

## Article

# "I'd Rather Do It Single-Handed"—Nursing Students' Struggles with Group Assignments: A Qualitative Study

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**Abstract:** This study, framed by the GRPI (Goal, Role, Process, and Interaction) teamwork model, explores team dynamics among nursing students in performing group assignments, utilizing a qualitative research design. Twenty-three nursing students from Year 1 to Year 4 at a nursing school in Macau were invited. Semi-structured personal interviews were carried out. In addition, three teachers who were involved in instructing and assessing group assignments of nursing students were also interviewed. Data were analyzed using inductive and deductive approaches. The study found that although the barriers to accomplishing effective teamwork were embedded into the four dimensions of the DRPI model, they were interplayed. Communication was fundamental for teamwork, thus leading to a modified DRPI model. Teammates did not equally share the workload. Despite interpersonal conflicts among teammates, nursing students managed to stay in superficial harmony with their peers. They became more familiar with teamwork while advancing into their senior years but with decreased group communications. This study highlights various factors preventing students from transferring individualism to team players. Teaming is not an equal learning opportunity for teammates. Culturally upheld value of harmony prevails in the interpersonal relationships of the team members, which may compromise the teamwork spirit cultivation expectations from the teachers.



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## 1. Introduction

A team is a group of people who interdependently perform tasks to fulfill a collectively agreed goal [1]. Hence, teamwork is characterized by collective efforts, mutual respect, individual and collective accountability, etc., [1]. As teamwork outperforms individual work, numerous organizations build groups as working units. However, the group is different from the team. A group is a collection of individuals who coordinate their efforts to complete a task, while a team comprises individuals who share a collective identity and accomplish a common goal [1]. Therefore, turning a group into an effective team needs effort from the group members [2,3].

Health care is a teamwork practice. In the ever-increasingly complicated clinical contexts, collaboration among multidisciplinary health professionals is essential to maintain a high quality of healthcare and patient safety [4]. Nurses are important players in inter-professional teams, where they contribute their unique knowledge and expertise [5]. Furthermore, nursing is intra-professional teamwork, as nurses work with peers in routine practice. While much research has paid attention to nurses' roles in the multidisciplinary team [5–7], less has explored collaborative practice within nurse teams [8,9].

Nursing schools have the responsibility to train teamwork skills and spirit among students. Team-based learning (TBL) has flourished in the past two decades in the nursing school worldwide. Several review studies have confirmed the better learning outcomes

of TBL than traditional teaching methods [10–12]. However, teachers tend to focus on the academic performance of the student teams and pay little attention to team building. The highly structured team learning environment may differ from the naturally formed team environment, a common practice approach in clinical settings.

Group-based assignments are another TBL form used by many educational establishments, including nursing schools [13,14]. To perform the group assignments, the students in a class are divided into groups by the subject teachers or the students themselves. Unlike in the common TBL, the groups formed for collective assignments are unstructured and student-controlled. Teachers' assessment primarily focuses on the academic outcome of the student group, and all the members in the group received the same academic score [15]. Despite the popularity of this kind of assessment in nursing schools, there is a lack of research on the team dynamics relating to group assignments.

A limited number of studies on teaming of nursing students showed nursing students' dislike of teamwork, mainly because of a lack of participation from team members [13,14,16]. Social-cultural influences on teamwork were noted. For example, studies reported the impacts of geographic distance or cultural background of nursing students on team performance [13,14,16]. Therefore, research on teamwork with nursing students in different cultural contexts is needed to explore the complicated nature of team dynamics.

Theories can help to explain, predict, and understand phenomena and, in many cases, challenge and extend existing knowledge [17]. This study will apply the GRPI (Goal, Role, Process, Interaction) teamwork model [18]. This model covers four dimensions relating to team performance: the goal of the team, the roles of the team members, the process of team development, and the interactions among the team members. It attaches different levels of importance to the four dimensions of the model, with the most important to the goal and the least to the interaction [18]. Theorists studying the GRPI model acknowledged the intertwined nature of the dimensions and warned that ambiguity in one dimension impacts other dimensions [18–20]. For example, unclear goals can cause unclear roles, processes, and interpersonal conflicts.

Teamwork theories have yet to be applied in healthcare research, nor has the GRPI model been applied in team development in nursing. The GRPI teamwork model will guide this study because this model provides a tool to analyze components of teamwork systematically.

The study aims to explore nursing students' experiences performing their group assignments. The study addresses two questions: What difficulties do the students experience when they perform teamwork? How do they cope with the difficulties in order to accomplish teamwork? Scholars have reported the permissive findings that few groups become effective teams [21,22]. Therefore, our study will focus on the struggles nursing students experience in performing group assignments.

## 2. Methods

### 2.1. The Study Design

It is a descriptive qualitative study.

### 2.2. The Study Setting

This study was conducted in Macau, the Special Administrative Region of China. Macau is an advanced but tiny economy. It is highly influenced by Chinese culture. Two higher education institutes in Macau run the pre-registration nursing programs. The study was conducted in one of the two institutes from 2022 to 2023. The institute has run nursing programs for over 100 years. The pre-registration undergraduate program in Macau is a four-year program. Group-based assessment is typically the component of the pedagogical approach in the institute, as most subjects assign group work. The subject teachers decide the size of the groups. There are usually 3–8 students in a group; a similar size is reported in other places [13,23]. The subject teachers usually offer the students written instructions and assessment criteria, but it is up to the students to decide how to conduct the assignments.

Deadlines are varied, but generally, one to two months are provided for the students. Tutorials from the subject teachers are offered to facilitate students' conduct of group assignments.

### 2.3. The Participants

Purposive sampling was applied in participant recruitment. The research team invited students in the undergraduate program from Years 1–4. Other backgrounds of the participants were also considered, including gender, citizenship (Macau, mainland China, Hong Kong), academic performances, etc.

The primary researcher (M.A.) approached the potential participants via email, telephone, or WeChat Version 8.0.42 (a social media app). Sufficient time was provided for the students to decide their willingness to participate. If the students expressed interest in the study, time and place for in-depth interviews were scheduled. Among the potential participants, several declined participation, and 23 attended the study.

Among the participants, five were from Year 1, six from Year 2, five from Year 3, and the remaining seven from Year 4. Sixteen were females, and seven were males. Eighteen were from Macau, one from Hong Kong, and four from the mainland. Six participants repeated one or two school years because of failures in previous academic performances. The 23 students were 19 to 32 years old, with an average age of 22.8.

Three teachers with experience in instructing and assessing the group assignments were also invited. They were all females, aged 36–44, with teaching time between 8 and 22 years.

### 2.4. Data Collection

The primary researcher conducted individual face-to-face semi-structured interviews with the 23 student participants. An interview guide was developed by the research team based on the literature review on teamwork and the experiences of the researchers, who all had experience in instructing students' group assignments. The questions in the guide included "What are your experiences in studies?" "What are your experiences in doing group assignments?" "What kind of peers do you like to work with?" "How do you do when you come across difficulties in teamwork?" As data collection and analysis were performed concurrently in qualitative research [24,25], the interview guide was flexible, allowing the researcher to probe interesting points with later interviewees based on emerging information from previous interviewees [24]. The students were asked to provide details of the scenarios if they mentioned the difficulties in teamwork. In addition, the students were asked to offer suggestions for the junior students in group performances, an interviewing strategy to honor the participants as experts to facilitate the interviewing process [24,26].

The primary researcher also conducted individual face-to-face interviews with the three teacher participants. Data from the teachers would verify and supplement the data from their students. As a result, the teachers were interviewed following the students' interviews. They were asked about their experience in instructing student group assignments. They were also provided opportunities to comment on students' experiences. The questions in the interview guide for the teacher participants included "What are your experiences working with your students on their group assignments?" "What is the feedback from your students concerning their group assignments?" "Some students prefer small groups to large groups. What are your opinions on their preference?" "Some students claim that not all group members share the group tasks. What are your opinions on their claim?" Data saturation was determined when the following interviews yielded little new insights [27].

Most of the interviews were conducted in the library or classrooms of the school campus without anyone else present except the interviewee and the interviewer. Four interviews were conducted online via Zoom meetings with the senior students because the students did not come to the school campus every week. The interview time ranged from

37 to 83 min, averaging 42 min. Field notes were made immediately after the interviews were finished, recording the interview contexts and the participants' performances.

### 2.5. Data Analysis

The offline interviews were audio-recorded, and the Zoom interviews were video-recorded. All the interviews were transcribed verbatim, and the interview details, such as the interviewees' body language, were added to the transcripts. The data were analyzed following the four steps: (1) thoroughly reading the interview transcripts, obtaining the overall meaning of the interviews; (2) analyzing the data line by line, assigning sections of the text into meaningful units, labeling with codes; (3) checking the initial codes with the latter interviews, leading to expansion and revisions of the codes; (4) identifying relationships between the codes, sorting the codes into themes/subcategories and themes/subcategories into categories [26]. As the analytic process mentioned above was inductive, deductive analytical skill was also applied [28]. Because the GRPI teamwork model guided this study, the researchers were sensitive in identifying themes and categories relating to the GRPI model. They intentionally sought relationships between the emergent themes and the four dimensions in the GRPI model. Memo writing was made during the analytic process as a way of reflexivity and enhancing the analysis's abstraction level [27]. Qualitative research software Nvivo12 was used to facilitate data analysis.

### 2.6. Trustworthiness

Trustworthiness was established by addressing the following concepts: (1) credibility, (2) transferability, (3) dependability, and (4) confirmability [29]. Further, the study report was examined against the listing items in COREQ (Consolidated criteria for reporting qualitative research) [30].

Credibility builds confidence that the study's results are authentic and believable [30]. The study was conducted by a group of researchers who had all been trained in qualitative research and had experience instructing group assignments for students in the nursing institute. All four members of the research team had Ph.D. degrees. There were three females and one male in the research team. The researchers collected and analyzed data concurrently to validate previous themes with the following interviews [24,27]. Several interviews were randomly selected to be coded independently by two research team members to achieve inter-coder reliability [31]. After that, the data was analyzed by the primary researcher, and the other members of the research team approved the analytic results.

Confirmability means that the study results are not affected by the researchers' values and perspectives but by an objective reflection of the participants' experiences. Member checking is a way to enhance confirmability [29]. The research team sent several transcribed interviews to the participants to validate the transcription accuracy. Additionally, the team shared the analytic results with some of the participants. The researchers maintained a reflexive journal of the research process, recording the research process and the researchers' thoughts, feelings, and perceptions that emerged during the study [27,29].

Dependability means that the study findings are repeatable if the study occurs within the same participants, researchers, and settings, while transferability means that study results can be generalized to other contexts or settings [29]. Thick descriptions of the research process were provided by the researchers in this study to enhance the study's dependability. Sufficient data were obtained in this study from the participants with various backgrounds to provide triangulation. The different perspectives of the students and their teachers added to the depth and breadth of the student's experiences in teamwork. All these efforts might have enhanced transferability.

### 2.7. Ethics Considerations

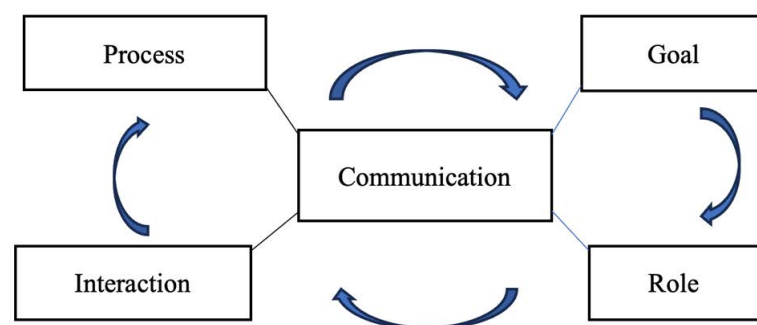
The ethics approval for the study was obtained from the school the participants came from (Approval No:REC.2021.1201). The study was conducted following the Code of Ethics of the World Medical Association (Declaration of Helsinki) for research studies involving

humans [32]. Written consent forms were obtained before the interviews were conducted. Confidentiality and anonymity were guaranteed. As the research team was all the teachers in the nursing school, they performed extra caution in recruiting the student participants, ensuring that the students felt no coercion in participation decision-making. The potential participants were informed that refusal to participate did not affect the assessment of academic performance. The fact that several students refused to participate in the study may indicate that they had freely made their participation decisions.

### 3. Results

All the participants acknowledged the benefits of teamwork. The student participants described such benefits as enhanced communication skills and learning motivation, information sharing, development of friendships, learning from each other, and mutual scrutiny. The teacher participants believed that teamwork could train students' collaboration skills and elevate the weaker students' performances. Despite the benefits, most of the student participants struggled with teamwork. Various factors contributed to the struggles, which can be vaguely grouped into the four dimensions in the GRPI model due to the intertwined nature of the factors.

Further, the participants highlighted the importance of communication in team development, leading to a modified model (Please see Figure 1). Communication is a component of the GRPI model. However, it is belittled as the least important barrier [18]. The barriers under each of the four dimensions in the GRPI model, together with communication, are listed in Table 1. In the following sections, details will be provided concerning the barriers, supported by citations from the interviews of the participants.



**Figure 1.** The intertwined barriers to underperformance of teamwork.

**Table 1.** Barriers contributing to students' struggles with teamwork ( $N = 26$ , 23 students, 3 teachers).

Barriers	No. of Participants Mentioned
Goal-related	24
Different motivations	15
Different opinions	9
Role-related	20
Enthusiasm-based allocation	9
Ability-based allocation	13
Process-related	10
Lack of leadership authority	6
Different paces in conducting teamwork	8
Interaction-related	15
Interpersonal conflict	4
Struggle with unfamiliar peers	14
Staying in superficial harmony	5
Communication	26



### 3.1. The Goal-Related Barriers

A shared team goal is essential for team performance. Understanding the team goal can engender individuals' commitment to teamwork and develop a team identity to align collective efforts with individual commitments [3,18]. Most participants in this study talked about goal-related barriers, which can be categorized into two: different motivations and different opinions.

#### 3.1.1. Different Motivations

The participants in the study mentioned the importance of knowledge and skills in nursing care. However, they claimed that not all nursing students were willing to make the most use of their learning opportunities. Some students joined nursing not out of their interests and, therefore, had a low level of motivation to work hard. A Year 3 male student singled out doing group assignments as the most challenging in his studies in the past three years. He elaborated on the difficulty of working with teammates with low commitment:

*Some students may enter nursing under pressure from their parents. They do not have much interest in nursing. They study not for themselves but for their parents. They do not want to try their best in their studies, so they don't spend much time on the group assignments. SY31*

Several participants, including a teacher, recounted that some students were self-centered. They cared about their own studies but were unwilling to work for the whole team. Other students might have priority on other issues than their studies.

*Some students do not want to contribute time to their group assignments. They think learning is one person's business. They don't want to cooperate with other students. T3*

*Some students are busy with other things. Group assignment is not their priority. If we want to have a group meeting to discuss the group work, they say they don't have the time because they must go to their part-time job. SY21*

According to the participants, individual students should understand the team goal and act as team members. They also need to balance their personal aspirations and collective success.

#### 3.1.2. Different Opinions

According to the student participants, while their teachers usually provided instructions and assessment requirements for group assignments, the group members held different interpretations, leading to varying perceptions on the way to accomplish the task. For example, a student in Year 2 elaborated on her disagreement with other teammates in comprehending teachers' requirements.

*Some of the team members did not understand how to do the work. They collected the wrong data. However, they stuck to themselves. If you said to them, "This is not correct!". They would refute, "Are you sure what you are doing is correct? If the teachers say this is incorrect, will you be responsible?" SY22*

Different opinions inevitably evoked debates. Thus, discussions and arguments were an inherent component of team features. Constructive discussions could clarify confusion among group members and reach an agreement on the team goals. However, the discussions were sometimes energy-consuming with little positive outcomes, as one Year 1 student complained:

*After lots of arguments, there were still no agreements. Time was wasted. Sometimes, we debated, revised, and re-revised until the last minute. You were exhausted. I'd rather do it single-handed. SY18*

### 3.2. The Role-Related Barriers

An effective team means that each member shares a part of the teamwork [3,18]. The participants in this study talked about workload distribution through group discussions or by a team leader under consultations with individual members. They revealed no equal sharing of teamwork; instead, the work was assigned unequally by enthusiasm-based or ability-based allocation.

#### 3.2.1. Enthusiasm-Based Allocation

The students revealed that those team members who cared about the group's achievements tended to bear more responsibilities for the group task. In contrast, those who showed indifference to the teamwork might take a lesser share. A Year 2 student who claimed herself as a hard worker recalled that she had completed the bulk of group work in Year 1 because of a lack of participation from her teammates:

*We had two group assignments for two subjects in Year 1: I did almost all the teamwork in one subject and the most share in another. I was not the most able student. I had to be like this. When the teachers gave us the assignments and appointed the group members, no one mentioned the assignments for quite a long time. I was the first to say we should begin, and I did the most share. SY23*

While some team members voluntarily took more share of teamwork, others had to shoulder more responsibility because of a lack of commitment from other teammates. In most cases, students did not mind shouldering more shares as long as other members did their work, even in a lower proportion. However, they were intolerant of those who did not contribute at all. A Year 3 student referred to such group members as the “divers”:

*We know students have different opinions, and we sometimes spend time discussing them. It is time-consuming. However, we are more unhappy with those divers. They do not show up in our discussions. They do not want to do anything! SY34*

Team members felt it unfair those who did little of the teamwork or did nothing at all received the same score as other team members. One Year 4 student said she would feel shame if she did not share teamwork at all:

*Some students feel nothing. I would feel shame if I did not spend any time on the group assignment but got the same score as those who spent two days on the assignment. It is unfair for those who contributed time. SY41*

#### 3.2.2. Ability-Based Allocation

Closely related to the enthusiasm-based allocation is the ability-based allocation. Very often, those who were strong in academic studies bore more responsibility for teamwork. The work allowance was friendly to the weak students, who were usually happy with teamwork. One Year 3 student who had repeated school years talked about his ease with teamwork.

*I have no difficulty with group assignments. I am not the one to lead the group. I wait for them to give me my part. I will do it once they give me the task and clarify what I should do. No problems! So far, I am happy with every group I have joined. SY33*

His opinion was echoed by other students who mentioned general happy experiences with weak students if the latter were willing to do their part. What was important was good communication with the weaker students so that the latter were clear about what they were expected to do.

### 3.3. Process-Related Barriers

The process involves decision-making and conflict management in developing and achieving team goals [18]. Two barriers to teamwork emerged in this study: lack of leadership authority and different paces in conducting teamwork.

### 3.3.1. Lack of Leadership Authority

Lack of a team leader could cause assignment management chaos, including a lack of decision-making, no clear working schedule, no distribution of workloads, etc. The participants agreed on the need for leadership in a group. While a few students volunteered to lead the group, some were forced to become the leader; for example, they were defeated in the “Rock, Paper, Scissors” leader selection game. Other students became the leaders at the request of team members. As the students were classmates with equal power status, team leaders found it challenging to exert leadership authority. One Year 4 student recalled her becoming the team leader at the requests of her mates but with limited leadership authority.

*At first, no one on our team mentioned when and how we would do the job. I waited, too. When we approached the deadline, some students began to worry and came to me to ask how to do the job. I had to take the lead. Still, some team members did not listen to me. Nevertheless, others supported me. SY46*

Her accounts reflected that team leaders had to rely on their followers to exert their leadership role, and not all the group members were the followers of the group leaders. Due to limited leadership authority and different commitments of the team members, the leaders of teams often found that they had to bear more shares of the teamwork than other team members did.

### 3.3.2. Different Paces in Conducting Teamwork

According to the participants in the study, teamwork should first be split and then compiled into a coherent wholeness by the team leaders. Team members sometimes conducted their share of the teamwork at different paces, and this could lead to a delay in compiling the teamwork. For example, one Year 4 student who took the leader’s role complained about her frustration with the deadline fighters in her team.

*Now, we are in Year 4. I know our peers very well. I am willing to do the revisions with some of them. I worry that they send me the work just before the deadline, and I have no time to do the revisions and compiling. SY44*

Other students also complained that they had to wait for other teammates at the last minute for teamwork compiling, which would negatively impact the team’s performance.

## 3.4. Interaction-Related Barriers

The level of trust among team members impacts the team atmosphere and influences team performance [3,18]. Most student participants in this study experienced interaction-related barriers, categorized into interpersonal conflicts, struggles with unfamiliar peers, and staying in superficial harmony.

### 3.4.1. Interpersonal Conflicts

All the participants agreed that a harmonious relationship with team fellows was important. However, relationships among team members were not always pleasant. Some members were difficult to get along with because they were rigid and did not listen to other’s opinions. Additionally, a team hardly develops if team members are hostile to each other. A Year 2 student elaborated on strained relationships in her previous group of six students because two members were rivals.

*The team atmosphere was bad. Two of the members hated each other before we formed the team. Each of the two rivals wanted other members to stand with her. I did not want to join any of them. SY26*

SY26’s story indicates that interpersonal conflicts among some team members impact other members because they engender a further split of the group members, which can damage the cohesion of the team efforts.



### 3.4.2. Struggle with Unfamiliar Peers

It was found in the study that students' struggle with unfamiliar peers was associated with interpersonal conflicts and attributed to the grouping manners. If students had the autonomy to choose their group fellows, they tended to group with their friends; if the teachers assigned group members, they might not know each other very well, although they were classmates.

All the participants expressed the hope that they would rather work with friends than with unfamiliar peers. Working with friends made it easier to reach a consensus on the team goals and allocate the teamwork. In contrast, students could not have straightforward conversations with unfamiliar team members. In particular, there would be sub-teams composed of members who were friends. One student had an unhappy experience in a group because she did not feel welcome by the team members:

*I joined their team. They discussed the group assignment. However, I had different opinions, so I spoke out. Other times, I kept silent. They had their way of doing the assignment. My way was different from theirs, so I just shut up. SY24*

Here, SY24 regarded herself as an outsider in the team and did not develop a team identity. The tense relationship between the sub-teams was obvious, and this impacted the input of team members to the collective goal. The teacher participants observed sub-teams formed by friends, but they had mixed feelings about teams composed of friends:

*There may be two or three sub-teams in a team of 7–8 students. I know that the students like to form a team with their friends. I sometimes let the students choose their teammates, and sometimes, I allocate students in groups. If we let students choose their mates all the time, there may be outcomes we do not want. The top students will be in one group, and the weak ones will be in another. The strong will become stronger, and the weak will become weaker. T2*

The teacher's explanation indicates that despite the benefits of teaming with friends, the teachers' dilemma in offering the students autonomy to choose teammates was apparent. Allowing students to team with friends would widen the gaps in academic performance between top and weak students.

### 3.4.3. Staying in Superficial Harmony

While the student participants might experience unhappiness with team members, they rarely complain to their teachers. Instead, they tried to stay in harmony with team members. A Year 2 male student explained why keeping harmony in the team was important.

*We had a member who did not spend time on the team job. We were angry. However, we did not report to Miss. You will be classmates with them in the next years, and you may be grouped with them the next time. You still want good relationships with them. SY26*

His opinions were supported by the teacher participants, who had not received quests from students asking for a change of team members. Student participants in the study also mentioned a back-to-back evaluation of team members upon accomplishments of teamwork. They usually gave a relatively good score to a team member even though the member did very little for the teamwork, as they did not want to expose the strained team relationships to their teachers.

## 3.5. Communication

All the participants in the study, including the students and teachers, agreed that communication was the most important in team development. They emphasized that open and honest communication could address most of the team's problems. A Year 2 student detailed how they persuaded a team member with low motivation in nursing studies to share teamwork responsibility.

*Having a sincere communication is important. We asked her: “Will you attend the group discussion?”. She said she did not want to. However, she was willing to take her share of the work. We said, “If you don’t attend the discussion, you may not understand the framework and may not be able to do your share.” SY23*

Other participants also talked about communications when elaborating on role-, process-, or interaction-related barriers.

There seemed to be a changed communication pattern as students advanced from junior to senior years. They talked about more face-to-face discussions in Years 1 and 2 and then changed to more online discussions in Years 3 and 4. This is because the students were busier with clinical studies and extracurricular activities as they advanced to senior years. Further, there were overall decreased discussions in senior years, as a Year 3 student provided the reason:

*During Year 1, we didn’t know how to do the assignment and how to work with the team members. We discussed the assignments in the tutorial rooms of the library. After we entered Year 3, we knew how to do it very well. We allocated the teamwork, and every student did his or her share. We didn’t need that much discussion. SY33*

SY33’s recounts were echoed by other participants who described the more efficient teamwork when students became more familiar with teamwork. They were clearer about the work requirements, team members’ abilities, and the ways to conduct the teamwork. However, the reduced discussions among team members might result in a reduced opportunity for the students to learn from each other in a team atmosphere. It is a risk from teamwork back to individual work.

#### 4. Discussion

Although the study participants came from one nursing school in Macau, the organization of the group assignments was similar to that reported in other places [13,23]. This qualitative study, framed using the GRPI teamwork model, revealed a range of intertwined barriers preventing effective teamwork. While the study supports the four-dimensional factors proposed using the GRPI model, it modified the model by highlighting the importance of communication in transferring a group into an effective team. Team forms for different purposes [33], and the barriers reported in this study emerged from task-oriented teams. However, the findings may have implications for other purposes of teams as there are similarities in developing teams with different objectives. The study supported previous findings that groups struggle to become effective teams [21,22,34,35].

##### 4.1. The Barriers Preventing the Development of Effective Teams

The study’s findings verified the importance of the goal-related barriers in the under-performance of teamwork [18,36]. Students joined nursing from different backgrounds and thus held different self-expectations. However, the prerequisite of effective teamwork is integrating personal aims with team aims [18,36]. This study showed that team members need to adjust their personal aims in a team environment.

Previous studies emphasized leadership in team management [2,18,35]. However, a lack of authority of team leaders over fellow teammates was observed in the study. Despite a hierarchical power structure in clinical environments [37], a horizontal power structure is typical among the student team members. Informal leaders emerged among the students, who exerted their influence by capitalizing on limited support from some team members. Other scholars also suggested that informal authority depends on the leaders’ followers [38,39].

Conflicts are inherent in team dynamics. Researchers grouped conflicts into task-oriented and interpersonal conflicts, with the former having positive impacts on team performance and the latter having negative impacts [40,41]. Task-oriented conflicts were raised in the study when students had different perceptions of the requirements of group assignments. While the task-oriented conflicts triggered discussions, leading to clarification

of work conduct for the team members, they also negatively impacted teamwork when the team lacked leadership and discussions lacked directions. Other scholars suggested that task-oriented conflicts may have deeper roots than they appear at first glance, and addressing task-oriented conflicts needs to address other barriers simultaneously [18,42].

Running through several themes is interpersonal conflicts among the team members. The nursing students had tried not to confront peers directly and sought harmonious relationships. Other studies also found that teammates endeavored to maintain harmonious relationships with peers, particularly in cultures where collective interests were honored over individual ones [43,44]. As a Chinese society, Macau is influenced by the Chinese individualism and collectivist culture. As observed among Chinese people in other places [45], the participants in this study demonstrated respect for harmonious interpersonal relationships.

Scholars have proposed that role-matched accountability is essential in accomplishing teamwork [2,3,36]. The study found that the team members did not equally share teamwork. Other studies also reported that lack of participation was the most observed barrier to effective teamwork [13,14,16]. While the working manner of ability- or enthusiasm-based workload distribution is usually applied in teamwork, it should be cautiously used in student teams. The unequal allocation of teamwork may exacerbate the existing gap in individual students' competence in both nursing studies and team-based collaboration, making the strong stronger and the weak weaker, especially in the absence of effective communication among team members.

#### *4.2. Practical Implications*

Whereas "two heads are better than one head," there may be a waste of time and energy for the members in chaotic groups. Interventions from teachers may be necessary to facilitate student team development. The study's findings suggest that smaller teams perform better than larger ones. Other scholars also warned of more interpersonal conflicts with large groups [33]. Therefore, small teams with three or four students may be suitable. Workshops on teamwork may be provided for first-year students to learn to work in a team environment from the beginning of college life. A superficial harmony was observed in this study, indicating unsolved interpersonal conflicts among the student team members. The teachers should encourage students to reveal rifts with peers safely. Although the students prefer teaming with friends, there is a potential risk of an increased performance gap between top and weak student teams. More help and instructions from the teachers are needed for the weaker cohorts. A fair share of task distribution is also crucial in team performance but is somehow overlooked by the students in the study. Peer evaluation of detailed personal contributions to teamwork should be provided by team members so that individuals' contributions are appropriately awarded. Effective communication is paramount to addressing all the barriers [2,4,21]. However, decreased communication was observed with more senior students in Year 3 and Year 4. Other scholars suggested frequent contact between team leaders and subject teachers [13,14]. More importantly, regular meetings are needed to evoke group discussions, particularly among the teams composed of senior students. Accompanied by the decreased communication is the teamwork devolving into individual work, which can hinder the students' collaboration and cooperation skills. Rotating roles and responsibilities can prevent team members from becoming too comfortable in their specific roles and encourage cross-functionality [46]. Again, regular and open discussions are necessary to ensure the team maintains cohesion and productivity. Teachers may consider a shift of teamwork assessment from academic performance to the teamwork spirit.

#### **5. Conclusions**

Teamwork is part of the conventional learning experiences of students in nursing schools. Framed using the GRPI teamwork model, this study confirmed teamwork as a complicated interaction process. While teaming allows students to learn from each other,

the opportunity is utilized by the students unequally, thus leading to different learning outcomes. Ineffective teamwork can exacerbate the existing gaps in the academic competence of individual students as well as their teamwork competence. Early and appropriate interventions from teachers may be necessary to facilitate student teamwork. Particular attention should be paid to detecting the unsolved interpersonal conflicts concealed in superficial harmony and to those groups composed of weak students. Teachers' assessments of team performance should focus not only on student's academic achievements but also on the manifestations of team spirit.

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