Gender Differences in Community College Psychology Students' Cooperative Learning Experiences: A Qualitative Analysis

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College Students' Perceptions of the Cooperative Learning Process

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The goal of the study was to assess the effects of gender on college students' perceptions of the cooperative learning process. Ninety-five college students completed 5 open-ended questions that asked students about their preferences for cooperative learning activities. Fifty-one female and 44 male students participated in the study. Utilizing qualitative research design, the study compared responses to the five questions across genders. The principal investigator analyzed data to identify themes, frequency of response, percentage of response, and emergent categories. Some qualitative findings were that male and female students prefer the same type d group work, and male and female students both agreed that providing rewards and full group participation are ways of making group work more enjoyable.

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C ooperative learning activities are used in classrooms from elementary school through college (Johnson & Johnson, 2009), with college students reporting having a variety of different cooperative learning experiences during their primary and secondary education (Arra, Shuaib, & McGarry, 2014). Therefore, upon entering college, students have been exposed to a wide variety of cooperative learning activities (Arra, Shuaib, & McGarry, 2014). This exposure invariably makes students more comfortable with certain cooperative learning activities that they may wish to continue using in college (Arra, D'Antonio, & D'Antonio, 2011).

Purpose of the Study

The present study investigated college students' perceptions of the cooperative learning experience by gender. Many studies have been conducted that examine students' preferences for different types of cooperative learning activities, and several studies have been conducted that examine students' perceptions of the cooperative learning process. A handful of studies have even looked at college students' perceptions of the cooperative learning experience, but scant, if any attention has focused on gender and perceptions of cooperative learning activities. Furthermore, there is little research that specifically evaluates college students' perceptions of the cooperative

learning process using a qualitative research design. Therefore, the present study attempted to inform educators by analyzing the cooperative learning process from the perspective of the college student and to extend this nascent field. The goal of the researcher was to answer the following two questions and respond to the additional prompts by gender:

1) What are the advantages of working in groups?

2) What are the disadvantages of working in groups?

3) Describe specific types of group work/activities that you like.

4) Describe specific types of group work/activities that you do not like.

5) Describe ways to make group work more enjoyable.

Literature Review: Cooperative Learning

Robert Slavin (1994) defines cooperative learning as an instructional program where students work in small groups to help each other master academic content. In this way, when the group succeeds, everyone in the group succeeds (Bishnoi, 2017). Slavin (1994) also suggested that cooperative learning has the potential to capitalize on the developmental characteristics of students. In this way, these techniques capitalize on students' desires for peer orientation, expressions of independence, and social enthusiasm. Additionally, McKinney & Cook (2018) identified two types of cooperative learning. Formal cooperative learning is structured and is used to achieve group goals and informal cooperative learning incorporates group learning with passive teaching. Finally, Elliot and Reynolds (2014) suggested that cooperative learning is fun for students and that they also support each other's learning.

The use of cooperative learning strategies in American school's dates back to the 1950's. The rationale, proposed by James Coleman (1961) was that cooperative learning activities reduced competition in schools. Competition amongst students was viewed as a negative component of the education system. Instead, Coleman suggested that a more cooperative approach to teaching would discourage competition in academic settings which effectively impedes the process of education.

While theorists such as Coleman began establishing the tenets of cooperative learning theory in the 1950's, modern theorists David Johnson and Roger Johnson head the Cooperative Learning Center at the University of Minnesota. The center focuses on making classrooms and schools more cooperative places by teaching cooperative skills, leadership, and communication. Johnson and Johnson identified that cooperative learning promoted skills within the group including better communication, mutual liking, and high acceptance and support (Johnson and Johnson, 1975). Subsequently, Johnson and Johnson (2007) identified the 5 elements for effective group learning. These elements are positive interdependence, face-to-face orientation, individual accountability, processing, and social skills (Johnson and Johnson, 1994). Brandl, Schneid, Smith, Winegarden, Mandel, & Kelly (2017) expanded on these ideas by suggesting 8 key elements to cooperative learning: teacher supervision, heterogeneous groups, positive interdependence, face-to-face interaction, individual accountability, social skills, group processing, and evaluation.

According to Johnson, Johnson, and Smith (2007), cooperative learning has two components: social and academic. The social aspect of cooperative learning can be very exciting for students who enjoy this element of the activity. The academic learning can therefore flow more easily as it is cloaked by the social interaction. Johnson and Johnson (2007) also stated that cooperative learning is based on social interdependence theory. In this way, cooperative learning

activities are tied to theory. Teachers appreciate and prefer to implement interventions that are not only empirically-supported, but also tied to theory. It can be said that theory drives practice.

Literature Review: Student Perceptions of Cooperative Learning

Several studies have been conducted that assessed students' perceptions of the cooperative learning process. Marks and O'Connor (2013) administered a survey to college students to determine their attitudes about cooperative learning activities in the classroom. Results showed that students saw cooperative learning as a positive experience but did not necessarily prefer it to individual assignments. Students also questioned instructors' motivations for using group work.

Sarobol (2012) investigated university students' perceptions of group work in the classroom. Ninety-five first-year university students were assessed. Findings suggested that most students preferred group work to traditional instruction, and that most students also viewed group work in a positive light. Another study by Chiriac and Granstrom (2012) also looked at university students' perceptions of cooperative learning activities. Two hundred-ten university students participated in the study. Results showed that students saw group work as an activity that facilitated learning, had a social function, and that the group must be well organized with both male and female members. Additionally, students reported that a lack of group structure could lead to a low degree of satisfaction with group work.

Hillyard, Gillespie, and Littig (2010) conducted survey-based research with undergraduate students. They found that bad group experiences led to long-lasting, negative attitudes about group work.

Du, Ge, & Xu (2015) looked at African-American females' perceptions of the cooperative learning process. This study employed a qualitative methodology as the participants in interviews

containing open-ended questions. The results indicated that the participants preferred to work in racially mixed groups and that they viewed cooperative learning as a learning activity not a social one. In another study, Opdecam, Everaert, Keer, & Buysschaert (2014) studied undergraduate Accounting students. For this study they compared group learning and lecture-based learning. Results indicated that female students had a higher preference for group work compared to male students. Additionally, they found that students who preferred group work were more help seeking, more intrinsically motivated, had less control of their learning beliefs, and were more willing to share their knowledge with their peers. Interestingly, they researchers also found that engaging in group work resulted in increased performance as compared to lecture-based learning.

Literature Review: Gender diversity and its effect on attitudes about Cooperative Learning Activities

A study by Cheng, Shui-fong, and Chan (2008) looked at heterogeneous groups and self-efficacy. The results indicated that group heterogeneity and group gender composition did not affect students' reports of self-efficacy. Another study by Ding, Bosker, & Harskamp (2011) looked at the influence of gender and gender pairing on student learning performance in group work. The results of the study indicated that in mixed-gender dyads participants ideas tended to diverge from each other. Additionally, females in single-gender dyads outperformed females in mixed-gender dyads.

Hansen, Owan, & Pan (2015) examined how group diversity affects group work performance. For their study they collected data in an undergraduate management course. Results indicated that male-dominated groups performed worse in their group work and learned less. Another study by Harskamp, Ding, & Suhre (2008) assessed cooperative learning activities in an undergraduate physics course. The findings indicated that males benefited most in mixed-gender group activities, and that the females in the group devoted less time to seeking solutions and spent more time asking questions than their male partners.

Prinsen, Volman, & Terwel (2007) looked at computer-supported collaborative learning in the college environment. They found that male dominance occurs with more frequency in collaborative learning groups, and that to mitigate those findings the groups should be gender-balanced. Additionally, gender-balanced groups help to mitigate gender-stereotyped participation and communication patterns. A study by Kaenzig, Hyatt, & Anderson (2007) examined gender differences in undergraduate business classes. The qualitative results of the study indicated that, overall, females group experiences were negative. They stated that there was a male or two in each group that did not participate, and some females tried to join all female groups to avoid this problem. Additionally, the females reported that they did not like their grades being controlled and determined by others, and that it was difficult to schedule meeting times due to group members' work and social obligations.

Cannon, Cannon, & Breen (2013) assessed competitive cooperative learning activities in an undergraduate chemistry class. The researchers administered surveys to the students. Results indicated that female responses regarding subject interest, competition interest, and competition usefulness were more positive than their male counterparts. Finally, Sarobol (2012) examined cooperative learning preferences in an English Language class. The participants completed reflective journals and the data were analyzed qualitatively. Results indicated that students preferred cooperative learning activities over lecture-based learning.

Methodology

Participants

A total of 95 students participated in the study. The participants were first- and second-year students from a community college in the Mid-Atlantic region of the U.S. Fifty-one women and 44

males, ranging from 18 to 63 years of age with an average age of 21, participated in the study (see Table 1). There were 21 Caucasian, 12 Asian-American, 13 African-American, 31 Hispanic, 5 Middle-Eastern students, 1 Pacific Islander, and 12 Mixed/Other participants. The students agreed to participate in this research study.

Measures

Five Open-Ended Questions

Five open-ended questions were also administered (see Appendices). The use of open-ended questions allowed respondents to give exact answers to questions without being forced into picking the closest representation to their actual response. The researcher also used open-ended questions as a way of allowing the respondents to "vent" or add information, comments, or opinions. Additionally, the use of open-ended questions by the researchers generated facts, opinions, and insights from the participations.

Procedure

The 5 open-ended questions were administered to the students by the principal investigator. Students volunteered to complete the questions and were not penalized if they chose not to participate.

Data Analysis

The 5 open-ended questions were first analyzed by pattern coding. This type of 'low-level' coding seeks to find patterns in the data and use these patterns as the basis of coding. The first round of coding also looked at deviations from patterns or atypical responses. These responses were labeled

as outliers and discarded. The codes were then reviewed and combined into 'high-level' codes that included both themes and emergent categories. Themes were also broken down into subthemes. The data were also analyzed for frequency of response and percentage of response. The principal investigator also attempted to identify relationships between themes and emergent categories. Finally, conclusions were developed as the principal investigator attempted to find explanations from the data.

Limitations and Future Research

There are several common limitations of qualitative research. First, the quality of this type of research—as compared to quantitative research---is heavily dependent on the skills of the researcher. Also, the interpretation and discussion of the findings may be influenced by the perspective of the researcher, thus causing a bias in the results.

For the current study, areas of future research include the investigating the 'tentative conclusions' listed below as they provide a basis of exploration.

Results

First Research Goal

What are the advantages of working in groups?

Eighty-seven student responses, or 92% of the total responses, were analyzed for the first probe (see Table 2). Forty-four responses were from female participants and forty-three responses were from male participants. Three categories emerged from the female responses. These categories and response percentages were Getting to Know People (74%), Learning New Things (82%), and Getting the Project Completed Quickly (71%).

Three categories emerged from the male responses. These categories and response percentages were Provides Me With Study Partners (73%), Develops A Person's Social Skills (89%), and You Get A Well Rounded Perspective (69%).

The principal investigator also attempted to identify relationships amongst the categories and between gender. Female participant responses had both social and academic response patterns. Female participants indicated that "Learning New Things" and "Getting The Project Completed Quickly" were important academic aspects of group work. They also indicated "Getting To Know People" as an important social aspect of group work.

Male participant responses had both social and academic response patterns. Male participants indicated that "You Get A Well-Rounded Perspective" were important academic aspects of group work. They also indicated "Provides Me With Study Partners" and "Developing A Person's Social Skills" as important social aspects of group work.

Attempts to find explanations from the data are listed discussed in the *Conclusions* section of the paper.

Second Research Goal

What are the disadvantages of working in groups?

Eighty-five student responses, or 89% of the total responses, were analyzed for the second probe (see Table 3). Forty-two responses were from female participants and thirty-nine responses were from male participants. Three categories emerged from the female responses. These categories and response percentages were Not Everyone Participates (97%), Conflicting Viewpoints (78%), and Not All Students Like Working in Groups (73%).

Three categories emerged from the male responses. These categories and response percentages were People Stop Paying Attention (82%), Quality Of The Work Varies (65%), and Not Everyone Participates Equally (92%).

The principal investigator also attempted to identify relationships amongst the categories and between gender. Female participant responses had both social and academic response patterns. Female participants indicated Conflicting Viewpoints" as an important academic aspects of group work. They also indicated social reasons stating that "Not Everyone Participates Equally" and "Not All Students Like Working In Groups" as important disadvantages of group work.

Male participant responses had both social and academic response patterns. Male participants indicated that "Quality Of The Work Varies" as an important academic aspect of group work. They also indicated social reasons stating that "People Stop Paying Attention" and "Not Everyone Participates Equally" as important disadvantages of group work.

Attempts to find explanations from the data are listed discussed in the *Conclusions* section of the paper.

Third Research Goal

Describe specific types of group work/activities that you like.

Ninety-one student responses, or 96% of the total responses, were analyzed for the third probe (see Table 4). Fifty responses were from female participants and forty-one responses were from male participants. Two categories emerged from the female responses. These categories and response percentages were Group Projects (78%) and Group Presentations (80%).

Two categories emerged from the male responses. These categories and response percentages were Group Projects (71%) and Group Presentations (75%).

The principal investigator also looked for relationships among the categories and between the genders. In this case, both male and female participants reported preferences for the same types of group activities. Both men and women enjoyed group projects and group presentations. It is interesting to note the rather basic types of group activities that they preferred. It could be that as students in elementary and secondary school, they were not exposed to other types of group work like jigsaws and think-pair-share activities.

Attempts to find explanations from the data are listed discussed in the *Conclusions* section of the paper.

Fourth Research Goal

Describe specific types of group work/activities that you do not like.

Ninety-three student responses, or 98% of the total responses, were analyzed for the fourth probe (see Table 5). Fifty-one responses were from female participants and forty-two responses were from male participants. Two categories emerged from the female responses. These categories and response percentages were Science Group Work (68%) and Group Papers (51%).

Two categories emerged from the male responses. These categories and response percentages were Science Group Work (62%) and Learning Teams (49%).

The principal investigator also attempted to identify relationships between the categories and gender. It is interesting to note that both male and female students did not prefer Science Group Work. However, differences between gender were also found. Female students reported not liking Group Papers and male students did not like Learning Teams. It is certain that male and female students are exposed to a variety of group activities during their schooling, and that observation is evidenced here.

Attempts to find explanations from the data are listed discussed in the *Conclusions* section of the paper.

Fifth Research Goal

Describe ways to make group work more enjoyable.

Ninety-three student responses, or 98% of the total responses, were analyzed for the fifth probe (see Table 6). Fifty responses were from female participants and forty-three responses were from male participants. Four categories emerged from the female responses. These categories and response percentages were Being Able to Select A Leader (52%), Provide Rewards (48%), Allow Students To Choose Their Own Group Members (61%), and Everyone Participates (70%).

Four categories emerged from the male responses. These categories and response percentages were Respecting Other People's Opinions (64%), Make All Group Members Accountable (49%), Provide Rewards (62%), and Everyone Participates (69%).

The principal investigator also attempted to identify relationships amongst the categories and between gender. Both male and female students identified Providing Rewards and Everyone Participates as common categories. Female participants indicated Being Able To Select a Leader and Allowing Students to Choose Their Own Group Members as important categories. Male participants indicated Respecting Others' Opinions and Making All Group Members Accountable as significant categories.

Attempts to find explanations from the data are listed discussed in the *Conclusions* section of the paper.

Conclusion

The current study provided much information regarding cooperative learning activities by gender. The present study analyzed the data by gender and many interesting results were found. It is apparent that male and female participants view group work in both similar and differing ways.

Male and female students had differing responses regarding the advantages of working in groups. The female participants emphasized getting to know group members and efficiency of project completion while male participants indicated the development of social skills and getting a well-rounded perspective as advantages of group work.

The second probe asked participants about the disadvantages of group work. Female participants indicated conflicting viewpoints and lack of participation by all group members as disadvantages. Their male counterparts suggested that group members stop paying attention and that the quality of the work varies. Both genders indicated lack of participation by all members as a significant concern.

Next, the participants were asked to report the types of group work they preferred. Interestingly, both groups of participants reported similar findings. Both male and female participants preferred group projects and group presentations. The following probe asked participants which group activities they did not like. Female participants reported science group work and group papers. Male participants also reported science group work as an activity that they disliked. Male participants also indicated that they did not like learning teams.

Finally, the participants were asked to report ways of making group work more enjoyable. Female participants reported being able to select a leader as an important criterion. Male participants reported respecting others' opinions as an important criterion. Interestingly, both genders indicated rewards and having all members participate as ways to make group work more enjoyable.

Finally, the principal investigator attempted to find explanations from the data. Several conclusions emerged from the data analyzed in the current study. Data collected from the ninety-five participants in this study indicated that participants shared the following experiences:

1. Male and female participants reported different advantages of group work.

2. Male and female participants reported different disadvantages of group work.

3. Male and female participants preferred the same types of group work: group projects and group presentations.

4. Male and female participants agreed in disliking Science Group Work.

5. Male and female participants also reported disliking different types of group work.

6. Male and female participants both agreed that providing rewards and full group participation are ways of making group work more enjoyable.

7. Male and female participants also reported different ways of making group work more enjoyable.

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Appendix

Table 1

Descriptive Statistics of the Participants

Total Number of Participants	95
Female	51
Male	44
Ethnicity	
Caucasian	21
Asian-American	12
African-American	13
Hispanic	31
Middle-Eastern	5
Pacific Islander`	1
Other	12

Table 2

Advantages of working in groups by gender.

Emergent Category	Frequency	Percentage
Female		
Getting To Know People	32	74%
Learning New Things	36	82%
Getting The Project Completed Quickly	31	71%
Male		
Provides Me With Study Partners	31	73%
Develops A Peron's Social Skills	38	89%
You Get A Well-Rounded Perspective	29	69%

Table 3

Disadvantages of working in groups by gender.

Emergent Category	Frequency	Percentage
Female		
Not Everyone Participates Equally	40	97%
Conflicting Viewpoints	33	78%
Not All Students Like Working In Groups	30	73%
Male		
People Stop Paying Attention	32	82%
Not Everyone Participates Equally	25	65%
Quality Of The Work Varies	36	92%

Table 4

Specific Types Of Group Works That You Prefer—By Gender.

Emergent Category	Frequency	Percentage
Female		
Group Projects	39	78%
Group Presentations	40	80%
Male		
Group Projects	29	71%
Group Presentations	31	75%

Table 5

Specific Types Of Group Works That You Do Not Prefer—By Gender.

Emergent Category	Frequency	Percentage
Female		
Science Group Work	35	68%
Group Papers	26	51%
Male		
Science Group Work	25	62%
Learning Teams	20	49%

Table 6

Ways To Make Group Work More Enjoyable-- By Gender.

Emergent Category	Frequency	Percentage
Female		
Being Able To Select A Leader	26	52%
Provide Rewards	24	48%
Choose Your Own Group Members	31	61%
Everyone Participates	35	70%
Male		
Respect Others' Opinions	28	64%
Everyone Participates	30	69%
Make All Group Members Accountable	21	49%
Provide Rewards	27	62%

5 Open-Ended Questions

Age_____ Gender_____ Ethnicity_____

1. What are the advantages (pros) of working in groups?

2. What are the disadvantages (cons) of working in groups?

3. Describe specific types of group work/activities that you like.

4. Describe specific types of group work/activities that you do not like.

5. Describe ways to make group work more enjoyable/effective in the classroom.