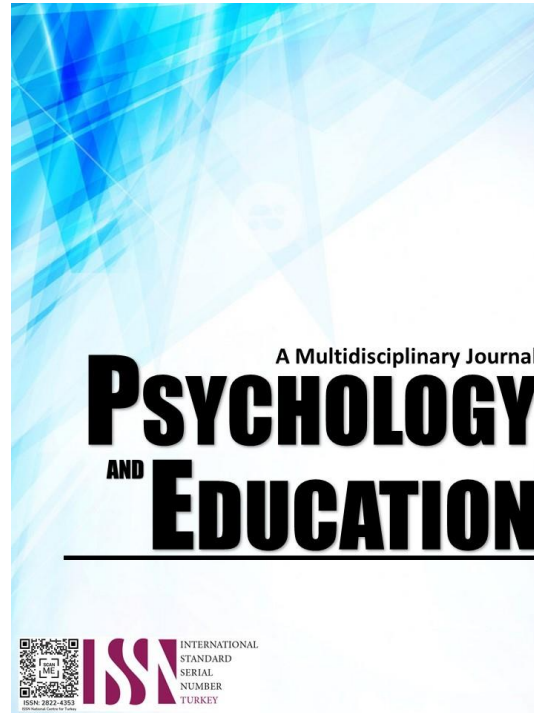


UNDERSTANDING GROUP COHESION AND TEAMWORK AMONG COLLEGE STUDENTS IN ONLINE LEARNING



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Understanding Group Cohesion and Teamwork Among College Students in Online Learning

Rexur Mar P. Dulinayan*, Juben Ira T. Mariano, Maylyn Grace J. Abella,
Jasmine Nicole V. Layugan, Kristine Ann L. Israel

For affiliations and correspondence, see the last page.

Abstract

The shift from face-to-face to online mode of learning has impacted student's teamwork. Existing studies show its relevance mostly to sports, medical fields, organizations, and the workplace but limited to academic settings, especially in the online mode of learning. Thus, the pursuit of the study that aims to explore the role of group cohesion to teamwork among college students at Saint Mary's University (SMU) during online learning (n=365). This project uses a quantitative approach, utilizing descriptive-comparative-correlational survey design. Descriptive surveys are used to measure the demographic profile, the level of group cohesion, and the level of teamwork of the respondents. Moreover, a comparative approach is used to contrast the level of group cohesion and teamwork of college students to their demographic profile. Furthermore, a correlational approach is used to determine the relationship of the level group cohesion and teamwork. Results revealed that group cohesion and teamwork vary between sexes, ages, schools and year levels, and group sizes. Moreover, results presented a positive relationship of group cohesion and teamwork. Therefore, with respect to the results of the study, recommendation for the institution, college students, teachers/instructors, and future researchers were made.

Keywords: *group cohesion, teamwork, online learning*

Introduction

As the world constantly changes, it demands for a greater need of adaptation. The occurrence of COVID-19 pandemic affected the livelihoods of people in several communities, and even created notable changes in the educational system in our country. As a result, there was an abrupt transition from in-person to online learning. Teachers and students have encountered challenges as a result of this shift, including issues with technology use and competency, a lack of adequate home learning space, access to reliable internet service, and a variety of online learning resources, as well as difficulties in finding appropriate strategies and coping mechanisms that meet their needs (Alawamleh et al., 2020; Barrot et al., 2021; Baticulon et al., 2021; Khalil et al., 2020; Konig et al, 2020; MacIntyre et al., 2020). During the online class, concerns with groupmates, distribution of tasks, and late submissions were observed. This could be the effect of the pandemic because

students did not have the opportunity to meet and know each other well. In turn, it affected their group output. This is supported by the study of Hernandez et. al (2021) stating that as classes are done virtually, relating to classmates regarding group activities becomes a bit challenging. While others are coping well with this change in the mode of learning, some are still in the process of adjusting, especially on honing group cohesion behind the screen (e.g. Bilgin & Gul, 2019; Lee & Huwang, 2018).

Research Questions

Among college students during the online mode of learning in an academic setting, the relationship of group cohesion and teamwork is less explored. That being the case, this study seeks to unveil the association among these variables. To meet the study's goal, the following questions were asked:

1. What is the demographic profile of the respondents, in terms of:
 - 1.1 Sex;
 - 1.2 Age;
 - 1.3 School and Year Level; and
 - 1.4 Preferred group size?
2. What is the respondent's level of group cohesion, in terms of:
 - 2.1 Goal orientation;
 - 2.2 Open communication; and
 - 2.3 Mutual understanding?
3. What is the level of teamwork among the respondents, in terms of:
 - 3.1 Coordination;
 - 3.2 Decision making;
 - 3.3 Leadership; and
 - 3.4 Interpersonal?
4. Is there a significant difference in the level of group cohesion of the respondents when they are grouped by demographic profile?
5. Is there a significant difference in the level of teamwork of the respondents when they are grouped by demographic profile?
6. Is there a significant relationship between the level

of group cohesion and teamwork among the respondents?

Literature Review

Group Cohesion

According to APA Psychology Dictionary (2022), group cohesion or group cohesiveness is a concept which refers to the team level and is interpreted as the bond which the members of a team have created among them. Several studies have found the role of group cohesion in the workplace, sports setting, and academic setting, especially during face-to-face modality of learning. In addition, According to Dumblekar and Dhar (2019) in their Team Cohesion Scale, group cohesion includes goal orientation, open communication, and mutual understanding factors.

Teamwork

On the other hand, teamwork, as defined by APA Dictionary of Psychology (2022), is an organized task-group where members of such a group integrate their individual inputs purposively to attain a common goal. Several studies had found its relevance in the workplace setting, clinical setting, and academic setting. In the online setting, the study of Hernandez, et al. (2019) revealed that despite the pandemic, students exhibited an optimistic attitude toward teamwork in their online learning. Additionally, O'Neil et al. (2003) identified leadership, decision making, coordination, and interpersonal as factors of teamwork.

In addition, some literature found the relationship of group cohesion and teamwork. According to TenBoer (2021), while many teams work well, attainment results from being a team that is cohesive and it happens while a team stays unified as members work for a common goal. Moreover, Eys et al. (2022) states that the association of team cohesion and team performance is recurring, wherein higher levels of task and social cohesion help teams perform better, but better team performances also lead to increased sentiments of task and social cohesion.

With the studies mentioned concerning group cohesion and teamwork, gaps in the literature arise. Most of the studies on the two variables presented were done in a face-to-face modality, and are relevant to sports, medical fields, workplace, and organizational settings. Limited studies were found regarding these variables in academic settings, especially in online modality of

learning. Moreover, most of the studies were done internationally. It implies the need for more studies that are done nationally, or even so, locally. Therefore, the pursuit of our study fills in these gaps.

The findings of the study will guide students to attain better group performance despite the distant interaction through the understanding of group cohesiveness and teamwork in online modality of learning, provide teachers with ideas on how groupings should be formed and what activities should be given to enable better group performance from their students, and a basis of formulation of curriculum that would help students in group activities and encourage efficient group communication, especially in online learning.

Methodology

Participants

The target participants were SMU college students enrolled during the first semester of the academic year 2022-2023. The population comprised of four undergraduate schools of the University, namely SAB, SEAIT, SHANS, and STEH. According to the university registrar, there were 4,239 college student enrollees (SAB-N= 1,214; SEAIT-N=1,092; SHANS-N= 1361; and STEH-N= 762) as of the first semester of the AY 2022-2023.

Using Slovin's formula, the study recruited 366 sample participants with a margin error of 0.05 and a confidence level of 95 percent ($4,429 / (1+4,429*0.052) = 366$). With the population presented, the study maximized stratified-proportionate random sampling to give all college students from the four strata (SAB-N= 102, SEAIT-N= 90, SHANS-N= 111, and STEH-N= 63) an equal probability of being chosen as participants. Such a probability approach and sample size helped the study limit sample bias, as well as reduce error and make valid population inferences.

In order to complete the samples from the respective schools, the population of two classes were maximized. Using simple random sampling, participants from Architecture (n=45) and Civil Engineering (n=45) were chosen to represent SEAIT, while Accountancy (n=51) and Tourism Management (n=51) were chosen to represent SAB. Meanwhile, Psychology students (n=32) and student teachers (31) were chosen to represent the whole STEH, while Medical Technology (MedTech) (n=55) and Nursing

(56) to represent SHANS. Overall, the targeted samples were met (n=366).

Instruments of the Study

The instrument contained informed consent which assured the pros and cons of the respondents' participation in the study, demographic questions to seek respondents' sex, age, school, year level, and preferred group size, and two standardized tools, namely, Revised Teamwork Scale Questionnaire with four factors (Leadership, Decision Making, Coordination, and Interpersonal), and Team Cohesion Scale which comprised of three factors (Goal Orientation, Open Communication, and Mutual Understanding). Since the circumstance permitted physical conduct; thus, the questionnaire was administered face-to-face in the participants' respective classrooms. To minimize errors, respondents were briefed regarding the conduct of the study before the administration. Retrieval of the questionnaires was done afterwards.

Procedure

This study investigated the correlation between group cohesion and teamwork among college students during online learning. The study did an extensive search to explore the best tools for measuring the participants' group cohesion and teamwork. These tools were subjected to pilot testing to test its reliability and confirm its consistency in measuring the constructs of group cohesion and teamwork.

The data collection commenced right after the University Research Ethics Board (UREB) and the University Research Center (URC) of SMU reviewed, permitted, and provided clearance for the conduct of the study. Afterwards, we requested the number of college students enrolled during the first semester of the academic year 2022-2023 from the University Registrar. Then, request letters were given to the Dean's Office of every school to acquire the class schedule of the chosen courses. A period of two to three weeks was allotted for selecting participants and obtaining responses. Subsequently, a letter of permission to administer the instrument of the study to the participants was sent to the President and Deans of each school for approval. The instrument contained informed consent, demographic questions, and two standardized tools, namely, Revised Teamwork Scale Questionnaire and Team Cohesion Scale. The circumstance permitted physical conduct; thus, the questionnaire was administered face-to-face in the participants' respective classrooms. To minimize

errors, respondents were briefed regarding the conduct of the study before the administration. Retrieval of the questionnaires was done afterwards. After the collection of responses, the analysis of the data followed. The statistical software packaged IBM SPSS v.26 was maximized for more convenient and accurate analysis of data.

Ethical Consideration

Currently, the University is equipped with the Research Ethics Board (SMU-REB) which is chaired by Mr. Jason Arnold L. Maslang. Before the conduct, the study was submitted for ethics review for monitoring and approval.

Results

Demographic Profile of Respondents

This section presents the respondents' demographic profile in terms of sex, age, school, year level, and preferred group size using descriptive statistics.

Table 1. *Descriptive Statistics of the Demographic Profile of the Respondents*

	<i>Profiles</i>	<i>Frequency</i>	<i>Percentage</i>
Sex	Male	93	25.4
	Female	273	74.6
Age	18-20	206	56.3
	21-23	160	43.7
School	SAB	102	27.9
	STEH	63	17.2
	SHANS	111	30.3
	SEAIT	90	24.6
Year Level	2nd	122	33.3
	3rd	122	33.3
	4th	122	33.3
Preferred Group Size	2 members	48	13.1
	3 members	100	27.3
	4-5 members	218	59.6

Group Cohesion

This section presents the quantitative summary of the respondents' level of group cohesion, in terms of goal orientation, open communication, and mutual understanding.

Furthermore, it summarizes the differences in the level of group cohesion when the respondents were grouped by profile variables.



Table 2.1. Descriptive Statistics on the Level of Group Cohesion of Respondents

	Mean	Standard Deviation	QD
Goal Orientation	3.51	0.52	High
Open Communication	3.95	0.67	High
Mutual Understanding	3.63	0.77	High
Overall Group Cohesion	3.71	0.55	High

Table 2.2. Summary of Respondents' Group Cohesion When Grouped by Profile Variables

	Sex	Age	School	Year Level	Preferred Group Size
Goal Orientation	0.26	0.23	0.00	0.30	0.06
Open Communication	0.57	0.97	0.20	0.31	0.01
Mutual Understanding	0.89	0.86	0.02	0.92	0.03
Overall Group Cohesion	0.94	0.86	0.01	0.36	0.01

*Significant at the 0.05 level

Teamwork

This section presents a quantitative summary of respondents' level of teamwork, in terms of leadership, decision making, coordination, and interpersonal skills. Furthermore, the section summarizes the differences in the level of teamwork when the respondents were grouped by profile variables.

Table 3.1. Descriptive Statistics on the Level of Teamwork of Respondents

	Mean	Standard Deviation	QD
Leadership	2.95	0.61	High
Decision Making	3.28	0.54	High
Coordination	3.14	0.58	High
Interpersonal	3.41	0.45	High
Overall Teamwork	3.19	0.44	High

Table 3.2. Summary of Respondents' Teamwork When Grouped by Profile Variables

	Sex	Age	School	Year Level	Preferred Group Size
Leadership	0.97	0.79	0.03	0.64	0.45
Decision Making	0.26	0.67	0.05	0.97	0.69
Coordination	0.10	0.24	0.17	0.37	0.38
Interpersonal	0.10	0.04	0.17	0.05	0.48
Overall Teamwork	0.25	0.92	0.03	0.53	0.48

*Significant at the 0.05 level

Parametric Correlations of Group Cohesion and Teamwork

This study hypothesized that group cohesion and teamwork were unrelated. To test this hypothesis, Pearson-r correlation was utilized.

Table 4. Parametric Correlations of Group Cohesion and Teamwork

	Mean	Standard Deviation	Sig. (2-tailed)
Overall Group Cohesion	3.71	0.55	0.00
Overall Teamwork	3.19	0.44	

**Correlation is significant at the 0.01 level (2-tailed)

Discussion

The study found that students during online learning had high group cohesion and teamwork. Similar results can be found in the study of Dumblelar et al. (2018), where goal orientation is said to be one of the essential factors in the aspect of team cohesiveness. Open communication on the other hand, in the study of Dumblekar and Dhar (2019), encourages honest conversation which ultimately will improve group cohesiveness. Additionally, according to Kapur (2022), mutual understanding enables team members to practice polite conversation, define differences, and reinforce positive terms with one another. On the other hand, several studies on teamwork support leadership, decision making, coordination, and interpersonal skills to enhance teamwork among individuals. According to Rohmatunnisa (2021), leadership is a cooperative "compass" that serves as a road map for everything to become comprehensible. In the aspect of decision making, Yu et. al (2017) argue that decision making is a person's basic function in many situations in life. On the other hand, coordination is effective when group members' work together to make a decision that produces favorable results for all group members in terms of costs and benefits, as demonstrated in the study by Hough et al. in 2021. Lastly, when it comes to interpersonal skills, Brown et al. (2020) showed that they positively influence team functioning, conflict management, negotiation, and collaboration.

Moreover, group cohesion and teamwork showed differences between sexes. These findings are

supported by Martin and Good (2015) in that an all-female team exhibited higher rate group cohesion, yet all-male team showed riskier and wider strategies toward the group task. Furthermore, Davcheva and Roma (2022) discovered that women engage in behaviors that contribute to the social cohesion of teams, and that this can improve team performance, particularly when team leaders interact with their members frequently. On the other hand, De Padra et al. (2022) found that male students scored higher on leadership skills tests than female pupils. In terms of flexibility, coordination, interpersonal development, and communication, female students performed better than male students, but there was no discernible difference in their decision-making abilities. Another similar result can be found in the study of Konak et al. (2019), and Oikawa and Donkers (2021) as cited by Hernandez et al. (2021) which discovered that male students were substantially more engaged in teamwork-related learning activities. Accordingly, the study of Hernandez et al. (2021) found that students' sex does not influence their attitude towards teamwork.

Furthermore, students belonging to the age group 18-20 had higher group cohesion and teamwork compared to ages 21-23. Same results were seen in the study of Ponrari and Stephen (2014) regarding team cohesion among women sports players in that the team cohesion among the age group of 20-21 and 22-25 was significantly better than the age group of 18-19. Brimis et al. (2020) examined the effects of age on levels of team cohesion, aggression, and sport satisfaction. The findings revealed statistically significant age effects on personal attraction, social relationships, anger, aggression, and leadership, leading to the conclusion that team cohesion, athlete satisfaction, anger, and aggression are multidimensional concepts that are in fact influenced by the age of the individual. Contrasting results can be seen in the study of Kniffin and Hanks (2018), revealing that in a working environment, older team workers earned significantly more when engaging in teams without appearing to work longer hours. On the other hand, in the study of Streufert et al. (1990, cited in Paoletti, 2020), a different result was found in that older teams had fewer perceived consciousness of the emergency situation where they had the tendency to participate in inefficient discussion, streamlining the decision-making process.

The data gathered also showed that group cohesion and teamwork varied among the four schools. As Gerasom (2019) states, work environment and organization are some factors that influence group

cohesion. Moreover, the result of the study of Khalid and Nasir (2020) revealed that students who reported a reasonably high level of satisfaction were more likely to claim that they engaged in online interactions with their peers and were active in social settings. Additionally, social presence seems to play the most role in determining students' levels of course satisfaction. On the other hand, the result is also supported by the study of Konak et al. (2019, as cited in Hernandez et al., 2021) in that information technology students had a favorable attitude to teamwork. However, in the study of Gary et al. (as cited in Hernandez et al. (2021), showed that nursing students as well as English majors (Famularsih, 2020), had a positive attitude toward teamwork too.

Meanwhile, third year college students had the highest group cohesion and teamwork among the other year levels. The findings of Miller and Perry (2018) suggested that group cohesion was connected to indices of student performance in higher education, which is similar to the data shown above. According to this study, coherence has a connection to students' participation, success, achievement, and retention in their year level. Another study by Perry et al. (2020) showed that cohesive classes in a sport setting in higher education led to enhanced performance and were consequently associated with indicators of student success in those courses. Contrasting results can be seen in the study of Konak et al. (2019, as cited in Hernandez et al., 2021) in that senior college students (4th year) showed higher teamwork self-efficacy. Moreover, significant differences in the study of Wilson et al. (2017, as cited in Hernandez et al., 2021) were not the same as they figured out that there was a significant difference in responses between teamwork and students' year levels. However, similar results can be seen in the study of De Padra et al. (2022) revealing that there was a statistically significant relationship between academic year and teamwork specifically on adaptability and decision-making skill.

In addition, students had optimal group cohesion and teamwork when the group had 4-5 members compared when grouped by two or three. According to Tosuntaş's study (2020), group size and group composition can be taken into account to create successful and fruitful group studies in higher education. In contrast, Chawla and Jaine (2021) emphasized that the effectiveness of teamwork depends on group size, which is found in a lesser number of people. In contrast, the research of Tulin et. (2018) argues that size has a marginally negative impact on perceived cohesion implying that people are

more likely to see smaller groups as cohesive. Saqr et al. (2019) came to the same conclusion, claiming that a large group size results in a group that is less cohesive, with ineffective communication and less information sharing among members.

Lastly, the results presented a positive relationship of group cohesion and teamwork. Thus, higher group cohesion leads to higher teamwork, or vice versa. The same results can be seen in the study of Eys et al. (2022) stating that the relationship between team cohesion and team performance is cyclical. This means that if task and social cohesion have increased levels, they contribute to the performance of a team. Inversely, if a team does well in a certain task, it can as well increase task and social cohesion. Furthermore, the study of Abdullah et al. (2019) concludes that group cohesion and teamwork go hand in hand since it enhances the effectiveness of the organization and enables all members of the organization to work together with effective communication and commitment.

Conclusion

In group activities, group cohesion and teamwork play important roles. The present study filled an essential, contemporary gap in the literature on the correlation of college students' group cohesion and teamwork during the online modality of learning. Overall, its findings emphasized that college students have promising levels of group cohesion and teamwork amid the prevailing global public health crisis. Moreover, it appears that the variables strongly relate with one another. This entails that the positive relationship of the variables is evocative, that in some ways, they undeniably influence each other. Ergo, implementing different ventures would help retain' college students' group cohesion and teamwork during group activities.

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Affiliations and Corresponding Information

Rexur Mar P. Dulinayan

Saint Mary's University – Philippines

Juben Ira T. Mariano

Saint Mary's University - Philippines

Maylyn Grace J. Abella

Saint Mary's University – Philippines

Jasmine Nicole V. Layugan

Saint Mary's University – Philippines

Kristine Ann L. Israel

Saint Mary's University - Philippines