

*The Experiences of Building Resilience Among Nursing Undergraduates in Macao:
A Qualitative Study*

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Abstract

Nursing students face many pressures during the undergraduate study. Resilience building is recognized as a valuable coping strategy for nursing students to effectively manage stress in their studies and daily lives. The aims are to understand how nursing students perceive and experience the struggles or stresses during their undergraduate studies and to identify factors that help them build resilience. A qualitative design utilizing one-to-one interview was adopted. A judgment sampling method was employed to select interviewees. Fourteen year-2 to year-4 undergraduate nursing students from one of public universities in Macao participated in the study. Data was collected from March to April 2022. The thematic analysis method was used to perform the data analysis and identify emergent themes. Students reported that the main stressors they encountered during the undergraduate stage were academic performance and relationships. Three themes emerged from the data analysis: (1) challenges from academics; (2) challenges from relationships with others; (3) building resilience over time. Seven sub-themes were identified: unsatisfactory academic performance, language inefficiency issue, uncertainty, loneliness as a freshman, exclusion, external support, and positive coping strategies. Macao nursing students experienced various stresses during the undergraduate stage; besides academic performance, relationship with others was the second top stressor. Though the students can gradually build resilience, it is necessary to offer the special training to undergraduate nursing students for positive coping and resilience-building strategies.

Keywords: Qualitative Study, Nursing Students, Resilience, Macao

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1. Introduction

Globally nursing students were regarded as experiencing more stress than other trainee healthcare disciplines (Tung et al., 2018; Turner & McCarthy, 2017). The most common sources of stress perceived by nursing students were academic-related demands, the high workload in the clinic, and interaction with patients, other health professionals, and teaching staff (Cornine, 2020; Chaabane et al., 2021). In addition, dealing with family demands financial responsibilities, and personal issues cause additional stress (Grant-Smith & de Zwaan, 2019; He et al. 2018). Unrealistic expectations for academic achievement can result in severe consequences such as burnout, dropping out, and attrition of students. Unfortunately, the global nursing student attrition rate is a staggering 30%, which highlights the severity of this issue (Bakker et al., 2018). Pulido-Criollo and associates (2018) further stressed that overwhelmed stress leads to a number of serious physical and psychological health conditions. The ability to effectively cope with challenges and the process of adapting well in the face of adversity, trauma, tragedy, threats or even significant sources of stress is conceptualized as resilience (Stephens, 2013; The American Psychological Association, 2014). Jackson and colleagues further stressed that having good resilience is an essential quality for success in the nursing profession (Jackson et al., 2011).

Two separate studies, one conducted on Spanish nursing students by Rios-Risquez et al. (2018) and the other on Australian nursing students by He et al. (2018), have found a significant and positive correlation between resilience and well-being. In both studies, greater resilience was linked to higher levels of psychological well-being among the students. He et al. (2018) also reported that resilience was the strongest predictor for positive mental health among Australian nursing students, along with support from significant others and family support. A study conducted by Crombie et al. (2013) using an ethnographic case study approach, examined second-year students at a university in London and found that resilience played a significant role in determining course completion rates.

The level of resilience among nursing students varies across countries/regions. Studies have found that resilience was lower among mental health nursing students in the UK (Galvin et al., 2015) and South Africa (Janse van Rensburg et al., 2012). On the other hand, nursing students in Nigeria showed moderate levels of resilience (Aloba et al., 2016), while nursing students in Australia and Spain demonstrated high levels of resilience (Chamberlain et al., 2016; Ríos-Risquez et al., 2016). A study by CHOW et al. (2018) found that the level of resilience among Hong Kong nursing students was lower compared to that of other countries, but the level of resilience among postgraduate nursing students was higher than that of undergraduate students. Previous studies have used quantitative methods to explore the adversity quotient of Macao nursing students, and the results show that they are at a moderate to a low level (Wang et al., 2021).

Researchers have begun to focus on exploring why some nursing students are able to effectively cope with adversity while others cannot, as well as what factors can help nursing students develop or improve their coping abilities and resilience levels. It was discovered that students' resilience was nurtured by the encouragement they received from their parents, significant others, children, grandparents, and in-laws (Carroll, 2011; Crombie et al., 2013). Friendship was also considered important for resilience, particularly supportive peer groups integrated into nursing programs (Carroll, 2011; Crombie et al., 2013). Among these sources of support, mothers were mentioned most frequently and the importance of teacher support

was also highlighted in the interviews, and was considered valuable in enhancing student resilience (Carroll, 2011).

In terms of the effect of time duration on students' resilience is still a controversial research topic. A longitudinal study conducted in England found no significant difference in resilience scores for nursing students after three years compared to first-semester entry (Pitt et al., 2014). On the other hand, a qualitative study by Galvin et al. (2015) highlighted the influence of maturity and experience as important factors in shaping resilience. Findings from another quantitative study showed that important predictors of resilience were emotional exhaustion and academic performance (García-Izquierdo et al., 2018).

Compared to research on stress sources during clinical internships, there was relatively less research on student perceptions of stress sources during on-campus learning and how to deal with them. Although clinical internships were crucial for training nurse students, the difficulties and setbacks encountered during theoretical learning on campus should not be ignored. What's more, despite numerous reports on the resilience of nursing students through both quantitative and qualitative research, there is currently no available qualitative research on the resilience of nursing students in Macao.

Macao is one of the wealthiest regions in the world. Most nursing students in Macao are local high school graduates who grew up, lived in a comfortable community, and received 15 years of free basic education. Due to the low competition pressure, over 95.4% of high school graduates enter universities (Education and Youth Development Bureau of Macao SAR, 2022). Macao is a highly diverse cultural society, and in recent years, with the rapid increase of immigration and tourism, the healthcare service environment has become more challenging (Liu et al., 2015). Considering that nursing students are an important nursing workforce in the future, this study uses a qualitative interview method to explore the process of resilience building by understanding the pressures, setbacks, and coping strategies of undergraduate nursing students in Macao during their 4-year studies in the university. The ultimate goal is to deliberately improve their positive coping strategies, enhance their resilience, and better adapt to future work and social environments.

2. Methods

This was a qualitative design using one-to-one, semi-structured interviews. The study was conducted at one of the local universities in Macao SAR.

2.1. Participants

Fourteen year-2 to year-4 undergraduate nursing students participated in the study. A judgment sampling method was adopted to select interviewees. Inclusion criteria: Study in a Bachelor of Nursing program in the 2022-2023 academic year; have experience in clinical practice; can listen, speak, and read Chinese; voluntarily participate in the study. In addition, the principles for selecting participants also considered participants' expressiveness and maximized variability in demographic characteristics, such as age, gender, grade, and GPA level. Data were collected from March to April 2022 using face-to-face personal interviews.

2.2. Ethical Considerations

The Ethics Committee of Macao Polytechnic University approved the study. The purpose and procedures of the study were explained to all participants, and they were informed that interviews would be recorded and that they had the right to refuse participation or to withdraw from the study at any time. Before the formal study, a written informed consent was obtained from each participant. To ensure that the interviewees had no worries during the interview, they could also ask the interviewers to turn off the recorder when some information they did not want to be recorded. Identities of participants were replaced by numbers and letters and would not be revealed in research reports or publications.

2.3. Data Collection

Three semi-structured interview questions are as follows: 1) What was or were the most difficulties or setbacks you have experienced since enrolling in university? 2) How did you deal with those difficulties or setbacks? 3) Please give examples of setbacks that you think handled well or unwell; and please analyze the reasons why you handled it well or not. Each interview was approximately 30-40 minutes. The interview took place in a quiet laboratory at the university (a familiar setting for the interviewees). For the participant's convenience, an individual appointment was made with each participant prior to the interview. To avoid bias, all interviews were conducted by the same interviewer. In the beginning, the interviewer introduced the purpose and procedures of the study and obtained written informed consent from each participant. The entire interview was audio-recorded and kept strictly confidential. Interview techniques include remaining neutral throughout the interview process, active listening, unconditional active attention, and clarification to ensure the accuracy of information.

2.4. Data Analysis

All interview recordings were transcribed verbatim by two research assistants within 24 hours of the interview. Data analysis was performed concurrently with data collection to determine data saturation. The analysis was performed using the subject content analysis technique (Braun & Clarke, 2006). Consists of three main stages of preparation, organization and reporting (Elo & Kyngäs, 2008). During the preparatory phase, the same script was carefully read separately by two principal researchers, and the tentative themes was selected as the unit of analysis (Elo & Kyngäs, 2008). During the organizational phase, open coding and category creation took place (Elo & Kyngäs, 2008). After generating the initial themes, two research team members discussed and compared their respective research results, and finally reached a consensus on each theme and sub-theme.

Rigor was achieved through this process (Tong et al., 2007): 1) Team members had diverse backgrounds. Each author had extensive experience in nursing education, nursing administration, and qualitative research. Team members contributed their own diverse perspectives and understandings to data analysis and reporting, and diversity within a research team supports a more rigorous interpretation of data. 2) Individual transcripts were emailed back to each participant for confirmation. 3) Researchers continuously compared, discussed and reached a consensus on each topic and subtopic to maximize the credibility of the analysis.

3. Findings

Three major themes, supported by sub-themes, emerged from the analysis: 1) challenges from academics; 2) challenges from relationships with others; 3) building resilience over time.

3.1. Challenges From Academics

For students, the primary task was to study. However, due to the completely different teaching modes and performance assessment methods between the university stage and the high or middle school stages, many college students needed to re-adapt and adjust their coursework preparation methods. Many students had no goals in their studies or had unsatisfactory academic performance, and even delayed their graduation. In this interview, half of the students reported academic-related difficulties.

3.1.1 Unsatisfactory Academic Performance

“When I was a freshman, there were too much contents (to learn), and I didn't know what were the key points. (Before the exam) I had to review a lot in one week. I didn't know how to allocate time and the consequence was that I had to retake the exam, which is a big setback. I hadn't experienced it before.” (P2)

“I re-studied for the freshman year and re-took Fundamental Nursing. Maybe I just didn't adapt to university. I found the Nursing program very difficult. I couldn't remember many notes during the exam, and I couldn't do the nursing skills well either.” (P10)

“After I came to university, I was free, and I became lazy and didn't have the motivation to study. I failed the exam of Fundamental Nursing, and I had to study for an extra year, wasting time...” (P1)

“At first, I didn't care about GPA, thinking it was not very important. Later, I realized its importance until my junior year. I tried to catch up, but now my GPA is only 2.2. I regret that I didn't work so hard in my freshman and sophomore year.” (P5)

3.1.2 Language Inefficiency Issue

“I graduated from a Chinese high school. When I entered the university, I thought that half of the classes were in Chinese and half in English. Later, I found out that it wasn't... I have been exposed to Chinese since I was a child. I didn't expect that the PPT and examination papers in the university were all in English. As a result, I failed an important subject, resulting in a one-year delay in graduation, English is too difficult for me.” P6

“I think the biggest impact on the grades is English, the English papers. If you speak Chinese with me, I can tell you what I know, but it will not work if you switch to English, because you have to remember some professional terms, but my English is not good. Faced with so many English professional terms, I can't remember them at one time.” P13

“I am not very good at Mandarin, and it is difficult for me to listen to Mandarin. Sometimes if some teachers have an accent, I can't understand what they say at all...” P1

3.1.3 Uncertainty

“When I entered the university, I had a feeling of uncertainty about my abilities. I just didn't know whether my abilities, personality traits, would be suitable for socializing with others, or for being a nurse.” P14

“During my practice in school, we were presented with models for training purposes. However, when it came to clinical practice, we had to work with real patients, and I found that the blood vessels of a real person are thinner and less noticeable than those of a model. If I was unable to perform the operation successfully, the teacher may have needed to step in, which was nerve-wracking and impacted my performance. This added pressure caused me to feel nervous, leading to decreased performance. While some of my peers were able to complete the same operation in five minutes, it took me ten minutes.” P9

3.2. Challenges From Relationships With Others

University students normally experience various personal relationship challenges. Particularly for nursing students, besides interaction with peers, and faculties, they also engage in other situations, such as dealing with clinical preceptors, patients, families, and other health professionals. Among this group of interviewees, most of them mentioned that they encountered setbacks in interpersonal relationships even more than academic problems.

3.2.1 Loneliness as a Freshman

“When I first entered university, I found it difficult to adapt and open my heart to be friends with others. I would keep a certain distance because I don't like others being so close to me...” P13

“When I was a freshman, I didn't know the people around me very well. My fellow classmate who also attended our middle school has already made new acquaintances, and I felt lonely.” P12

3.2.2 Exclusion

“I don't seem to get along very well with my classmates... I don't know if it's my personality or what. Some people don't seem to like me very much and don't want to chat with me. When doing group work, I would not be asked to join in. It was the same during the internship, it was not easy for me to assimilate into the internship group.” P1

“I feel excluded by my classmates. For example, if I got high marks in my homework, they would laugh at me. When I got good grades during my internship, they would say that I was flattering to get that, not because of my strength...” P11

3.3. Building Resilience Over Time

This interview found that when students had experienced difficulties or setbacks, and if they could adopt positive coping strategies together with some external supports, such as family members, peers, tutors, etc., resilience could be gradually built.

3.3.1 External Support

“My academic performance was not good since my in primary school. My parents understand me very well. They think that I have already tried my best, and they never put pressure on me.” P10

“When I re-take the first grade, my friends were already in the second grade. They lent me a lot of class notes. They hoped that I would pass the exams smoothly, taught me homework and practiced nursing skills with me, making me feel that I am not alone. Sitting in the classroom is lonely sometimes. But usually, at noon they would ask me to have lunch together, and go out to relax after school...” P6

“We were very perfunctory in a group report when we were sophomores, which caused the subject teacher to criticize us severely, saying that we were not serious about our studies. In my junior year, we had a group report assignment again. It happened to be the same teacher. We worked hard on the homework this time, the teacher praised us and said that he saw our progress. I felt that my hard work had received a positive response, and I was very happy.” P8

“In my senior year, I was assigned to the XX department, where I had a fantastic clinical teacher who was very encouraging. He would often tell us that it's okay if we didn't know all the theoretical knowledge, and would simply encourage us to try our best to find the answers. Whenever we were able to find the answers, he would commend us with a "good job". These words of encouragement made our internship experience very enjoyable and motivated us to work hard.” P7

3.3.2 Positive Coping Strategies

“Whenever I encounter setbacks, I will think of many ways to solve them. For example, if the teacher asks a question and I can't answer it, then I will go home and search for information, and try to answer the teacher later. If the answer is not satisfactory, I will continue to look for the answer, and even ask my senior friends to find a way to solve the problem. Some nursing skills that I didn't do well. I would spend a lot of time to practice and practice. Some students will wonder why I can do so well in the skill test, but they didn't see how much effort I put in behind it.” P2

“After failing an exam and having to take a make-up exam, I realized the importance of attention in class and taking notes in class, since then, I have never been absent from classes. I don't look at the key points of the exam handed down by my seniors, I organized the important contents of what we learned and carefully prepared, and then I felt less pressure to face the exams.” P9

4. Discussion

The results of this study indicate that the Macao undergraduate nursing students face significant stressors during their academic pursuits, particularly related to poor academic performance and interpersonal relationships. Specifically, poor academic performance was identified as a widely prevalent issue, consistent with previous research findings (Mall et al., 2018; Oner & Ustun, 2013). However, this study also revealed that many of the interviewees cited language barriers as a contributing factor to their academic struggles. This finding is relevant to Macao's unique nursing education context, where the primary languages of instruction are Chinese, English, and Portuguese. English is commonly used as an academic language, as well as in the nursing practice. Moreover, Macao's clinical environment involves daily interactions in three languages (Chinese, Portuguese, and English) and four dialects (Cantonese, Mandarin, Portuguese, and English) (Liu et al., 2015). To meet the language demands of the Macao healthcare system, nursing education institutions in Macao often use multiple languages in classroom instruction and academic communication, such as textbooks, teaching materials, and exam papers primarily in English, with lectures in Cantonese and Mandarin. This approach caters to the diverse needs of students and teachers and helps students better adapt to the language demands of their future work. However, non-native English-speaking Macao students may encounter significant barriers to learning if their English proficiency is poor. A decade ago, researchers (Olson, 2012; Sanner & Wilson, 2008) identified English language deficiencies as a significant obstacle to success for English as a second language (ESL) nursing students. The authors noted that ESL nursing students faced difficulties in reading speed and comprehension due to the need to translate between English and their native language, making reading more complex. Studies also indicate that ESL students encounter challenges in technical vocabulary, grammar, syntax, writing, and nursing documentation. Therefore, the researchers suggest that building language skills for ESL nursing students is crucial for their success, such as providing lecture slides, and copies of class notes, allowing recordings of lectures, extracurricular activities, and workshops for the students (Olson, 2012; Alqahtani, 2022).

In this study, it was found that another main source of stress reported by students is interpersonal relationship issues. Similar findings have been reported in studies of nursing students in Spain (Oner & Ustun, 2013) and the United States (Wolf et al., 2015). It is worth noting that in this study, there were even more students who reported interpersonal relationship issues than academic problems. In the context of undergraduate nursing education, interpersonal relationships can pose significant challenges for students (Bach & Grant, 2015; Ramsbotham, 2019). Specifically, conflicts with classmates and faculty members were identified as common issues, which could lead to increased stress, anxiety, and reduced motivation to learn (Li, et al., 2019). There are several factors that may contribute to interpersonal relationship problems in nursing education, including differences in personality, communication styles, cultural backgrounds, and expectations (Bhana, 2014). For instance, nursing students may come from diverse cultural backgrounds with varying norms and values, which could lead to misunderstandings and conflicts (Almutairi, 2015). To address these issues, nursing education institutions must prioritize the development of communication and interpersonal skills among nursing students. This could involve incorporating relevant coursework and training programs that promote effective communication, conflict resolution, and teamwork (Yoo & Park, 2015). Moreover, creating a supportive learning environment that fosters respectful communication and collaboration among students and faculty members is essential for reducing interpersonal conflicts and promoting positive relationships (Cannity, 2021).

This study found that, although nursing students experienced various stressors and difficulties, they coped with them in different ways. As Richardson (2002) described, resilience is a process of coping with adversity or disruption by strengthening protective factors related to resilience, and resilience is seen as something that can be gradually enhanced and modified through education. The study identified external support as an important factor contributing to nursing students' resilience, which is similar to previous research findings (Carroll, 2011; Crombie et al., 2013). Another factor that was found to contribute to nursing students' resilience in this study was the use of positive coping strategies. Nursing students utilized coping strategies that typically fall into two categories. The first category involves actively addressing and reducing stress, such as seeking emotional support from peers and others, managing workload and organization, sharing experiences with teachers, exercising, and seeking spiritual guidance (Labrague, et al., 2017; Zhao et al., 2015). The second category of coping mechanisms involves avoidance or attempting to alleviate stress through negative means, such as alcohol and drug abuse, binge eating or less eating, social withdrawal, indifference, stubbornness, and dropping out (Gurková & Zeleníková, 2018; Hirsch et al., 2015). Research has found that individuals who adopt positive coping strategies tend to have better mental health outcomes when compared to those who adopt negative coping strategies (Zhao et al., 2015). Students with high levels of psychological resilience are better equipped to understand the importance of positive coping strategies when experiencing adversities and can effectively overcome negative emotions (Li & Hasson, 2020). Furthermore, students with higher resilience are more likely to utilize problem-solving strategies to avoid stressful events and may be helpful for them to effectively deal with various stressors during their educational experiences while maximizing learning (Labrague, 2018).

5. Limitations

While we have followed a rigorous research process, it is important to acknowledge the limitations of this study. Firstly, although we adopted a maximum variation sampling strategy in selecting participants, it is noteworthy that the participants in this study were all from a public university and did not include students from private universities. Therefore, the conclusions drawn from this study may not necessarily be generalizable to all nursing undergraduates in Macao. Secondly, the possibility of recall bias cannot be completely ruled out. Lastly, the current study design involved interviews with students of different grades. In future research, a longitudinal study should be conducted to survey the same students every year to examine the changes in stress, resilience, and coping strategies over time.

6. Conclusions

This study found that nursing undergraduates in Macao encounter various stressors during their undergraduate studies, with interpersonal relationships being the second biggest source of stress, after academic performance. External support is helpful for students to build resilience, including support from parents, peers, and teachers. Internal factors also play an important role in resilience building, such as adopting a positive approach to difficulties and setbacks. While students can gradually develop resilience, it is necessary to provide specialized training on proactive coping and resilience-building strategies for nursing undergraduates.

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