to the group- task (i.e., an individual's

feelings about his or her involvement within the group as it relates to the goal of the group); and attraction to the group-social (i.e., an individual's feelings about his or her social interactions with the group; Carron et al., 1985).

The Current Research: Relationships among Identification, Belonging, and Cohesion

The purpose of the current study was to investigate the relationship among team identification and team cohesiveness and to explore the mediation effect of sense of belonging. Research has shown that forming relationships is important to sense of belonging (Lambert et al., 2013). However, these authors noted a potential limitation in the current literature. Specifically, they wondered which types of relationships (e.g., romantic, social, etc.) would best foster a sense of belonging. Lambert and colleagues (2013) argued that future efforts were warranted to examine the importance of specific types of relationships on the processes (e.g., teammates, romantic partners, friendships). This limitation was directly addressed in the proposed study by investigating relationships among players on athletic teams.

It is important to note that research on the relationship between identification and cohesion is limited (De Backer et al., 2011; Sadewater, 1991). Past research has focused on team identification, which, is related to athletic identification, focuses on how identified the athlete feels to his or her team (rather than with the role of athletic identity). In research conducted by De Backer and colleagues (2011), team identification was defined as how highly a person identifies with being a member of their team. These investigators conducted a pair of studies examining coach support and perceived justice to predict team identification and cohesion. Study 1 consisted of 56 female volleyball players and 35 male handball players. De Backer and colleagues (2011) distributed a web-based survey consisting of scales assessing perceived justice, need of support of the coach, identification with the team, and cohesion. Two forms of

cohesion were examined: task cohesion and social cohesion. The results from the first study indicated that team identification significantly predicted team cohesion. Study 2 attempted to establish the generalizability of the results of Study 1 by examining the relationships in a different cultural setting. Once again, the survey consisted of scales measuring perceived justice, identification with the team, task cohesion, and social cohesion. Consistent with the results of Study 1, the findings indicated that team identification was a strong predictor of both social and task cohesion.

The current study adds to this area of research by examining the relationship among team identification, cohesion, and sense of belonging. Specifically, the current study tested a mediation model involving team identification, sense of belonging, and social group integration cohesion in which sense of belonging was the mediator in the relationship between team identification and social integration cohesion (Preacher & Hayes, 2004). Three facets of the hypothesis were tested:

Preliminary Hypothesis 1a: Team identification will positively predict sense of belonging.

This hypothesis was derived from the aforementioned research stating that identification leads to high levels of sense of belonging (Theodorakis et al., 2012; Wann et al., in press).

Preliminary Hypothesis 1b: Team identification will positively predict social integration cohesion.

This hypothesis was established based on past research examining the positive correlation between team identification and cohesion (De Backer et al., 2011). Specifically, the current research investigated social integration cohesion and its relationship with team identification.

Critical Hypothesis 1c: Sense of belonging will mediate the relationship between team identification and social integration cohesiveness.

Similarly, the current study expanded on previous research by examining the possible mediation model with sense of belonging mediating the relationship between team identification and social attraction cohesion. Thus, two preliminary hypotheses were proposed:

Preliminary Hypothesis 2a: Team identification will positively predict sense of belonging.

This hypothesis was derived from previous research that showed a relationship between identification and sense of belonging (Theodorakis et al., 2012; Wann et al., in press).

Preliminary Hypothesis 2b: Team identification will positively predict social attraction cohesion.

This hypothesis was established based on past research examining the positive correlation between team identification and cohesion (De Backer et al., 2011). Specifically, the current research investigated social attraction cohesion and its relationship with team identification. Thus, providing the evidence to propose a critical hypothesis:

Critical Hypothesis 2c: Sense of belonging will mediate the relationship between team identification and social attraction cohesiveness.

The current work also posed a research question based on previous findings by De Backer and colleagues (2011):

Research Question 1a: “Will sense of belonging mediate the relationship between team identification and task integration cohesion?”

Although prior research and theory suggests that belonging should mediate the relationship between team identification and *social* integration cohesion, predictions involving *task* integration cohesion are less clear. Thus, task integration cohesion was examined via a research question asking,

Additionally, the current work posed a research question based on previous findings by De Backer and colleagues (2011) suggesting that another subsection of cohesion might influence these relationships:

Research Question 2b: “Will sense of belonging mediate the relationship between team identification and task attraction cohesion?”

Although prior research and theory suggests that belonging should mediate the relationship between team identification and *social* attraction cohesion, predictions involving *task* attraction cohesion are not as well defined. Thus, task cohesion was examined via a research question asking,

Chapter 2: Method

Participants

The original sample was comprised of 189 participants. However, 36 participants failed to complete the survey in its entirety and therefore this data was not included. Additionally, nine participants indicated they had graduated and were not current athletes and, thus, their were not used in the analyses. One individual did not indicate a sport team or a university so this person was also not included. Therefore, the final sample contained 147 athletes (112 females, 35 males). They had a mean age of 19.86 years ($SD = 1.18$), with ages ranging from 18 to 23. With respect to sport played, 29.9% were volleyball players, 15.6% were softball players, 12.9% were soccer players, 8.8% were baseball players, and the remaining 32.8% marked “other” or played multiple sports. In terms of college classification, 34% of participants were freshman, 29% were sophomores, 17% were juniors, and 20% were seniors.

Procedure

After gaining approval from the Institutional Review Board (Appendix J), two individual emails were sent to all athletes at Murray State University. The first was an initial recruitment message and the second was a reminder with the recruitment message (Appendix B). The email addresses were obtained from a public server using the rosters provided online from each team. Additionally, an email was sent to all coaches and assistant coaches at Murray State University to inform their athletes about the survey (Appendix C). A similar email was sent out to coaches and assistant coaches from universities and colleges within a 150-mile radius of Murray State University, asking coaches to forward the recruitment email to their athletes (Appendix C). Snowballing was also used to reach more athletes via word of mouth and social media outlets, such as Facebook, Twitter, Instagram, and Snapchat (Appendix D). The survey was provided

online using SurveyMonkey. Once participants clicked on the link provided, they were presented with a consent form (Appendix A). If they agreed, they were directed to the survey, which began with the demographic questions. The subsequent sections were presented in random order to control for order bias. These sections contained questions measuring sense of belonging (Appendix F), cohesion (Appendix G), and team identification (Appendix H). The last section was a debriefing statement thanking the athletes for their participation, as well as an invitation to be entered in a drawing for a \$25 Visa gift card (see Appendix I). This incentive was separate from the survey itself and required the participant to follow a link to be redirected to a separate form.

Materials

Demographics. On the demographics questionnaire participants indicated their gender, age, sport played, year in school, what school they attended, and number of years on their current team (see Appendix E).

Sense of Belonging Scale (SoBS; Lambert et al., 2013). The SoBS contains five items assessing a person's sense of belonging using an eight-point Likert scale (see Appendix F). Response options range from 1 (*not at all true of me*) to 8 (*very true of me*). Items are summed to acquire the sense of belonging score in which higher scores indicate a greater sense of belonging. A sample item on the SoBS reads: "I feel a strong sense of belonging when I'm with my friends". Lambert and colleagues documented the strong psychometric properties of the SoBS. That is, they found that the scale had high internal reliability with an alpha level of .81. Furthermore, the authors were able to establish criterion validity for the scale as the SoBS was correlated negatively with loneliness ($r = -.54$) and correlated positively with the Rosenberg Self-Esteem Scale ($r = .64$; Lambert et al., 2013).

Group Environment Questionnaire (GEQ; Carron, et al., 1985). The GEQ has eighteen Likert scale items with response options range from 1 (*strongly disagree*) to 9 (*strongly agree*) (see Appendix G). The first nine items assess the individual's personal involvement with his or her team (Attraction to Group). The second nine items measure the participant's perceptions of the team as a whole (Group Integration). Within these two groups are two subgroups (task and social). Higher scores indicate greater cohesiveness regarding both individual and team. The current study utilized each subscale, Attraction to the Group-Task, Attraction to the Group-Social, Group Integration-Task, Group Integration- Social (ATGT, ATGS, GIT, & GIS, respectively), to gain a more comprehensive understanding of cohesion. For internal reliability, subscale descriptions, and example items, see Table 1.

Team Identification (De Backer et al., 2011). This five-item scale assesses team identification based on items selected from a previous measure developed by Boen, Vanbeselaere, Pandelaere, Schutters, and Rowe (2008). The Likert scale items range from 1 (*strongly disagree*) to 8 (*strongly agree*). Items are summed for a total score so that a higher score represents a greater level of team identification (see Appendix H). De Backer and colleagues reported that the scale was found to have high internal consistency ($\alpha > .80$). A sample item from the scale is, "I feel very connected with the other members of my team."

Table 1

Description of Subscales of the GEQ.

Subscale	Description	Sample Item	α
Attraction to Group-Task	Members' perceptions about personal involvement with the group's task.	I am not happy with the amount playing time I get.	.75
Attraction to Group-Social	Members' perceptions about involvement and social interactions within the group.	I do not enjoy being a part of the social activities of this team.	.64
Group Integration- Task	Members' perceptions about team's similarity concerning the group's task.	Our team is united in trying to reach its goals for performance.	.70
Group Integration- Social	Members' perceptions about team's similarity concerning the group's closeness.	Our team would like to spend time together in the off-season.	.76

Chapter 3: Results

Preliminary Analyses

Preliminary Hypothesis 1a was tested with a regression. The results found that team identification positively and significantly predicted Group Integration- Social (GIS), $\beta = .52$, $t(145) = 7.39$, $p < .001$. Team identification also explained a significant proportion of variance in GIS, $R^2 = .27$, $F(1, 145) = 54.58$, $p < .001$. To test Preliminary Hypothesis 1b, a regression analysis was used. The results showed that team identification significantly predicted sense of belonging, $\beta = .51$, $t(145) = 7.05$, $p < .001$. Team identification also explained a significant proportion of variance in sense of belonging, $R^2 = .26$, $F(1, 145) = 49.67$, $p < .001$. These results support Preliminary Hypotheses 1a and 1b.

To test Preliminary Hypothesis 2a, a regression analysis was computed. It found that team identification significantly predicted Attraction to the Group-Social (ATGS) cohesion in a positive direction, $\beta = .67$, $t(145) = 10.83$, $p < .001$. Team identification also explained a significant proportion of variance in ATGS, $R^2 = .45$, $F(1, 145) = 117.31$, $p < .001$. Preliminary Hypothesis 2b was also tested using a regression. It was found that team identification significantly predicted sense of belonging, $\beta = .51$, $t(145) = 7.05$, $p < .001$. Team identification also explained a significant proportion of variance in sense of belonging, $R^2 = .26$, $F(1, 145) = 49.67$, $p < .001$. These results support Preliminary Hypotheses 2a and 2b.

Mediations

The results from the Preliminary Hypotheses revealed that team identification independently predicted sense of belonging, Group Integration- Social (GIS), and Attraction to the Group-Social (ATGS). Thus, a mediation model was investigated to specifically examine the extent in which sense of belonging mediated the relationship between team identification and

GIS (Critical Hypothesis 1c), as well as to the extent to which sense of belonging mediated the relationship between team identification and ATGS (Critical Hypothesis 2c). To investigate Research Questions 1 & 2, additional mediation models were examined to investigate the extent to which sense of belonging mediated the relationship between team identification and Group Integration-Task (GIT), as well as the extent to which sense of belonging mediated the relationship between team identification and Attraction to the Group- Task (ATGT). The PROCESS macro for SPSS 2.16 was used to test the mediation models (Hayes, 2013).

The first mediation analysis tested the prediction that sense of belonging would mediate the effect of team identification on GIS (Critical Hypothesis 1c). Results indicated that team identification was a significant predictor of belonging (a path), $b = .89, SE = .13, t(145) = 7.05, p < .001, 95\% CI [.64, 1.14]$, and that sense of belonging was a trending significant predictor of GIS (b path), $b = .05, SE = .03, t(144) = 1.89, p = .061, 95\% CI [-.002, .10]$ (see Figure 1). Although the direct effect of team identification was still a significant predictor of GIS after controlling for the mediator, sense of belonging (c' path), $b = .24, SE = .04, t(144) = 5.48, p < .001$, the total effect was also significant (c path), $b = .28, SE = .04, t(145) = 7.89, p < .001, 95\% CI [.21, .36]$.

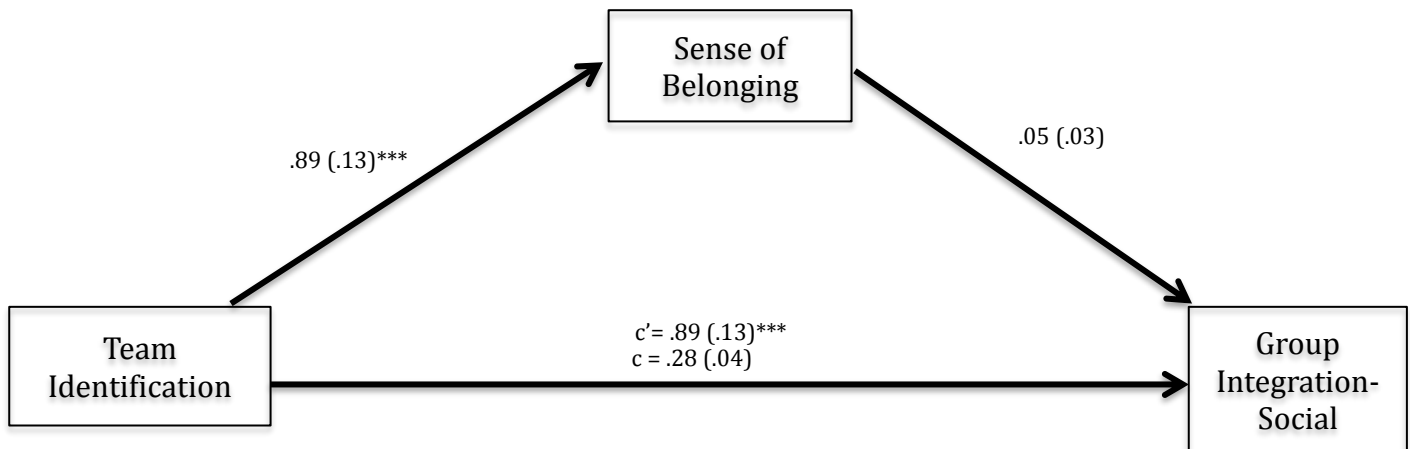


Figure 1. Sense of belonging mediating the relationship between team identification and group integration- social cohesion.

Approximately 29% of the variance in GIS was accounted for by both of the predictors ($R^2 = .29$). The bootstrap estimation indicated the indirect effect was not significant, $b = .04$ $SE = .03$, 95% CI [-.01, .12], $Z = 1.81$, $p = .071$. This suggests that Critical Hypothesis 1c was trending, and therefore we cannot reject the null hypothesis.

The second mediation analysis tested the prediction that sense of belonging would mediate the relationship between team identification and ATGS (Critical Hypothesis 2c). Results indicated that team identification was a significant predictor of belonging (a path), $b = .89$, $SE = .13$, $t(145) = 7.05$, $p < .001$, 95% CI [.64, 1.14], and that sense of belonging was a significant predictor of ATGS (b path), $b = .04$, $SE = .02$, $t(144) = 2.07$, $p = .041$, 95% CI [.002, .07] (see Figure 2). The direct effect of team identification was still a significant predictor of ATGS after controlling for the mediator, sense of belonging (c' path), $b = .26$, $SE = .03$, $t(144) = 8.41$, $p < .001$, the total effect was also significant (c path), $b = .29$, $SE = .03$, $t(145) = 10.83$, $p < .001$, 95% CI [.24, .34]. Approximately 46% of the variance in ATGS was accounted for by both of the predictors ($R^2 = .46$). The bootstrap estimation indicated the indirect effect was significant,

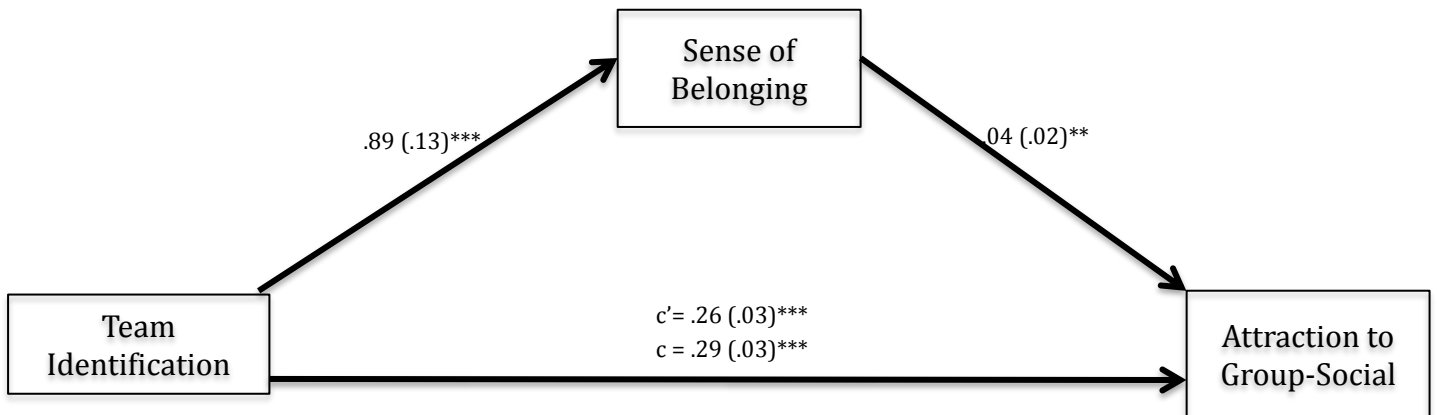


Figure 2. Sense of belonging mediating the relationship between team identification and attraction to group- social cohesion.

$b = .03$ $SE = .02$, 95% CI [.001, .08] $Z = 1.97$, $p = .049$. This suggests that Critical Hypothesis 2c was supported.

The third mediation analysis tested Research Question 1: the prediction that sense of belonging would mediate the relationship between team identification and GIT (see Figure 3). Results indicated that team identification was a significant predictor of belonging (a path), $b = .89$, $SE = .13$, $t(145) = 7.05$, $p < .001$, 95% CI [.64, 1.14]. However, sense of belonging was not a significant predictor of GIT (b path), $b = -.004$, $SE = .02$, $t(144) = -.18$, $p = .857$, 95% CI [-.05, .04]. The direct effect of team identification was still a significant predictor of GIT after controlling for the mediator, sense of belonging (c' path), $b = .30$, $SE = .04$, $t(144) = 7.80$, $p < .001$, the total effect was also significant (c path), $b = .30$, $SE = .03$, $t(145) = 8.96$, $p < .001$, 95% CI [.23, .37] $Z = -1.8$, $p = .858$. While there was a direct effect on GIS from team identification, the overall mediation effect was not significant. This suggests that Research Question 1 was not supported.

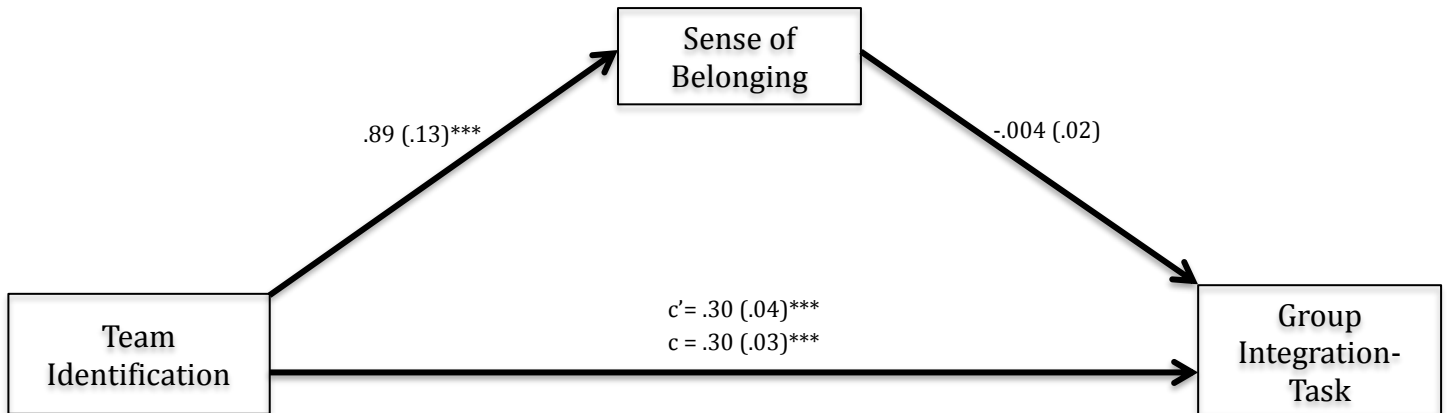


Figure 3. Sense of belonging as a mediator of relationship between team identification and group integration- task cohesion.

The final mediation analysis tested the prediction that sense of belonging would mediate the relationship between team identification and ATGT (Research Question 2). Results indicated that team identification was a significant predictor of belonging (a path), $b = .89$, $SE = .13$, $t(145) = 7.05$, $p < .001$, 95% CI [.64, 1.14]. However, sense of belonging was not a significant predictor of ATGT (b path), $b = -.02$, $SE = .02$, $t(144) = -.96$, $p = .337$, 95% CI [-.07, .02] (see Figure 4). The direct effect of team identification was still a significant predictor of ATGT after controlling for the mediator, sense of belonging (c' path), $b = .35$, $SE = .04$, $t(144) = 8.43$, $p < .001$, the total effect was also significant (c path), $b = .33$, $SE = .04$, $t(145) = 9.20$, $p < .001$, 95% CI [.26, .40], $Z = -.94$, $p = .345$. While there was a direct effect on ATGT from team identification, the overall mediation effect was not significant. This suggests that Research Question 2 was not supported.

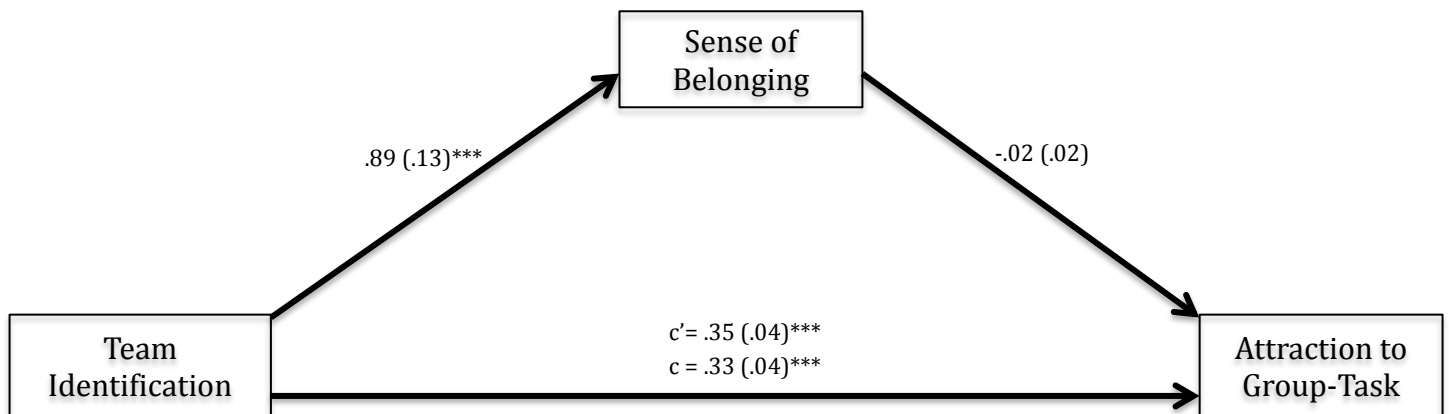


Figure 4. Sense of belonging mediating the relationship between team identification and attraction to group-task cohesion

Chapter 4: Discussion

Most of the research regarding belonging and sport has revolved around fans (e.g., Theodorakis et al., 2012; Wann et al., in press). The focus of the current research, in line with De Backer and colleagues (2011), was to investigate belonging in athletes, specifically current college athletes. The current investigation further confirmed De Backer et al.'s (2011) findings that team identification was significantly related to social cohesion. However, De Backer and colleagues (2011) findings revealed a trending significant with team identification and task cohesion. The current investigation did not find any results to support this. This study looked at the two types of task cohesion: attraction to the group and group integration. This differentiation from De Backer and colleagues (2011) could have impacted the results. Interestingly, only one of two social cohesion variables produced significant outcomes when team identification and belonging were entered as predictors. Attraction to the Group-Social yielded significant results, while Group Integration-Social produced marginally significance. These distinctions, along with the differences in task versus social, warrant future investigation.

Team identification was a significant predictor of Attraction to Group-Cohesion and this relationship was mediated by sense of belonging. This suggests that an athlete who has high identification with his or her team will also have greater Attraction to Group-Cohesion, and that having a strong sense of belonging will mediate this relationship. As stated earlier, Attraction to Group-Cohesion measures how appealing social interactions with group members are, such as hanging out outside of practice. Team identification is also a social measurement, used to gauge the amount of identity one places with his or her team. Similarly, sense of belonging assesses the amount in which an individual feels connected to groups of which he or she is a member. This would suggest that the findings Thomas and colleagues (2016) found could be further explained

with this mediation model. In their study, they found that to have a strong social identity, one might feel his/her team identity brings about a sense of belonging. Our findings suggest that higher team identification leads to higher sense of belonging, which in turn leads to higher attraction to group social cohesion. This result furthers the claim that identification is inherently related to belonging (Wann et al., in press).

Additionally, although three of the four mediation models were not overall significant, in all four models, team identification predicted both sense of belonging and the four types of cohesion. These findings, when separated out from the mediation model, support findings from Theodorakis and colleagues (2012) and De Backer and colleagues (2011).

These findings could potentially be used as an athlete retention tool for coaches. Assessing an individual's sense of belonging, as well as knowing how she or he feels as a member of the team, could allow coaches to identify possible indicators of losing a player. Previous work has shown that poor perceived team cohesion can lead to athletes quitting (Carron et al., 1988). Allowing coaches to have a way to prevent future athletes from quitting could potentially lead to better success rates.

These findings are also important when considering mental health issues of student athletes. Having a strong sense of belonging is linked with mental health benefits, such as a positive well-being (Theodorakis et al., 2012; Wann et al., in press). These results could be used to develop an intervention and prevention system in assessing athletes' well-being. Because athletes spend a large majority of their time with their teams, it would be beneficial for coaches and athletic administrators to understand the mental health of the athletes under their care. If an athlete is found to show low team identification, as well as low sense of belonging, this could

implicate that the athlete is depressed, has higher anxiety, and stressed (Levett-Jones et al., 2007).

Sadewater (1991) investigated the relationship between athletic identification and cohesion, finding that athletic identification was positively correlated with cohesion. These results were part of a larger study investigating athletic identification, cohesion, and termination, in this case, meaning “the end of an athlete’s playing career due to the exhaustion of the athletic ability” (p. 5). College athletes completed a survey consisting of scales measuring athletic identification (AIMS; Brewer et al., 1993) and cohesion (Team Cohesion Questionnaire; Martens, Landers, & Loy, 1972), as well as feelings towards termination, (i.e. sad, confused, supported, etc.). Sadewater (1991) concluded that athletic identification and cohesion are moderately positively correlated. Future research should investigate if athletic identification is correlated to the four subgroups of cohesion, as Sadewater’s research looked at overall cohesion. Additionally, future research would want to investigate the degree to which sense of belonging mediates the relationship of the two social types of cohesion.

A limitation that needs to be addressed is the low number of male participants. Out of the 147 total participants only 35 were males. Increasing the number of males could eliminate any potential gender differences that could be hidden in the low numbers. Additionally, having more males in the sample would allow us to investigate the possibility that gender is acting as a moderator between sense of belonging and team identification.

Another limitation was the potential technical issues that can occur with any online study. In the present study, the hyperlink did not work for a few of the schools that were emailed. This potentially discouraged coaches from sending the corrected link to players, as well as deterred

athletes from completing the survey after multiple failed attempts. This limitation possibly contributed to the low number of current athletes that completed the survey.

A third limitation that needs to be taken into account was because it was an online survey; the researchers had no control over the environment where the participants took their surveys. We could not control potential distractions (e.g., friends talking or time they took the survey). When participants are distracted, there is no way to ensure how reliable their responses are. Introducing manipulation checks in the survey to ensure participant engagement could combat this.

This study's results extend existing literature on team identification, cohesion, and belonging. The one key mediation concluded that higher team identification leads to higher sense of belonging, which in then predicts better social attraction cohesion. These findings make conceptual sense. Both team identification and sense of belonging are social constructs; therefore for the results to be significant or nearly significant with the two social cohesion measures, it would be interesting to look further into overall social cohesion and not divided into sub-constructs. Additionally, neither of the task cohesions were significant, which supports our decision to posit the two task cohesions as research questions instead of hypotheses. Overall, it can be concluded that sense of belonging mediates the relationship between team identification and social cohesion and does not mediate the relationship between team identification and task cohesion.

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Appendix A: Informed Consent

Project Title: Relationships among belonging, team identification, and cohesion in college athletes

Primary Investigator: Michelle R. Sherman and Dr. Daniel Wann, Dept. of Psychology, Murray State University, Murray, KY 42071, (270) 809-2860

You are being asked to participate in a project conducted through Murray State University. You must be at least 18 years of age to participate. Below is an explanation of the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation.

1. Nature and Purpose of Project: The purpose of this study is to gain information regarding athlete's identification levels, perceptions of team cohesion, and the relationship to sense of belonging.
2. Explanation of Procedures: Your participation in this study will involve completing a very brief set of online questionnaires. The online questionnaire should take less than 15 minutes.
3. Discomfort and Risks: The risks to you as a participant are minimal. Some of the questions are of a personal nature and thus participants may feel uncomfortable. Please know that the survey is anonymous and you can choose to skip any questions that you do not want to answer, and can withdraw from the study at any time without penalty.
4. Benefits: There are no direct individual benefits to you beyond the opportunity to learn first-hand what it is like to participate in a research study. A general benefit to you is that you will add to our knowledge of the research subject.
5. Confidentiality: Your responses on all the tasks will be completely anonymous; they will only be numerically coded and not recorded in any way that can be identified with you. Dr. Wann will keep all information related to this study in an aggregate and password protected database for at least three years after completion of this study.
6. Refusal/Withdrawal: Your participation in this study should be completely voluntary. Your refusal to participate will involve no penalty. In addition, you have the right to withdraw at any time during the study without penalty or prejudice from the researchers.

By clicking on the button below you are indicating your voluntary consent to participate in this research.

This project has been reviewed and approved by the Murray State University Institutional Review Board (IRB) for the Protection of Human Subjects. If you have any questions about your rights as a research participant, you should contact the MSU IRB Coordinator at (270) 809-2916 or msu.irb@murraystate.edu.

ANY QUESTIONS ABOUT THE CONDUCT OF THIS RESEARCH PROJECT SHOULD BE BROUGHT TO THE ATTENTION OF DR. DANIEL WANN THE MSU PSYCHOLOGY DEPT., AT (270) 809-2857.



Appendix B: Recruitment Email for Murray State Athletes

Subject: Graduate Student Thesis Help

Title: Are You Really a Team Player?

You have been invited to participate in an online study conducted by researchers at Murray State University to help with a graduate student's thesis. **You must be 18 years or older to participate.** Your participation in this research study is voluntary and you are free to withdraw from this study at any time. The purpose of this study is to measure an individual's experiences as a current athlete and how these experiences translate to team cohesion. It should take you less than 15 minutes to complete the survey. For participating in the study, you can be entered into a raffle to win a \$25 Visa Gift Card. Additionally, immediate feedback will be provided to inform the participant of your level of being a team player. To complete the survey, follow the link below. Thank you for your time!

<https://www.surveymonkey.com/r/collegeteamplayer>

Please feel free to forward this survey link to anyone who might be interested in participating.

Appendix C: Email to Coaches & Assistant Coaches

Subject: Student Athletes and Cohesion Thesis Project

Dear Coach [Enter Name Here],

My name is Shelli Sherman and I am a current graduate student at Murray State University working under the direction of Dr. Dan Wann. As part of my graduation requirement, I must complete a research project.

As a previous collegiate athlete, my coach always preached the importance of team cohesion. My study focuses on some possible predictors of team cohesion. My study is being conducted online through a 10 -15 minute survey that will provide instant feedback to athletes on their level of perceived cohesion.

If you could forward this email to your athletes with the recruitment statement and survey link below, I would greatly appreciate it.

Sincerely,
Shelli Sherman

[Insert Appendix B]

Appendix D: Snowballing Recruitment Statement

Title: Are You Really a Team Player?

You have been invited to participate in an online study conducted by researchers at Murray State University to help with a graduate student's thesis project. **You must be 18 years or older to participate.** Your participation in this research study is voluntary and you are free to withdraw from this study at any time. The purpose of this study is to measure an individual's experiences as a current athlete and how these experiences translate to team cohesion. It should take you less than 15 minutes to complete the survey. For participating in the study, you can be entered into a raffle to win a \$25 Visa Gift Card. Additionally, immediate feedback will be provided to inform the participant of their level of being a team player. To complete the survey, follow the link below. Thank you for your time!

<https://www.surveymonkey.com/r/collegeteamplayer>

Please feel free to forward this survey link to anyone who might be interested in participating.

Appendix E: Demographics

Instructions: Please answer the following questions.

1. What is your gender?

2. What is your age?

3. What sport team are you on? (Please circle one)

Baseball Softball Football Volleyball Rifle Cross Country

Track & Field Basketball Soccer Tennis Golf Other _____

4. What is your current year in school? (Please circle one)

Freshman Sophomore Junior Senior Graduate

5. How many years have you been an athlete at your current school?

6. What school do you currently attend?

Appendix F: Sense of Belonging Scale

Instruction: Please answer each of the following items by circling the number the best represents you.

1. I often don't feel like I belong.

Not at All										Very True
True of Me	1	2	3	4	5	6	7	8		of Me

2. There are places I go where I feel like I belong.

Not at All										Very True
True of Me	1	2	3	4	5	6	7	8		of Me

3. I feel a strong sense of belonging when I'm with my friends.

Not at All										Very True
True of Me	1	2	3	4	5	6	7	8		of Me

4. I really feel accepted by others in my life.

Not at All										Very True
True of Me	1	2	3	4	5	6	7	8		of Me

5. When I'm with my family I feel like I belong with them.

Not at All										Very True
True of Me	1	2	3	4	5	6	7	8		of Me

8. I do not like the style of play on this team.

1 2 3 4 5 6 7 8 9
Strong Disagree Strongly Agree

9. For me, this team is one of the most important social groups to which I belong.

1 2 3 4 5 6 7 8 9
Strong Disagree Strongly Agree

Appendix H: Team Identification

Instructions: Please list the university sport team on which you are a member. Please be very descriptive in your response (e.g., Murray State Women's Basketball Team).

Now, please answer the following questions based on your feelings for the team listed above. There are no "right" or "wrong" answers, simply be honest in your responses.

1. I feel very connected with the other members of my team.

1 2 3 4 5
Strong Disagree Strongly Agree

2. The successes of my team feel like my own successes.

1 2 3 4 5
Strong Disagree Strongly Agree

3. I am very glad to belong to this team.

1 2 3 4 5
Strong Disagree Strongly Agree

4. Being a member of this team is very important for me.

1 2 3 4 5
Strong Disagree Strongly Agree

5. I am very proud being a member of this team.

1 2 3 4 5
Strong Disagree Strongly Agree

Appendix I: Debriefing

First, I would like to thank you for your help in this study. This study attempted to look at the relationship between identification and cohesion as mediated by sense of belonging. We examined collegiate athletes and expected to find some relationships between these variables. Specifically, we examined the potential relationship that exist among team identification, social integration and attraction cohesion, and the possible mediation by sense of belonging.

Although there are no expected risks associated with participating in this study, if you are feeling any discomfort or distress because of this study, please contact your local psychological services. If you have any questions, comments, or concerns about this study please contact Dr. Daniel Wann at dwann@murraystate.edu or 270-809-2860. Additionally, if you have any questions about your rights as a participant in this experiment, you may contact the IRB Coordinator at 270-809-2916.

Your participation in this study was greatly appreciated. If you would like to receive a report of this research when it is completed, or a summary of findings, please contact Dr. Daniel Wann at dwann@murraystate.edu after March 31, 2018. Thank you for your participation.

If you would like to be entered into the \$25 Visa Gift Card Raffle, please click on the link below. This will take you to a separate survey that will enable us to keep your information separate from your data.

CLICK THIS LINK

Appendix J: IRB Approval



Institutional Review Board

328 Wells Hall
Murray, KY 42071-3318
270-809-2916 • msu.ibr@murraystate.edu

TO: Dan Wann
Psychology

FROM: Institutional Review Board *JB*
Jonathan Baskin, IRB Coordinator

DATE: 4/4/2017

RE: Human Subjects Protocol I.D. – IRB # 17-135

The IRB has completed its review of your student's Level 1 protocol entitled **Teammates and Cohesion**. After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.

Your stated data collection period is from 3/24/2017 to 3/1/2018.

If data collection extends beyond this period, please submit an Amendment to an Approved Protocol form detailing the new data collection period and the reason for the change.

This Level 1 approval is valid until 4/3/2018.

If data collection and analysis extends beyond this date, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 4/3/2018. You must reapply for IRB approval by submitting a Project Update and Closure form (available at murraystate.edu/ibr). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.

*Opportunity
afforded*

murraystate.edu

Equal education and employment opportunities M/F/D, AA employer. Murray State University supports a clean and healthy campus. Please refrain from personal tobacco use.