


Clinical education

Stressors and coping of nursing students in clinical placement: A qualitative study contextualizing their resilience and burnout

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Abstract

The aim of this study was to explore the stressors and coping of nursing students with differing levels of resilience and burnout during clinical placement. A qualitative descriptive study was conducted with twenty-four final-year baccalaureate nursing students, who were identified in the quantitative phase of the study as having scores indicating either: a) low resilience and high burnout; or b) high resilience and low burnout. Ten focus group interviews were conducted using a semi-structured interview guide. A thematic analysis of the data identified two main themes: a) stressors arising from the students aligning their expectations with the demands of the clinical placement (i.e., practice demands in busy wards, striving for learning opportunities, and discovering the social rules), and b) coping as a process of fitting into the ward culture. Those students with high resilience and low burnout scores had self-directed goals and coped by using self-regulation strategies. Those with low resilience and high burnout adopted external orientation and self-blame strategies. As suggested by the findings, the following approaches are recommended: offering interventions to enable students to fit actively into the clinical environment; encouraging

engagement in reflection to facilitate self-awareness; and encouraging flexible use of personal and external resources.

Keywords: Resilience; Burnout; Nursing; Students; Clinical placement; Qualitative study

1 Introduction

Nursing work is demanding and can result in high levels of stress that may pose challenges to the mental and psychological well-being of nurses (Santos et al., 2010). Nursing students have been found to encounter similar stress-related occupational health risks to staff nurses (Pulido-Martos et al., 2012). Stress could increase as the students progress through their programs (Edwards et al., 2010). Possible stressors of nursing students during their clinical placement included: uncertainty (Killam and Heerschap, 2013), a lack of professional knowledge and skills (Kaldal et al., 2018), a fear of committing medical errors (Pulido-Martos et al., 2012), a heavy workload, performance stress related to expectations from academic and clinical staff (Khater et al., 2014), exposure to death and social problems of patients (Yasmin et al., 2018), and dealing with emergencies (Lopez et al., 2018). Experiencing these stressors can lead to burnout, which is characterized by symptoms of emotional exhaustion and cognitive impairment (Rees et al., 2016).

Adaptive strategies commonly used by nursing students include actively confronting the stress/solving problems (Alshahrani et al., 2018), seeking social support to vent emotions or get advice (Lopez et al., 2018), thinking positively/reframing (Yasmin et al., 2018), and engaging in physical exercise (Thomas et al., 2012). Maladaptive coping strategies may include avoidance (Agyare et al., 2018; Yasmin et al., 2018), and utilizing alcohol/drugs (Papaconstantinou et al., 2017; Thomas et al., 2012). While not all studies described the outcomes of students' coping at clinical placement, those that did noted impacts on clinical performance, physical health (e.g., eating, sleeping) (Yasmin et al., 2018), resilience (Lopez et al., 2018), and burnout (Gibbons, 2010). However, the type of coping strategies used and how coping relates to the aforementioned outcomes in nursing students is still poorly understood.

The concept of resilience has evolved over time. Its origins can be traced to the discipline of psychology in the 1970s (Thomas and Revell, 2016) and can be defined as the ability to recover, adjust, or thrive following adversity (Hegney et al., 2015). Resilience in healthcare professionals is gaining increasing attention globally. A review of the literature on resilience in health professionals identified individual factors (i.e., self-efficacy, hope, control) and contextual factors (i.e., colleague support, mentors) that can affect the resilience of nurses (McCann et al., 2013). Research in this area is relatively new. Thomas and Revell (2016) conducted an integrative review of resilience in nursing students and found that nearly all of the articles on this topic had been published in the previous few years. They summarized the factors that foster resilience in students included: support from significant others, the passage of time with cumulative successes, and a high level of empowerment.

Nursing students in Hong Kong have been shown to experience moderate levels of stress (Watson et al., 2008), and to have the lowest perceived quality of life (QOL) score when compared with nursing students in other countries (Cruz et al., 2018). Recently, we participated in the development of a model of psychological

resilience in nursing students, using a mixed methods approach put forward by Rees et al. (2016). A quantitative study, i.e. the first phase of our study, was conducted with 305 nursing students in Hong Kong. The findings showed that the nursing students had moderate levels of resilience [median = 33/50 using the Connor-Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003)] and burnout [median = 29/50 using the burnout subscale in the Professional Quality of Life Scale (ProQoL) (Stamm, 2010)] (Author, 2019; Ching and Cheung, 2019). Self-efficacy, mindfulness, and coping were all related to burnout in students, but these relationships were mediated by resilience (Rees et al., 2016).

To further explore the quantitative findings, a qualitative study was designed as the second phase of the study with the aims to explore the stressors and coping of nursing students with different levels of burnout and resilience during clinical placement. To date, few qualitative studies have focused on comparing students' coping and outcomes with regard to resilience and burnout. The Consolidated Criteria for Reporting Qualitative Research (COREQ) standard (Tong et al., 2007) was followed to ensure comprehensive reporting of this study.

2 Methods

This paper reports the results of a qualitative study, i.e. the second phase of the mixed methods study described above, to answer the question "What are the stressors and coping strategies used by nursing students with different levels of resilience and burnout during clinical placement?" To do this, we conducted separate focus group interviews with two different groups of students who had been identified from a survey conducted in the first phase of this study as having (i) high resilience and low burnout (HR&LBO) scores and (ii) low resilience and high burnout (LR&HBO) scores. We chose to undertake focus group interviews, as this method allowed the participants to discuss complex and sensitive subjects in an amenable setting, and facilitated them to reveal what they thought and why (Cyr, 2016).

2.1 Participants and setting

The participants were nursing students enrolled in a university program leading to the qualification of registered nurse. They had completed or almost completed their final-year clinical placement in the medical and surgical units of hospitals, and had participated in phase one of this mixed methods study. Their resilience and burnout levels were determined based on quantitative data collected using CD-RISC and ProQoL respectively in the first phase of the study. The nursing students were divided into two groups according to whether their resilience and burnout scores were higher or lower than the median scores of all of the participants in the first phase of the study; that is, they fitted into the category of either: 1) high resilience and low burnout (HR&LBO); or 2) low resilience and high burnout (LR&HBO). A research assistant (RA) sent emails to the two groups of students and invited them to take part in separate focus group interviews.

2.2 Data collection

Ten focus group interviews were conducted with 24 undergraduate final-year nursing students, whose ages ranged from 21 to 25. Thirteen students were in the HR&LBO group (i.e., 7 males and 6 females) while 11 were in the LR&HBO group (i.e., 4 males and 7 females). The interviews were conducted in a quiet room in

the University. The numbers of participants in the focus groups ranged from two to four, depending on their availability. One interview was conducted with one participant. The focus group interviews ranged in duration from 80 to 180 min. Each group of students was interviewed once.

The principal researcher, who is a female nursing faculty member, experienced in conducting qualitative research, conducted all of the focus groups in Chinese. A funnel-based approach was used in the interviews (Morgan, 1997). The participants were first asked to share their experiences and freely discuss the stressful incidents that they had encountered during their clinical placements. Then, following the interview guide (Appendix 1), the discussion became more structured and focused, and probing questions were asked. The participants expressed appreciation to the principal researcher, who was acquainted with them, for giving them the opportunity to verbalize their experiences at the end of the course. The principal researcher maintained reflexive validity by paying constant attention to her own views to ensure that a true understanding could result (Streubert and Carpenter, 2011). The RA made notes about the participants' non-verbal cues and interactions. Data saturation was reached, which is the point when no additional new categories or important information can be identified in the data from subsequent interviews with participants in the same group (i.e., the HR&LBO or LR&HBO groups) (Corbin and Strauss, 2015).

2.3 Data analysis

A thematic analysis was adopted because this approach is compatible with the constructionist paradigm and allows for epistemological flexibility when selecting an appropriate structure for analysis as identified from the data (Braun and Clarke, 2006). It also allows for an emphasis to be placed on context and for the integration of manifest and latent content (Vaismoradi et al., 2013). After importing the data into the software NVivo 10, the principal researcher read all of the data line-by-line (stage 1) and generated initial codes inductively (e.g., performing up to the requirements of nurses, blaming oneself, and seeing negative comments as opportunities for improvement) (stage 2). Codes were collated into themes and sub-themes (stage 3). Several questions were always on our mind when identifying the manifest and latent meaning of the data, namely: What is happening in the data? Why are the students responding in this way? What is important to them? A theme was identified when we found that students coped with the demands on them because they wanted to be part of the team (i.e., to fit in). Sub-themes emerged when we noticed that some students conformed to the external demands and blamed themselves. Others reminded themselves that the principles they believed in were important, and to think in a way to sustain. The first few focus group interviews were analyzed by both the principal researcher and an RA until agreement was reached. The principal researcher then continued to analyze and refine the data under each theme and sub-theme to ensure that they were supported by the whole dataset, and continue to develop a pattern of the responses and outcomes of students with high and low resilience scores (stage 4). The themes and sub-themes were defined (stage 5) and their relationships are illustrated by revisions to the thematic map. The report was written with input from all members of the research team (stage 6) (Braun and Clarke, 2006). Data analyses were undertaken in Chinese, and only the quotations shown in the results section were translated into English and checked by the second researcher for the purpose of reporting. Credibility was enhanced through a peer debriefing on coding conducted by the second researcher, who is also a female faculty member of the University. Keeping an audit trail, as the principal researcher and the RA traced and discussed the coding of the data to reach a consensus, ensured that the findings were dependable and confirmable.

2.4 Ethical considerations

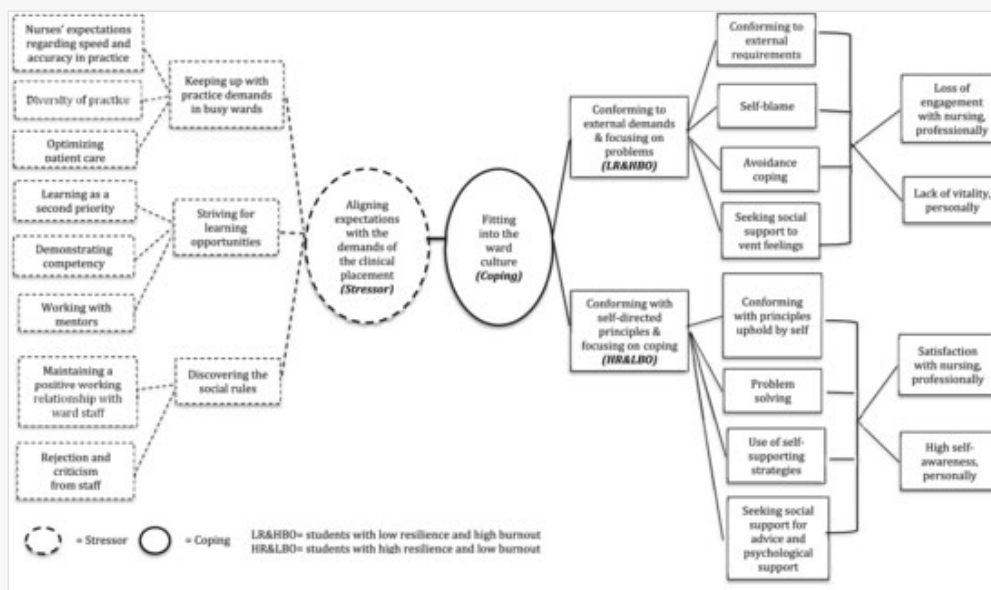
Ethical approval and permission to conduct the study were obtained from the Human Subjects Ethics Application Review System of the University where the study was conducted. Prior to conducting the focus group interviews, the principal researcher explained the purpose of the study and the principle of voluntary participation to the students, using an information sheet. Before participating in the focus group interviews, each student signed a consent form indicating that they agreed to the audio-recording of the interviews and would keep the contents of the interview confidential. All of the data and files were kept strictly confidential by encryption, and access was restricted to the members of the research team.

3 Results

Two main themes were identified from the focus groups: the stressors of students arising from aligning their expectations with the demands of the clinical placement, and coping as a process of fitting into the ward culture. The themes, sub-themes, and related categories are highlighted in *italic* and summarized in Fig. 1. Each participant was assigned a code consisting of a Roman numeral and a number. For example, X1 refers to the first participant of the tenth focus group.

alt-text: Fig. 1

Fig. 1



Thematic map summarizing the themes, sub-themes and related categories.

3.1 Stressors from aligning expectations with the demands of the clinical placement

There were three sub-themes under this theme: keeping up with practice demands in busy wards; striving for learning opportunities; and discovering the social rules. The students' expectations were found to have had a

significant influence on their perceptions of stress. As one student explained:

“The problems arise out of our perceptions and the demands that we put on ourselves. When we require ourselves to achieve a certain level of performance and there is a discrepancy between our ideal and the reality, we feel stress.” (IX1).

Keeping up with practice demands in busy wards. Related categories in this sub-theme are nurses' expectations regarding speed and accuracy in practice, diversity of practice, and the optimizing of patient care. *Meeting the nurses' expectations regarding speed and accuracy in practice* was a stressor commonly brought up by the students. Owing to the high admission rate and the complexity of patient care, sometimes the workload was very heavy. Students often placed expectations on themselves to “work fast” (IX1), “make no mistakes” (IX3), “not interrupt or hinder the nurses’ work” (VII2), “not miss any tasks” (V1), and “help the nurses” (I3). One student explained:

“I could not have finished all of the work even if I'd had three heads and six arms. But the staff asked me why I failed to do so.” (VIII2).

The *diversity of practice* among different hospitals was another source of stress. A student said:

“The same procedures can be practiced in ten different ways in ten hospitals. I was blamed for practicing what I had learned in the previous hospital.” (I1).

Optimizing patient care was one of the concerns raised by the students. They expected that they would “have adequate knowledge and skills to provide care” (VIII1), “meet patients’ needs” (II2) and, most importantly, “do no harm to patients” (IV2). Stress was triggered in the students when they were required to care for patients with complex care needs, such as those who had to use ventilators (VII2), or when they had difficulty applying their learning because of limitations of space, time, and resources in the clinical settings (VIII1).

Striving for learning opportunities. Related categories in this sub-theme are learning as a second priority, demonstrating competency, and working with mentors. A majority of the students indicated that *learning was a second priority* when compared with completing routine clinical work. In order to increase their opportunities to learn, they adopted strategies such as learning from the staff when they were not busy (IX3), and following the nurses around and observing them (X2).

“The majority of the staff view students as additional manpower to complete the basic care. This is not what I had expected.” (X1).

Demonstrating competency in knowledge and skills was a key concern of most students. Clinical assessments were a significant trigger of stress because of the unpredictability of the clinical environment (VI1) and because of the difficulty of *working with some mentors*. Students said:

“I need to demonstrate that I am competent and always ready to work with the nurses It is shameful not to be helpful.” (A1).

“You have to know where the line is drawn and put demands on yourself so as to meet the standard imposed by the mentors.” (III2).

Discovering the social rules. Related categories in this sub-theme are maintaining a positive working relationship with ward staff, and rejection and criticism from staff. Students were concerned about *maintaining a positive working relationship with ward staff*. Nursing students entered the wards expecting to be able to work as members of the team (III2). They learned the implicit rules by taking the initiative in offering help (VII1), maintaining harmonious relationships (III2), and following the instructions of the nurses (II1). One student said:

“In my previous placements, I reported any abnormalities in my patients, but the nurses get annoyed when I do so in this placement. We have to meet their requirements.” (II2).

The students observed the responses of the nurses for hints about their own performance and about the right time to communicate with them (VII1). Some students encountered difficulties from *rejections and criticism by the staff*.

“I was embarrassed, as the nurse spoke loudly when pointing out my problem They told other nurses when I did something wrong.” (IX3).

3.2 Coping as a process of fitting into the ward culture

When analyzing data on how students coped with the demands that they faced, different patterns of coping were observed. Students with LR&HBO and HR&LBO scores coped by conforming to external demands and focusing on problems and conforming with self-directed principles and focusing on coping respectively. The major sub-themes differed between the groups (Fig. 1). The process by which nursing students fitted into the ward culture had implications for their personal and professional well-being.

Low Resilience and High Burnout. The major sub-theme was *conforming to external demands* (i.e. demands of people or events in the clinical placement) and *focusing on problems*, for which there were several related coping strategies: conforming to external requirements, self-blame, avoidance coping, and seeking social support to ventilate feelings. When facing the stressors, nursing students with LR&HBO scores often focused on the anticipated problems and appraised situations as stressful. One student said:

“A few weeks before the placement, I was so worried about how I was going to adapt to the new environment, about making mistakes, and being blamed by others I cried. I don't know why, but I just felt sad.” (IX3).

Since the context of the clinical placement was complex and often beyond the students' control, they were preoccupied or even immobilized by disturbing emotions, which affected their daily lives and performances. *Self-blame* further reinforced their negative anticipation and undermined their confidence when they conformed to external requirements demands.

“I was under stress from the beginning of the placement. It was on my mind 24 hours a day. My mentor reminded me that I had much room for improvement, so I kept evaluating my progress until I was so down that I did not want to do anything. I blamed myself, as I expected myself to improve.” (VIII).

Avoidance coping was a strategy used by the students, which included “hiding on the sidelines and keeping silent” (IX3), “letting the problem pass as time went by” (II1), sleeping (VII2), and browsing the Internet (VIII1). One student said:

“I absolutely did not want to think about it (the placement).” (VIII).

To relieve their intense worries, some students *sought social support to vent feelings*, and sharing in the hope of being understood (VIII2).

The *outcome of the students’ coping* was denoted by a *loss of engagement with nursing, professionally; and a lack of vitality, personally*. One student said, [Instruction: pls begin this 1st quotation on the next line with indent on left margin to align with the 2nd quotation from the same student. The two quotations are linked by 'And' after the 1st quotation] *“I considered quitting the program because my confidence was very low.”* And

“I hid at home after my placement. I was too exhausted to contact others.” (VII2).

High Resilience and Low Burnout. The major sub-theme was *conforming with self-directed principles* (i.e., those related to themselves or to nursing, which they believed to be important) and *focusing on coping*, for which there were several related coping strategies: conforming with self-directed principles, solving problems, using self-supporting strategies, and seeking social support for advice and psychological support. When faced with stressors, students with HR&LBO scores coped by *conforming with principles uphold by self* and adjusting their expectations based on external demands. This approach limited the scope of the issues to be coped with, and enabled the students to manage the demands on them. Students explained, [Instruction: pls begin this quotation on the next line with indent from left margin to align with the 2nd quotation.] *“When someone says I do not know a simple thing, I think of a way to do it better instead of blaming myself for doing it so badly.” (I1).*

“Some staff members complained that I worked slowly. I believed it would do the patients good if I followed the principle of care, so I tried to work properly and faster at the same time.” (I3).

Problem solving was the most frequently used coping strategy. This process required much mental flexibility, self-understanding, and self-efficacy on the part of the students:

“If I have done something wrong, I apologize to the nurse and go back to revise my mistake with no hard feelings.” (VII).

“It is important to understand our strengths and know our limits. However, we should set our standard and work to that standard.” (I4).

In order to sustain their coping without too much cognitive or psychological disturbance, they *used self-supporting strategies* and, most importantly, to find meaning in the experience. The students’ personal beliefs and passion for nursing became sustaining forces. Students said:

“Encountering problems during placement is normal I believe the nurses give me feedback because they want me to improve.” (I1).

“I remind myself that all problems can be overcome and will be over at some point.” (III).

“I like what I am doing in my placement. This helps me to keep going.” (I3).

Fellow students, friends, teachers, and family members were important sources of *social support for seeking advice and psychological support* (I3). The lack of time to think because of a busy schedule was mentioned as a barrier to coping (I1).

The *outcome of the students' coping* was denoted by *satisfaction with nursing, professionally; and high self-awareness, personally*.

“I enjoy what I am doing now. I believe I am preparing myself to provide good nursing care in the future.” (I1).

“I was not afraid of my strict mentor. I would not worry all the time.” (III).

4 Discussion

The aim of this study was to explore the stressors and coping strategies used by nursing students with different levels of resilience and burnout during clinical placement. The findings indicate that the students identified similar stressors relating to their clinical placement; however, the coping strategies that they used to deal with these stressors differed among students with different resilience and burnout scores. This had implications for their professional and personal well-being.

In this study, stressors arose from the busyness of the ward making it necessary for the students to work hard and strive to secure learning opportunities. The students focused primarily on completing the activities of daily living and providing other kinds of routine care for the patients, but were frustrated at being unable to learn clinical reasoning and more complex methods of caring for patients (Ironside et al., 2014), especially given that this was their final practicum. These findings are consistent with other studies that conflict between professional beliefs and the reality of hospital practice were stressors for senior-year students (Admi et al., 2018). The students' emphasis on their competence to meet the needs of the patients and not cause them harm is also consistent with the concerns expressed by student nurses in another study (Suarez-Garcia et al., 2018). The ability to establish effective interpersonal relationships and teamwork was another stressor for the students in this study; however, in the current literature less emphasis has been placed on this stressor than on others (Levett-Jones and Lathlean, 2008). After all, the discrepancy between the students' expectations and the reality that they encountered contributed to the stress that they felt (Thomas et al., 2012).

Students in this study coped by conforming to the demands with the hope of fitting into the ward culture. Adapting to the ward's culture (Lopez et al., 2018), or “feeling part of a team” (Crawford et al., 2018) was how the nursing students came to be accepted by the ward staff and how they adjusted to the clinical staff and environment. This made their clinical placement less stressful (Lopez et al., 2018). The cultural aspects of this study highlight the strong social orientation of Chinese people. Students might sometimes act against their own desires, for the sake of harmony and social acceptance (Bond and Hwang, 2008). The various external

demands caused the students to use different coping strategies, with different outcomes, as reflected by their resilience and burnout scores.

Students with LR&HBO scores were sensitive to external demands (i.e., practice demands) that were regarded as difficult to control. They focused on their deficiencies (i.e., the problem), which resulted in an overemphasis on barriers (Larrabee et al., 2010), and used avoidance, self-blame, and the seeking of social support to vent their feelings. By contrast, students with HR&LBO scores adopted self-directed orientations, adjusted their expectations of the placement, and accepted their own limitations. These are all signs of self-awareness/mindfulness, and of an ability to separate oneself from a situation (Rees et al., 2015). Self-regulation and self-efficacy was another distinguishing characteristic of students with high resilience scores. They used more self-strategies with the objective of emotionally regulating and sustaining themselves (Enns et al., 2018), made conscious choices, persisted in coping (Stephens, 2013) and, most importantly, found meaning in their experiences (Lopez et al., 2018; Park, 2010). Functional competency, namely a sense of satisfaction and a passion for nursing, self-awareness, and endurance, are the distinguishing outcomes of highly resilient student nurses (Olsson et al., 2003). A specific and unique type of self-strategy used by the students with high burnout scores in this study was self-blaming. A Confucian orientation towards shame may contribute to this phenomenon, through its emphasis on observing social norms (Cheung, 2008), behaving with modesty, and taking responsibility for negative outcomes (Leung, 2010). Self-blaming increased the psychological disturbance felt by the students, reduced their confidence in their ability to cope, and resulted in depressed moods (Zahn et al., 2015), which explains the outcome of disengagement and low vitality among the students with LR&HBO scores. Self-blame and avoidance coping contributed to the maladaptive coping of students with LR&HBO scores. Female students tend to experience higher levels of stress (Admi et al., 2018; Suarez-Garcia et al., 2018), and this pattern was observed in this study, with females making up a higher ratio of the LR&HBO group than males. All of the students described social support as being important, in such forms as acknowledgment of their progress, support for learning, emotional support, and problem solving. The findings offer support for Rees et al (2016) model, which sees levels of self-efficacy, mindfulness, and choice of coping strategies as related to resilience and burnout in students.

4.1 Implications

The findings of this study provide some insight into stressors and how resilience and burnout scores relate to certain types of coping strategies used by nursing students in the clinical placement. Students with high resilience scores demonstrated the coping mechanism of self-awareness. They accepted their limitations, recognized their stressors, practiced self-regulation, and put strategies in place that were associated with resilience. Reflecting on all of these elements is the key to enhancing self-awareness. Educators may focus on helping students to form realistic expectations of clinical practice and assuring them that it is normal to feel stressed when learning in a new environment. Support that enables students to discuss their expectations helps them to reframe the experience by identifying meaning in it, facilitates their flexible use of internal and external coping resources such as social support, and allows time for self-reflection and self-care, all of which will help to enhance their resilience. This study's findings, particularly the coping strategies of self-blame, that indicates the need for support, found in the student with LR&HBO scores point to areas that should be included in the undergraduate/pre-registration curriculum.

This study has shown that briefing and debriefing sessions can help students to build coping that will make it easier for them to actively “fit in” to the clinical environment. In these sessions, students should be encouraged to share their experiences, thoughts, and feelings, and given help to bridge the gap between their expectations and reality. Providing feedback on their clinical practice is also recommended. Preparing the students to apply their learning in a busy ward environment, setting aside time for them to learn patient care under the coaching of clinical mentors, and equipping them with the communication and interpersonal skills that they need to integrate into a team are also recommended to reduce the impact of stressors.

4.2 Limitations

One potential limitation of this study is that the students were interviewed in focus groups rather than individually, which may have affected their willingness to speak openly. However, the use of focus groups seems to have had the opposite effect, with the students indicating that they valued the opportunity to speak together about these issues. This is supported by the rich amount of qualitative data obtained from the focus groups and by the fact that data saturation was achieved. The participants in this study were recruited from one university in Hong Kong. Nursing students in other countries may have a different experience of stressors and coping during their clinical placement. A prospective rather than cross-sectional approach may identify changes in student burnout and resilience more sensitively across time.

5 Conclusion

Nursing students experienced stress when aligning their expectations with the demands of their clinical placement. Coping was a process of fitting in with the culture of the ward. Students with high resilience scores demonstrated self-awareness. Students with low resilience scores used self-blame. The new knowledge generated by this study is that students with different burnout and resilience scores used different coping strategies when faced with the stressors of their clinical placement.

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Declaration of competing interest

- (1) There is no conflict of interest.
- (2) This study was funded by the Sigma Theta Tau International Honor Society of Nursing through Sigma Theta Tau [International](#) Small Grants.
- (3) Ethical approval to conduct this study was obtained from Human Subjects Ethics Application Review System of The Hong Kong Polytechnic University (Reference number HSEARS20140719001).

Appendix 1 Interview guide

1. Please tell us about your experiences during your recent clinical placement.
2. Was there anything in particular that caused you emotional stress?
3. How did this effect you? What were the symptoms?
4. What was it that triggered this stress?
5. How did you deal with the stressors? Was that effective? What were the outcomes?
6. What might your strengths/weaknesses be in facing challenges or threats brought about by your clinical placement?
7. What are/were the factors that facilitated or hindered your coping? What do you think was the most important in affecting your coping responses?

References

 The corrections made in this section will be reviewed and approved by journal production editor.

Admi, H., Moshe-Eilon, Y., Sharon, D., Mann, M., 2018. Nursing students' stress and satisfaction in clinical practice along different stages: a cross-sectional study. *Nurse Educ. Today* 68, 86–92. doi:10.1016/j.nedt.2018.05.027.

Agyare, D.F., Garti, I., Menlah, A., Gyasi, Y.B., 2018. Coping mechanisms of nursing students in clinical placement. *Int. J. Innov. Res. Dev.* 7 (5), 144–153. doi:10.24940/ijird/2018/v7/i5/122718-295140-1-SM.

Alshahrani, Y., Cusack, L., Rasmussen, P., 2018. Undergraduate nursing students' strategies for coping with their first clinical placement: descriptive survey study. *Nurse Educ. Today* 69, 104–108. doi:10.1016/j.nedt.2018.07.005.

Bond, M.H., Hwang, K.K., 2008. The social psychology of Chinese people. In: Bond, M.H. (Ed.), *The Psychology of the Chinese People*. The Chinese University Press, Hong Kong, pp. 213–266.

Braun, V., Clarke, V., 2006. Using thematic analysis in psychology. *Qual. Res. Psychol.* 3 (2), 77–101. doi:10.1191/1478088706qp063oa.

Cheung, F.M.C., 2008. Psychopathology among Chinese people. In: Bond, M.H. (Ed.), *The Psychology of the Chinese People*. The Chinese University Press, Hong Kong, pp. 171–212.

~~Author~~Ching, S.S.Y., Cheung, K., 2019. Resilience of Nursing Students in Hong Kong. ~~Manuscript in preparation~~Unpublished report.

Connor, K.M., Davidson, J., 2003. ~~Development of a new resilience scale: the connor-davidson resilience Scale (CD-RISC)~~Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). *Depress. Anxiety* 18 (2), 76–82. doi:10.1002/da.10113.

Corbin, J., Strauss, A.L., 2015. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. fourth ed. Sage, Thousand Oaks.

Crawford, R., Jasonsmith, A., Leuchars, D., Naidu, A., Pool, L., Tosswill, L., Trezise, K., Wordsworth, A., 2018. "Feeling part of a team" a mixed method evaluation of a dedicated education unit pilot programme. *Nurse Educ. Today* 68, 165–171. doi:10.1016/j.nedt.2018.05.023.

Cruz, J.P., Felicilda-Reynaldo, R.F.D., Lam, S.C., Machuca-Contreras, F.A., John-Cecily, H.S., Papathanasiou, I.V., Fouly, H.A., Kamau, S.M., Valdez, G.F.D., Adams, K.A., Colet, P.C., 2018. Quality of life of nursing students from nine countries: a cross-sectional study. *Nurse Educ. Today* 66, 135–142. doi:10.1016/j.nedt.2018.04.016.

Cyr, J., 2016. The pitfalls and promise of focus groups as a data collection method. *Sociol. Methods Res.* 45 (2), 231–259. doi:10.1177/0049124115570065.

Edwards, D., Burnard, P., Bennett, K., Hebden, U., 2010. A longitudinal study of stress and self-esteem in student nurses. *Nurse Educ. Today* 30, 78–84. doi:10.1016/j.nedt.2009.06.008.

Enns, A., Eldridge, G.D., Montgomery, C., Gonzalez, V.M., 2018. Perceived stress, coping strategies, and emotional intelligence: a cross-sectional study of university students in helping disciplines. *Nurse Educ. Today* 68, 226–231. doi:10.1016/j.nedt.2018.06.012.

Gibbons, C., 2010. Stress, coping and burn-out in nursing students. *Int. J. Nurs. Stud.* 47, 1299–1309. doi:10.1016/j.ijnurstu.2010.02.015.

Hegney, D., Rees, C., Eley, E., Osseiran-Moisson, R., Francis, K., 2015. The contribution of individual psychological resilience in determining the professional quality of life of Australian nurses. *Front. Psychol.* 6, 1613. doi:10.3389/fpsyg.2015.01613.

Ironside, P.M., McNelis, A.M., Ebright, P., 2014. Clinical education in nursing: rethinking learning in practice settings. *Nurs. Outlook* 62, 185–191. doi:10.1016/j.outlook.2013.12.004.

Kaldal, M.H., Kristiansen, J., Uhrenfeldt, L., 2018. Nursing students experienced personal inadequacy, vulnerability and transformation during their patient care encounter: a qualitative meta-synthesis. *Nurse Educ. Today* 64, 99–107. doi:10.1016/j.nedt.2018.02.008.

Khater, W.A., Akhu-Zaheya, L.M., Shaban, I.A.S., 2014. Sources of stress and coping behaviors in clinical practice among baccalaureate nursing students. *Int. J. Humanit. Soc. Sci.* 4 (6), 194–202. Retrieved from. http://www.ijhssnet.com/journals/Vol_4_No_6_April_2014/20.pdf.

Killam, L.A., Heerschap, C., 2013. Challenges to student learning in the clinical setting: a qualitative descriptive study. *Nurse Educ. Today* 33, 684–691. doi:10.1016/j.nedt.2012.10.008.

Larrabee, J.H., Wu, Y., Persily, C.A., Simoni, P.S., Johnston, P.A., Marcischak, T.L., Mott, C.L., Gladden, S.D., 2010. Influence of stress resiliency on RN job satisfaction and intent to stay. *West. J. Nurs. Res.* 32 (1), 81–102. doi:10.1177/0193945909343293.

Leung, K., 2010. Beliefs in Chinese culture. In: Bond, M.H. (Ed.), *The Oxford Handbook of Chinese Psychology*. Oxford University Press, New York, pp. 221–240.

Levett-Jones, T., Lathlean, J., 2008. Belongingness: a prerequisite for nursing students' clinical learning. *Nurse Educ. Today* 8, 103–111. doi:10.1016/j.nepr.2007.04.003.

Lopez, V., Yobas, P., Chow, Y.L., Shorey, S., 2018. Does building resilience in undergraduate nursing students happen through clinical placements? a qualitative study. *Nurse Educ. Today* 67, 1–5. doi:10.1016/j.nedt.2018.04.020.

McCann, C.M., Beddoe, E., McCormick, K., Huggard, P., Kedge, S., Adamson, C., Huggard, J., 2013. Resilience in the health professions: a review of recent literature. *Int. J. Wellbeing* 3 (1), 60–81. doi:10.5502/ijw.v3i1.4.

Morgan, D.L., 1997. *Focus Groups as Qualitative Research*. second ed. Sage, Thousand Oaks.

Olsson, C.A., Bond, L., Burns, J.M., Vella-Brodrick, D.A., Sawyer, S.M., 2003. Adolescent resilience: a concept analysis. *J. Adolesc.* 26, 1–11. doi:10.1016/S0140-1971(02)00118-5.

Papaconstantinou, E.A., Coffey, S., Zitzelsberger, H., Graham, L., Moreau, E., McPherson, M., 2017. Coping, perceived stress, eating behaviours, and sleep pattern (CoPES) of undergraduate nursing students while in practicum. *Athens J. Health* 4 (2), 113–130. doi:10.30958/ajh.4-2-1.

Park, C.L., 2010. Making sense of the meaning literature: an integrative review of meaning making and its effects on adjustment to stressful life events. *Psychol. Bull.* 136 (2), 257–301. doi:10.1037/a0018301.

Pulido-Martos, M., Augusto-Landa, J.M., Lopez-Zafra, E., 2012. Sources of stress in nursing students: a systematic review of quantitative studies. *Int. Nurs. Rev.* 59, 15–25. doi:10.1111/j.1466-7657.2011.00939.x.

Rees, C.S., Breen, L.J., Cusack, L., Hegney, D., 2015. ~~Understanding individual resilience in the workplace: the intentional collaboration of workforce resilience model~~Understanding individual resilience in the workplace: the international collaboration of workforce resilience model. *Front. Psychol.* 6, 73. doi:10.3389/fpsyg.2015.00073.

Rees, C., Heritage, B., Osseiran-Moisson, R., Chamberlain, D., Cusack, L., Anderson, J., Terry, V., Rogers, C., Hemsworth, D., Cross, W., Hegney, D., 2016. Can we predict burnout among student nurses? an exploration of the ICWR1 model of individual psychological resilience. *Front. Psychol.* 7, 1072. doi:10.3389/fpsyg.2016.01072.

Santos, M.C., Barros, L., Carolino, E., 2010. Occupational stress and coping resources in physiotherapists: a survey of physiotherapists in three general hospitals. *Physiotherapy* 96, 303–310. doi:10.1016/j.physio.2010.03.001.

Stamm, B., 2010. *The Concise ProQOL Manual*. ProQoL.org, Pocatello.

Stephens, T.M., 2013. Nursing student resilience: a concept clarification. *Nurs. Forum* 48 (2), 125–133. doi:10.1111/nuf.12015.

Streubert, H.J., Carpenter, D.R., 2011. *Qualitative Research in Nursing: Advancing the Humanistic Imperative*. fifth ed. Lippincott Williams & Wilkins, Philadelphia.

Suarez-Garcia, J.M., Maestro-Gonzalez, A., Zuazua-Rico, D., Sánchez-Zaballos, M., Mosteiro-Diaz, M.P., 2018. Stressors for Spanish nursing students in clinical practice. *Nurse Educ. Today* 64, 16–20. doi:10.1016/j.nedt.2018.02.001.

Thomas, L.J., Revell, S.H., 2016. Resilience in nursing students: an integrative review. *Nurse Educ. Today* 36, 457–462. doi:10.1016/j.nedt.2015.10.016.

Thomas, J., Jack, B.A., Jinks, A.M., 2012. Resilience to care: a systematic review and meta-synthesis of the qualitative literature concerning the experiences of student nurses in adult hospital settings in the UK. *Nurse Educ. Today* 32 (6), 657–664. doi:10.1016/j.nedt.2011.09.005.

Tong, A., Sainsbury, P., Craig, J., 2007. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int. J. Qual. Health Care* 19 (6), 349–357. PubMed: 17872937. doi:10.1093/intqhc/mzm042.

Vaismoradi, M., Turunen, H., Bondas, T., 2013. Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nurs. Health Sci.* 15, 398–405. doi:10.1111/nhs.12048.

Watson, R., Deary, I., Thompson, D., Li, G., 2008. A study of stress and burnout in nursing students in Hong Kong: a questionnaire survey. *Int. J. Nurs. Stud.* 45 (10), 1534–1542. doi:10.1016/j.ijnurstu.2007.11.003.

Yasmin, S., Hussain, M., Parveen, K., Gilani, S.A., 2018. Coping strategies of nursing student against academic and clinical stress at public sector Lahore. *Int. J. Sustain. Strateg. Manag. Int. J. Soc. Sc. Manage.* 5 (3), 209–218. doi:10.3126/ijssm.v5i3.20613.

Zahn, R., Lythe, K.E., Gethin, J.A., Green, S., Deakin, J.F., Young, A.H., Moll, J., 2015. The role of self-blame and worthlessness in the psychopathology of major depressive disorder. *J. Affect. Disord.* 186, 337–341. doi:10.1016/j.jad.2015.08.001.

Highlights

- Stressors arose from the students' expectations of the clinical placement.