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Community College Psychology Students' Cooperative Learning Experiences--A Qualitative Analysis By Year In College

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Abstract: The study aimed to assess the effects of year in college on students' perceptions of the cooperative learning process. Ninety-six college students completed 5 open-ended questions that asked students about their preferences for cooperative learning activities. Forty-nine first-year students and 47 second-year students participated in the study. A qualitative research design was used. Qualitative analyses compared---by year in college---the 5 open-ended questions. The principal investigator qualitatively analyzed the data for themes and subthemes, high-frequency responses, and percentage of response. Some findings were that first- and second-year students preferred the same types of group work and both groups had overlapping ideas on ways to make group work more enjoyable.

Keywords: cooperative learning, year in college

Cooperative 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). Finally, it is important to note that college students' overall level of exposure to cooperative learning activities varies significantly, and not all students have been exposed to cooperative learning activities that are beneficial in college.

A Review of Cooperative Learning

Robert Slavin (1994) defined 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 schools dates back to the 1950s. 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 James Coleman began establishing the tenets of cooperative learning theory in the 1950s, modern theorists David 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 identified the 5 elements for effective group learning. These elements are positive interdependence, face-to-face orientation, individual accountability, processing, and social skills. It is important to note that all 5 elements are equally important for effective group learning (Johnson and Johnson, 1994). Additionally, Johnson and Johnson (1999) modified their 5 criteria in 1999 to include positive interdependence, individual accountability, promotive interaction, group processing, and the development of small-group interpersonal skills, with all elements being equally important. 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. Again, all 8 elements are equally important for effective group learning (Brandl et al., 2017).

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. Academic learning can therefore flow more easily as it is cloaked by social interaction. Johnson and Johnson (2009) 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.

Collectively, the literature around cooperative learning suggests that, although it's use in academic environments surely precedes the mid-twentieth century, it was formally introduced into the schools in the 1950s. The literature also points to the research and dedication to cooperative learning by Johnson and Johnson. They were instrumental in defining the components and elements of cooperative learning.

A Review of the Literature of Student Perception 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. Prior to finalizing the survey, a small sample of students reviewed the instrument for clarity, acceptability, comprehensiveness, and implementation efficiency. The surveys were administered to 8 business classes and 19 English Classes. The response rate was 85% in business and 71% in English. 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. The students were divided into groups, each of which contained 4-6 members. The students worked in the same group the entire semester. The students spent time working in their groups both during class and outside the classroom. 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 (2014) also looked at university students' perceptions of cooperative learning activities. Two hundred-ten university students participated in the study. The students were assigned to groups of 4 to 8 students, with the groups being heterogeneous concerning gender. The empirical data were collected through a study-specific semi-structured questionnaire. 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.

A study by Schultz, Wilson, & Hess (2010) assessed student preference for cooperative learning activities by evaluating open-ended questions given to the students. Students identified some benefits of group work including, a better product, improved learning opportunities, and reduced workloads. Student concerns included giving up control over grades, free riding by others, and difficulties finding times for the group to meet.

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, researchers also found that engaging in group work resulted in increased performance as compared to lecture-based learning.

Collectively, the research on the student perception of cooperative learning suggests that college students view group work in a positive light as long as the groups have structure. Students indicated several perceived benefits including that it reduces individual workload and that engaging in group work increases academic performance. However, the research indicates that a lack of group structure and negative group work experiences both lead to low degrees of perceived satisfaction by college students. It is clear the study's findings are varied, and that more attention needs to be given to this important topic.

Year in college and its effect on attitudes about Cooperative Learning Activities

Very little attention in the extant body of research has focused on year in college and attitudes regarding cooperative learning. A study by Asghar (2010) examined first-year students' perceptions of a specific cooperative learning activity---reciprocal peer coaching. Students were interviewed and three themes emerged: motivational learning, learning in groups, and the context of learning. The themes were then analyzed across a common concept--- self-regulation.

Another study by Hodgson, Chan, and Liu (2014) examined the process of peer assessment with teacher guidance. The participants were 153 first-year college students. Results indicated that the first-year students expressed the need for both peer feedback and the instructor's direct guidance.

Finally, a study by Loes, An, Saichaie, and Pascarella (2017) sought to determine whether engaging in cooperative learning persisted to the 2nd year of college. The participants were 2987 college students from 19 institutions. The results indicated that learning in groups leads to greater levels of positive peer interactions which is related to students persisting to the 2nd year of college.

Collectively, a review of the research concerning year in college and cooperative learning indicates that little research has been conducted on this specific topic. Two studies focused on a specific cooperative learning activity, and the third study examined cooperative learning activities and their effects on college retention. The comprehensive literature review on this topic suggests that there is room to explore, and the present study does just that by asking first and second-year students their general perceptions of cooperative learning. In this way, the researcher seeks to advance, however slightly, the knowledge base of this important topic.

Purpose of the Study

In the present study we investigated college students' perceptions of the cooperative learning experience by year in college. 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 year in college and perceptions of cooperative learning activities.

Additionally, analysis of the data across years in college is useful because it informs instructors of how students progress in their knowledge of and utilization of cooperative learning activities from the first to the second year in college. Instructors are then able to take this information into consideration when developing and incorporating cooperative learning activities with their students. This information is useful because it informs all college instructors, regardless of their field of expertise.

Finally, 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 instructors by analyzing the cooperative learning process from the perspective of the first- and second-year college students and to extend this nascent field. The goal of the researchers was to answer the following questions by year in college:

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.

Method

Participants

A total of 96 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. Forty-nine first-year students and 47 second-year students, ranging from 18 to 63 years of age with an average age of 21, participated in the study (see Table 1). Fifty-two female and 44 male students participated in the study. There were 21 Caucasian, 12 Asian American, 13 African American, 31 Hispanic, 5 Middle Eastern students, 1 Pacific Islander, and 12 Mixed/Other participants.

First-year students were defined as students who have completed 30 credits or less. Second-year students who have completed 30-60 credits. Students were both part and full-time enrolled in college.

The students agreed to participate in this research study. Students completed and signed an Informed Consent Form that was developed by the researcher. The ethical principles provided by the APA formed a guideline for the present study. These principles, which emphasize the concern of the participant's interest, were applied throughout the study (APA, 2002).

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

Measures

Five Open-Ended Questions: Five open-ended questions were also administered (see Appendix 1). 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 participants (Yin, 2003).

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.

Qualitative 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 uses these patterns as the basis of coding. The codes were then reviewed and combined into 'high-level' codes that included both themes and subthemes. The data were also analyzed for frequency of response and percentage of response. Finally, tentative conclusions were developed as the principal investigator attempted to find explanations from the data.

Results

First Research Goal

What are the advantages of working in groups?

Eighty-six student responses, or 90% of the total responses, were analyzed for the first probe (see Table 2). Forty-four responses were from first-year students and forty-two responses were from second-year students.

Two themes emerged from the data analysis of the first- and second-year students. The themes were: academic and social. The student responses fit into either category, as some responses were related to academic aspects of cooperative learning, and some responses related to social aspects of cooperative learning. An additional part of the data analysis included calculating the response percentages.

For the first research question, three subthemes emerged as the researcher analyzed the data from the first-year students. The responses and percentage rates were: Getting to Know People (59%), Developing Social Skills (62%), and Finishing the Work Quickly (68%). A first-year student wrote "Some advantages are getting the work done quicker and meeting people in class."

Three subthemes also emerged from the second-year responses. The responses and response percentages were: Provides Me With Study Partners (55%), The Project Is Finished Quickly (66%), and You Get A Well Rounded Perspective (47%).

For first-year students, a response such as "getting the project completed quickly" relates to the broader 'academic' theme. However, responses such as "getting to know people" and "developing social skills" relate to the broader 'social' theme.

For the second-year students, high-frequency responses such as "you get a well-rounded perspective" and "the project is finished quickly" relate to the broader 'academic' theme. However, a high-frequency response such as "provides me with study partners" relates to social aspects of group work.

Table 2. Advantages of working in groups by year in college.

Subthemes	Frequency	Percentage
First-Year		
Getting To Know People	26	59%
Developing Social Skills	27	62%
Finishing The Work Quickly	30	68%
Second-Year		
Provides Me With Study Partners	27	59%
The Project Is Finished Quickly	30	66%
You Get A Well-Rounded Perspective	22	47%

Second Research Goal

What are the disadvantages of working in groups?

Eighty-seven student responses, or 91% of the total responses, were analyzed for the second probe (see Table 3). Forty-three responses were from first-year students and forty-four responses were from second-year students.

Two themes emerged from the data analysis of the first- and second-year students. The two themes were: academic and social. High-frequency responses, or subthemes, fit into either category as some responses related to academics, and some responses related to social aspects of cooperative learning. An additional part of the data analysis included calculating response percentages.

Two subthemes emerged from the first-year responses. These responses and response percentages were Not Everyone Participates (62%) and Conflicting Viewpoints (71%).

Two subthemes also emerged from the second-year student responses. These responses and percentages were: Not Everyone Likes Working In Groups (68%) and Not Everyone Participates Equally (92%). A second-year student wrote "I would rather work alone than in a group."

For first-year students, a high frequency response such as "conflicting viewpoints" relates to the broader 'academic' theme. However, a response such as "not everyone participates" relates to the broader 'social' theme.

For second-year students, a high frequency response such as "not everyone likes working in groups" relates to the broader 'social' theme.

Table 3. Disadvantages of working in groups by year in college.

Subthemes	Frequency	Percentage
First-Year Students		
Not Everyone Participates Equally	27	62%
Conflicting Viewpoints	31	71%
Second-Year Students		
Not Everyone Likes Working In Groups	30	68%
Not Everyone Participates Equally	40	91%

Third Research Goal

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

Ninety student responses, or 86% of the total responses, were analyzed for the third probe (see Table 4). Forty-seven responses were from first-year students and forty-three responses were from second-year students.

One theme emerged from the first and second-year responses. The theme was: groups. High frequency responses, or subthemes, from the first-year students were Group Projects (62%) and Group Presentations (54%). High frequency responses, or subthemes, from the second-year

students were also Group Projects (59%) and Group Presentations (65%). A first-year student wrote "I like doing group projects with my classmates."

Table 4. Specific types of group work that you prefer by year in college.

Subthemes	Frequency	Percentage
First-Year Students		
Group Projects	29	62%
Group Presentations	25	54%
Second-Year Students		
Group Projects	25	59%
Group Presentations	28	65%

Fourth Research Goal

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

Ninety-four student responses, or 98% of the total responses, were analyzed for the fourth probe (see Table 5). Fifty-one responses were from first-year students and forty-three responses were from second-year students.

One theme emerged from the responses: academic. High-frequency responses, or subthemes, emerged from the first-year student responses. These categories and response percentages were Science Group Work (58%) and Learning Teams (54%). Two high-frequency responses, or subthemes, emerged from the second-year students. These categories and response percentages were Science Group Work (62%) and Math Group Work (61%). A second-year student wrote, "I don't like doing group work in science class, it is confusing."

Table 5. Specific Types Of Group Work That You Do Not Prefer—By Year In College.

Subthemes	Frequency	Percentage
First-Year Students		
Science Group Work	30	58%
Learning Teams	23	54%
Second-Year Students		
Science Group Work	27	62%
Math Group Work	26	61%

Fifth Research Goal

Describe ways to make group work more enjoyable.

Eighty-nine student responses, or 85% of the total responses, were analyzed for the fifth probe (see Table 6). Forty-five responses were from first-year students and forty-four responses were from second-year students.

Two themes emerged from the data: academic and social. Three subthemes emerged from the first-year students. These subthemes and response percentages were Being Able to Select A Leader (57%), Provide Rewards (52%), and Everyone Participates (51%). Three subthemes emerged from the second-year students. These subthemes and response percentages were Make All Group Members Accountable (52%), Provide Rewards (65%), and Everyone Participates (71%). A first-year student wrote, "Teachers could provide incentives for groups who did a good job."

Table 6. Ways To Make Group Work More Enjoyable-- By Year In College.

Subthemes	Frequency	Percentage
First-Year Students		
Being Able To Select A Leader	27	57%
Provide Rewards	23	52%
Everyone Participates	23	51%
Second-Year Students		
Make All Group Members Accountable	23	52%
Provide Rewards	29	65%
Everyone Participates	31	71%

Discussion

The current research base is conflicted when it comes to college students' preference for cooperative learning activities over traditional instruction. A study by Sarabol (2012) revealed that most college students prefer cooperative learning activities over traditional instruction. Marks and O'Connor (2013) findings were a bit different. They found that students do not necessarily prefer cooperative learning activities over individual assignments. While these studies examined preference for cooperative learning activities over traditional instruction, a review of the literature revealed that little is known about perceptions of the cooperative learning process by year in college. The current study provided information that could be useful to instructors regarding cooperative learning activities by year in college. It is apparent, from a review of the data, that first-year students and second-year students view group work in both similar and different ways. Themes and subthemes emerged from the data analysis across the five research questions. A discussion of the findings follows.

For the first research question, first- and second-year students had differing responses regarding the advantages of working in groups. First-year students indicated both academic and social themes. Responses included getting to know group members as well as the efficiency of project completion. One student wrote, "Each member does less work and we get the work done

very quickly." The theme of this specific response is academic as the student in this example is focusing on the amount of work and speed of completion. Teachers should also consider these aspects of the cooperative learning process as they plan to implement these types of activities. It is also important to note that the present findings are supported by Schultz, Wilson, and Hess (2010) who found that students stated that reduced workload was a benefit of working in a group.

Second-year students, however, indicated the opportunity to find study partners and get a well-rounded perspective as advantages of group work**.** One student wrote, "I meet people that I can study for the tests with." This specific response reflects a broader social theme as the student is potentially widening his colleague circle at the college. A study by Jain and Kapoor (2015) found that social interaction has a positive effect on academic achievement. In a practical sense, the present findings coupled with the findings by Jain and Kapoor (2015) show teachers the usefulness of incorporating group work into the classroom experience of college students.

The second research question asked participants about the disadvantages of cooperative learning activities. A review of the subthemes indicated that first-year students reported conflicting viewpoints and lack of participation by all group members as disadvantages. One first-year student wrote, "Some group members don't do any work." This is an element of cooperative learning that teachers need to be aware of. Because each student does not participate equally, teachers may face some resistance when presenting cooperative learning activities in the classroom (Shimazoe and Aldrich, 2010). Therefore, it is necessary for teachers to play an active role as facilitators of the cooperative learning process. A study by Tabach and Schwarz (2018) reinforces this idea by stating that students must be taught how to learn together, and teachers must be facilitators of small-group collaboration.

Their second-year counterparts suggested that not everyone likes working in groups and not everyone participates equally. A second-year student wrote, "I like working by myself." Overall, these findings are supported by the results of a study conducted by Marks and O'Connor (2013) who found that students did not necessarily prefer group work over individual assignments. Additionally, Schulz, Wilson, and Hess (2010) support the present findings by indicating that students do not like giving up control over grades, free-riding group members, and the difficulty that comes with finding common times for the group to meet outside of the regular class. These practical concerns should be considered by teachers before introducing cooperative learning activities in their classes.

The third research question asked students to report the types of group work they preferred. Interestingly, both groups of students reported similar findings. A first-year student wrote, "I like group projects." Both first-year and second-year students preferred group projects and group presentations. A second-year student wrote, "Presentations are fun to do." A study by Du, Ge, and Xu (2015) extended the current findings by indicating that students prefer to work in racially mixed groups. The results of this study speak to preferences regarding the composition of groups. Additionally, Opdecam, Everaert, Keer, and Buysschaert (2014) extended the current findings by suggesting that female students had a higher preference for group work compared to their male counterparts. The present findings, coupled with the aforementioned studies, can guide teachers as they consider both types of cooperative learning activities to use and group composition.

The fourth research question asked students which group activities they did not like. First-year students reported science group work and group presentations. A first-year student wrote, "I don't like group work in science class." Second-year students also reported science group work as an activity that they disliked. Second-year students also indicated that they did not like math group work. A second-year student wrote, "I would not like group work in Math." The reasons why students do not like group work in these areas are unclear and warrant further investigation.

Finally, the participants were asked to report ways of making group work more enjoyable. First-year students reported being able to select a leader as an important criterion. One first-year student wrote, "Choosing who is in charge makes it better." Second-year students reported making all group members accountable as an important criterion. One second-year student wrote, "Make sure everyone participates." Interestingly, both groups of students indicated rewards and having all members participate as ways to make group work more enjoyable. These findings are supported by a study conducted by Chiriac (2014) who found that a well-structured group leads to a high degree of satisfaction with group work. The present findings are also useful to teachers as they reveal how cooperative learning works best in the classroom.

It is important to note that the findings of the current study may be useful to teachers regardless of their field of expertise. Cooperative learning is a technique that can be used by any educator who is willing to learn the techniques and incorporate it into the classroom as a learning tool (Tabach and Schwarz, 2018). The current findings allow teachers to consider which types of cooperative learning activities are useful in the college setting.

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.

Additionally, there are several confounding variables such as age of the participants, marital status, home life, work status, and type of institution attended that could have affected the results. These variables were not controlled for so they therefore could have affected the results of the study.

For the current study, areas of future research include investigating this topic by comparing possible differences across age and home life. Other areas of future research include investigating this topic by comparing possible differences across work status, and type of institution attended.

Appendix

Appendix 1. 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.

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