



**Charles Sturt
University**

This dissertation is submitted to Charles Sturt University for the Bachelor of
Paramedicine (Honours)

**Undergraduate paramedic students' perceptions of their
experiences in an inpatient mental health setting: Does a
mental health placement prepare students for managing
mental health presentations?**

Emma Carney

Student Number: 11630875

School of Biomedical Sciences

Faculty of Science

Charles Sturt University

February 2021

© Copyright 2021. All rights reserved

Referencing style: APA 6th Edition

Pages: 76

Words: 11,935

Tables: 2

Figures: 5

Appendices: 7

File Size: 1.6 MB

Statement of Authorship and Readiness for Examination

I, the student, hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis.

Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I, the student, confirm that my principal supervisor agrees that this dissertation is ready for examination.

Student's name: Emma Carney

Date: 29th January 2021

Acknowledgements

There are many people I'd like to thank for assisting me to complete my honours.

Firstly, to my main supervisor Nat, I honestly could not have done this without you. Your constant guidance, reassurance, support and direction has allowed me to achieve something that I never thought I would be capable of. Thank you for the long hours that you have dedicated to myself and our little research team to prepare us for everything. I'm very fortunate to have had the opportunity to complete my honours with you as my supervisor. Although the experience was a challenging and demanding one, I have learnt so much from you and have enjoyed better understanding the world of research.

To Rob, not only have you been a significant part of our research team, but you've also been an amazing influence and role model throughout my time at university. Your patience and willingness to go the extra mile is very much appreciated. Your consistent encouragement has helped me to achieve so much throughout the past 3 years at university and has given me so much confidence. Thankyou for believing in me and offering me so many amazing opportunities, as a truly believe I wouldn't be where I am today without them.

To Phoebe, I genuinely could not have gotten through this without you. You have been such an amazing support throughout the past 3 years. Thankyou for always being there when I needed encouragement, advice or a shoulder to cry on. I will cherish our beautiful friendship for the rest of my life and I can't wait to begin our new careers side by side.

To my mum Teresa and dad David, thankyou for always being by my side throughout this journey. Thankyou for continually reminding me that I am capable of so much and that I can achieve anything I put my mind to. I love you both so much and hope that I have made you both proud.

To the other academics at Charles Sturt University Port Macquarie, thankyou. I admire the consistent support that you offer and believe that you have had a significant influence on shaping me into the individual I am today and the future paramedic that I aspire to be. I have developed genuine friendships with you all that I will carry into the future.

To Charles Sturt University, thankyou for awarding me with the *Honours Scholarship HECS Exempt Award*, it is very much valued and appreciated.

To everyone else who has assisted me along the way, thankyou for your contribution and advice, it's very much appreciated.

Ethics Approval

This study was approved by the Charles Sturt University Human Research Ethics Committee. The ethics project approval number is H18262

Key ethics-related documentation, including the invitation document provided to participants, the ethics approval letter and the ethics amendment application can be viewed in the appendices.

Table of Contents

Statement of Authorship and Readiness for Examination	4
Acknowledgements.....	5
Ethics Approval	6
List of Figures.....	9
List of Tables	9
Key Terms	9
Introduction.....	12
Dissertation Overview	12
Literature Review	13
Identified Gaps in the Current Knowledge.....	18
Research Aims and Questions	19
Academic and Practical Value this Research	19
Research Hypotheses.....	20
Method.....	21
Participants	21
Participant Description	21
Setting	21
Materials	22
Survey Instrument.....	22
Instrument Parametrics	22
Procedure	23
Invitation to Participants.....	23
Participant Information Letter Details	23
Study Design.....	24
Data Collation.....	24
Data Analysis.....	24
Results.....	26

Quantitative Data	26
Qualitative Data	32
Central Theme One - Benefits	34
Central Theme Two - Additional Training and Education	35
Central Theme Three - Nursing Staff	36
Central Theme Four - Improvements for Mental Health Placement	37
Triangulation of Quantitative and Qualitative Data	39
Discussion	42
Aims	42
Reflective Comparison of Results to Relevant Research Literature	44
Application, Practical Benefits and Implications of this Research.....	46
Limitations of the Study	48
Future Research Possibilities	49
Conclusion	51
Appendices	52
Appendix 1. Statement of Ethics Approval Letter.....	52
Appendix 2. Ethics Amendment Application.	53
Appendix 3. Literature Review.....	55
Appendix 4. Invitation Document Emailed to Student Participants.....	67
Appendix 5. Clinical Placement Evaluation Questionnaire.	68
Appendix 6. Quantitative Raw Data.....	69
Appendix 7. Qualitative Raw Data.....	70
References.....	72

List of Figures

Figure 1. Frequencies, mode and median of student responses to question seven.	28
Figure 2. Frequencies, mode and median of student responses to question eight.	29
Figure 3. Frequencies, mode and median of student responses to question nine.	30
Figure 4. Frequencies, mode and median of student responses to question twelve.	31
Figure 5. Mind Map of Qualitative Data.	33

List of Tables

Table 1. Convergence Coding Matrix.	39
Table 2. Comparison of Results.....	42

Key Terms

Undergraduate: an individual who is studying their first degree at university.

Paramedic: a health professional who delivers emergency medical care and treatment in the out of hospital setting to acute and sub-acute patient presentations.

Prehospital: the environment that is outside of the hospital setting.

Mental health: refers to the social, emotional and psychological wellbeing that has the potential to affect how individuals think, feel and behave.

Placement: the opportunity for students to gain experience within an organisation through temporary exposure.

Inpatient mental health unit: provides voluntary and involuntary short term management and care to individuals suffering from acute mental illnesses.

Undergraduate paramedic students' perceptions of their experiences in an inpatient mental health setting: Does a mental health placement prepare students for managing mental health presentations?

Abstract

Introduction

This research project aims to evaluate the experiences of undergraduate paramedic students who participated in a mental health placement initiative. There is extensive research that states that the paramedic workload associated with mental health presentations is increasing, although, the existing undergraduate education and practical training provided to paramedic students does not meet this demand. This results in paramedics lacking confidence and preparedness to manage mental health presentations effectively in practice. Current literature emphasises the significant benefits associated with a mental health placement for medical students, yet a significant gap exists in the literature regarding the benefits of a similar mental health placement for paramedic students. This study seeks to explore the educational and practical value associated with a mental health placement for paramedic students to begin to address this gap. The aim is to determine whether this type of work-integrated learning is effective in preparing paramedic students to better manage with mental health presentations by enhancing their confidence, as well as improving their mental health literacy and clinical skills. The results of this research provides evidence that the integration of similar mental health placements into the undergraduate paramedicine degree is a valid means of achieving these aims.

Methods

This mixed-methods research study involved eight second-year paramedic students from Charles Sturt University Port Macquarie. These students participated in a work-integrated placement initiative held in an inpatient mental health setting at Port Macquarie Base Hospital during their first year of study. Students were invited to participate in this study via email, which included a statement and description of the objectives of the study. The survey instrument included in this study was the Clinical Placement Evaluation Questionnaire which has been previously published and validated as an evaluation tool for nursing clinical placements. This survey has been commonly applied to nursing students to identify learning opportunities during clinical placements with the goal of developing strategies to enhance clinical skills. With this in mind, it is the first known instance where the use of this instrument has been applied in paramedicine. This study incorporates a mixed method approach, where data was collected utilising five-point Likert-scale questions and open-ended response type questions within the survey instrument.

Results

The response rate for the survey was 87.5%, with 75% of participants completing both the quantitative and qualitative sections and 12.5% of participants completing only the quantitative sections of the survey. Participants were required to respond to quantitative questions regarding whether there was adequate orientation provided, whether students were expected by the venue, whether staff members were willing to and available to assist in learning and whether the clinical experience would benefit others. Overall, the response was positive, with significant percentages of respondents selecting either strongly agree or agree for the majority of questions. Following this, thematic analysis incorporating triangulation was utilised to analyse the qualitative findings and to identify any associations with the quantitative data. Four central themes were highlighted which included the benefits of the mental health placement, quality of the nursing staff, improvements for the mental health placement and the need for additional training and education. It was identified that there was convergence, partial convergence and dissonance in different aspects of the convergence coding matrix. Overall, our results demonstrated significant educational and practical value associated with a mental health placement for paramedic students.

Discussion

There was evident alignment between the research included in the literature review and the results of this research study. Paramedic students reported considerable improvements in communication, clinical skills, as well as a deepened knowledge and understanding of mental illness. Further, paramedic students reported that they experienced enhanced confidence, comfort levels and resilience, as well as an improved ability to work as part of a multi-disciplinary team. Also, it was emphasised that paramedic students experienced reduced incidence of negative stigma and improvements in attitudes towards mental health patients. These results identify and demonstrate the need and value of a mental health specific placement experience for paramedic students and provide the evidence to support the incorporation of such a placement into the undergraduate paramedicine curriculum. An implication of this study is the potential for a well-received mental health subject designed for undergraduate paramedic students that incorporates theoretical education and practical training. As mentioned above, there are a multitude of practical benefits associated with the results of this research. One of which is the improvement of clinician and patient safety, ensuring industry readiness and adequate preparation for the workforce, as well as allowing paramedics to be better equipped to recognise and understand their own mental health and wellbeing. The results of this study adds to the current literature regarding mental health education and practical training in paramedicine and provides the opportunity for additional research possibilities in this field.

Introduction

This section will explore the aims and objectives of the research project. The findings uncovered from a literature review will be discussed and the weaknesses critically analysed. Further, the highlighted results and the association to this research study will be outlined, thus justifying the purpose and relevance of the research. The key terms utilised throughout this dissertation are explained in relation to the relevance to the research on page four.

Dissertation Overview

The research project presented here aims to explore the experiences and perspectives of undergraduate paramedic students who participated in a pilot mental health placement. It was hypothesised by the researcher that there would be significant educational and practical value associated with the placement experience. Additionally, it was proposed that this placement would provide the opportunity for students to further develop confidence, comfort and preparedness to communicate with mental health patients. It is understood that the paramedic workload associated with mental health presentations is increasing (Mildenhall, 2012). Research by Roberts and Henderson highlighted that *“education is limited and does not prepare them [paramedics], by their own standards, to adequately address this client groups needs”* (2009, para. 64). This notion is supported by research completed by Holmes, Jones, Brightwell and Cohen, which emphasised that *“a significant percentage reported mental health challenges within paramedicine were not covered in appropriate depth within their courses”* and *“students were not suitably prepared for the mental health challenges of the paramedic profession”* (2017, para. 17). This research study seeks to uncover the benefits and value of this mental health placement initiative, validating and supporting the integration of a similar placement experience into the undergraduate paramedicine degree. It is hoped this will support paramedic students to feel prepared and confident to manage mental health patients on-road.

The research project involved the distribution of a mixed-method survey to second-year paramedicine students at Charles Sturt University in Port Macquarie, NSW Australia. These students had the opportunity to attend a two-week pilot placement in an inpatient mental health setting at Port Macquarie Base Hospital during their first year of study as part of the workplace learning subject CLS103 (Paramedic Community Internship). The quantitative and qualitative data collected was used to evaluate the effectiveness of this placement in terms of location, time, staff interactions and mental health presentations encountered by students. This was a new addition to the workplace learning subject CLS103 (Paramedic Community Internship) as of 2019, therefore the sample size of participants was limited. The themes, results and outcomes uncovered in this research project highlights the educational and practical value associated with this mental health placement. This can encourage universities to

consider the integration of a similar placement experience into the undergraduate paramedicine degree in order to prepare paramedic students to effectively communicate with and manage mental health patients on road.

Literature Review

The current body of literature regarding mental health placements for undergraduate paramedic students was very limited, therefore it was decided to broaden the scope to investigate the benefits of this type of placement for medical students.

Mental health encompasses the “social, emotional and psychological wellbeing of individuals”, whilst mental illness refers to a cognitive, emotional or behavioural condition that influences an individual’s ability to interact with others, develop as an individual, maintain productivity and achieve goals (Hungerford et al, 2014, p. 5). It is important to consider that mental illnesses have complex and diverse presentations, which means that paramedics require an extensive understanding of the appropriate management of mental health patients. However, this is not reflected in the training and education provided in the current paramedicine curriculum, which results in paramedics feeling underprepared when dealing with mental health presentations in the field (McCann et al., 2018). It is noted by Mildenhall (2012) that the paramedic workload associated with mental health is increasing, however the mental health education and training opportunities for undergraduate paramedic students is limited (Roberts & Henderson, 2009). Holmes, Jones, Brightwell and Cohen report that undergraduate paramedic students feel underprepared for the mental health challenges encountered in the paramedic profession and as a result, are fearful of making a clinical mistake (2017). The review of the literature presented here aimed to explore the initial research question *what is the value of a mental health placement in preparing students and extending knowledge in undergraduate paramedic students?* The presented evidence demonstrates a substantial gap in the literature with regards to the benefits for paramedic students specifically, therefore the research question was modified to *what is the value of a mental health placement in preparing students and extending knowledge in undergraduate medical students?* It was clearly demonstrated that mental health placements have significant benefits such as improvement in attitudes, confidence and learning, as well as reduced negative stigma. It can be assumed that these practical experiences, similarly to medical students, can add significant value and are necessary to enhance the mental health education of undergraduate paramedic students. The available literature indicates that there is insufficient education and training opportunities for undergraduate paramedic students and additional research into the similar benefits and value of mental health placements for paramedic students should be conducted.

For medical students to feel prepared and confident to treat mental health presentations, it is beneficial that the mental health subject be taught using a varied combination of teaching and learning methods. Mian, Chachar, Saeed and Naseem investigated the benefits associated with changing the current mental health curriculum to integrate virtual, classroom and onsite training for medical students (2018). At a university in Pakistan, the original psychiatry curriculum was reconstructed into eight modules that incorporated a blended learning format which included skills training in the patient environment (role-play) and assessments through real-time patient encounters in clinics and wards. It was reported that students were thoroughly engaged with the new curriculum both throughout and in between classes. Thus, it can be understood that the implementation of practical training opportunities for students will increase engagement with the learning objectives and assist them to implement clinical skills.

The practical exposure to mental health presentations, whether through clinical placements or organised simulations, allows students to deepen their understanding and refine clinical and communication skills. Attoe, Lavelle, Sherwali, Rimes and Jabur examined the benefits of interprofessional mental health simulation on health care students (2019). This study included third-year medical students, final year mental health nursing students and first-year clinical psychology trainees. 53 participants completed a five-day simulation training program which involved students participating in six different scenarios with trained actors portraying mental health patients. This was followed by a group debrief from facilitators with feedback provided and a reflection completed by the students as participants. Students were surveyed before and after the simulation training program with a self-reporting questionnaire that assessed knowledge, confidence and attitudes. After completion of the simulation training program, participants were given another questionnaire that consisted of open-response questions to assess the impact of training on clinical practice. Participants stated that as a result of the mental health simulation training, they reported improvements in resilience, confidence, reflection, communication and clinical skills, as well as the ability to work effectively with other health professionals. Further, participants stated that their knowledge of and attitudes towards mental health had been altered as a result. Thus, this study demonstrates that mental health simulations have significant value and a notable role in enhancing educational outcomes related to mental health for students.

It can be understood that exposure to and experiences with psychiatric patients has been previously found to enhance the learning and understanding of mental health in medical students. Bharathy and Foo conducted a study investigating the experiences of medical students who participated in a social interaction program with psychiatric patients to determine the educational benefits associated with

exposure to these patients (2014). This qualitative study involved a social interaction program via group discussions between psychiatric patients, carers and 14 medical students. When the program finished, semi-structured interviews were conducted and the responses were recorded for thematic analysis. As a result of this social interaction program, students reported a reduced stigma towards mental illness, as well as an enhanced appreciation and understanding of the benefits associated with the holistic management of mental health patients. Despite students initially reporting apprehension, it was stated that consistent engagement, participation and interactions with mental health patients in the program reduced these concerns. This study suggests that social interaction programs with mental health patients can better prepare and enhance the confidence of students through an understanding of mental disorders and better communication with such patients.

Mental health placements have the ability to increase the understanding of and improve the attitudes towards mental health patients and different mental illnesses, thus the benefits and value associated with these experiences are evident. A study presented by Yidong et al. described medical students' attitudes towards psychiatry and mental illness prior to and following an eight-week psychiatry placement (2014). This placement program consisted of 23, 50-minute didactic lectures covering various aspects of psychiatry and 27, 50-minute supervised clinical practice in psychiatric wards. The clinical training focused on history taking, mental state examination, diagnosis, and treatment of the common psychiatric conditions. Two different questionnaires, one assessing attitudes towards psychiatry (ATP-30 questions) and one assessing attitudes towards mental health (AMI-20 question) were given to 325 fourth-year Chinese medical students before and after the placement. A significant improvement in student attitudes was reflected in almost all items in the ATP-30 questionnaire and the positive improvement in medical student's perspectives was highlighted in 14 out of 20 items in the AMI questionnaire. This notion of enhanced knowledge and understanding of mental illnesses as a result of clinical exposure to mental health patients is also discussed in research completed by Marwood and Hearn, which evaluated the mental health literacy of medical students via the Mental Health literacy scale (2019). 251 medical students from medical schools across the United Kingdom, aged over 18 years that were currently enrolled in undergraduate medical training were included in this study. The online survey consisted of three sections. The Mental Health Literacy Scale (MHLS) contained 35 Likert scale items relating to knowledge of where to seek information relating to mental health, risk factors and causes of mental health problems, self-treatment and professional help available. Further items related to recognition of disorders and attitudes that promote recognition or appropriate help-seeking behaviour. The mental health experiences questionnaire contained five items pertaining to individual experiences of mental illness, professional diagnoses and treatment, as well as mental illness in close friends or family members or through work experiences. This paper found that mental health literacy scores were notably higher in individuals who had prior experience with mental health patients. Evidently, the two studies described above highlight the educational and practical benefits associated

with mental health placements for medical students in regards to a deepened understanding of mental health and improvements in attitudes towards these patients..

Clinical placements not only provide educational and practical benefits for medical students, but they also provide insight and an opportunity to alter previously held stigmas towards mental health patients. Russell et al. aimed to determine the value of exposure to psychiatry patients in primary care settings for medical students through a mixed-method design (2018). In this study, fourth-year medical students participated in a consultation and liaison psychiatry service at two government-operated primary care clinics. Each student attended two half-day consultations at the clinics during the psychiatry clinical clerkship. Students joined in discussions with primary care clinicians, performed supervised clinical assessments and administered a depression screening instrument. Four focus groups were held to collect data to evaluate the learning experience, each with nine to ten participants. Additionally, an end-of-year, anonymous, online questionnaire survey was administered to the entire class. Thematic analysis was used for the transcripts from the focus groups, whilst the quantitative data was interrogated using statistical analysis. Of 113 students, 93 (82%) responded to the questionnaire. This study showed that the placement experience had a positive influence in shaping the students' professional identity with regards to social and cultural influences on an individual's health, the multi-dimensional role of health professionals and the complexity associated with diagnosing mental disorders. Further, the results of this study highlighted that the participant's previous stigma of mental illness prior to placement had been altered. Similarly, a literature review conducted by Petkari, Masedo Gutiérrez, Xavier and Moreno Küstner incorporated articles that discussed medical student's stigma on mental health prior to and following a placement experience (2018). The authors searched through six different databases to find articles where students had been evaluated before and after a placement experience. 22 studies fulfilled the inclusion criteria and were included. The total sample consisted of 3161 students studying a combination of medicine, nursing and occupational therapy. The articles examined in the literature review revealed a reduced incidence of negative stigma, throughout all disciplines following a mental health placement. This further affirms the benefits associated with placement opportunities for students in all medical professions, as it ultimately allows them to gain insight and develop their understanding and skills regarding mental disorders.

On another note, it could be considered that mental health patients can have positive experiences and an enhanced wellbeing following interactions with medical students. Dearman, Joiner, Gordon and Vince explored the interactions between mental health patients and medical students intending to establish whether it was a positive or negative experience from the patient's perspective (2018). This systematic review included all studies that reported on patients with a mental illness that interacted with medical students, had a primary diagnosis of mental illness and involved students who did not have any prior training. Two different databases were searched, resulting in 11,103 potential articles, which was

narrowed down to eight articles that were examined in the study. These articles consisted of 1088 patients from five different countries being evaluated. These articles uncovered that there was significant value, comfort and enjoyment experienced by patients when interacting with medical students. Mental health patients disagreed with the notion of being talked down to and stated they would be willing to interact with medical students in the future. Participants stated that they felt more involved in their care and reported enhanced self-esteem and a facilitator of learning. This evidence suggests that there are also benefits associated with mental health placements from the patient's perspective.

As a means of allowing medical students the opportunity to have exposure to mental health patients and be prepared for clinical situations, clinics and training programs have been developed. They serve the dual purpose of extending student's current knowledge and understanding of mental illnesses, as well as further developing their clinical skills. A paper by Delbridge, Zubatsky and Fowler described a program designed to better prepare medical students to deal with complex mental health presentations (2017). At St Louis university in the United States, the Medical Family Therapists program trained students to work alongside residents and provide therapy in primary and integrated care settings. Eighteen family medicine residents and 19 graduate students collaborated in clinical care and education activities. Whilst working alongside residents, students were trained to provide brief consultations and participate in team meetings around complex medical and family issues. The results of this study suggested that the critical thinking associated with complex mental health presentations allowed students to develop their clinical skills and deepen their understanding of mental health presentations within society. Likewise, Martinez, Fargason and Meador-Woodruff presented a case report that examined a training clinic staffed by medical students which allowed them to gain exposure to mental health patients, with focus on enhancing clinical skills, interest and attitudes towards psychiatry through hands-on experience (2017). The 55 medical students in total who participated in this study were involved in obtaining the initial history, spending time establishing a therapeutic relationship through supportive communication and organising the patient's next steps through the clinic. This study highlighted that the medical students were enthusiastic and willing to volunteer for this training clinic and their interest for this type of experience had increased. Despite reporting this, these statements are not supported with statistical evidence. In further research, Murzl, Durns, Mowrey, Tubbs and Boeve discussed the reported experiences of medical students after participation in a psychiatry clinic (2017). Ninety six medical students volunteered at this clinic, 47 of which completed an online survey regarding their experience. Following their experiences, the students reported an increase in comfort levels when around mental health patients (57% initially being comfortable or very comfortable compared to 79% after volunteering). This illustrates that while mental health placements are effective in extending knowledge and developing clinical skill sets, it can further allow students to feel more comfortable and confident around these patients, thus improving their ability to interact with and manage these patients accordingly. Evidently, hands-on experiences through clinics and training

programs can add educational and practical value for medical students, whilst preparing them for future work exposure and increasing the comfort levels, attitudes and confidence regarding mental health patients as a result.

It is evident from the literature presented above that there is extensive evidence to support *the value of a placement in preparing students and extending the knowledge of undergraduate medical students*. It is clear as a result of this literature review that there is a paucity of research available examining the benefits of similar mental health placements for undergraduate paramedic students and the value associated with these opportunities. With this in mind, recent research by Jack and Jadzinski highlights that paramedic students who participated in mental health training reported enhanced confidence and communication skills, the development of personal resilience and coping strategies, as well as improvements in attitudes and reduced negative stigma towards mental health patients (2018). It is suggested that further research into this area is required to support these findings and uncover additional benefits associated with a mental health placement for undergraduate paramedic students.

The full literature review can be viewed as Appendix 3.

Identified Gaps in the Current Knowledge

The aforementioned literature review emphasises a significant gap that exists in our understanding regarding the benefits and value of a mental health placement for undergraduate paramedic students. It was clearly highlighted that there are significant benefits for medical students, thereby suggesting that this could be translated to have the same value for paramedic students. It is known that an increasing proportion of cases attended by paramedics are related to mental health presentations (Mildenhall, 2012). The current literature reiterates the limited education and training opportunities for undergraduate paramedic students, which leads to under preparedness and a lack of confidence in managing mental health patients (Holmes, Jones, Brightwell & Cohen, 2017; Roberts & Henderson, 2009; Smith, Parent, Townsend, & Johnston, 2019). It is hoped that the results of this research can add valuable knowledge regarding mental health placements for paramedic students and to the current body of literature in this field.

Research Aims and Questions

This research study is designed to determine the educational and practical value of a mental health placement for undergraduate paramedic students in better preparing them for on-road experiences. Further, this research study aims to encourage academics to consider the benefits associated with integrating a similar placement experience into the undergraduate paramedicine curriculum. More specifically, the overall aim of this study is to gather data to answer and validate the following research questions:

Is a mental health placement in an inpatient mental health setting effective in preparing students to deal with mental health presentations?

Is this placement experience effective in enhancing students' confidence, knowledge and understanding of mental health and associated disorders?

The aim will be subdivided into six specific research questions that includes:

Was there was adequate orientation provided?

Were you expected by the venue?

Were the staff members very willing and available to assist my learning?

Would this clinical experience benefit other students?

What were the best aspects of this placement?

What aspects of this placement could be improved?

Academic and Practical Value this Research

If there is proven educational and practical value associated with a mental health placement for undergraduate paramedic students, universities offering paramedicine will have the evidence to inform the educational and curricula redesign of the course structure to include a practical mental health component. The integration of a mental health placement will ensure all paramedic students are better prepared and develop the confidence to deal with mental health presentations in the field, thus enhancing patient outcomes. This is imperative as it is well documented by Lowthian et al that the

incidence of mental health presentations in the pre-hospital setting is increasing, thus there is a need for enhanced training levels to prepare students for on-road experiences (2011). Another benefit of this research will be focused on sharing the results with educators of paramedic students through publication in a reputable peer-reviewed journal. This will allow the results to be interpreted and scrutinised by other researchers, as well as informing a wide range of educators of the benefits which support the integration of a mental health placement into the undergraduate paramedicine curriculum.

Research Hypotheses

It is hypothesised that this research project will uncover the range of benefits associated with a mental health placement for paramedic students. It is predicated that positive responses will be associated with the mental health placement's location, staff members and types of mental health presentations encountered by the students. It is also expected that paramedic student exposure to mental health patients will extend their knowledge and understanding, as well as allow students to develop and refine their clinical management skills. It is expected that as a result of the mental health placement, students feel that there is a benefit and added value to their education and understanding of mental health patients and mental illness. An additional outcome that is expected to emerge is the enhanced confidence, comfort and preparedness of students when communicating with and managing mental health patients. It can be expected that whilst students may experience initial discomfort and uncertainty, this will be reduced following the practical exposure to mental health presentations, thereby increasing student comfort and confidence.

Method

This section will review the research methodology utilised for this project. It will explicitly detail the sampling, recruitment, data collection and data analysis procedures utilised in the research study, justifying the relevance and appropriateness to the research aims and objectives.

Participants

Participant Description

A total of eight participants were contacted and invited to participate in the research study. Two weeks following the initial distribution of the invitation document and survey, four participants had completed the survey. A reminder email was sent to the target group. Four weeks following this, five participants had completed the survey. Finally, another reminder email was sent to our target group. Six weeks following the distribution of the invitation document and survey, seven participants had completed the survey. This corresponds to a response rate of 87.5% and as a result, seven participants were included in this study.

Setting

The research project utilised the technique of purposive sampling as this was the most appropriate considering the study design. This ensured that students invited to participate in the survey were suitable and eligible based on having prior knowledge and personal experience in a mental health placement. Therefore, the responses and data obtained were relevant and suitable for addressing the research questions (Crookes & Davies, 2004). Second year students studying Paramedicine at Charles Sturt University at the Port Macquarie campus were invited to participate in the study. Eligible students must have had completed and passed the workplace learning subject CLS103 (Paramedic Community Internship) in 2019 during their first year of study. Additionally, students selected must have completed a portion of their community placement hours in the inpatient mental health unit at Port Macquarie Base Hospital. This ensured that the results and data obtained from the current sample of participants enabled researchers to address the proposed research questions. This mental health pilot placement was a new addition to the workplace learning subject for Port Macquarie paramedic students as of 2019. Despite the limited number of students undertaking this placement, this was not considered an ethical issue and was appropriate given that the research project is descriptive in nature (Crookes & Davies, 2004). The overarching goal of this study was to explore the experiences of students and summarise the themes into useful information to support the integration of a similar placement into the paramedicine degree for undergraduate students in the future.

Materials

Survey Instrument

The questions included in the survey have been previously published and have been demonstrated to be an effective tool in evaluating student experiences following clinical placements. The instrument utilised is termed the *Clinical Placement Evaluation Questionnaire* and is designed to identify learning opportunities during a clinical placement, to promote the development of strategies to improve clinical skills and is used as an evaluation tool for clinical placements (Penman & Oliver, 2004). This instrument was considered relevant and appropriate as it has been used before to evaluate clinical placements for nursing students. The use of this instrument in this study is considered novel, as it is the first time this instrument has been applied to paramedicine, particularly in the mental health inpatient setting.

Displayed below are the four quantitative and two qualitative questions that were asked of the participants in this research project. Refer to Appendix 5 for the original copy of the Clinical Placement Evaluation Questionnaire.

Quantitative Questions-

- Was there adequate orientation provided?
- Was I expected by the venue?
- Were the staff members willing and available to assist my learning?
- Would this clinical experience benefit other students?

Qualitative Questions-

- What were the best aspects of this placement?
- What aspects of this placement could be improved?

Instrument Parametrics

Reliability reflects the consistency of an instrument and its ability to produce stable results upon repetitive use. Validity can be defined as the extent to which the results obtained accurately represent the intended variable and aim (Chiang, Jhangiani & Price, 2015). It is noted that to date, there has been no literature regarding reliability and validity tests that have been developed for the Clinical Placement Evaluation Questionnaire utilised in this research project.

Procedure

Invitation to Participants

An invitation was emailed to students who participated in the mental health placement in the form of a participant information letter, which contained a statement and description of the objectives of the survey. The participant information letter further disclosed the issues of confidentiality, consent and perceived consequences of non-participation. The participant information document emailed to students is included as Appendix 4.

The participant information letter and survey link were emailed to students by a paramedic lecturer that was not involved in the research project. The researchers involved in the project had their names removed from the participant information letter and survey, in order to negate any potential ethical issues of coercion. This ensured that students did not feel pressured to participate due to perceived advantages/disadvantages associated with their education, learning or progression through the degree.

Participant Information Letter Details

The survey was made available to students through an emailed invitation and participant information letter. This participant information letter detailed the purpose and goals of the survey, as well as the benefits and value for future paramedic education. This participant information letter highlighted that participation was completely voluntary and there was no expectation for completion, with students able to leave the survey at any time by exiting the web browser. On average, it took no longer than 20 minutes for students to complete the survey.

The participant information letter stated that by participating in the survey through an external site (Survey Monkey), confidentiality was maintained. The participants were not asked for any personal identifiers, including their name, age or gender, which was clearly outlined in the information letter, reassuring students that their identity would not be shared with researchers. Further, this invitation stated that by clicking on the link provided, students thereby consented for their answers being used for statistical and thematic analysis, hence consent was assumed through participation and completion of the survey.

The participant information letter also mentioned the types of questions that were to be asked throughout the survey, thus informing the student participants of the potential triggers or unease associated with answering questions relating to mental health or mental illness. Through participation and completion of the survey, it was assumed that students understood these risks. Students were not debriefed at the conclusion of the survey, but rather provided with details regarding access to counselling services, which were made available on the posted invitation for students if they required it.

At the conclusion of the survey, participants were given the following text that read “On behalf of the researchers involved in this project, we would like to thank you for your time and input. Your responses are greatly appreciated.” Participants were instructed to exit their web browser.

Study Design

An exploratory study design is based on identifying insights and understandings on a research topic that has currently not been thoroughly researched, thus providing the opportunity for future investigation to be conducted (Kirshenblatt-Gimblett, 2006). This type of study design serves to extend the researcher’s understanding of the current undergraduate paramedic student exposure to mental health patients, thus allowing the opportunity for future research to be conducted.

The aforementioned methodology closely aligns with the purpose of evaluative research, that being the evaluation of current programs, policies or procedures as a means of contributing to the improvement and development of these aspects in the future (Weiss, 1998). The culmination of exploratory and evaluative design of this research project assisted researchers to identify and validate the educational and practical value associated with a mental health placement for paramedic students.

Data Collation

Data was collected using a mixed method approach, incorporating both quantitative and qualitative statements and questions, hence allowing a larger range of themes and results to be obtained and analysed (Almalki, 2016). The responses from the four quantitative statements were collected utilising a Likert-type scale. The Likert-type scale allows quantitative data to be analysed and interpreted using an opinion-based scale. This attitudinal scale offers options from one to five, that being strongly disagree to strongly agree respectively to each of the statements presented. The middle three numbers are considered neutral and therefore interpretation and analysis may become difficult (Arnold, McCroskey & Prichard, 1967). The two qualitative questions encouraged student participants to form personal responses with regards to the benefits and potential improvements associated with the mental health placement that they attended.

Data Analysis

Quantitative data was analysed using descriptive statistical techniques utilising frequencies (Schneider, Elliott, LoBiondo-Wood & Haber, 2004). This involved calculating the number of times each response

type was selected by participants, thereby highlighting the percentage (Boone & Boone, 2012). Alternatively, qualitative data was evaluated using thematic analysis, using a method established by Braun and Clarke, allowing researchers to identify common themes, ideas and topics from student responses. This involved researchers reviewing the data, applying appropriate coding to identify the common themes and assembling a concept map for presentation (2012). By using this reputable protocol, it ensured that all themes uncovered had been extracted appropriately. Further, triangulation and a convergence coding matrix was utilised to highlight the correlation between the quantitative and qualitative data sets, thereby increasing the validity and reliability of the results.

Results

This section will outline and explore the quantitative and qualitative results gathered, as well as highlight and justify the type of analysis tools utilised for each respective type of data set.

To begin with, student responses to the quantitative questions seven, eight, nine and twelve of the Clinical Placement Evaluation Questionnaire were graphed to represent their respective frequencies, mode and median, which is followed by an explanation of the results found. Additionally, student responses to the qualitative questions were gathered and represented as a mind map, which is followed by a summary of the themes identified and the correlation to the quantitative data. Following this, triangulation of the quantitative and qualitative findings and themes were displayed in a convergence coding matrix to display the correlation between data sets. The analysis will emphasise that there were significant insights into the benefits and limitations associated with the mental health placement for undergraduate paramedic students.

Quantitative Data

Likert and Likert-type scales are five point scales that measure an individual's attitudes. Likert scales allow individuals to select answers ranging from "strongly disagree, disagree, undecided, agree, strongly agree" to any given statement. A Likert scale has multiple questions and statements that interrelate to examine one specific topic, where responses are combined to provide a quantitative measure (Boone & Boone, 2012; Sullivan & Artino, 2013). In contrast, a Likert-type scale is used to assess a range of themes, as the questions and statements provided are unique and distinctive from one another, meaning they are examined independently. Further, Likert type scales offer a range of response options including "never, sometimes, usually, often, always" (Boone & Boone, 2012; Sullivan & Artino, 2013). The Clinical Placement Evaluation Questionnaire utilised in this research study is an example of a Likert-type scale, which allowed the researcher to examine student participant opinions of their experiences following participation in a mental health placement initiative.

The raw data was gathered from the instrument. For questions seven, eight, nine and twelve, each respondent's selections were noted in an excel spreadsheet. Following this, the counts of each response type were determined for these questions.

There are three measurements of central tendency that represent the centre of the distribution of data which includes the mode, median and mean. The mode is the most common score. The median indicates the middle score when data is arranged in numerical order. The mean is the average of the scores, which

is calculated by dividing the sum of the scores by the number of scores (Howell, 2013). Alternatively, measures of variability provide information regarding the distribution of data and whether the scores are grouped or deviate from the average value. These measurements include the range, interquartile range, average deviation, the variance and standard deviation. The range identifies the distance between the highest and lowest scores, whereas the interquartile range excludes the extreme scores from a set of data, removing the upper and lower 25% to determine the range from the data that remains. Average deviation is the amount of distance of a given score from the mean of that data set. Similarly, variance involves squaring the difference between the mean and scores of a data set and determining the average. Standard deviation is the square root of the variance (Howell, 2013). Finally, the term frequency refers to the response rate in terms of percentages of responses that occur within a data set (Sullivan & Artino, 2013). This research study utilised median and mode to measure central tendency and frequencies to measure variability, as these are considered the most appropriate measurement tools for Likert type data.

The mode, median and frequencies were calculated and documented in the excel spreadsheet for each question. The quantitative raw data is included in Appendix 6. Graphs were created for each question to display the measures of both central tendency and variability and are presented as Figures 1 to 4.

The response rate for the survey was 7/8 (87.5%). Specifically, 6/8 (75%) of participants completed both the quantitative and qualitative sections of the questionnaire, while 1/8 (12.5%) of participants completed only the quantitative sections of the questionnaire.

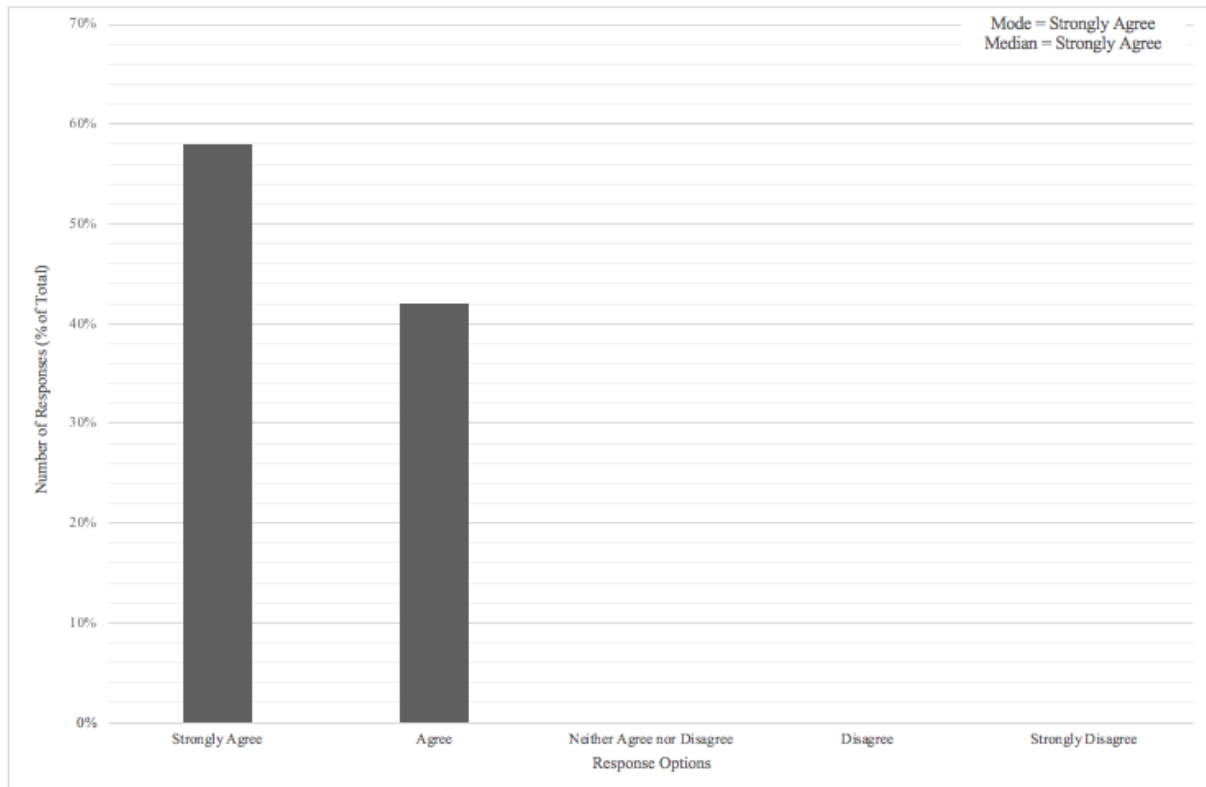


Figure 1. Frequencies, mode and median of student responses to the statement “There was adequate orientation provided”.

Figure 1 displays that 58% and 42% of respondents selected strongly agree and agree respectively for question seven. The survey question was designed to measure whether there was adequate orientation provided for the student in the mental health placement. No respondents selected any other response option for this question. The mode and median for question seven were both strongly agree. Figure 1 displays the data in relation to the placement venue.

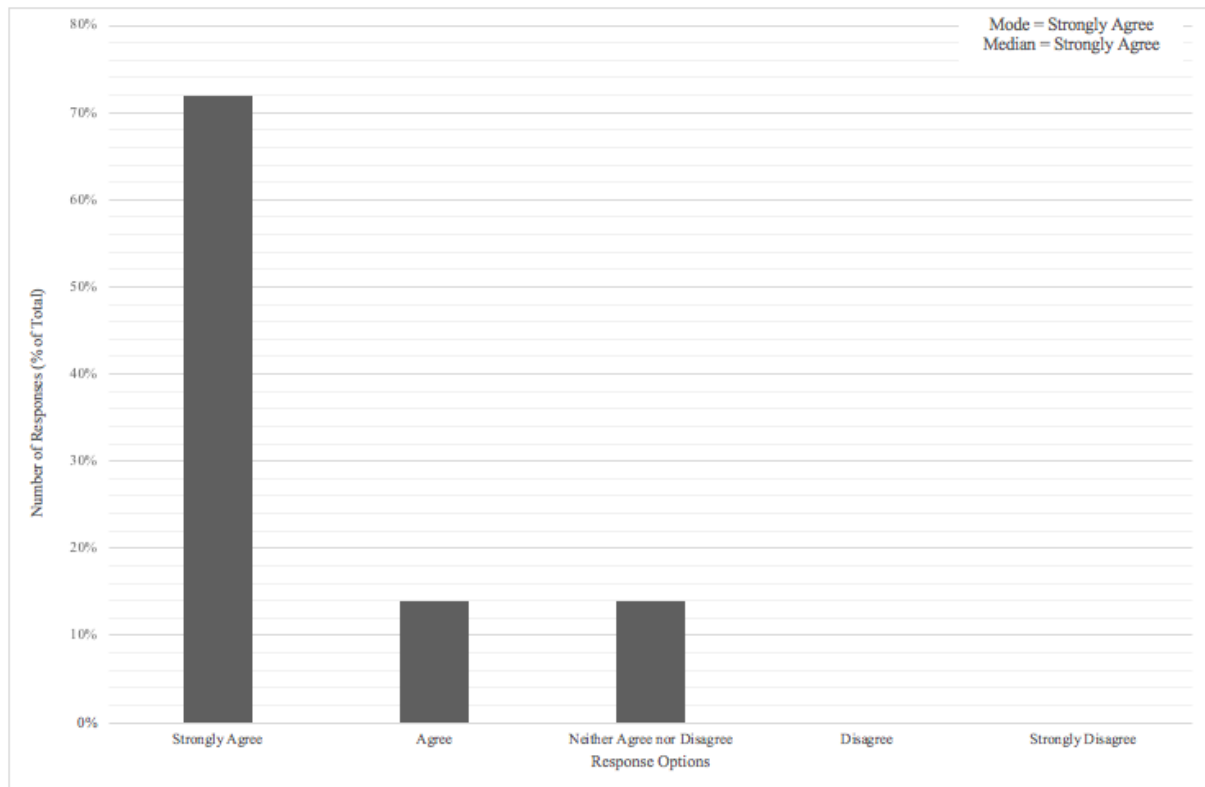


Figure 2. Frequencies, mode and median of student responses to the statement “I was expected by the venue”.

Figure 2 shows that 72% of respondents selected strongly agree, 14% selected agree and 14% selected neither agree nor disagree for question eight. The survey question was designed to measure whether paramedic students were expected by the mental health placement venue. No respondents selected any other response option for this question. The mode and median for question eight were both strongly agree. Figure 2 displays the data in relation to the placement venue and staff members.

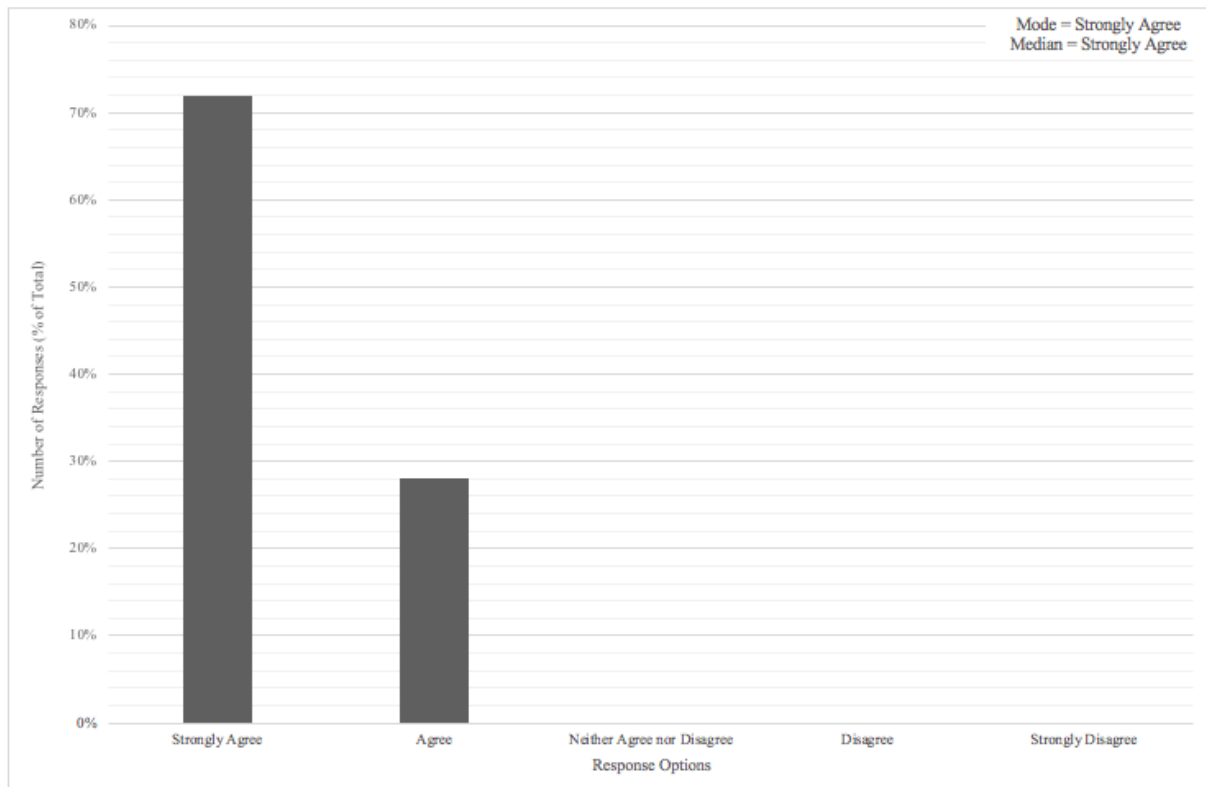


Figure 3. Frequencies, mode and median of student responses to the statement “The staff members were available and willing to assist my learning”.

Figure 3 demonstrates that 72% of respondents selected strongly agree and 28% of respondents selected agree in question nine. The survey question was designed to measure whether staff members were willing and available to assist in student learning throughout the mental health placement. No respondents selected any other response option for this question. The mode and median for question nine were both strongly agree. Figure 3 displays the data in relation to the staff members at the placement venue.

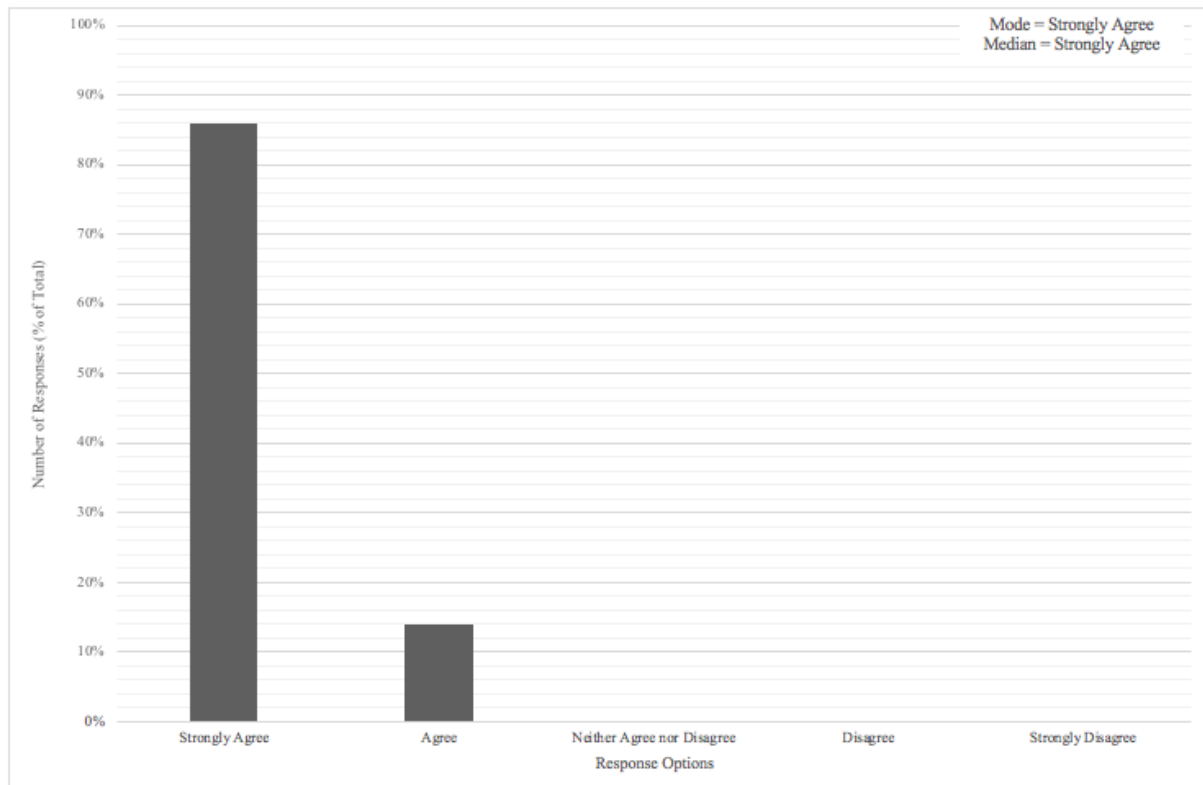


Figure 4. Frequencies, mode and median of student responses to the statement “This experience would benefit other students”.

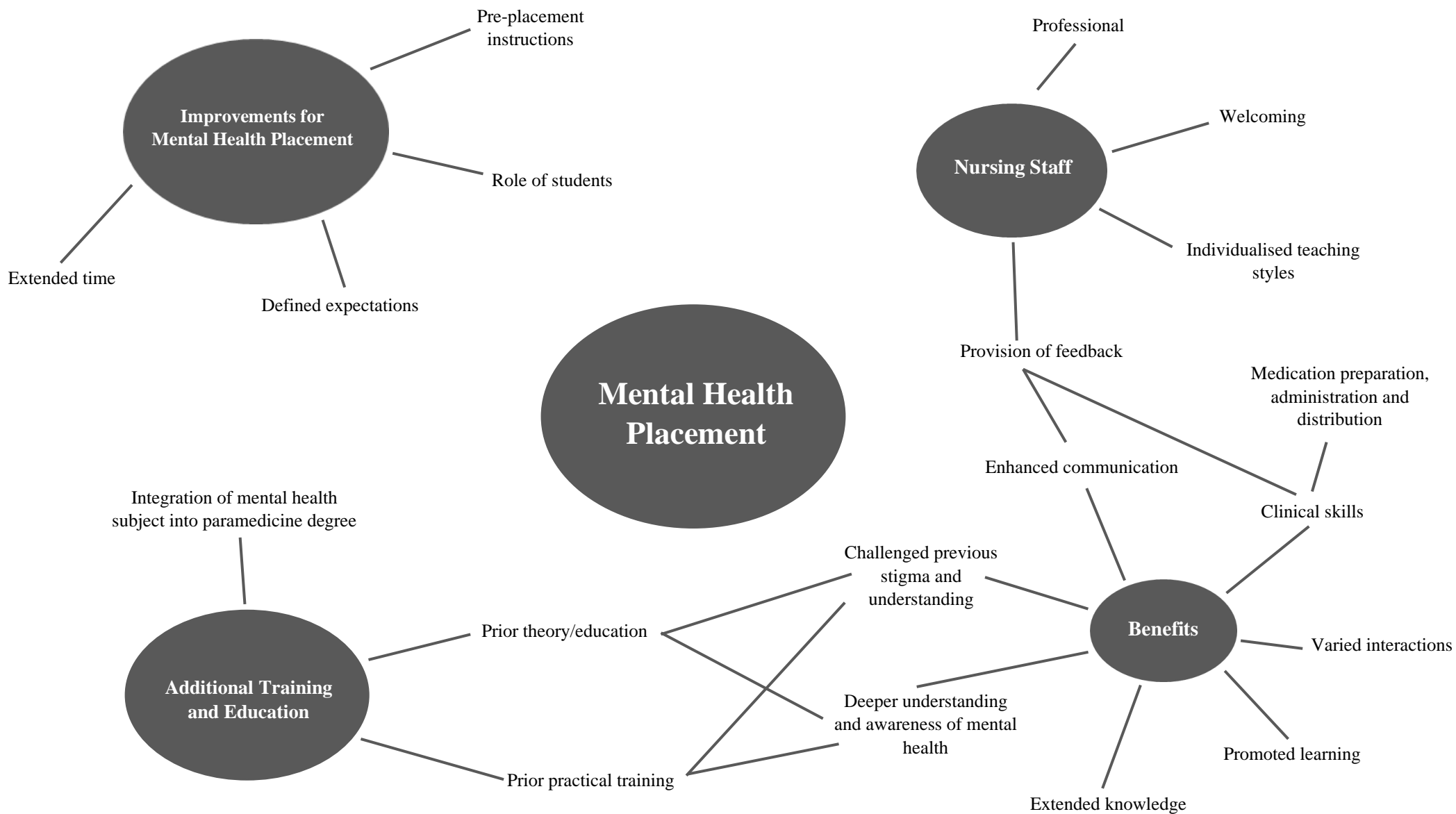
Figure 4 illustrates that 86% and 14% of respondents selected strongly agree and agree respectively for question twelve. The survey question was designed to measure whether the mental health placement would benefit other paramedic students. No respondents selected any other response option for this question. The mode and median for question seven were both strongly agree. Figure 4 displays the data in relation to the benefits associated with the clinical experience.

Qualitative Data

Following consultation and discussions with Dr Louise Roberts, it was deemed that given the size of the qualitative data set, thematic analysis incorporating triangulation was suitable to examine and relate the quantitative and qualitative data gathered (personal communication, August 6, 2020). Thematic analysis is a relevant and appropriate method for the analysis of qualitative data that identifies, analyses and summarises common themes within data sets (Braun & Clarke, 2013). Due to the mixed-method design of this study, triangulation was incorporated to identify links between the quantitative and qualitative data following their separate analysis. This method allowed a deeper understanding of the research question to be gained (Creswell, 2014).

The analysis of qualitative data in this research study is based on a specific and reputable process established by several researchers (Braun & Clarke, 2013; Roberts, Dowell & Nie, 2019; Joffe, 2012). To begin with, the qualitative data from the instrument was gathered and de-identified. Following this, the qualitative data was reviewed to allow the researcher to become conversant with the data set. Any interesting findings of the data were identified, highlighted and listed to represent potential themes and patterns. This process involved the researcher repeatedly interrogating the data set to the point at which familiarisation and theme saturation was achieved. The qualitative raw data is included in Appendix 7.

Next, coding of the qualitative data was completed. Coding is a systematic process of identifying aspects of the data that support the research question. Complete coding involves giving full and equal attention to the entire dataset to identify any relevant characteristics relating to the research question, which is followed by a more selective pass through the data set (Braun & Clarke, 2013). This process was repeated to highlight any additional themes. The collation of all potential codes from the qualitative data uncovered four central themes. The themes and codes were reviewed and used to create a mind map, which identifies the associations between themes. The visual representation of the thematic analysis is illustrated in Figure 5.



Codes				
Benefits	Challenged previous stigma and understanding	Medication distribution	Provision of feedback	Improvements for mental health placement
Varied interactions	Deeper understanding and awareness	Nursing staff	Additional training and education	Extended time
Enhanced communication	Clinical skills	Professional	Integration mental health subject in paramedicine	Defined expectations
Promoted learning	Medication preparation	Welcoming	Prior theory/education	Role of students
Extended knowledge	Medication administration	Individualised teaching styles	Prior practical training	Pre-placement instructions

Figure 5. Mind Map of Qualitative Data.

The mind map illustrating the thematic analysis was used to define and discuss the four central themes, which are presented below.

Central Theme One - Benefits

There were a range of beneficial aspects uncovered in the qualitative data. Participants stated that the mental health placement was a great learning opportunity, allowing students to expand their knowledge and experiences with mental health patients and mental illness. This placement experience encouraged participants to interact with a range of mental health patients, which provided the opportunity to challenge previously held stigmas. Further, students were able to practice and develop their communication and clinical skills related to medication preparation, administration and distribution. Additionally, participants were encouraged to deepen their understanding and awareness of mental illness. This is directly linked with the quantitative data, specifically question twelve, whereby 86% of participants strongly agreed that this clinical experience would benefit other students, with the remaining 14% agreeing to this statement (Refer to Figure 4). This is evident in the following illustrative examples:

Participant 1

“It was enlightening to my knowledge and experience with mental health as I had little beforehand.”

“I also enjoyed talking and conversing with the patients and understanding their situations and background...”

Participant 2

“This placement was a great learning opportunity...”

Participant 3

“I didn’t realise how much stigma I had subconsciously attached to the label ‘Mentally Ill’. Being able to interact with the patients of varying ages, different genders, nationalities and levels of wealth showed just how non-discriminatory mental illness is.”

Participant 4

“I was exposed to a range of mental health issues and it really raised my awareness of mental health...”

“...gave me an understanding of the patients perception of their illness.”

Participant 5

“With mental health becoming larger within communities I think the placement was great to help us to learn how to interact with patients and provide better care to them.”

Participant 6

“This placement experience, as a whole, was thoroughly enjoyable and critical as a learning tool.”

“...highlighted the sociocultural impacts on mental health and provided insight to the types of situations, we as paramedics, may be brought into in the job.”

Central Theme Two - Additional Training and Education

The participants reported that practical training or education on mental health prior to the placement may have assisted to improve student preparedness and confidence. Further, participants also stated that the mental health placement would prove beneficial if accompanied by a specified subject that was integrated into the paramedicine degree. This is reinforced with the following illustrative examples:

Participant 2

“...more training on mental health from uni before this placement.”

Participant 3

“I believe that having a theoretical component to accompany this practical placement would greatly improve the experience.”

“I believe this placement would be improved by a corresponding course provided to students, whether that be in the form of having to complete a Mental Health Certificate or a specified class incorporated into the degree for Paramedicine.”

Participant 4

“I think some prior learning into mental health as a subject in the course would have been beneficial to be informed and put knowledge into practice...”

Central Theme Three - Nursing Staff

The participants reported that the nursing staff were generally professional, approachable and welcoming. The provision of feedback assisted participants to improve their communication and clinical skills related to medication preparation, distribution and administration. Further, participants reported that the individualised teaching styles of staff members allowed students to deepen their understanding of mental health and mental illness. This correlates with the quantitative data, specifically question nine, whereby 72% of participants strongly agreed that the staff members were willing and available to assist in learning (Refer to Figure 3). This is supported by the following illustrative examples:

Participant 3

“The staff were all extremely professional and welcoming.”

“Each individual had their own way of teaching and explaining the job they do.”

Participant 4

“Nurses were able to answer any questions...”

“Happy to explain the issues that affected some patients and they were happy to explain any medications and how they helped the patient.”

Participant 5

“Being under the supervision of nurses that were qualified and know what they were doing was great.”

“Provided feedback on how I interacted with them [patients].”

Participant 6

“The staff were hospitable and lenient about student involvement, meaning you got what you put in...”

Central Theme Four - Improvements for Mental Health Placement

Respondents stated that there were several aspects that could improve the mental health placement experience for future paramedic students. Participants felt that defined expectations and the role of students would have assisted to improve the experience. Further, pre-placement instructions offered to students would have ensured that they were adequately prepared for the placement. Additionally, students highlighted that extending the duration of the mental health placement would have allowed them to further develop their clinical and communication skills with mental health patients, thereby increasing confidence and comfort levels. Interestingly, this challenges the quantitative data findings, specifically question seven and eight respectively, whereby 58% of participants strongly agreed that there was adequate orientation provided and 72% of participants strongly agreed that they were expected by the venue (Refer to Figure 1 and 2). This is apparent with the following illustrative examples:

Participant 4

“I think I would have felt more prepared for this placement if there was some pre-placement expectations...”

“I think the nurses should have been given a better idea of what was expected of us and expected of them.”

Participant 5

“...I feel like with more time spent at the placement I could really become better with interacting patients.”

Participant 6

“...a more defined role of task set for future students so as not to have too much disruption...”

“...be delivered with better pre-placement instructions about arriving on ward, where to go, what to do, etc.”

Triangulation of Quantitative and Qualitative Data

As a means of emphasising the connections and correlation between the quantitative and qualitative data sets, triangulation and more specifically, a convergence coding matrix was utilised to achieve this. Triangulation is a well-established, reputable process that allows researchers to explore convergence, complementarity and dissonance between quantitative and qualitative data sets (O’Cathain, Murphey & Nicholl, 2010). The development of a convergence coding matrix involved listing findings from each component on a page and determining whether they agree, offer complementary information or contradict each other, thereby highlighting the interactions between the quantitative and qualitative data sets. This comparison and contrast of quantitative and qualitative data increases the credibility and dependability of the results, as well as validates the research questions (Creswell, 2014; Farmer, Robinson, Elliott & Eyles, 2006). The convergence coding matrix was created and is illustrated in Figure 6.

Table 1. Convergence Coding Matrix.

<u>Qualitative Themes</u>	<u>Qualitative Sub-themes</u>	<u>Quantitative Questions</u>	<u>Convergence Assessment</u>
Benefits	Enhanced communication	Question twelve asked if this clinical experience would benefit other students, whereby 86% of participants strongly agreed and the remaining 14% agreeing	Convergence
	Clinical Skills		
	Varied interactions		
	Promoted learning		
	Extended knowledge		
	Deeper understanding and awareness of mental health		
	Challenged previous stigma and understanding		
Nursing Staff	Professional	Question nine asked if staff members were available and willing to assist in student learning, whereby 72% of participants strongly agreed and 28% agreed	Convergence
	Welcoming		
	Individualised teaching styles		
	Provision of feedback		
Improvements for Mental Health Placement	Pre-placement instructions	Question seven asked whether there was adequate orientation provided, whereby 58% strongly agreed and 42% agreed	Dissonance
	Role of students		
	Defined expectations	Question eight asked whether they were expected by the venue, whereby 72% strongly agreed, 14% agreed and 14% neither agreed nor disagreed	Partial Convergence
	Extended time		
Additional Training and Education	Prior practical training		
	Prior theory/education		
	Integration of mental health subject into paramedicine degree		

Evidently, the quantitative and qualitative data concluded that the mental health placement initiative was a positive and beneficial experience, with a variety of new perspectives being offered. Participants reported that this experience and exposure to mental health patients allowed them to develop their communication and clinical skills, as well as deepen their knowledge and understanding of mental illness. Further, results suggested that previous negative stigma and attitudes towards mental health patients were challenged. These themes emerged clearly from the quantitative data, whereby a significant proportion of participants reported that this clinical experience would benefit others, resulting in convergence of the data. Additionally, participants stated that the nursing staff were professional, welcoming, had individualised teaching styles and provided sufficient feedback, which in turn encouraged learning and assisted in clinical and professional development. These themes align with the quantitative results, whereby a large number of respondents stated that staff members were available and willing to assist in learning, thereby displaying clear convergence between the two data sets.

It is important to note that participants detailed a variety of aspects of the mental health pilot placement that could be improved for the future. This included the provision of pre-placement instructions or orientation, defined expectations and role of students and staff members, as well as the request for this placement to be offered for an extended amount of time. These themes, however, do not directly align with the quantitative data, as a notable number of students reported that they were expected by the venue and that adequate orientation was provided, thereby highlighting partial convergence and dissonance of the data, respectively.

By taking all themes and findings into consideration from the quantitative and qualitative data sets, it was clearly demonstrated that there is significant educational and practical value associated with this mental health placement initiative. Students identified that prior education and theoretical learning could enhance the practical experience and that the integration of a mental health subject with an associated placement would be an invaluable opportunity. With this in mind, there was not a quantitative question included in the questionnaire that aligns with these themes.

To summarise, it is clear from the analysis of the quantitative and qualitative data, that there was significant value and benefit associated with the mental health placement, which supports the original hypothesis. In the results section of this thesis, the analysis instruments, tools and processes and the justification for their use were presented. Following this, student responses for questions seven, eight, nine and twelve were graphed to include the frequencies, mode and median. It was highlighted that there was an overall positive response, with the mode and median for all quantitative questions being strongly agree. Next, the qualitative data was analysed and constructed into a mind map to identify the four main themes uncovered. This was followed by a discussion of the main themes and the connection to the quantitative results. The central themes from student responses included the benefits of the placement experience, nursing staff, improvements for the mental health placement and the need for additional mental health training and education. Finally, to triangulate the quantitative and qualitative data, a convergence coding matrix was created which served to highlight the associations between the two data sets in the context of the research questions.

Discussion

This section will outline the aims of the research study and explore the interpretation of the results in relation to the literature, highlighting the alignment or disconnection that exists. Further, this section will illustrate the application and implication of the results uncovered, thereby identifying the practical benefits demonstrated by conducting this research study. Finally, future research possibilities and limitations of this research study will be presented.

Aims

It can be understood from the literature that the prevalence and incidence of mental illness related paramedic workload is increasing. With this in mind, it is clear that the current level and structure of education and training in undergraduate paramedicine degrees does not reflect this, meaning paramedics feel underprepared and lack confidence to manage mental health patients in the prehospital setting (Smith, Parent, Townsend & Johnston, 2020; Shaban, 2015; Parsons & O'Brien, 2011). The aims of this research study were to evaluate the experiences and perspectives of undergraduate paramedicine students who participated in a mental health pilot placement in an inpatient unit. Further, this research study aimed to evaluate whether a mental health placement was effective in assisting paramedic students' preparedness and confidence to manage mental health patients, as well as extend their knowledge and understanding of mental illness.

These aims were subdivided into six specific research questions that were measured using a survey instrument and were utilised to determine whether adequate orientation was provided, whether students were expected by the venue, if staff members were willing and available to assist in student learning and whether the clinical experience would benefit other students. As well as this, additional open-ended questions allowed participants to provide written responses that were used to identify the best aspects of the mental health placement and what aspects of the placement could be improved.

Interpretation of Results

The table presented on the following page represents the results of the research included in the literature review comparative to a summary of the findings of this research study. The bolding of key terms indicates similar themes found across the research included in the literature review and results from this study.

Table 2. Comparison of Results.

Study	Reported Findings	Findings that Emerged from this Study
Mian, Chachar, Saeed & Naseem (2018)	Through the integration of a variety of teaching methods for the mental health curriculum, medical students reported enhanced engagement and ability to implement clinical skills .	Following participation in the mental health placement, it was highlighted that paramedic students reported improvements in communication, knowledge and clinical skills .
Delbridge, Zubatsky & Fowler (2017)	After exposure to mental health patients through a training program, it was illustrated that medical students were able to develop their critical thinking abilities which in turn improved their clinical skills and understanding of mental illness .	Paramedic students' had exposure to a variety of different mental health patients throughout the placement, allowing them to develop and refine their communication, clinical assessment and skill set relating to mental health patients.
Yidong, Huixi, Xiaoduo, Zhanchou, Lehua, Hailong, Zhimin & Xiaofeng (2014)	Following the comparison of questionnaire results prior to and following a psychiatry placement experience, medical students stated that they experienced deepened understanding and knowledge of mental illness, as well as enhanced attitudes towards mental health patients.	Paramedic students who participated in the mental health placement displayed a more thorough knowledge and understanding of mental illness , as well as improvements in their approach to mental health patients. With this in mind, this study did not examine student knowledge, understanding and attitudes prior to participation in the mental health placement.
Attoe, Lavelle, Sherwali, Rimes & Jabur (2019)	Following participation in mental health simulations, medical students stated that they noted improvements in resilience, confidence, communication and clinical skills , as well as an enhanced ability to work efficiently alongside other health professionals .	Through engagement in the mental health placement, it was illustrated that paramedic students experienced improvements in understanding and awareness of mental illness, confidence in communicating with mental health patients and enhanced their ability to work effectively with nursing staff .
Martinez, Fargason & Meador-Woodruff (2017) Murzl, Durns, Mowrey, Tubbs & Boeve (2017)	Following exposure to psychiatric patients as part of a placement experience staffed by medical students, participants reported that they were more enthusiastic and willing to volunteer for this experience . Similarly, it was reflected that a psychiatric placement experience encouraged students to feel comfortable and confident around these patients.	Paramedic students reported enhanced confidence, comfort levels and resilience after participation in the mental health placement, as well as notable improvements in knowledge, communication and clinical skills relating to mental health patients.
Bharathy & Foo (2014)	Following involvement in a social interaction program with psychiatric patients, it was emphasised that students had reduced stigma towards mental illness and reduced apprehension in communicating with mental health patients .	As a result of participating in the mental health placement, it was highlighted that paramedic students noted that previously held stigmas were challenged . Further, students demonstrated a deeper understanding of mental illness and therefore, improvement in communication skills with mental health patients.
Russell, Clarke, Loo, Bharathy, Vasudevan, Byrne & Smith (2018)	Through participation in a consultation psychiatry service, medical students reported a significant improvement in previously held stigma and attitudes surrounding mental illness .	It was evident that through participation in the mental health placement, paramedic students experienced enhanced knowledge and understanding of mental health , leading to improvements in attitude and stigma relating to mental illness .
Petkari, Masedo Gutiérrez, Xavier and Moreno Küstner (2018)	Students from medicine, nursing and occupational therapy backgrounds revealed a reduced incidence of previously held negative stigma following participation in a mental health placement.	It was demonstrated that paramedic students reported less incidence of negative stigma and enhanced attitudes towards mental health patients as a result of the placement experience.
Dearman, Joiner, Gordon & Vince (2018)	From a mental health patient's perspective, it was demonstrated that there was significant value, comfort, enjoyment and willingness to interact with medical students.	Through engagement in the mental health placement, it was evident that it was a beneficial and positive experience for paramedic students . With this in mind, no data was collected based on the patient's perspective of this experience.
Marwood & Hearn (2019)	Following participation in a Mental Health Literacy survey, it was demonstrated that medical students scored higher for those who had prior experiences with mental health patient.	Although the mental health placement didn't specifically examine mental health literacy of paramedic students, it was clear that this experience promoted students' learning and extended their knowledge of mental health.

Reflective Comparison of Results to Relevant Research Literature

There is evident alignment that exists between the literature review and the results of this research study. Paramedic students that participated in the mental health placement initiative reported that they experienced improvements in their communication, knowledge and clinical skills, with a significant proportion of students stating that this clinical experience would benefit others. This is consistent with research by Mian, Chachar, Saeed and Naseem, whereby through the integration of a variety of teaching techniques for the mental health curriculum, medical students report enhanced engagement and ability to implement clinical skills (2018). Further, the mental health placement allowed paramedic students to gain exposure to a variety of mental health patients and presentations, in turn illustrating the development and refinement of their communication, clinical assessment and skill set relating to mental health patients. These findings also align with research by Delbridge, Zubatsky and Fowler, whereby medical students experienced improvement in their critical thinking abilities following exposure to mental health patients through a training program, resulting in the development of their clinical skills and understanding of mental illness (2017).

This research demonstrated that paramedic students that participated in the mental health pilot placement displayed a more thorough knowledge and understanding of mental illness, as well as improvements in their approach towards mental health patients. This can be associated with findings of Yidong et al, whereby medical students completed a questionnaire prior to and following a psychiatry placement, which reflected a deepened understanding and knowledge of mental illness, as well as enhanced attitudes towards psychiatric patients (2014). With this in mind, this study did not offer insight into the students' understanding, knowledge and attitudes towards mental health patients prior to the placement. Through engagement in the mental health placement, this research study uncovered that paramedic students demonstrated enhanced understanding and awareness of mental illness, confidence in communicating with mental health patients and an improved ability to work effectively with nursing staff. This is evident as a large number of students stated that the staff members were available and willing to assist in their learning. Similar findings can be recognised in research by Attoe et al which emphasised that medical students who participated in mental health simulations experienced improvements in resilience, confidence, communication and clinical skills, as well as an enhanced ability to work competently alongside other health professionals (2019).

As highlighted in the results of this research study, paramedic students displayed enhanced confidence, comfort levels and resilience following involvement in the mental health placement, in turn leading to

deepened knowledge of mental illness, as well as communication and clinical skills associated with mental health patients. This aligns with research by Martinez, Fargason and Meador-Woodruff (2017), as well as Murlz et al (2017), which describes that medical students, following engagement in a psychiatric placement experience, reported increased enthusiasm and a willingness to volunteer for the experience. In doing so, their exposure to psychiatric patients resulted in enhanced confidence and level of comfort.

This research study revealed that participants of the mental health placement stated that they had a more developed ability to communicate with mental health patients, therefore leading to a reduction in negative stigma and attitudes towards mental health patients. This correlates with research by Bharathy and Foo which involved students experiencing similar decreased stigma towards mental illness and apprehension communicating with mental health patients following involvement in a social interaction program with psychiatric patients (2014). Likewise, our results offered insight into paramedic students experiencing improvements in knowledge and understanding of mental health, which contributed to improvements in attitude and less incidence of negative stigma towards mental health patients. This can be associated with research by Russell et al, which acknowledged that medical students, through participation in a consultation psychiatry service, experienced less incidence of negative stigma and enhanced attitudes surrounding mental illness and mental health (2018). These results are also consistent with research by Petkari, Masedo Gutiérrez, Xavier and Moreno Küstner, whereby students from medicine, nursing and occupational therapy backgrounds revealed a reduced stigma surrounding mental illness following engagement in a mental health placement (2018).

On further reflection, it is speculated that the benefits associated with a mental health placement for medical students seem to be very similar as that for paramedic students. Overall, it has been emphasised that the mental health placement was a valuable experience for paramedic students and that it would benefit other students. Given the findings of this research study, it was clear that this placement experience was conducted in a positive and supportive learning environment, which in turn, encouraged students to deepen their knowledge and understanding, as well as develop their clinical and professional practice.

Alternatively, there are certain findings of this research study that were unable to be compared to the literature. To begin with, in the research study by Dearman, Joiner, Gordon and Vince, they explored the benefits associated with this type of placement experience from the patient's perspective, which highlighted significant value, comfort, enjoyment and willingness to interact with medical students (2018). In this way,

we are unable to compare our results to the aforementioned study as researchers collected data from the student perspective rather than the patient perspective.

Further, although the mental health placement attended by paramedic students didn't specifically examine mental health literacy, it is evident that this placement experience promoted students' learning, as well as extended their knowledge and understanding of mental health and mental illness. As this study did not measure mental health literacy directly, the researchers are unable to compare the findings to that of previous research conducted by Marwood and Hearn, which illustrated that medical students scored higher on a Mental Health Literacy survey if they had prior exposure and experience with mental health patients (2019).

There were a variety of different perspectives and understandings offered from the findings of this research study that weren't found in the literature. It is important to note that the results of this study have provided new insight into the benefits and value associated with a mental health placement for paramedic students, as well as the current mental health education and practical training in paramedicine. It was highlighted by students that prior theory and education would enhance the preparedness and confidence of students when interacting and managing mental health patients, thereby leading to a beneficial and meaningful experience.

Application, Practical Benefits and Implications of this Research

The results uncovered from this research study have a variety of potential applications. To begin with, the aforementioned themes identify and highlight the need and educational value of a mental health specific placement experience for paramedic students. Through a curriculum redesign, this type of opportunity and a mental health subject can be integrated into the paramedicine degree, thereby ensuring that students are prepared, confident and efficiently able to manage mental health presentations on road. Further, this research study indicates and offers multiple other research opportunities on how this can be conducted, designed and implemented. In this way, additional areas for investigation and research are able to be explored, thereby adding to the limited field of knowledge and research in paramedicine.

The results from this research offer a variety of practical benefits that can be applied to paramedicine. It is well established that a significant proportion of the paramedic workload is associated with mental health,

with paramedics detailing that they feel inadequately prepared to manage these patients (Lowthian et al, 2010; Smith, Parent, Townsend & Johnston, 2020). Paramedics are expected to competently communicate, assess and manage mental health patients in the prehospital setting, whilst having significant responsibilities and the authority to take away a patient's liberty and dignity in order to achieve effective patient management (Parsons, O'Brien & O'Meara, 2014). With this in mind, the education, practical training and clinical exposure offered to undergraduate paramedic students does not reflect this and can be considered insufficient, leading students to feel underprepared and challenged to manage these patients effectively in the prehospital setting (Ford-Jones & Daly, 2020; Shaban, 2015; Parsons & O'Brien, 2011).

The central implication of our results is the clear potential for the development of a mental health subject designed for paramedic students that incorporates theoretical education and practical training. It has been identified in the literature that there is concern held by paramedics regarding the limited mental health education and practical training throughout university, leading to under preparedness. As highlighted in this research study, the results illustrate significant benefits and value associated with a mental health placement, which would be enhanced when implemented alongside a mental health subject into the undergraduate paramedicine degree. The placement experienced explained here enhanced paramedic students' knowledge and understanding of mental illness. Through this, it can be inferred that a deeper knowledge of mental health through exposure will allow students to be better equipped and informed to manage these challenging scenarios.

An unexpected finding of this research was found in the themes from the qualitative data which indicated that exposure to mental health patients reduced stigma and enhanced positive attitudes towards mental illness. This is echoed in research by Emond, Furness and Deacon-Crouch, where similarly, a reduction in stigma and increase in knowledge and positive attitudes were reported by the students in that study (2015).

As indicated in the findings of this research, increased exposure to mental health patients ensures that paramedic students are confident and prepared to manage challenging mental health patients, thereby prompting the delivery of safe and effective care to optimise patient outcomes. This resonates with research by Jack and Jadzinski which discussed that following participation in mental health training, paramedic students developed their confidence to communicate with, assess and manage mental health patients, as well as reported improvements in knowledge and understanding of mental health (2018). Additionally, this

practical benefit will assist paramedics to achieve harm minimisation and enhanced clinician safety due to improved education and practical training.

It is well understood that the paramedic profession has consistent exposure to confronting and traumatic scenarios that have the potential to have a significant impact on the health and wellbeing of paramedics. Research by Kennedy, Kenny and O'Meara elucidates that graduate paramedics state that they have not experienced adequate exposure prior to employment, consequently leading to exposure to human emotion, injury and suffering that has the potential to cause psychological harm (2015). The placement experience and exposure to mental health patients described in this study will allow paramedics to be better equipped and prepared to recognise and understand their own mental health and wellbeing, hence reducing the incidence of mental illness.

Further, this placement experience allowed students to develop their interprofessional skills and abilities to work effectively with different health professionals, thereby offering students new and valuable insights into the mental health field. Evidently, student exposure to interdisciplinary teams has been found to enhance understanding the roles of varied health professionals, interpersonal communication, ability to work efficiently as part of a team and paramedics' clinical management and decision making (McCallister et al, 2014; Stewart, Fielden, Harris & Wheeler, 2012). This is considered to be an imperative social practical benefit of the work that supports paramedic graduates' industry readiness and adequate preparation for the workforce. Overall, this allows paramedic graduates' to be adequately prepared and competent to manage mental health patients in the prehospital setting which aligns with the Charles Sturt University Graduate Learning Outcomes (2020).

Limitations of the Study

Whilst recognising the significance of the results, it is important to take into consideration the limitations associated with this study. To begin with, this was a pilot placement which was organised and designed in a limited time frame. This has contributed to students stating that the mental health placement could be improved by explicitly defining expectations and the role of students through a formal orientation and induction. Further, it should be noted that the sample size was small and only included paramedic students from the Charles Sturt University campus at Port Macquarie that attended the Mental Health Inpatient Unit

at Port Macquarie Base Hospital. With this in mind, the results should be interpreted in light of this geographical limit, with participants from one university attending one hospital in a regional location.

With regards to the instrument used to evaluate the students' experiences, it is important to consider that there were limited and non-specific questions asked. This can be attributed to the use of a generalised clinical placement evaluation questionnaire, rather than a paramedic or mental health specific evaluation tool. The instrument utilised in this research project was developed for nursing students and thus, is limited in its scope and effectiveness to evaluate paramedic student experiences.

Future Research Possibilities

The results from our research have provided the opportunity for a range of additional research possibilities to add to the current literature for paramedicine with regards to mental health education and training. To begin with, this research can prompt the development of a paramedic specific survey or instrument that evaluates the placement experience. This ensures that the results, themes and conclusions formed would be more generalisable in the evaluation of particular paramedic student cohorts.

Further, the results from this research indicates a multitude of benefits associated with practical experiences in the mental health field for paramedics, specifically, the development of knowledge and understanding. Whilst this research study aimed to evaluate student experiences, it did not examine student level of knowledge and understanding prior to and following the placement. Further studies could measure mental health literacy prior to and following placement to determine if there is a change in these elements as a result of the placement.

Additionally, another potential research possibility is to conduct interviews with paramedics and assess their level of preparedness and confidence to manage mental health patients whilst practicing on road following participation in this placement experience as students. This would assist to highlight the value and benefits associated with a placement experience involving mental health patients in preparing paramedics to manage these patients in a competent and professional manner.

Finally, by gaining insight into the benefits associated with a mental health placement experience for paramedic students from a patient's perspective, this may assist to validate and justify the importance of such a placement. This could lead to future research into mental health patient's personal experiences and could provide meaningful, valuable and beneficial perspectives that may aid in the education of paramedic students.

Conclusion

In summation, a literature review acknowledged a significant gap in evaluating the value and benefits associated with a mental health placement for undergraduate paramedicine students. This research study was developed to evaluate the educational and practical value associated with a mental health placement initiative, as well as whether this experience adequately prepared students and enhanced confidence, knowledge and understanding of mental health. Eight undergraduate paramedic students from Charles Sturt University participated in a mental health placement at Port Macquarie Base Hospital. Student participants were provided a questionnaire to evaluate their experiences and data was collected using a mixed method approach. Seven students completed the questionnaire which responds to a response rate of 87.5%. The overarching themes and findings highlighted notable benefits associated with this type of placement in enhancing student confidence, knowledge and understanding of mental health, as well as the development of communication and clinical skills. It is evident that the results of this research study can be closely associated with the literature in multiple ways, that being that a mental health placement is a beneficial and valuable experience for both medical and paramedic students. It has been emphasised that there is clear educational and practical value of a mental health placement, whilst highlighting the significance in enhancing student confidence, comfort and preparedness. The results gathered encourages and validates the integration of a mental health placement experience into the undergraduate paramedicine degree, thus allowing students to be better equipped to communicate and manage complex mental health patients. The aims of the research study were outlined and the comparison between the results and literature were reflectively explored and discussed, highlighting the association or disconnection. Following this, the application, practical benefits and implication associated with the results gathered were demonstrated, allowing researchers to recognise future research possibilities to add to the field of paramedicine. Whilst the results clearly highlight significant value and benefits of a mental health placement experience for paramedic students, the findings should be interpreted with the limitations kept in mind, which were summarised. Overall, this research study illustrates significant educational and practical value of a mental health placement for undergraduate paramedic students, thereby encouraging the integration of a mental health placement in the undergraduate paramedicine degree to better prepare paramedic students for the workforce.

Appendices

Appendix 1. Statement of Ethics Approval Letter.



ETHICS AND COMPLIANCE UNIT

Locked Bag 588
Boorooma Street
Wagga Wagga NSW 2678
Australia

Tel: +61 2 6338 4628
Email: ethics@csu.edu.au
www.csu.edu.au/research/ethics_safety/human/

7 December 2018

Dr Natalia Bilton
Email: nbilton@csu.edu.au

Dear Dr Bilton,

Thank you for providing further information in response to a request from the Charles Sturt University Human Research Ethics Committee relating to your research proposal.

The Charles Sturt University Human Research Ethics Committee is constituted and operates in accordance with the National Health and Medical Research Council's [National Statement on Ethical Conduct in Human Research \(National Statement\)](#).

Based on the guidelines in the *National Statement* the Committee has approved your research proposal. Please see below details of your approved research project:

Project Title: Students' Perceptions and Attitudes of Virtual Reality in Anatomy and Physiology Teaching
Approved until: 06 December 2021 (subject to annual progress reports being submitted)
Protocol Number: H18262 (to be included in all correspondence to the Committee)
Progress Report due by: 06 December 2019

You must report to the Committee at least annually, and as soon as possible in relation to the following, by completing the 'Report on Research Project' form:

- any serious and/or unexpected adverse events or outcomes which occur associated with the research project that might affect participants, therefore, the ethical acceptability of the project;
- amendments to the research design and/or any changes to the project (Committee approval required);
- extensions to the approval period (Committee approval required); and
- notification of project completion.

This approval constitutes ethical approval in relation to humans only. If your research involves the use of radiation, biochemical materials, chemicals or animals, separate approval is required by the appropriate University Committee.

Please contact the Governance Officer on (02) 69334213 or ethics@csu.edu.au if you have any queries.

The Committee wishes you well with your research.

Sincerely,


Ms Ellen Hannigan
Governance Officer
on behalf of Associate Professor Catherine Allan
Presiding Officer, HREC

cc: Mrs Clare Chapman

www.csu.edu.au

The Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS) Provider Number for Charles Sturt University is 00005F. ABN: 83 878 708 551

Appendix 2. Ethics Amendment Application.

Human Research Ethics Committee Variation/Extension Request		 Charles Sturt University
v180711		
<p>The University's Human Research Ethics Committee is required to monitor research projects to which it has given approval. Please use this form to request any variations to your approved research project. This includes an extension to the approved end date of the project.</p> <p>The Primary Contact as per the Human Research Ethics Application (HREA) form (usually the Chief Investigator) is responsible for notifying the committee by completing and submitting this form to ethics@csu.edu.au.</p> <p style="color: red; text-align: center;">All fields with a red border are required.</p>		
1. Research Project		
Title Paramedic Student Perceptions of their Placement Experience in an Inpatient Mental Health Setting	Protocol Number <input style="width: 100%; height: 20px;" type="text"/>	
	Approved End Date <input style="width: 100%; height: 20px;" type="text"/>	
2. Primary Contact (main applicant on approved HREA form for this research project usually the Chief Investigator)		
Name Dr Natalia Bilton	Staff/Student ID No. (if appl.) <input style="width: 100%; height: 20px;" type="text"/>	
Phone or Mobile 0265829359	Email nbilton@csu.edu.au	
School/Faculty School of Biomedical Sciences	Work Address 7 Major Innes Drive	
3. Research Project Team		
Name	Role	Staff/Student ID No. (if appl.)
Natalia Bilton	Chief Investigator/Researcher	<input style="width: 100%; height: 20px;" type="text"/>
Rob Bear	Associate/Assistant/Sub-/Co- Investigator/F	<input style="width: 100%; height: 20px;" type="text"/>
Phoebe Thornberry	<input style="width: 100%; height: 20px;" type="text"/>	11627077
Emma Carney	<input style="width: 100%; height: 20px;" type="text"/>	11630875
<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 100%; height: 20px;" type="text"/>
Attach an additional page if there are more team members to list.		

4. Variation Details

What component of the research project are you applying to vary?

We are adding two students to the research team. The students are Phoebe Thornberry and Emma Carney. They will both be contributing to this project as part of their Honours dissertation.

Attach an additional page if the response does not fit in this field.

What are the specific changes that are proposed and why? Please also explain EITHER the ethical implications of the proposed variation/s and how they will be addressed OR why you believe the variation/s will not have any ethical implications.

One ethical implication that may arise is that Phoebe and Emma are both Peer Tutors in the paramedicine degree meaning they have partial involvement and interaction with the research participants. We will manage this by not including any personal information of the researchers in the online surveys and refraining from discussing the research project with the research participants. We do not think that there will be any other ethical implications from Phoebe and Emma joining the research team because even though they are both novice researchers they will be supervised by Natalia Bliton and Rob Bear.

Attach an additional page if the response does not fit in this field.

Appendix 3. Literature Review.

Introduction

Mental health encompasses the “social, emotional and psychological wellbeing of individuals”, whilst mental illness refers to a cognitive, emotional or behavioural condition that influences an individual’s ability to interact with others, develop as an individual, maintain productivity and achieve goals (Hungerford et al, 2014, p. 5). As a paramedic student, I have personally experienced a level of uncertainty and doubt when dealing with mental health patients during my recent clinical placement. It is important to consider that mental illnesses have complex and diverse presentations, meaning paramedics must have an extensive understanding of the appropriate management of these mental health patients. However, this is not reflected in the training and education provided in the current paramedicine curriculum, deducing that students are underprepared when dealing with mental health presentations in the field. It is noted by Mildenhall that the paramedic workload associated with mental health is increasing (2012), however the mental health education and training opportunities for undergraduate paramedic students is limited (Roberts & Henderson, 2009). Holmes, Jones, Brightwell and Cohen report that undergraduate paramedic students feel underprepared for the mental health challenges encountered in the paramedic profession and as a result, are fearful of making a clinical mistake (2017). The following literature review aimed to explore the initial research question: *what is the value of a mental health placement in preparing students and extending knowledge in undergraduate paramedic students?* The presented evidence demonstrates a substantial gap in the literature with regards to the benefits for paramedic students, therefore the research question was modified to *what is the value of a mental health placement in preparing students and extending knowledge in undergraduate medical students.* It was clearly demonstrated that mental health placements have significant benefits such as improvement in attitudes, confidence and learning, as well as reduced stigma. It can be assumed that these practical experiences, similarly to medical students, can add significant value and are necessary to enhance the education of undergraduate paramedic students. It is clearly indicated that there is insufficient education and training opportunities for undergraduate paramedic students and additional research into the similar benefits and value of mental health placements for paramedic students should be conducted.

Method

An initial search of the journal database CINAHL using the search term (MH “Education, Emergency Medical Service/ED”) OR (MH “Emergency Medical Technicians/ED”) produced 1,237 results. An

additional search included using the terms “student* OR undergraduate* OR university OR college”, produced 351,017 articles. The combination of ((MH “Education, Emergency Medical Service/ED”) OR (MH “Emergency Medical Technicians/ED”) AND “student* OR undergraduate* OR university OR college”) resulted in 216 articles. Further, ((“student* OR undergraduate* OR university OR college” AND (MH “Students, Medical”))) were combined, producing 13,586 results.

A new search included the terms “mental health OR mental illness OR mental disorder OR psychiatric illness”, resulting in 198,730 articles. An additional search included “placement OR student placement OR training” producing 227,689 results. The two aforementioned searches were combined with AND, which narrowed the results down to 11,899.

((MH “Education, Emergency Medical Service/ED”) OR (MH “Emergency Medical Technicians/ED”) AND “student* OR undergraduate* OR university OR college”) was combined with AND (“mental health OR mental illness OR mental disorder OR psychiatric illness” AND “placement OR student placement OR training”), producing 0 results. Because of this, the search was expanded to include medical students rather than paramedic students specifically. (“student* OR undergraduate* OR university OR college” AND (MH “Emergency Medical Technicians/ED”))) was combined with AND (“mental health OR mental illness OR mental disorder OR psychiatric illness” AND “placement OR student placement OR training”), resulting in 106 articles.

A specified inclusion criterion was applied, limiting the articles to a publication date between 2009-2019, uncovering 86 results. This was further limited to a publication date between 2014-2019, resulting in 62 articles (Table 1). The abstracts of these articles were examined and reviewed for their relevance which produced 17 articles. Following a more critical examination of the article’s methods, six articles were excluded. One article was excluded as a full English version was unable to be obtained and five further articles based on the lack of relevance to the study. This resulted in 11 articles that were critically analysed to form this literature review (Table 2).

Table 1. Search Strategy in used CINAHL.

<u>Subject Number</u>	<u>Query</u>	<u>Results</u>
S1	(MH “Education, Emergency Medical Services/ED”) OR (MH “Emergency Medical Technicians/ED”)	1,237
S2	student* OR undergraduate* OR university OR college	351,017
S3	(MH “Students, Medical”)	13,586
S4	S1 AND S2	216

S5	S2 AND S3	13,586
S6	mental health OR mental illness OR mental disorder OR psychiatric illness	198,730
S7	Placement OR student placement OR training	227,689
S8	S6 AND S7	11,899
S9	S4 AND S8	0
S10	S5 AND S8	106
S11	S5 AND S8 Publication Dates between 2009-2019	86
S12	S5 AND S8 Publication Dates between 2014-2019	62

Table 2. Articles included in Literature Review.

<u>Year of Publication</u>	<u>Author(s)</u>	<u>Title</u>	<u>Journal</u>
2014	Bharathy, A Foo, P. L	Medical Students' Experiences of Participation in a Non-Governmental Organization Based Social Interaction Program for People with Mental Illness and Their Carers: A Qualitative Study	Medical Education
2014	Yidong, S Huixi, D Xiaoduo, F Zhanchou, Z Lehua, L Hailong, L Zhimin, X Xiaofeng, G	What can the medical education do for eliminating stigma and discrimination associated with mental illness among future doctors? Effect of clerkship training on Chinese students' attitudes	International Journal of Psychiatry in Medicine
2017	Delbridge, E Zubatsky, M Fowler, J	Integrating mental health professionals in residencies to reduce health disparities	International Journal of Psychiatry in Medicine
2017	Martinez, J Fargason, R Meador-Woodruff, J	Pre-clinical Medical Students as the Primary Longitudinal Provider of Psychiatric Care in the Outpatient Setting: A Novel Training Model	Academic Psychiatry

2017	Murzl, C Durns, T Mowrey, L Tubbs, A Boeve, S	A Medical Student-Run Child and Adolescent Psychiatry Clinic: One Institution's Experience	Academic Psychiatry
2018	Dearman, S. P Joiner, A. B Gordon, M Vince, G	Experiences of Patients with Mental Illness' Interactions with Medical Students: A Systematic Review	Canadian Journal of Psychiatry
2018	Mian, A Chachar, A Saeed, H Naseem, A	Mental health curriculum for Pakistan: integrating virtual, classroom and onsite training	Medical Education
2018	Petkari, E Masedo Gutiérrez, A. I Xavier, M Küstner, B. M	The influence of clerkship on students' stigma towards mental illness: a meta-analysis	Medical Education
2018	Russell, V Clarke, M Ee Loo, C Bharathy, A Vasudevan, U Byrne, E Smith, S. M	Medical Student Perceptions of the Value of Learning Psychiatry in Primary Care Settings in Penang, Malaysia	Academic Psychiatry
2019	Attoe, C Lavelle, M Sherwali, S Rimes, K Jabur, Z	Student interprofessional mental health simulation (SIMHS): evaluating the impact on medical and nursing students, and clinical psychology trainees	Journal of Mental Health Training, Education & Practice
2019	Marwood, M. R Hearn, J. H	Evaluating mental health literacy in medical students in the United Kingdom	Journal of Mental Health Training, Education & Practice

Results/Discussion

The following themes uncovered in the literature are highlighted and explored in relation to their relevance to the research question.

For medical students to feel prepared and confident to treat mental health presentations, the mental health subject should be taught using a culmination of teaching and learning methods. Mian, Chachar, Saeed and Naseem investigated the benefits associated with changing the current mental health curriculum to integrate virtual, classroom and onsite training for medical students (2018). The current psychiatry curriculum at a university in Pakistan was reconstructed into eight modules that incorporated the blended learning format. Skills training in the patient environment included role-play and was assessed through real-time patient encounters in clinics and wards. It was reported that students were thoroughly engaged with the blended curriculum both throughout and in between classes. Thus, it can be understood that the implementation of practical training opportunities for students will increase engagement with the learning objectives and assist them to implement clinical skills.

The practical exposure to mental health presentations, whether through clinical placements or organised simulations, allows students to deepen their understanding and refine clinical and communication skills. Attoe, Lavelle, Sherwali, Rimes and Jabur present an article that examines the benefits of interprofessional mental health simulation on health care students (2019). This study included third year medical students, final year mental health nursing students and first year clinical psychology trainees. 53 students in total participated. A five day simulation training program involved students participating in six different scenarios with trained actors portraying mental health patients. This was followed by a group debrief from facilitators with feedback provided and significant reflection. Students were surveyed before and after the course with a self-report questionnaire that assessed knowledge, confidence and attitudes. After completion of the course, participants were given a questionnaire that consisted of open-response questions to assess the impact of training on clinical practice. Participants stated that as a result of the mental health simulations, they noticed improvements in resilience, confidence, reflection, communication and clinical skills, as well as the ability to work effectively with other health professionals. Further, participant students stated that their knowledge of and attitudes towards mental health had been enhanced as a result. Thus, it can be identified that mental health simulations have significant value and a notable role in enhancing educational outcomes for students.

It can be understood that exposure to and experiences with psychiatric patients has the potential to enhance the learning and understanding of medical students. Bharathy and Foo sought to investigate the experiences of medical students who participated in a social interaction program with psychiatric patients and to

determine the educational benefits associated with exposure to these psychiatric patients (2014). This qualitative study involved a social interaction program that contained psychiatric patients, carers and 14 medical students, all participating in a group discussion. These groups used semi-structured interviews and the responses were recorded for later theme analysis. As a result of the social interaction program, students exhibited a reduced stigma towards mental illness, as well as an enhanced appreciation and understanding of the benefits associated with holistic management of mental health patients. Despite students initially reporting apprehension, it was stated that consistent engagement, participation and interactions with mental health patients in the program reduced these worries. Evidently, social interaction programs with mental health patients are able to better prepare and enhance the confidence of students in relation to understanding mental disorders and communication with mental health patients.

Mental health placements have the ability to increase the understanding of and improve the attitudes towards mental health patients and different mental illnesses, thus the benefits and value associated with these experiences are evident. This study presented by Yidong et al. describes medical students' attitudes towards psychiatry and mental illness prior to and following an eight-week psychiatry placement (2014). This placement program consisted of 23 50-minute didactic lectures covering various aspects of psychiatry and 27 50-minute supervised clinical practice in psychiatric wards. The clinical training focused on history taking, mental state examination, diagnosis, and treatment of the common psychiatric conditions. Two different questionnaires, one assessing attitudes towards psychiatry (ATP-30 questions) and one assessing attitudes towards mental health (AMI-20 question) were given to 325 fourth year Chinese medical students before and after the placement. A significant positive change in student attitudes was reflected in almost all items in the ATP-30 questionnaire and the positive improvements in medical student's perspectives was highlighted in 14 out of 20 items in the AMI questionnaire. This notion of enhanced knowledge and understanding of mental illnesses as a result of clinical exposure to mental health patients is discussed in the article by Marwood and Hearn, which evaluated the mental health literacy of medical students via the Mental Health literacy scale (2019). 251 medical students from medical schools across the UK, aged over 18 years that were currently enrolled in undergraduate medical training were included in this study. The online survey consisted of three sections. The Mental Health Literacy Scale (MHLS) contained 35 Likert scale items relating to knowledge of where to seek information relating to mental health, risk factors and causes of mental health problems, self-treatment and professional help available. Further items relate to recognition of disorders and attitudes that promote recognition or appropriate help-seeking behaviour. The mental health experiences questionnaire contained five items pertaining to individual experiences of mental illness, professional diagnoses and treatment, as well as mental illness in close friends or family members or through work experiences. This paper uncovered that mental health literacy scores were notably higher in individuals who had prior experience with mental health patients. Therefore, the aforementioned articles

conclude and highlight the educational and practical benefits associated with mental health placements for medical students.

Clinical placements not only provide educational and practical benefits for medical students, but they also provide insight and an opportunity to alter previously held stigmas towards mental health patients. Russell, Clarke, Loo, Bharathy, Vasudevan, Byrne and Smith aimed to determine the value of learning psychiatry in primary care settings for medical students through a mixed method design (2018). Fourth year medical students participated in a consultation/liaison psychiatry service to two government-operated primary care clinics. Each student attended two half-day consultations to the clinics during the psychiatry clinical clerkship. Students joined in discussions with primary care clinicians, performed supervised clinical assessments, and administered a depression screening instrument. The learning experience was evaluated through four focus groups, each with nine to ten participants, held throughout the academic year. An end-of-year, anonymous, online questionnaire survey was administered to the entire class. The transcripts of the focus groups were reviewed through thematic analysis, whilst quantitative statistics were summarised and analysed from the questionnaire. Of 113 students, 93 (82%) responded to the questionnaire. This placement experience had a positive influence in shaping the students' professional identity with regards to social-cultural influences, confidentiality of patient information, the multi-dimensional role of health professionals and the complexity associated with diagnosing mental disorders. Further, the results highlighted that the participant's previous stigma of mental illness prior to placement had been modified. Similarly, the literature review conducted by Petkari, Masedo Gutiérrez, Xavier and Moreno Küstner incorporated articles that discussed medical student's stigma on mental health prior to and following a placement experience (2018). The authors searched through six different databases to find articles where students had been evaluated before and after a placement experience. 22 studies fulfilled the inclusion criteria and were included. The total sample consisted of 3161 students studying a combination of medicine, nursing and occupational therapy. The articles examined in the literature review revealed a reduced incidence of negative stigma, throughout all disciplines following a mental health placement. This further confirms the benefits associated with placement opportunities for students in all medical professions, as it ultimately allows them to gain insight and develop their understanding and skills regarding mental disorders.

Additionally, it can also be considered that mental health patients being treated by medical students can have positive experiences and enhanced wellbeing as a result. Dearman, Joiner, Gordon and Vince explore the interactions between mental health patients and medical students and establishing whether it was a positive or negative experience (2018). This systemic review included all studies that reported on patients with a mental illness that interacted with medical students, had a primary diagnosis of mental illness and students who did not have any prior training. Two different databases were searched, resulting in 11,103

potential articles, which was narrowed down to eight articles that were studied. These articles consisted of 1088 patients from five different countries being evaluated. These articles uncovered the significant value, comfort and enjoyment experienced by patients when interacting with medical students. Mental health patients disagreed with the notion of being talked down to and stated they would be willing to interact with medical students in the future. Participants stated that they felt more involved in their own care, as well as reporting enhanced self-esteem and a provider of learning. As the evidence suggests, there are a multitude of benefits for medical students and the patients alike associated with mental health placements.

As a means of allowing medical students the opportunity to have exposure to mental health patients and be prepared for clinical situations, student-run clinics and training programs have been developed. They serve the dual purpose of extending student's current knowledge and understanding of mental illnesses, as well as further developing their clinical skills. Delbridge, Zubatsky and Fowler describe a program designed to better prepare medical students to deal with complex mental health presentations (2017). At a university in the United States, the Medical Family Therapists program trained students to work alongside residents and provide therapy in primary and integrated care settings. 18 family medicine residents and 19 graduate students collaborated in clinical care and education activities. Whilst working alongside residents, students were trained to provide brief consultations and participate in team meetings around complex medical and family issues. The results of this study suggest that the critical thinking associated with complex mental health presentations allow students to develop their clinical skills and deepen their understanding of mental health presentations within society. In continuation, Martinez et al. present a case report that examines a student-run training clinic for medical students to gain exposure to mental health patients, with the priorities to enhance clinical skill sets, interest and attitudes towards psychiatry through hands on experience (2017). The attending residents were educated on how to teach and supervise medical students in this environment. The 55 participating medical students in total who attended over a two year period, obtained the initial history, spent time establishing a therapeutic relationship through supportive communication and organised the patient's next steps through the clinic. Subsequently, the resident and attending serially interviewed the patient in the student's presence obtaining clarifying historical information, providing more in-depth therapeutic interventions, and further explaining treatment recommendations to the patient. The medical student and resident reviewed the case and finalised any details with the patient, which was followed by a meeting for final case discussions. Evidently, students were enthusiastic and willing to volunteer for this training clinic. Over the two year period, it was reported that the interest of medical students had increased. Despite this, the report describes these aforementioned statements and they are not supported with statistical evidence. In the same way, Murzl et al. discuss the experiences of medical students after participation in a student-run psychiatry clinic (2017). 96 medical students volunteered at this clinic, 47 of which completed an online survey regarding their experience. Following their experiences, the students reported an increase

in comfort levels when around mental health patients (57% initially being comfortable or very comfortable compared to 79% after volunteering). This illustrates that while mental health placements are effective in extending knowledge and developing clinical skill sets, it can further allow students to feel more comfortable and confident around these patients, thus improving their ability to interact with and manage the patients accordingly. Evidently, hands on experiences through student run clinics can add educational and practical value for medical students, whilst additionally preparing them for future work exposure. As well as this, medical students can experience an increase in comfort, attitudes and confidence as a result.

It is evident from the research presented above that there is extensive literature to support *the value of placement in extending knowledge and preparing students for undergraduate medical students*. Though, it is clear as a result of this literature review that there is limited research available of the benefits of a similar mental health placement for undergraduate paramedic students, and the value in preparing students for on road experiences. It is suggested that further research into this area be conducted to ensure students are adequately prepared and confident for mental health presentations encountered on road.

Limitations

The aforementioned literature review should be viewed with the limitations and the paucity in research in relation to mental health placements for paramedic students kept in mind. There were several papers included that contained smaller sample sizes which ultimately affects the evidence and conclusions made (Attoe, Lavelle, Sherwali, Rimes & Jabur, 2019, Bharathy & Foo, 2014, Yidong et al, 2014, Russell et al, 2018, Marwood & Hearn, 2019, Delbridge, Zubatsky & Fowler, 2017, Murzl et al, 2017). Additionally, one paper focussed solely on the comfort levels of students, rather than the educational value and role in preparing students (Murzl et al, 2017), whilst other articles focussed on the effects of placement on stigma towards mental illness and mental health patients (Bharathy & Foo, 2014, Russell et al, 2018, Petkari, Masedo Gutiérrez, Xavier & Moreno Küstner, 2018).

Conclusion

It is clearly documented by Zeitz and Watson that the paramedic workload associated with mental health patients and mental illness is increasing (2018), thus it is necessary that the mental health curriculum incorporates a range of teaching and learning styles to cater for all students (Mian, Chachar, Said & Naseem, 2018). It proves beneficial that practical training experiences that are incorporated into the subject through simulations, adds value in extending and consolidating knowledge and understanding, as well as allowing

students the opportunity to develop and adapt their clinical and communication skills (Attoe, Lavelle, Sherwali, Rimes & Jabur, 2019). Evidently from this literature review, it can be understood that mental health placements have an abundance of benefits for medical students. As a result, student's resilience, confidence, knowledge and attitudes towards those individuals with mental disorders is enhanced and previously held negative stigmas are reduced (Marwood & Hearn, 2019, Petkari, Masedo, Gutiérrez, Xavier & Moreno Küstner, 2018, Russell et al, 2018, Yidong et al, 2014). Further, student-run psychiatry clinics allow students to develop their interprofessional communication skills, as well as communication with patients and family members (Martinez et al, 2017, Murzl et al, 2017, Debridge, Zubatsky & Fowler, 2017). Further, it can be understood that there is significant value, comfort and enjoyment experienced by patients when interacting with medical students (Dearman, Joiner, Gordon & Vince, 2018, Bharathy & Foo, 2014). The aforementioned themes uncovered in this literature review, whilst focussed on medical students, can be translated to undergraduate paramedic education and training, thereby providing similar value and benefit in preparing students.

References

- Attoe, C., Lavelle, M., Sherwali, S., Rimes, K., & Jabur, Z. (2019). Student interprofessional mental health simulation (SIMHS): evaluating the impact on medical and nursing students, and clinical psychology trainees. *Journal of Mental Health Training, Education & Practice*, 14(1), 46-58. doi:10.1108/JMHTEP-06-2018-0037
- Bharathy, A., & Foo, P. L. (2014). Medical Students' Experiences of Participation in a Non-Governmental Organization Based Social Interaction Program for People with Mental Illness and Their Carers: A Qualitative Study. *Medical Education*, 48, 36-36. Retrieved from <http://ezproxy.csu.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=103791945&site=ehost-live>
- Dearman, S. P., Joiner, A. B., Gordon, M., & Vince, G. (2018). Experiences of Patients with Mental Illness' Interactions with Medical Students: A Systematic Review. *Canadian Journal of Psychiatry*, 63(1), 4-11. doi:10.1177/0706743717730824
- Delbridge, E., Zubatsky, M., & Fowler, J. (2017). Integrating mental health professionals in residencies to reduce health disparities. *International Journal of Psychiatry in Medicine*, 52(3), 286-297. doi:10.1177/0091217417730293

- Holmes, L., Jones, R., Brightwell, R., & Cohen, L. (2017). Student paramedic anticipation, confidence and fears: Do undergraduate courses prepare student paramedics for the mental health challenges of the profession? *Australasian Journal of Paramedicine*, *14*(4), 1-11. Retrieved from <http://ezproxy.csu.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=126209205&site=ehost-live>
- Hungerford, C., Hodgson, D., Clancy, R., Monisse-Redman, M., Bostwick, R., Jones, T., Harrison, A., & Hart, C. (2014). *Mental Health Care : An Introduction for Health Professionals in Australia* (2nd ed.). Brisbane, Queensland: Wiley Australia.
- Martinez, J. T. C., Fargason, R. E., & Meador-Woodruff, J. H. (2017). Pre-clinical Medical Students as the Primary Longitudinal Provider of Psychiatric Care in the Outpatient Setting: A Novel Training Model. *Academic Psychiatry*, *41*(4), 538-541. doi:10.1007/s40596-016-0659-z
- Marwood, M. R., & Hearn, J. H. (2019). Evaluating mental health literacy in medical students in the United Kingdom. *Journal of Mental Health Training, Education & Practice*, *14*(5), 339-347. doi:10.1108/JMHTEP-01-2019-0001
- Mian, A., Chachar, A., Saeed, H., & Naseem, A. (2018). Mental health curriculum for Pakistan: integrating virtual, classroom and onsite training. *Medical Education*, *52*(11), 1201-1202. doi:10.1111/medu.13705
- Mildenhall, J. (2012). Occupational stress, paramedic informal coping strategies: a review of the literature. *Journal of Paramedic Practice*, *4*(6), 318–328. doi: 10.12968/jpar.2012.4.6.318.
- Murzl, C. A., Durns, T. A., Mowrey, L. T., Tubbs, A. S., & Boeve, S. A. (2017). A Medical Student-Run Child and Adolescent Psychiatry Clinic: One Institution's Experience. *Academic Psychiatry*, *41*(5), 582-586. doi:10.1007/s40596-017-0753-x
- Petkari, E., Masedo Gutiérrez, A. I., Xavier, M., & Moreno Küstner, B. (2018). The influence of clerkship on students' stigma towards mental illness: a meta-analysis. *Medical Education*, *52*(7), 694-704. doi:10.1111/medu.13548
- Roberts, L., & Henderson, J. (2009). Paramedic perceptions of their role, education, training and working relationships when attending cases of mental illness. *Journal of Emergency Primary Health Care*, *7*(3). doi: 10.33151/ajp.7.3.175

- Russell, V., Clarke, M., Loo, C. E., Bharathy, A., Vasudevan, U., Byrne, E., & Smith, S. M. (2018). Medical Student Perceptions of the Value of Learning Psychiatry in Primary Care Settings in Penang, Malaysia. *Academic Psychiatry, 42*(4). doi:10.1007/s40596-018-0960-0
- Yidong, S., Huixi, D., Xiaoduo, F., Zhanchou, Z., Lehua, L., Hailong, L., Xue, Z., & Xiaofeng, G. (2014). What can the medical education do for eliminating stigma and discrimination associated with mental illness among future doctors? Effect of clerkship training on Chinese students' attitudes. *International Journal of Psychiatry in Medicine, 47*(3), 241-254. doi:10.2190/PM.47.3.e
- Zeitz, K., & Watson, D. (2018) Principles of capacity management, applied in the mental health context. *Australian Health Review, 42*(4), 438–444. doi: 10.1071/AH17007

Appendix 4. Invitation Document Emailed to Student Participants.



FACULTY OF SCIENCE
SCHOOL OF BIOMEDICAL
SCIENCES

Port Macquarie Campus:
Locked Bag 5000
Port Macquarie NSW 2444

Paramedic Student Perceptions of their Placement Within the Inpatient Mental Health Setting

You are invited to participate in a study about your thoughts regarding your placement experience in the Inpatient Mental Health setting in 2019.

As you were apart of the small select number of students given the opportunity to participate in this placement, you have a significant role and contribution in order to enhance paramedic mental health education and training in the future.

Your experiences and opinions would be highly valued and will play a major role in evaluating and potentially improving the paramedic curriculum. We would love to hear from you about your experience.

The purpose of this study is to gather information about how students perceive their placements as a learning tool in their first year of study in paramedicine.

This information will inform best practice in workplace learning for current and future students of CSU.

We encourage you to please complete a short survey. The survey is expected to take between 10 to 20 minutes of your time and will consist of some rating style questions and some open-ended questions that ask for your perceptions and thoughts regarding your placement experience.

The survey is completely anonymous and participation is entirely your choice. If you would like to participate please click on the following link.

Participation in this study is completely voluntary and will not affect your learning and/or marks in this subject. Furthermore, non-participation will not disadvantage you in any way with regards to your learning and/or marks in this subject.

Survey link <https://www.research.net/r/TX7WL3D>

Ethics approval for this study has been granted by the CSU Human Research and Ethics Committee: H18262.

Thankyou in advance for your contribution to this survey. The researchers greatly appreciate your input.

www.csu.edu.au

The Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS) Provider Number for Charles Sturt University is 00005F. ABN: 83 878 708 551

Appendix 5. Clinical Placement Evaluation Questionnaire.

	Strongly Disagree			Strongly Agree	
1. Overall, the clinical placement was a pleasant learning experience.	1	2	3	4	5
2. I felt well prepared for the placement.	1	2	3	4	5
3. I met my objectives to my satisfaction.	1	2	3	4	5
4. The placement assisted my learning.	1	2	3	4	5
5. The placement enhanced my clinical skills.	1	2	3	4	5
6. This placement was supportive of my professional growth.	1	2	3	4	5
7. There was adequate orientation provided.	1	2	3	4	5
8. I was expected by the venue.	1	2	3	4	5
9. The staff members were very willing and available to assist my learning.	1	2	3	4	5
10. As a result of my experience, I felt confident working in this venue.	1	2	3	4	5
11. There were many learning opportunities for me in this venue.	1	2	3	4	5
12. The clinical experience would benefit other students.	1	2	3	4	5

(a). What were the best aspects of this placement? Please explain why.
(b). What aspects of this placement could be improved? Please explain how.

Appendix 6. Quantitative Raw Data.

	<i>Respondent Number</i>	Answer Given to Question 7	Answer Given to Question 8	Answer Given to Question 9	Answer Given to Question 12
	1	Agree	Strongly Agree	Strongly Agree	Strongly Agree
	2	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
	3	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
	4	Agree	Neither Agree nor Disagree	Agree	Agree
	5	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
	6	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
	7	Agree	Agree	Agree	Strongly Agree
<i>Counts</i>	Strongly Agree	4	5	5	6
	Agree	3	1	2	1
	Neither Agree nor Disagree	0	1	0	0
	Disagree	0	0	0	0
	Strongly Disagree	0	0	0	0
	Total Responses	7	7	7	7
<i>MODE</i>		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
		Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
	MEDIAN	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree
		Agree	Strongly Agree	Strongly Agree	Strongly Agree
		Agree	Agree	Agree	Strongly Agree
	Agree	Neither Agree nor Disagree	Agree	Agree	
<i>Frequencies</i>	Strongly Agree	58%	72%	72%	86%
	Agree	42%	14%	28%	14%
	Neither Agree nor Disagree	0%	14%	0%	0%
	Disagree	0%	0%	0%	0%
	Strongly Disagree	0%	0%	0%	0%

Appendix 7. Qualitative Raw Data.

Q2 What were the best aspects of this placement? Please explain why.

Answered: 6 Skipped: 1

#	RESPONSES	DATE
1	Seeing mental health patients and how each individual acted and responded to situations. It was enlightening to my knowledge and experience with mental health as I had little beforehand. Also, this was the first time I had seen medication administration and clinical skills associated with it. I also enjoyed talking and conversing with the patients and understanding their situations and backgrounds that have led them to the acute institution.	7/28/2020 12:23 PM
2	I loved how much we could interact with the patients, the nurses were all very helpful and they let us see everything without sugar coating anything. This placement was a great learning opportunity and I loved how real the experience was. I highly recommend.	6/4/2020 3:02 PM
3	I found this placement incredibly beneficial for a multitude of reasons. 1. The staff were all extremely professional and welcoming. Each shift I was allocated to 'shadow' a different nurse. Each individual had their own way of teaching and explaining the job they do. From the onset of my arrival, I was allowed to adopt a hands-on approach by interacting through conversation with patients and observing their meetings with doctors in which they discussed their treatment plans. By the end of my placement, I was allowed to meet with the patients one on one and walk them into the ward, the nurses also let me do rounds where I walked around the ward observing the behaviour of the patients for their progress notes. I was included in the nurse's discussions which ultimately gave me greater insight into why the patients were acting the way they way and how it was handled appropriately and safely. 2. I was also given experience in the preparation and distribution of patient medications. Through this, I was able to develop a basic understanding of the medications used in the treatment of mental health patients. In addition, I was also given access to the computer network so I could look up the specific drugs and conditions of the patients in order to further my understanding how the drugs worked and why they were used to treat the specific condition. It was also insightful to see the extreme level of dependence some of the patients had on these drugs and how quickly their behaviour and demeanour would change if told they could not have any or when they were administered. This also solidified the importance of always completing drug checks for each administration, an important skill when on road. 3. Growing up in a sheltered community I never had first-hand experience of the different types of Mental Health Conditions or how to handle them. I feel very fortunate that I was able to observe the techniques used by the nurses as I am now more confident to interact and try to placate an aggravated individual. However, further study in this area would be extremely beneficial. A subject in which these techniques were taught and put into practice would be invaluable for all paramedics if faced with a Mentally Ill patient on road in order to ensure the safety of all parties involved. 4. I didn't realise how much stigma I had subconsciously attached to the label "Mentally Ill". Being able to interact with the patients of varying ages, different genders, nationalities and levels of wealth showed just how non-discriminatory mental illness is. Many conditions and side effects that I had only heard in passing I was able to observe and learn more about for example the extreme change in mood brought about by bipolar and the argumentative state started by psychosis between what is real or not. It was eye-opening to learn about the personal stories of these individuals that set them on the path they are now and just how hard they have to work to get themselves back on track. This placement was well organised, as a participant I felt supported and comfortable in attending and am very grateful for the opportunity to observe not only the patients but also the nurses.	5/3/2020 12:30 PM
4	I was exposed to a range of mental health issues and it really raised my awareness of mental health and all aspects that come under it. I was able to learn about the Mental Health Act and the nurses were able to answer any questions I had about it. The nurses were happy to explain the issues that affected some of the patients and they were happy to explain any medications and how they helped the patients. I was able to talk to some patients and respectfully ask them about their lives and how they got into the ward (if they were willing to talk about it) which gave me an understanding of the patients perception of their illness. It was good to see how a ward worked with security of patients and such.	4/23/2020 7:51 PM
5	The experience with interacting with patients that have mental health issues, as I have had little training and experience with them. Being under the supervision of nurses that were qualified and know what they were doing was great as I could watch them interact with patients and also they did provide feedback on how I interacted with them. With Mental health becoming larger within communities I think the placement was great to help us to learn how to interact with patients and provide better care to them.	4/22/2020 12:58 PM
6	This placement experience, as a whole, was thoroughly enjoyable and critical as a learning tool. The staff were hospitable and lenient about student involvement, meaning you got what you put in, and there various avenues to explore. Clinically, the ward had valuable resources such as 'the scheduling act' and pharmacological booklets that allowed for extended reading and greater understanding into the patients' diagnosis and treatment plan. The opportunity to take observations and carry out real skills such as medication distribution of patient observation sheets, were amazing for getting a feel for the balance of practical management and supplementary paperwork involved in healthcare. As a first year student paramedic this was one of the few instances where we were able to interact with real people, suffering real issues, and thus put into perspective the intricacy of patient/practitioner respect and decorum. The ability to also interact with the ward's social worker, highlighted the sociocultural impacts on mental health and provided insight to the types of situations, we as paramedics, may be brought into in the job.	4/20/2020 7:26 PM

Q3 What aspects of this placement could be improved?Please explain how.

Answered: 6 Skipped: 1

#	RESPONSES	DATE
1	I believe nothing could be overly improved as it was a great experience that I hope everyone studying will get the opportunity to participate	7/28/2020 12:23 PM
2	There wasn't much that could have been improved, maybe a little bit more training on mental health from the uni before this placement	6/4/2020 3:02 PM
3	I believe that having a theoretical component to accompany this practical placement would greatly improve the experience. As a participant, I would love to delve deeper into learning how to appropriately approach, handle and placate an individual who may be aggressive as a result of Mental Illness. In a society where Mental Illness is affecting a greater number of the population, it would be sensible for first-line responders to undergo training to ensure that the safety of both parties is paramount and that care is provided appropriately. Not only is learning practical skills important but also the background information as to how these conditions developed and or are triggered would go a long way to minimising the stigma and lack of knowledge surrounding Mental Health. Ultimately as a result of further training, I would feel more comfortable as a professional in knowing that I was treating these patients with the care and respect that they deserve. Having the opportunity to sit down and talk with a patient or an individual who has previously suffered from Mental Illness, I believe would also be a major benefit for students undertaking this placement. In addition, being able to discuss with qualified professionals such as therapists and doctors who have in-depth experience with these conditions would undoubtedly be helpful. Learning how they cope/manage with the diagnosis from both perspectives would make me as an individual more confident that the care I would be providing is what is needed by the patient and would allow me to more appropriately maintain control of a very dynamic situation that could progress and become dangerous very quickly. Ultimately, I believe this placement would be improved by a corresponding course provided for students, whether that be in the form of having to complete a Mental Health Certificate or a specified class incorporated into the degree for Paramedicine. This placement should be compulsory for all students.	5/3/2020 12:30 PM
4	I think I would have felt more prepared for this placement if there was some pre placement expectations given as to what to expect from a "nursing" / hospital setting placement. I think some prior learning into mental health as a subject in the course would have been beneficial to be informed and put knowledge into practice rather than gaining the practice then learning the knowledge later on in the course. I think the nurses should have been given a better idea of what was expected of us and expected of them. Some shifts the nurses were not very responsive to paramedic students being on this placement and disregarded our learning. On one shift a nurse was very nasty to me because I wasn't aware of a detail in the rules of the ward.	4/23/2020 7:51 PM
5	Probably more training from both the uni and the hospital so we are more prepared for the placement. To continue the placement over an extended period of time as I felt as it took a week just to understand how everything work, and I feel like with more time spent at the placement I could really become better with interacting patients.	4/22/2020 12:58 PM
6	I can only reiterate that I genuinely enjoyed my experience during this placement, due to the amazing staff. If I were to find some criticism, I would say, for the sake of the staff as well as the students, to find a more defined role or task set for future students so as not to have too much disruption to the ward staffs' routine. I was comfortable with reading through the folders, or interacting with the patients in the down periods but that was mostly self-initiated and it was unclear if there was anything else I could be doing. Furthermore, this clarity could be delivered with better pre-placement instructions about arriving on ward, where to go, what to do, etc.	4/20/2020 7:26 PM

References

- Almalki, S. (2016). Integrating Quantitative and Qualitative Data in Mixed Methods Research - Challenges and Benefits. *Journal of Education and Learning*, 5(3), 288-296. doi: 10.5539/jel.v5n3p288
- Arnold, W. E., McCroskey, J. E., & Prichard, S. V. O. (1967). The Likert-type scale. *Communication Quarterly*, 15(2), 31-33. doi: 10.1080/01463376709368825
- Attoe, C., Lavelle, M., Sherwali, S., Rimes, K., & Jabur, Z. (2019). Student interprofessional mental health simulation (SIMHS): evaluating the impact on medical and nursing students, and clinical psychology trainees. *Journal of Mental Health Training, Education & Practice*, 14(1), 46-58. doi:10.1108/JMHTEP-06-2018-0037
- Bharathy, A., & Foo, P. L. (2014). Medical Students' Experiences of Participation in a Non-Governmental Organization Based Social Interaction Program for People with Mental Illness and Their Carers: A Qualitative Study. *Medical Education*, 48, 36-36. Retrieved from <http://ezproxy.csu.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=103791945&site=ehost-live>
- Boone, H. N. & Boone, D. A. (2012). Analysing Likert Data. *Journal of Extension*, 50(2). Retrieved from <https://joe.org/joe/2012april/tt2.php>
- Braun, V., & Clarke, V. (2013). *Successful Qualitative Research: A Practical Guide for Beginners*. London, United Kingdom: SAGE.
- Charles Sturt University. (2020). *Graduate Learning Outcomes*. Retrieved from <https://www.csu.edu.au/division/learning-and-teaching/home/csu-curriculum/graduate-learning-outcomes>
- Chiang, C. A., Jhangiani, R. S., & Price, P. C. (2015). *Research Methods in Psychology* (2nd ed.). Retrieved from <https://opentextbc.ca/researchmethods/chapter/reliability-and-validity-of-measurement/>
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Thousand Oaks, California: SAGE.
- Crookes, P. A., & Davies, S. (2004). *Research into Practice: Essential skills for reading and applying research in nursing and health care* (2nd ed.). Edinburgh, UK: Bailliere Tindall.

- Dearman, S. P., Joiner, A. B., Gordon, M., & Vince, G. (2018). Experiences of Patients with Mental Illness' Interactions with Medical Students: A Systematic Review. *Canadian Journal of Psychiatry, 63*(1), 4-11. doi:10.1177/0706743717730824
- Delbridge, E., Zubatsky, M., & Fowler, J. (2017). Integrating mental health professionals in residencies to reduce health disparities. *International Journal of Psychiatry in Medicine, 52*(3), 286-297. doi:10.1177/0091217417730293
- Emond, K., Furness, S., & Deacon-Crouch, M. (2015). Undergraduate paramedic students' perception of mental health using a pre and post questionnaire. *Australasian Journal of Paramedicine, 12*(5). doi: 10.33151/ajp.12.5.240
- Farmer, T., Robinson, K., Elliott, S. J., & Eyles, J. (2006). Developing and Implementing a Triangulation Protocol for Qualitative Health Research. *Qualitative Health Research, 16*(377). doi: 10.1177/1049732305285708
- Ford-Jones, P. C., & Daly, T. (2020). Paramedicine and mental health: a qualitative analysis of limitations to education and practice in Ontario. *The Journal of Mental Health Training, Education and Practice, 15*(6), 331-345. doi: 10.1108/JMHTEP-05-2020-0031
- Holmes, L., Jones, R., Brightwell, R., & Cohen, L. (2017). Student paramedic anticipation, confidence and fears: Do undergraduate courses prepare student paramedics for the mental health challenges of the profession? *Australasian Journal of Paramedicine, 14*(4), 1-11. Retrieved from <http://ezproxy.csu.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=rzh&AN=126209205&site=ehost-live>
- Howell, D. C. (2013). *Statistical methods for psychology: International edition*. Retrieved from <https://ebookcentral.proquest.com/lib/csuau/reader.action?docID=3136656>
- Hungerford, C., Hodgson, D., Clancy, R., Monisse-Redman, M., Bostwick, R., Jones, T., Harrison, A., & Hart, C. (2014). *Mental Health Care: An Introduction for Health Professionals in Australia* (2nd ed.). Brisbane, Queensland: Wiley Australia.
- Jack, E., & Jadzinski, M. (2018). An innovation in mental health specialty placements. *Journal of Paramedic Practice, 10*(1). doi: 10.12968/jpar.2018.10.1.24
- Joffe, H. (2012). Thematic Analysis. In D. Harper, & A. R. Thompson (Eds.). *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners* (pp. 209-224). John Wiley & Sons.

- Kennedy, S., Kenny, A., & O'Meara, P. (2015). Student paramedic experience of transition into the workforce: A scoping review. *Nurse Education Today*, 35(10), 1037-1043. doi: 10.1016/j.nedt.2015.04.015
- Kirshenblatt-Gimblett, B. (2006). *Performance Studies Methods Course Syllabus: Part 1, What is Research Design? The Context of Design*. Retrieved from <http://www.nyu.edu/classes/bkg/methods/005847ch1.pdf>
- Lowthian, J. A., Curtis, A. J., Cameron, P. A., Stoelwinder, J. U., Cooke, M. W., & McNeil, J. J. (2011). Systematic review of trends in emergency department attendances: an Australian perspective. *Emergency Medical Journal*, 28, 369-369. doi:10.1136/emj.2010.099226
- Martinez, J. T. C., Fargason, R. E., & Meador-Woodruff, J. H. (2017). Pre-clinical Medical Students as the Primary Longitudinal Provider of Psychiatric Care in the Outpatient Setting: A Novel Training Model. *Academic Psychiatry*, 41(4), 538-541. doi:10.1007/s40596-016-0659-z
- Marwood, M. R., & Hearn, J. H. (2019). Evaluating mental health literacy in medical students in the United Kingdom. *Journal of Mental Health Training, Education & Practice*, 14(5), 339-347. doi:10.1108/JMHTEP-01-2019-0001
- McAllister, M., Statham, D., Oprescu, F., Barr, N., Schmidt, T., Boulter, C., Taylor, P., McMillan, J., Jackson, S., & Raith, L. (2014). Mental health interprofessional education for health professions students: bridging the gaps. *The Journal of Mental Health Training, Education and Practice*, 9(1), 35-45. doi: 10.1108/JMHTEP-09-2012-0030
- McCann, T. V., Savic, M., Bosley, E., Smith, K., Roberts, L., Emond, K., & Lubman, D. I. (2018). Paramedics' perceptions of their scope of practice in caring for patients with nonmedical emergency-related mental health and/or alcohol and other drug problems: A qualitative study. *PLoS ONE*, 13(12). doi: 10.1371/journal.pone.0208391.
- Mian, A., Chachar, A., Saeed, H., & Naseem, A. (2018). Mental health curriculum for Pakistan: integrating virtual, classroom and onsite training. *Medical Education*, 52(11), 1201-1202. doi:10.1111/medu.13705
- Mildenhall, J. (2012). Occupational stress, paramedic informal coping strategies: a review of the literature. *Journal of Paramedic Practice*, 4(6), 318-328. doi: 10.12968/jpar.2012.4.6.318.
- Murzl, C. A., Durns, T. A., Mowrey, L. T., Tubbs, A. S., & Boeve, S. A. (2017). A Medical Student-Run Child and Adolescent Psychiatry Clinic: One Institution's Experience. *Academic Psychiatry*, 41(5), 582-586. doi:10.1007/s40596-017-0753-x

- O’Cathain, A., Murphey, E., & Nicholl, J. (2010). Three techniques for integrating data in mixed methods studies. *The BMJ*, *341*. doi: 10.1136/bmj.c4587
- Parsons, V., & O’Brien, L. (2011). Paramedic clinical decision-making in mental health care: a new theoretical approach. *Journal of Paramedic Practice*, *3*(10). doi: 10.12968/jpar.2011.3.10.572
- Parsons, V., O’Brien, L., & O’Meara, P. (2014). Mental health legislation: an era of change in paramedic clinical practice and responsibility. *International Paramedic Practice*, *1*(1). doi: 10.12968/ippr.2011.1.1.9
- Penman, J., & Oliver, M. (2004). Meeting the challenges of assessing clinical placement versus in a Bachelor of Nursing program. *Journal of University Teaching & Learning Practice*, *1*(2). Retrieved from <https://ro.uow.edu.au/jutlp/vol1/iss2/3/>
- Petkari, E., Masedo Gutiérrez, A. I., Xavier, M., & Moreno Küstner, B. (2018). The influence of clerkship on students’ stigma towards mental illness: a meta-analysis. *Medical Education*, *52*(7), 694-704. doi:10.1111/medu.13548
- Roberts, K., Dowell, A., & Nie, J. B. (2019). Attempting rigour and replicability in thematic analysis of qualitative research data; a case study of codebook development. *BMC Medical Research Methodology*, *19*. doi: 10.1186/s12874-019-0707-y
- Roberts, L., & Henderson, J. (2009). Paramedic perceptions of their role, education, training and working relationships when attending cases of mental illness. *Journal of Emergency Primary Health Care*, *7*(3). doi: 10.33151/ajp.7.3.175
- Russell, V., Clarke, M., Loo, C. E., Bharathy, A., Vasudevan, U., Byrne, E., & Smith, S. M. (2018). Medical Student Perceptions of the Value of Learning Psychiatry in Primary Care Settings in Penang, Malaysia. *Academic Psychiatry*, *42*(4). doi:10.1007/s40596-018-0960-0
- Schneider, Z., Elliott, D., LoBiondo-Wood, G., & Haber, J. (2004). *Nursing Research: Methods Critical Appraisal and Utilisation* (2nd ed.). Marrickville, Australia: Mosby.
- Shaban, R. (2015). Paramedics’ clinical judgement and mental health assessments in emergency contexts: Research, practice, and tools of the trade. *Australasian Journal of Paramedicine*, *4*(2). doi: 10.33151/ajp.4.2.369

- Smith, R., Parent, A., Townsend, R., & Johnston, T. (2019). *Mental Health Education in Australian Paramedic Curriculum: A scoping review*. Paper presented at the ANZCP Paramedic Research Symposium, Monash University.
- Stewart, V., Fielden, J., Harris, M., & Wheeler, A. (2012). Making mental health practitioners workforce ready. *The Journal of Mental Health Training, Education and Practice*, 7(3), 124-132. doi: 10.1108/17556221211269938
- Sullivan, G. M., & Artino, A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education*, 5(4), 541-542. doi: 10.4300/JGME-5-4-18
- Weiss, C. H. (1998). *Evaluation: Methods for studying programs and policies* (2nd ed.). Upper Saddle River, New Jersey: Prentice Hall.
- Yidong, S., Huixi, D., Xiaoduo, F., Zhanchou, Z., Lehua, L., Hailong, L., Xue, Z., & Xiaofeng, G. (2014). What can the medical education do for eliminating stigma and discrimination associated with mental illness among future doctors? Effect of clerkship training on Chinese students' attitudes. *International Journal of Psychiatry in Medicine*, 47(3), 241-254. doi:10.2190/PM.47.3.e