

# **Gender, Extraversion, and Team Cohesion**

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## ABSTRACT

The existing research on the effects of gender and extraversion on team cohesion have produced mixed findings. Our research addresses the effects of extraversion on team cohesion and the effects of team gender composition on team cohesion. By surveying a simple random sample from a small, private liberal arts college in the Midwest, we collected data on respondent's extraversion rating, gender composition, and the level of cohesion on their most recent academic team. We hypothesized that extraverted students are more likely to be on cohesive teams and that mixed-gender teams are less cohesive than single-gender teams. Our results show that there is a relationship between extraversion and team cohesion, and that the gender composition of teams does not affect team cohesion.

## REVIEW OF LITERATURE

We live in an increasingly collaborative world. With the rise of communication technology, multinational corporations, and global interaction, team membership and collaboration has become an essential element of success. As a result, teamwork has become the focus of much scholarship. Existing research addresses multiple aspects of teams including leadership, conflict, and their use of technology. Our work seeks to contribute to this growing body of research by focusing on team cohesion. The definition of teams is two-fold: they have a shared goal and identity, and are comprised of individuals with distinct roles that are dependent upon each other (Hughes and Jones 2011). Cohesion is the process of creating unity within a body of individuals. Team cohesion can be identified by the following attributes: interpersonal relationships, reciprocity, shared ownership and purpose, joint and equal problem solving, and common goals (Fleming and Monda-Amaya 2001).

Research on team cohesion is divided into two major categories. The first category investigates the processes involved in creating a cohesive or non-cohesive team. For example, when teams form, they experience a phase of establishing roles and expectations that will likely persist for the life of the team. At this time, teams establish their organizational environment along with their goals, roles, processes, and relationships (Wellington and Foster 2009). This formation process is a critical aspect of the creation of cohesive teams. The second approach investigates how team cohesion is affected by the individual attributes of the team members. For example, one study investigated the relationship between individual member's personalities

and team cohesion (O'Neil and Kline 2012). Our team is moving forward with the information collected by this second, more individualized approach to understanding team cohesion.

A number of scholars agree that cohesion is a key variable for team effectiveness. However, they do not agree on how to measure and conceptualize the various dimensions of cohesion (Carless and Paola 2009). The research methods employed to study team cohesion have remained fairly consistent, though, primarily relying on questionnaires, surveys, and interviews. One dimension of cohesion that has been studied involves the attraction that team members have towards one another and towards the team's primary goal (Carless and Paola 2009, Marcos, Miguel, Oliva, and Calvo 2010). Studies such as the ones mentioned above have led to the development of two subcategories of team cohesion: task cohesion and social cohesion.

Carless and Paola (2009) define task cohesion as "the degree of commitment to the task" that a team aims to complete. Task cohesion is influenced by interactions that are related to the task among members of a team, affecting task commitment within the team. This shared commitment towards group goals is linked to team effectiveness (Carless and Paola 2009). Individual efficacy is an important component of team task cohesion because it enhances individual's interpersonal relationship to the collective task. Collective efficacy among team members enhances task cohesion and thus the team's ability to achieve its goals (Wang 2012). Positive interdependence improves task cohesion by enhancing team performance and team communication (Wang 2012).

Carless and Paola (2009) define social cohesion as "the extent to which members interact socially" inside or outside of a team. Social cohesion has been found to have a positive correlation with task cohesion, as it is a necessary component for the creation of team member commitment towards one-another. This loyalty towards one-another leads to a greater investment in the team task (Marcos et al. 2010). Although task cohesion has not been shown

to improve social cohesion, it relates directly to group performance, whereas social cohesion may only do this indirectly (Careless and Paola 2009).

### *Personality and Team Cohesion*

Personality has a complex relationship with team cohesion. It affects not only the way that members complete tasks, but also the way in which members relate interpersonally to one-another. Researchers rely on two indexes to measure personality: the Big Five factors of personality (O'Neill and Allen 2010) and the Myers-Briggs Type Indicator (O'Neill and Kline 2012, Kline and O'Grady 2009). The Big Five factors divide personality into five traits: conscientiousness, agreeableness, neuroticism, extraversion, and openness (O'Neill and Allen 2010). The Myers-Briggs Type Indicator measures four dichotomies of personality: extraversion and introversion, sensing and intuition, thinking and feeling, and judging and perception (Varvel et al 2004, O'Neill and Kline 2012, Kline and O'Grady 2009).

Team effectiveness and performance are closely tied to team cohesion. Effective task completion indicates a certain level of team cohesion. When looking at task performance, researchers have assessed team task focus at various stages of a project (O'Neill and Kline 2008, O'Neill and Allen 2010). While these studies do not directly measure the cohesion of teams, it is difficult to imagine that team cohesion plays no role in task performance. Cohesion, however, is not merely a measure of task completion or effectiveness. Based on the disagreement within previous literature, we seek to better understand the connection between extraversion and team cohesion, specifically as it relates to students.

Popular belief tells us that extraverted people work better on teams due to their social nature and ability to act as encouragers and supporters (O'Neill and Grady 2009). This belief makes sense considering the definition of extraversion as the degree to which someone is outgoing, sociable, and energetic (O'Neill and Kline 2008). However, this assumption has not been fully substantiated by researchers. Much debate exists about the role that personality plays on teams. Extraversion may affect individual's general predisposition to team experiences

(Kline and O'Grady 2009), making them more inclined to form cohesive teams. Therefore, we hypothesize that more extraverted students are more likely to be on cohesive teams.

### *Gender and Team Cohesion*

Gender, like personality, is an aspect that individuals bring to a team that may affect team cohesion. Gender is different than sex and is not the result of biological differences. Instead, it is a social construction that is enacted by men and women's treatment of each other and the stereotypes that they create (Martin 2003). These constructions are brought to the team dynamic and thus influence team cohesion.

Women are disadvantaged in the workplace by gender stereotypes (Martin 2003), an experience that may negatively impact their ability to participate in cohesive teams. These perceptions partially occur because gender stereotypes often create a hierarchy in the workplace, which devalues women's worth (Martin 2003). In addition, women underestimate their own skills, which further disrupt the process of team cohesion formation (Furnham and Buchanan 2005). As a result, women may be less likely to take leadership roles and may be viewed as inferior team members. They may also have trouble connecting to the team and seeing themselves as valued members. Together, these relationships may make it difficult for men and women to work together on teams and achieve a common goal, ultimately complicating team cohesion.

The relationship between team cohesion and team gender composition varies by country, suggesting that outside factors confound the relationship between gender and team cohesion (Watson, Cooper, Torres, Boyd 2008). These factors include gender stereotypes in the workplace, the general place of women in society, and ideas surrounding femininity and masculinity. For example, at large state universities in the United States, mixed-gender teams report being less cohesive than similar teams at universities in Mexico. Gender perceptions differ across cultures (Watson et al. 2008). Thus we infer that gender perceptions play a major

role in the way that men and women interact with one-another on teams. In this way, gender perceptions influence team cohesion differently than simple gender composition does.

As discussed above, gender has significant implications on interpersonal relationships within a team. We believe that there are important intersections between gender, personality, and team cohesion. Contradictory findings leave disagreements in research that our team aims to further investigate. Based on our review of literature, focus group data, and our own experiences, we hypothesize that mixed-gender teams are less cohesive than single-gender teams.

## METHODS

We conducted our research through the use of an electronic survey, created on the program Form Creator, in November 2012 at a small, private liberal arts college in the Midwest. This approach enabled us to reach a large population in a manner that was both quick and cost efficient. An invitation to participate in the survey was sent out to a simple random sample of students with a cover letter and a link to the survey attached. The survey was open for one week and students received several email reminders.

Our survey was created as part of a quantitative research methods class and focused on teams in the classroom. Fellow researchers from the class examined sub-topics such as peer feedback, the role of technology on teams, and team cohesion. Each team contributed survey questions and had access to the results.

### *Variables*

Our first hypothesis stated that extraverted students are more likely to be on cohesive teams. For this hypothesis extraversion is the independent variable and team cohesion is the dependent variable. Much of the research that has been done on personality and team cohesion has relied on either the Myers-Briggs Type Indicator (O'Neill and Kline, 2012; Kline and O'Grady, 2009) or the Big Five Factors of personality test (O'Neill and Allen 2010). It was not feasible for us to ask participants to take either of these tests due to time and space constraints, so we

turned to a revised form of the Eysenck Personality Questionnaire (Francis, Lewis, and Ziebertz 2006). We adapted five of the original twelve components featured on that instrument into a series of five Likert-Scale statements. Examples of the statements in our survey include, “I am a talkative person” and “Other people think of me as being outgoing.” Participants were able to choose from the following response categories for each item: “Strongly Agree,” “Agree,” “Somewhat Agree,” “Somewhat Disagree,” “Disagree,” and “Strongly Disagree.”

We built an index out of these questions. An index is a series of statements, similar in nature, which collectively measure a concept (Neuman 2012). In order to use this index, we coded the responses to each item with the most extraversion affirming response receiving the highest numerical value of six and the least extraversion affirming response receiving a low score of one. These assignments varied based on our practice of reverse coding within the statements. We then measured the index score by adding together the assigned response value of each item. This process created an interval/ratio measurement that we used as the extraversion index score.

Our second hypothesis stated that mixed-gender teams are less cohesive than single-gender teams. For this hypothesis, gender composition is the independent variable and team cohesion is the dependent variable. In order to measure gender composition, we asked participants to describe the gender composition of their most recent academic team. Response categories included “All men,” “Mostly men, at least one women,” “Half men, half women,” “Mostly women, at least one man,” and “All women.” This independent variable is nominal because there is no ordering to the categories.

Both of our hypotheses used team cohesion as the dependent variable, so determining a measure of team cohesion was essential to designing our study. In order to measure team cohesion we created an index based on an adaptation of The Group Environment Questionnaire (Carless and DePalo 2009). The original scale included items on task cohesion, social cohesion,

and individual attraction to the group. We began by adapting five statements from the index, but through collaboration with fellow researchers we were able to expand it.

The final survey included two separate cohesion indexes - one focused on social cohesion with eight items, and the other on task cohesion with seven items. Our indexes included statements such as “Individuals completed their team tasks in a timely manner as agreed upon by the team” and “Our team, as a whole, liked to spend time together outside of work hours.” The statements were assembled into a series of Likert-Scale response categories. We used the following response categories: “Strongly Agree,” “Agree,” “Somewhat Agree,” “Neutral,” “Somewhat Disagree,” “Disagree,” “Strongly Disagree,” and “Not Applicable.” Only participants who had been on an academic team were asked to respond to our questions regarding team cohesion. The cohesion index required us to code each item into a numerical value with the most cohesive affirming response receiving the highest score of seven and the least cohesive affirming response receiving the lowest score of one. Because some of the items on this index were reversed, it varied as to whether the response “Strongly Agree” or “Strongly Disagree” received the highest score. The index score was created by adding up the values of each response in the index and functioned as an interval/ratio measurement that we used as the cohesion index score.

In addition to these indexes, our survey included basic demographic questions and an open ended question regarding team cohesion. The question was, “Do you have any additional thoughts or stories you would like to share with us about how team members work together and get along?” Other researchers had additional questions that appeared on the survey as well.

#### *Validity and Reliability*

Throughout our survey we aimed to achieve validity by using measures that adequately addressed the scope and main aspects of our variables. In order to achieve face validity— the indicator really measures the variable (Neuman 2012) – we used indexes that have appeared in multiple peer-reviewed journals. Both our cohesion and extraversion indexes have previously

been tested so we believe that we accurately tested these variables. In addition, we worked to achieve content validity, meaning that we attempted to measure all aspects of the variables. For the first aspect we revised our questions several times working with our professor to make sure we truly were asking about what we intended to ask. We also met with other students and researchers to discuss team cohesion, personality, and gender. We held one focus group in which asked four students questions relevant to our topic. To achieve content validity, we were thus concerned with making sure that our two index questions encompassed all aspects of team cohesion and extraversion.

Similarly, we attempted to achieve reliability, that is to say dependability and consistency of the variables (Neuman 2012), by adapting indexes that have been used in earlier research. Both indexes have been published in peer-reviewed journals, and we believe them to be adequate representations of extraversion and cohesion. Further, our class sent out a pilot test which allowed us to receive feedback on our survey and enabled us to more clearly conceptualize our constructs and use precise language. In addition, we increased reliability by reversing at least one item in each of the indexes.

We also attempted to write questions that have mutually exclusive and exhaustive answers. Our questions regarding gender composition, however, retrospectively appear to fail to be exhaustive. While we attempted to include all of the possible team combinations, the options we presented were not consistent with a separate question we asked regarding gender identification in which we presented an option for the responder to be a gender other than male or female. We did not allow for team compositions that included members that identified as neither male nor female. Our cohesion index includes questions on both task and social cohesion that were accurately and broadly defined through the guidance of our research. Finally, we also increased reliability by including seven response categories on our Likert-scales. We believe that this allowed participants to most closely select the response that fits their opinion without being overwhelmed by the number of choices.

### *Sample and Sampling Procedure*

Our sampling frame consisted of the student body at a small, private liberal arts college in the Midwest. In order to be able to generalize our results we chose to survey a simple random sample. As Neuman articulates, a simple random sample uses a "pure random process to select cases", which allows "each sampling element in the population to have an equal probability of being selected" (2012). We used the rule of thumb method, which is to say that we used an amount that is commonly accepted among the social science community, to determine our sample size of 25 to 30 percent of our overall population which is approximately 3,000 students (Neuman 2012). This sampling frame, or "ratio of the size of the sample to the size of the target population" (Neuman 2012) strives to be consistent with the guideline that medium populations ought to sample at least ten percent of the population. Because our population was on the low end of what constitutes a medium population, we strove to test a greater percentage of the population and arrived at the goal of 25 to 30 percent. For our sample we needed 750 to 900 student participants for a sufficiently representative sample. Considering the relative homogeneity of college students at small liberal arts colleges in the Midwest, it is acceptable that we ended up with a small sample size.

The Director of the Institutional Review Board (IRB) provided us with this sample which included 707 students. Several groups of students were left out of our sample including students who are under 18 years-old, students that participated in our focus groups, fellow researchers in our class, students studying abroad, our teaching assistant, and non-fulltime students.

In order to increase participation in our research we kept the survey open for one week, sent students reminders, and provided an incentive for participation. Participation was voluntary, but we explained the importance of our survey in a cover letter, and in reminder emails. We also offered ten respondents, chosen through the use of a random-number-table, \$20 gift cards to the college bookstore as an incentive for participation. 251 students responded to our survey, giving us a response rate of about 35.5%. 30% of our respondents were first-year students, 27%

were sophomores, 24% were juniors, 15% were seniors, and 5% chose “other” or did not respond. Furthermore 66% of our respondents were female, and 29% were male, while the remaining 5% of participants chose not to respond.

### *Ethical Considerations*

In preparation of conducting our research we made a conscious effort to maintain proper ethical practices including participant selection, confidentiality, anonymity, and informed consent. We abided by the appropriate ethical standards and requirements set by institutional and governmental entities and received approval from our institution’s Institutional Review Board (IRB). The basic ethical standards address concerns regarding invasion of privacy, voluntary participation, and exploitation of surveys and pseudosurveys (Neuman 2012). In order to gain approval from the Institutional Review Board, we submitted an application required by our institution's board which described our project and our procedures involving human subjects. Our proposal was classified as a type I project with no special factors because the main purpose of our study was to advance knowledge for the students at our college. This classification required a basic review and we thus submitted our proposal to our professor for review.

All participants received an invitation to participate in our survey by email which included a cover letter informing them about the research. The letter addressed how long it would take to complete the survey, included contact information, and informed recipients that they could access the results of the research at a poster session. We emphasized that participation was based on voluntary consent, and we ensured focus group and survey participants that their responses would remain confidential and their identities anonymous. We were able to substantiate this claim because Form Creator allows us to see the responses of participants without being able to connect names to them. We also informed participants that they had the right to skip any questions they did not feel comfortable answering, or even stop their completion of the survey if they felt pressured or uncomfortable. This disclaimer insured

participants that our study was voluntary, that we protected and valued participant autonomy, and that we have respect for persons.

Another ethical concern included the appropriate procedures for subject selection. Our subject sample was obtained through random sampling in order to ensure that each member of the population had an equal chance of being surveyed. Additionally, we excluded vulnerable subjects from our sample, namely those students under the age of 18. We constructed our survey items to avoid subjects that could be perceived as offensive or harmful. In taking these steps, we created a survey that enabled our respondents to answer openly and honestly.

## RESULTS

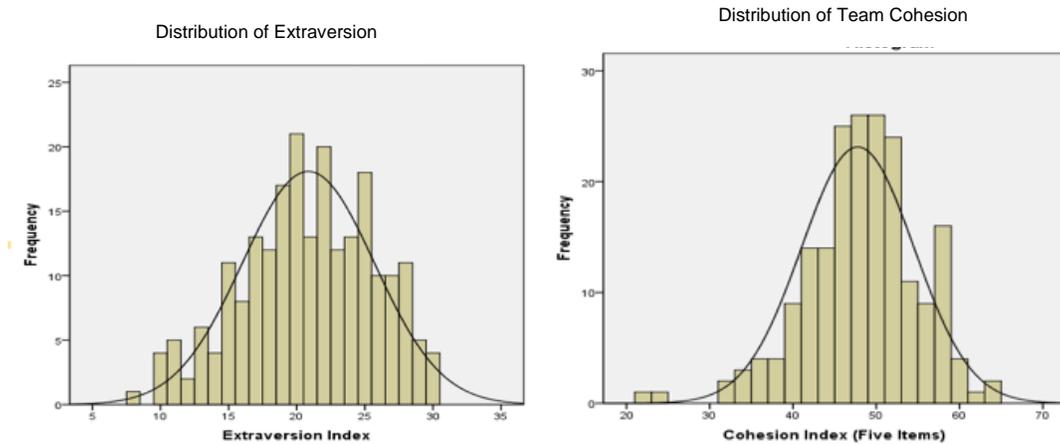
To test our hypotheses of whether extraversion and gender affect the cohesiveness of teams, we conducted a statistical analysis using a Pearson's Correlation test and an Independent Samples T-test. Our first hypothesis was that extraverted students are more likely to perceive themselves to be on cohesive teams. We also hypothesized that mixed-gender teams are less cohesive than single-gender teams. We examined team cohesion by dividing it into two categories: task cohesion and social cohesion. We then examined how extraversion influenced these two categories. Further, we explored the effects of team gender composition on team cohesion.

### *Univariate Data*

Our univariate analysis examined an extraversion index, gender composition of respondents' most recent academic team, and the team cohesion index. Of 251 respondents, 218 reported having been on an academic team. Our survey showed that the mean extraversion score for our respondents is 20.85 with a standard deviation of 4.853 on a scale that ranges from 8 (very introverted) to 30 (very extraverted). The extraversion index is normally distributed (Figure 1).

According to our results, team cohesion is normally distributed. While coding the data we found that because many respondents skipped at least one item on the cohesion index, we

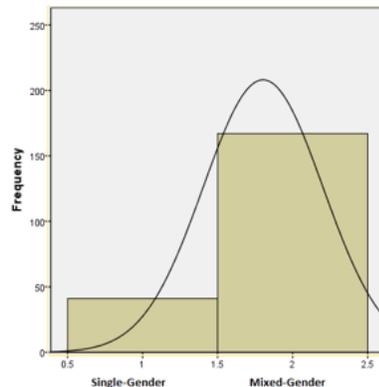
needed to select specific items to form a new cohesion index. We selected the five items with the highest response rate that measure both task and social cohesion. We built a new index based on these statements. The mean score on the team cohesion index is 47.77 with a standard deviation of 6.761 on a scale that ranges from 22 to 64 (Figure 2).



**Figure 1: Distribution of Extraversion (left)**  
**Figure 2: Distribution of Team Cohesion (right)**

Gender composition of most recent teams was also included in our univariate analysis as an independent variable. Our survey asked participants to choose one out of the five options that characterized the gender composition of their most recent teams: “All Men,” “Mostly Men, at least one Woman,” “Half Men, Half Women,” “Mostly Women, at least One Man,” “All Women.” The mode for gender composition is “Half Men, Half Women.” The majority of participants responded to our survey using experience from a mixed-gender team (Figure 3).

**Distribution of Mixed- and Single- Gender Teams**

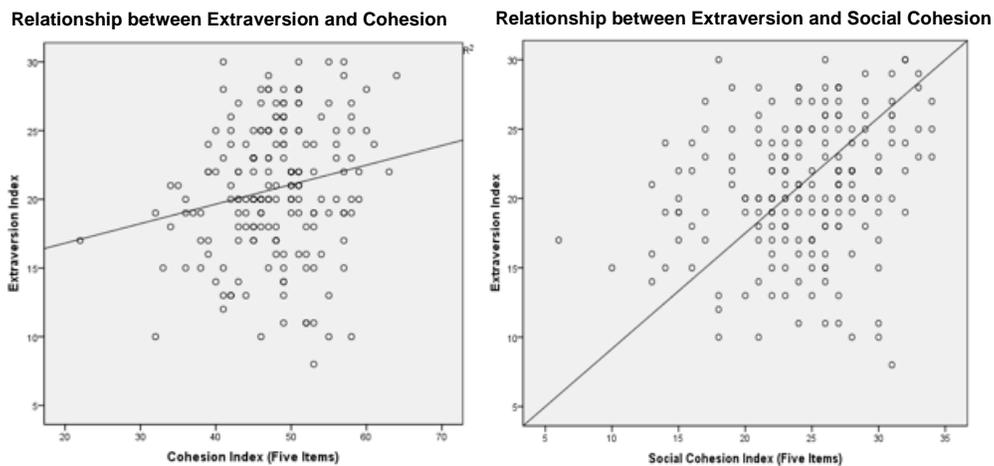


### Figure 3: Distribution of Mixed- and Single- Gender Teams

#### Bivariate Data

*Hypothesis 1: Extraverted students are more likely to be on cohesive teams.*

In analyzing the results for our first hypothesis, we calculated a Pearson correlation coefficient for the relationship between extraversion and team cohesion and found a weak positive correlation ( $r(186)=.192, p<.01$ ), indicating a significant linear relationship between the two variables (Figure 4). Extraverted students are more likely to be on cohesive teams.



**Figure 4: Histogram Showing Relationship between Extraversion and Cohesion (left)**  
**Figure 5: Histogram Showing Relationship between Extraversion and Social Cohesion (right)**

To further explore the relationship between extraversion and team cohesion, we investigated the two separate categories of team cohesion - task and social cohesion. We calculated a Spearman rho correlation coefficient for the relationship between extraversion and task cohesion. We found an extremely weak, non-significant correlation ( $r(199)=.020, p>.05$ ), indicating a non-significant linear relationship between the two variables. Extraverted students are not more likely to be in teams with a high degree of task cohesion. We calculated a Spearman rho correlation coefficient for the relationship between extraversion and social cohesion. We found a weak to moderate significant correlation ( $r(191)=.256, p<.001$ ), indicating

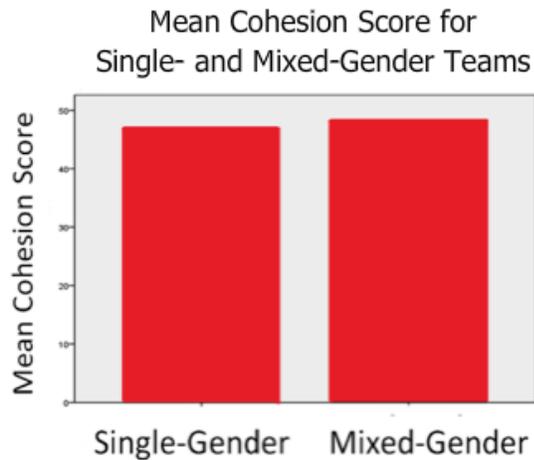
a significant linear relationship between the two variables. Extraverted students are more likely to be in teams with a high degree of social cohesion.

*Hypothesis 2: Mixed-gender teams are less cohesive than single-gender teams.*

To compare team gender composition and team cohesion we used a one-way ANOVA test to compare the mean scores of team cohesion for teams with varying gender composition (All men, Mostly Men, at least one Woman, Half Men, Half Women, Mostly Women, at least One Man, All Women). No significant difference was found ( $F(4,191) = .776, p > .05$ ). Teams with varying gender composition do not differ significantly in their cohesion score (Table 1).

Gender composition of team	Number of respondents	Mean Cohesion Score
All men	9	47.67
Mostly men, at least one woman	30	48.70
Half men, half women	61	47.15
Mostly women, at least one man	61	48.62
All women	35	46.60

In order to attempt to find statistical significance we recoded the data and collapsed the team gender composition into two categories: mixed-gender teams and single-gender teams. We conducted an independent samples t-test to compare the mean cohesion score of single-gender teams with the mean cohesion score of mixed-gender teams. We found no significant difference between the two groups ( $t(194)=-1.061, p>.05$ ). The mean score for single-gender teams ( $m=46.82, sd=6.337$ ) is not significantly different than the mean score for mixed-gender teams ( $m=48.05, sd=6.874$ ) (Figure 6).



**Figure 6: Mean Cohesion Score for Single- and Mixed-Gender Teams**

Because there were so few reported all male teams, we conducted an independent samples t-test to compare the mean cohesion score of single-gender teams with the mean cohesion score of mixed-gender teams using only the responses of female responders, and found no significant difference between the two groups ( $t(144)=-.988, p>.05$ ). The mean score for single-gender teams ( $m=46.60, sd=6.363$ ) is not significantly different than the mean score for mixed-gender teams ( $m=47.73, sd=6.863$ ). Next, we recoded the data to exclude all male only teams since there were so few of them. With this altered data set we conducted an independent samples t-test to compare the mean cohesion score of single-gender teams with the mean cohesion score of mixed-gender teams. This means that any responses based on mixed-gender teams refer to female only teams. We found no significant difference between the two groups ( $t(186)=, p>.05$ ). The mean score for single-gender teams ( $m=46.69, sd=6.278$ ) is not significantly different than the mean score for female only teams ( $m=48.05, sd=6.874$ ).

## DISCUSSION

Our results regarding extraversion, team gender composition, and team cohesion provide insight into the roles that these factors play on academic teams. Our data supports our first hypothesis meaning that extraverted students are more likely to be on cohesive teams. Despite the positive correlation between these variables, the relationship found was quite weak.

Further testing found no statistically significant relationship between extraversion and task cohesion but a moderate positive relationship between extraversion and social cohesion.

Similarly to other research, our study finds that there is an important relationship between team member extraversion levels and positive social team cohesion (Kline and O'Grady 2009). Our results speak directly to the debate concerning the role that personality plays on teams, and suggest that for academic teams, there is a connection between team cohesion and individual personality. Although we cannot determine why there is a connection between team cohesion and extraversion, our results provide support for O'Neill and Grady's (2009) findings that extraverted people provide support for teams because they are able to act as encouragers and supporters.

Carless and Paolo (2009) suggest that social cohesion has a positive correlation with task cohesion. Our results are surprising because the relationship between extraversion and the two types of cohesion are different. This finding suggests that creating a team of all extraverts will not necessarily lead to a highly effective team. On the other hand, extroverted team members may provide a forum for other students to focus on task-related activities. One survey participant commented on this dynamic directly in the survey by saying, that social cohesion "has no effect on productivity and may even harm it if too much time is spent on social aspects. It just depends on what you care about more: being efficient or having fun. The best case scenario is to have a healthy balance of the two." In this way, extraverted team members may serve as a catalyst for creating a healthy dynamic that ultimately leads to a successful team. These results provide support for earlier findings by Wang (2012) and Marcos, Miguel, Oliva, and Calvo (2010) which suggested that aspects of social cohesion are directly related to effective and successful teams.

Our second hypothesis was not supported, as there was no statistically significant relationship between team gender composition and cohesion. These results are surprising because previous research suggests that gender plays an influential role in team dynamics

(Martin 2003, Furnham and Buchanan 2005, Watson et al. 2008). Our findings may be due to the fact that they represent the viewpoints of students at a private liberal arts institution in the Midwest. At institutions such as this one, there is a concerted effort to reduce gender stereotypes and hierarchies. Our results may reflect a changing view of gender relations. Teams may therefore be cohesive because students go into teams with a positive attitude about working with different genders. In addition, these results may be due to response bias as there has been such a strong push to remove gender inequalities on this campus. Student may be less likely to identify or admit to negative gender stereotypes.

Though our results suggest that gender stereotypes do not have an effect on the formation of cohesive teams, several respondents alluded to the fact that gender stereotypes may still exist within teams. One participant stated, "If there is an equal number of men and women it is better because then they will each have a fair share in what happens." This remark suggests that gender hierarchies, which cause women to be quieter on teams (Martin 2003), are resolved through an equal balance of men and women on the team. Instead of being a hindrance to team cohesion, mixed-gender teams may actually help to overcome these challenges. These results provide partial support for Lee and Fahr's (2004) findings that gender diverse teams can also achieve high levels of cohesion.

Our results provide interesting suggestions for employers and students seeking employment. Univariate data shows that the majority of respondents have team experience, which is increasingly becoming a necessary workplace skill. As students move from college to the workplace these experiences become valuable as students market themselves. Our results show that extraverted team members have no effect on the task cohesion of a group, so we further suggest that employers take extraversion into account only when developing socially cohesive teams is a goal. Employers should also note that the gender composition of teams appears to have no effect on team cohesion so they need not take gender into account when attempting to design cohesive teams.

## *Conclusion*

In our research we asked the question: "What relationship exists between extraversion, gender, and team cohesion?" Our survey examined the effect that extraversion has on team cohesion, specifically in the categories of task cohesion and social cohesion. We also examined the impact of gender composition on team cohesion.

Our first hypothesis was supported, as we found a statistically significant relationship between extraversion and team cohesion. Although we found no statistically significant relationship between extraversion and task cohesion, we did find a moderate positive relationship between extraversion and social cohesion. Extraversion often leads to better social relationships but it is not necessarily indicative of a successful team.

Regarding our second hypothesis, we found no relationship between team gender composition and team cohesion. This result could be due to limitations in our data. Namely, the majority of our respondents were female, and only nine male-only teams were reported. Also, we faced time constraints that did not allow us to fully investigate exploratory variables such as class year, team experience, and formation of the respondents most recent academic teams.

With our results in mind, we suggest to employers, who primarily value task cohesion within their teams, that extraversion should not be taken into consideration—as the presence of extraverted team members does not necessarily have an effect on the task cohesion of a team. Instead we suggest that extraverted people should market their social worth and contribution to the social dimension of teams. Employers should also note that, based on our findings, gender difference appears to have no effect on team cohesion. Our data should be taken into consideration during efforts to form cohesive teams.

While providing significant findings our study does have notable limitations. First, our sample population does not allow us to generalize our results beyond students at the institution at which we conducted our research. In addition, our low response rate limits our ability to generalize to the student body. Through participating in a group survey, our ability to ask a

sufficient number of questions that would have been valuable to our research was limited.

Finally, the nature of this study, which was conducted during a college semester, restricted our ability to fully analyze our data.

Future research conducted in different settings, such as in workplaces, could shed light on the generalizability of our study onto a greater population. In addition, studying other aspects of personality, such as agreeableness and openness, could provide further evidence of personality, and more specifically, extraversion on team cohesion. Finally, a study that looks at multigenerational teams could illuminate changing trends in team cohesion dynamics.

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