**Trainee Medical Officers Health and Well-being: Stressors, Coping Mechanisms and
Intervention Ideas of a South Australian Paediatric Cohort**

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*This thesis is submitted as partial fulfilment of the
Honours Degree of Bachelor of Psychology*

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April 2019

Word Count: 8,865

Table of Contents

List of Tables and Figures

Tables

Figures

Abstract

Background: Trainee Medical Officers' (TMOs) show high levels of stress, burnout, distress and low well-being. Studies have used quantitative methods to determine well-being in training and post-training phases, few used qualitative methods.

Aim: 1. Establish base health and well-being characteristics of the cohort and variations from normative results. 2. Identify the stressors and coping mechanisms. 3. Identify elements for an intervention program and whether mindfulness is appropriate.

Method: This study used a mixed methods design. Quantitative data measured burnout, stress, distress, coping, well-being and mindfulness in the cohort. The qualitative exploration, used semi-structured focus groups, provided information from TMOs about stressors, coping mechanisms and ideas for an intervention and/or a mindfulness program.

Results: The quantitative analysis concludes that this cohort does not differ from the norm except in slightly higher distress levels and lower mindfulness characteristics. Through qualitative analysis, these results were explained in light of the positive paediatrics culture, however stressors and coping mechanisms were similar to previous research. The thematic analysis of the focus group data and analysis of the questionnaire provides an insight into TMOs in South Australia and identifies areas in which TMOs need assistance through their trainee phase.

Conclusion: The qualitative analysis, resulted in 6 recommendations for intervention strategies, as well as a general endorsement for trialling the use of mindfulness practices. The sampled paediatrics department work environment and culture is less distressing than other areas of practise and may have produced skewed results. Further research is recommended in other locations and other specialities.

Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

Jaclyn Paige Heinrich

30th April 2019

Acknowledgements

Firstly, I would like to thank my supervisor Professor Deborah Turnbull. Your expertise, guidance, encouragement and feedback has been invaluable. I am immensely grateful to have had you as my supervisor.

Many thanks to Dr. Poliana De Barros Medeiros. Whether it be sharing your knowledge of the medical field over a coffee, or just simply your positive attitude to anything that comes your way, you are an inspirational woman and a wonderful friend and I thank you for allowing me to work on this project. I hope this thesis supports your future endeavours.

Thank you also to the Women's and Children's Hospital, and particularly Dr. Chad Andersen along with Dr. De Barros Medeiros, for initiating this study and their admirable desire to help others.

To all the participants for sharing their precious time to be a part of this project. Given the nature of their job, adding another task to their agenda is a big ask – and I can't express my gratitude that you gave your valuable free time to be a part of this study.

To my friends who have supported me throughout this year – I am lucky to have such a wonderful, endearing and happy support network.

Finally, a huge thank you for the unconditional love and ongoing support from my parents, Janine and Tony. I feel blessed to have you both backing me with your encouragement and wisdom. Words cannot describe my gratitude and appreciation for the opportunities and experiences you have provided. Whilst I thank you particularly for this past year, I also thank you for the past 23 years – I couldn't have got to this point without you both.

CHAPTER 1

Introduction

1.1 Overview

A doctor is devoted to serving the health and well-being needs of others, the importance of which is underscored in their Hippocratic Oath outlining their responsibility to patients and the profession. In upholding this oath, and the sanctity of life, the profession imposes high demands, large workloads and emotionally-charged situations, requiring focus and high cognitive function. This risks doctor's own health and well-being with high rates of suicide, higher risk of distress, burnout and dissatisfaction with work-life balance (Cohen & Patten, 2005; Hsu & Marshall, 1987; Shanafelt et al., 2012; Tyseen et al., 2009; Wall et al., 1997).

A doctor's well-being is multifaceted covering physical, mental and emotional health (Wallace, Lemaire & Ghali, 2009). Australian research found junior doctors, such as Trainee Medical Officers ('TMOs'), experience low well-being, with 20 per cent having suicidal thoughts (BeyondBlue, 2013).

TMOs are doctors in their final practical training stage to become a specialist. They work within hospitals, applying learning in hands-on practice. There are two types of TMOs: basic training who are in their first 3 years of specialisation post internships (in this study, Paediatrics) and advanced who have completed at least 3 years of basic training and are specialising within that field. Whilst research has documented high distress levels in Australian tertiary medical students (BeyondBlue, 2013; Leahy et al., 2010), few Australian studies have explored this challenging and demanding stage.

Doctors exhibiting signs of distress (West, Shanafelt and Kolars, 2011), fatigue, burnout and depression have negative impacts on the health care system and patient care (Wallace, Lemaire & Ghali, 2009). Research on doctor well-being may identify future programs to benefit doctors, and in turn, benefit the delivery of patient and health care (Shanafelt et al., 2005a; Williams & Skinner, 2003).

1.2 Stressors contributing to Doctor's Ill Health

Literature identifies four primary stressors to doctors: Culture, Workload, Industry Specific and Development of Medicine.

1.2.1. Culture and Workload

Workplace Culture. A workplace culture is the 'sum of jointly held characteristics, values, thinking and behaviours of people in a workplace' (Parmelli et al., 2011). A negative culture is recognised as a stressor for doctors. A United States interventional study sought to improve organisational culture and thereby improve clinical outcomes in 10 hospitals over two years (Curry et al., 2018). Six hospitals improved culture by enhancing learning environment, senior support and psychological safety. Hospitals which did not experience this change had less senior support and less support for the intervention.

Additionally, negative work culture and poor work relationships can induce doctors to move hospitals or specialities (Arnetz, 2001; Bender, DeVogel & Blomberg, 1999; Cheng et al., 2016). Quality of leadership also affects work culture, and if negative, can be a stressor (Arnetz, 2001). A systematic review found positive workplace cultures were beneficial for doctors and positively correlated with beneficial clinical outcomes (Braithwaite et al., 2017; Arnetz, 2001).

Excessive Workload. Doctors reported excessive workloads (64% in Canada) (Canadian Medical Association, 2003), averaging 50-60 hours per week when not on call (Williams, Rondeau, Xiao, Francescutti, 2007) and shift work sometimes exceeding 24 hours (Wallace, Lemaire & Ghali, 2009) affected both personal and work life.

Unpredictable schedules, delays due to unforeseen circumstances, ad hoc meetings, emergencies, staff shortages, patient demands, time limitations to see patients, administrative duties and staying after hours to complete tasks are all stressors on doctors

(Perez et al., 2015; Wallace & Lemaire, 2007). These stressors increased risk of burnout, accidents travelling to and from work (Barger et al., 2005), attention failure and higher risk of errors when working over 16 hours (Lockley et al., 2004).

1.2.2. Industry Specific Stressors

Doctors deal with unique, complex and emotionally challenging situations, involving difficult conversations with patients, their families and other health professionals, regarding fear, pain, uncertainty, medication and mortality (Arnetz, 2001; Perez et al, 2015; Wallace & Lemaire, 2007). Failure to set boundaries and over-empathising with patient situations has been reported to intrude into doctors' personal life (Linn et al., 1985; Shanafelt et al., 2005b; Visser et al., 2003). Some doctors avoid emotionally connecting to patients as this can cause distress and affect their own personal lives (Maguire & Pitceathly, 2002; Platt & Keating, 2007; Wallace & Lemaire, 2007). In 2013, BeyondBlue reported balancing work and personal responsibilities as a stressor for 26.8% percent of doctors in Australia.

Trainee doctors have reported a lack of senior support in emotionally challenging situations (Redinbaugh et al., 2003) and point to relationships with senior doctors and nurses as a source of stress (Tallentire, Smith, Facey & Rotstein, 2017). The medical profession requires extreme cognitive attention to quickly process overwhelming quantities of data in lengthy and arduous rostered shifts. Doctors have reported inadequate handover practises and poorly managed induction to new work areas (McCann, McHardy & Child, 2007; Tallentire, Smith, Facey & Rotstein, 2017) making doctors more susceptible to work quality decline, burnout and distress.

1.2.3. Development of Medicine

With progression of medicine and medical law, there are more demands on doctors from patients for increasingly complex care and support; from health administrators for efficiency improvements, for comprehensive recording of observations and to meet legal compliance; from company accountants to meet budget and deliver cost savings; and from

family and friends for lifestyle factors and relationships (McMurray et al., 1997; Umehara, Ohya, Kawakami, Tsutsumi & Fujimura, 2007; Dunstone & Reames, 2001; Shanafelt et al., 2005b; Bouvier, Goehring, Künzi & Bouvier, 2005). These demands combined create a significant threats to a doctors' well-being.

1.3 Consequence of Stressors

Consequences of these stressors include Burnout, Distress, Stress and Low Well-being, each outlined below.

1.3.1. Burnout

The term 'Burnout' refers to the 'prolonged response to chronic emotional and interpersonal stressors on the job' (Maslach, Schaufeli and Leiter, 2001).

Literature suggests burnout results from extreme workloads, extended work hours, poor work/life balance and study to continually update and refresh medical knowledge (Kumar, 2016). Further studies show a direct relation between burnout and productivity, depression and suicidal thoughts (Krasner et al., 2009; Baer et al., 2017). This impacts at a secondary level in mistakes, core errors, patient discontent and malpractice litigation (Regehr, Glancy, Pitts & Leblanc, 2014). Empathy for patients, for some doctors, begins to decline as early as medical school and may be a precursor to burnout (Haidet et al., 2002).

Whilst a common problem for doctors, the percentage affected by burnout is speculative (Wallace, Lemaire & Ghali, 2009). A meta-analysis by Wallace, Lemaire & Ghali, (2009) found up to 75% of doctors experienced burnout (Shanafelt, Bradley, Wipf & Back, 2002; Fahrenkopf et al., 2008). However, most studies reported burnout to be between 25-60% (Bouvier, Goehring, Künzi & Bouvier, 2005; Panagopoulou, Montgomery & Benos, 2006; Renzi, Tabolli, Ianni, Pietro & Puddu, 2005; Goitein, Shanafelt, Wipf, Slatore & Back, 2005).

Rate of burnout appears to be an increasing problem. In the United States burnout amongst doctors increased from 45.5% in 2011 ($n = 3310$) to 54.4% in 2014 ($n = 3680$) (Shanafelt et al., 2015) and satisfaction with work-life balance significantly declined from 48.5% in 2011 to 20.9% in 2014.

Further complications for doctors can be observed in substance abuse, poor personal relationships, depression and suicide (Sargent, Sotile, Sotile, Rubash & Barrack, 2004; Firth-Cozens, 1998; Frank & Dingle, 1999; Graham, Albery, Ramirez & Richards, 2001,Dyrbye et al., 2008; Van der Heijden, Dillingh, Bakker & Prins, 2008), as well as compromised professional behaviour such as test cheating or lying regarding findings in physical examinations (Kusnoor & Falik, 2013).

1.3.2. Stress

The medical field loosely defines stress as physical, mental or emotional factors causing tension (Schneiderman, Ironson, & Siegel, 2005). TMOs have shown high stress levels when compared to normative Australian data (Soares & Chan, 2016). At work, stress can affect memory, information recall, decision making and attention – all necessary elements of administering high quality patient care (Soares & Chan, 2016). Links between stress and fatigue have been found to increase a doctor's chance of making medical errors (Kizhakkeveettil et al., 2017). Doctors frequently prioritise career before personal life, consequently, relationships can suffer, further building stress – continuing the cycle (Dumelow, Littlejohns & Griffiths, 2000).

1.3.3. Distress

Distress is generally defined as elements of depression and anxiety impacting an individual's functioning (Kessler et al., 2002). Junior and senior doctors have shown higher distress levels than the general Australian population (BeyondBlue,2013) and has been an element of self-reported major medical errors (West et al., 2006) and medication errors (Fahrenkopf et al., 2008). In a longitudinal study, distress had a cyclic compounding nature

for medical residents; with self-perceived medical errors linked to personal distress, the study further found this increased the likelihood of future self-perceived errors (West et al., 2006).

1.3.4. Health and Well-being

Well-being is a construct that involves feeling good, functioning well and positive emotions, as well as engaging in activities, positive relationships and valuing one's life (Huppert, 2014; Kern et al., 2014; Seligman, 2011). A cross-sectional Irish hospital study (*n* = 1749), demonstrated low well-being and significantly lower well-being in trainees compared with consultants (Hayes et al., 2017). This is supported in a rare Australian study on TMOs, which found cohorts in 2009 and 2014, remained significantly lower in well-being than the general population (Soares & Chan, 2016).

1.3.5. Suicide

A retrospective study of health practitioner suicides in Australia found between 2001 to 2012, three-hundred-and-sixty-nine medical professionals committed suicide (Milner et al., 2016). High rates of suicidal thoughts have been identified amongst doctors compared to the general population (Hawton et al, 2011).

1.4 COPING MECHANISMS

The consequences of stressors are compounded by doctors' lack of selfcare and reluctance to seek help (Pullen et al., 1995; Wallace et al., 2009). They often use ineffective coping mechanisms such as denial and avoidance (Firth-Cozens, 2001); however, literature has identified some successful coping mechanisms:

1.4.1. Self-Care & Distancing

Self-care such as diet, exercise and leisure activities reduced stress and assisted mental focus amongst doctors (Wallace & Lemaire, 2007; Zwack & Schweitzer, 2013).

Distancing from the stressful environment physically and emotionally has also been identified as a coping technique (Perez et al., 2015).

1.4.2. Support

Accessing social and emotional support are leading coping mechanisms (Ross & Mirowsky, 1989) coming from colleagues, family and friends (Rø, Veggeland & Aasland, 2016; Perez et al., 2015). Doctors with this support are able to change their focus from work to home life and thereby keep perspective (Zwack & Schweitzer, 2013).

Informal peer relationships are a critical source of support throughout postgraduate training (Satterfield & Becerra, 2010). Discussing shared experiences, issues and views with people in a similar position helps reduce professional insecurities (Zwack & Schweitzer, 2013). Equally important is formalised peer support where hospitals initiate peer support programs (Rø, Veggeland & Aasland, 2016). Peer support reduces stress and improves job satisfaction and well-being (Freeborn et al., 2001; Horowitz, Suchman, Branch, & Frankel, 2003; Li et al., 2006; Visser et al., 2003).

1.4.3. Other Coping Mechanisms

Other coping mechanisms identified include: personal reflection, self-demarcation – defining boundaries between patient and doctor, self-organisation, limiting one's own work hours, ritual time out periods and spiritual practises (Zwack & Schweitzer, 2013).

Most coping mechanisms are self-applied and self-generated with little evidence of integrated assistance programs in hospitals or faculties. Most health care workplaces appear to have at least a passive role in directing employees where to find help, however, few doctors will actively seek help (Tjia, Givens & Shea, 2005). Compulsory integrated programs to help those unwilling or unable to seek help may be needed.

1.5 Interventions

A systematic review of intervention studies for doctors found interventions decreased burnout, stress and anxiety (Wiederhold et al., 2018). These studies used various interventions;

however mindfulness interventions were featured and were highly regarded across the field (Regehr et al., 2014).

1.5.1 Mindfulness

Mindfulness is defined as "a way of being in which an individual maintains openness, patience and acceptance, while focusing attention on an unfolding situation in a nonjudgmental way" (Gilmartin et al., 2017, p.1). Mindfulness practices have demonstrated success in reducing burnout and improving quality of life in doctors (Ludwig & Kabat-Zinn, 2008).

A meta-analysis by Regehr et al. (2014) across 12 studies (n=1034) found cognitive, behavioural and mindfulness interventions decreased anxiety in doctors and medical students; while psychoeducation, interpersonal communication, and mindfulness meditation decreased burnout. These results support mindfulness-based approaches as an effective means to reduce stress in doctors (Regehr et al., 2014).

Of the variety of mindfulness practices, the Mindfulness-Based Stress-Reduction program ('MBSR') is a noteworthy program involving eight training sessions, full day silent retreat and independent daily meditation (Kabat-Zinn, 1982). Numerous studies identify the potential benefits of MBSR including lower burnout, improved empathy, better well-being, and an improved sense of personal accomplishment (Krasner et al., 2009; Regehr et al., 2014; Irving, Dobkin & Park, 2009; Verweij et al., 2018).

However, issues arise with the implementation of MBSR. Scheduling time off work, lengthy participation and costs are barriers, highlighting the need for a condensed version. One review of an abridged mindfulness program found the type of mindfulness practice is not as important as having a program which adapts to the unique characteristics of the participant and their time availability (Gilmartin et al., 2017). Other studies recommend

brief strategies integrated into the workplace (Perez et al., 2015) using mind-body skills, meditation, breathing and mindfulness (Zwack & Schweitzer, 2013).

Little importance has been given to abridged mindfulness practices, including using different platforms like applications such as 'Headspace' (Headspace, 2015) and online programs which could be less time demanding but include core elements of MBSR.

1.6 The Current Study

Most research on TMOs comes from overseas, and given the variation in wellness indicators used, comparisons are difficult. An Australian perspective is needed. Australian research has focused mainly on medical tertiary students and addresses depression, suicide risks and prevention (Leahy et al., 2010). Studies on TMOs predominantly use questionnaires to obtain data (Dent et al., 2006; Markwell & Wainer, 2009), few interact with TMOs and fewer provide the opportunity for TMOs to give qualitative feedback.

The current study aims to address this gap in the literature by using a mixed methods design. Its first aim is to establish base health and well-being characteristics of the cohort to determine whether they vary from normative results ('Aim 1'). Through quantitative methodology, levels of burnout, stress, distress, coping, well-being and mindfulness skills will be identified. Methodology includes a questionnaire to understand TMO health and well-being characteristics. Its second aim is to identify the stressors and coping mechanisms of the cohort ('Aim 2'). This will be through a qualitative exploration into TMO experiences using semi-structured questions in focus groups. Its third aim is to identify elements required of an intervention program and the potential of mindfulness as an appropriate option ('Aim 3'). This will also be asked within the focus groups.

A thematic analysis of the focus group data and analysis of the questionnaire will provide an insight into Paediatric TMOs in South Australia and will seek to identify areas TMOs need assistance, emotionally and physically, through their trainee phase, in which improved patient care will follow.

CHAPTER 2

Method

2.1.Quantitative and Qualitative Framework

This study utilised a mixed method design, with the quantitative component embedded within the main qualitative component to enhance its findings, a method described by Creswell & Plano Clark (2007). Whilst not possible to generalise from a small population, the quantitative analysis in this study was used to gather base information about our population. The quantitative component used a questionnaire gathering demographics information and measured participants on six scales related to psychological well-being. The qualitative component utilised focus groups, facilitated by two researchers working mainly from a script to ensure consistency. It assembled information from participants, their observations and perceptions regarding stressors, coping mechanisms and suggestions on intervention strategies.

2.2.Participants

Thirty-three Paediatric TMOs were recruited from the South Australian Women's and Children's Hospital, a major referral hospital, via email and two presentations, at a lecture and a weekly cohort "get together". The period served as a TMO varied amongst individuals. Participation was open to all within the Paediatric TMO cohort but not compulsory. Participants self-enrolled themselves in the focus group ($n = 9$) via email and/or accessed the questionnaire online ($n = 26$). Two individuals participated in both components.

2.3.Measures

Quantitative. An online questionnaire was administered through 'SurveyMonkey' (SurveyMonkey Inc., 1999). It included basic demographics and a self-reported quantitative inventory comprised of 6 measures, addressing respectively: Distress, Stress, Coping, Burnout, Well-being and Mindfulness. These were stored in a de-identified format on a secured computer. An optional additional comments section was included.

Qualitative. Participants were asked open-ended questions within focus groups.

2.3.1. Online Questionnaire

i. Demographics

Information regarding participants' post graduate year, paediatric subspecialty and weekly hours worked varied and were recorded. Personal lifestyle details were not included due to the small sample size to ensure anonymity. A comments box was included for feedback (See Appendix D).

ii. Distress measured using Kessler Psychological Distress Scale (Andrews & Slade, 2001)

The Kessler Psychological Distress Scale ('K10') measures depression and anxiety participants experienced in the previous 4 weeks (Kessler et al., 2002). K10 is a 10 item scale, each item is rated along a five-value Likert scale from 1 (*none of the time*) through to 5 (*all of the time*). Score total indicates the level of distress – with minimum of 10 (*no distress*) and maximum 50 (*severe distress*). Scores were categorised into four levels in accordance with the Australian Bureau of Statistics (2012): low (*10-15*), moderate (*16-21*), high (*22-29*) and very high (*30-50*). K10 has been used in Australian public health surveys and praised for its high internal consistency across studies, up to $\alpha =.92$ (Slade, Grove & Burgress, 2011; Hendrikx et al., 2018). The current study demonstrated a high internal consistency ($\alpha = .94$).

iii. Stress measured using Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983)

The Perceived Stress Scale ('PSS') seeks to understand how situations affect perceived stress and feelings (Cohen, Kamarck & Mermelstein, 1983). Through its 10 items, it reflects upon the previous month, asking how an individual felt and their thoughts. In a Likert scale format, participants were required to indicate how often they felt a certain way from 0 (*neve*r) to 4 (*Very often*). To determine the PSS score, scores for questions 4, 5, 7 and 8 were reversed (i.e. 0=4, 1=3, etc.) and scores of all

questions were totalled. The scores had a minimum of 0 and a maximum of 40.

Scores of perceived stress were categorised: 0-13 (*low*), 14-26 (*moderate*) and 27-40

(*high*) (State of New Hampshire, n.d.). The PSS was selected for its adequate

internal and test-retest reliability, with alpha reliabilities ranging from .84 -.86

(Cohen, Kamarck & Mermelstein, 1983). This measure had a high Cronbach's alpha

of .92 in this study

iv. **Coping evaluated using the Dispositional (Retrospective) Version of The**

  Brief COPE (Carver, 1997)

The Brief COPE is a simplified version of the COPE inventory which identifies

ways people cope with stress (Carver, 1997). The dispositional retrospective version

was used. Its 14 scales, each with 2 items, utilised a Likert scale ranging from 0 (*I*

haven't been doing this at all) to 3 (*I've been doing this a lot)*. Each scales score

was calculated by adding its 2 items together with a score between 0 and 6. An

overall score is not applicable. Higher scores indicated greater endorsement of that

coping strategy. The Brief COPE was selected for its broad identification of coping

methods, abbreviated format, use in the medical field and its high internal

consistency, with each scales Cronbach's alpha ranging from .50 to .90, meeting the

minimum cut off of .50 (Carver, 1997). In this study, Cronbach's alpha ranged from

0.59 to 0.92 across the 14 scales.

v. **Burnout measured using the abbreviated 9-item form of the Maslach**

  Burnout Inventory ('aMBI') (Maslach, Jackson & Leiter, 2016)

The abbreviated Maslach Burnout Inventory ('aMBI') is an abbreviated version

of the MBI-Human Services Survey (Maslach, Jackson & Leiter, 2016) which

captures 3 pillars of burnout: Emotional Exhaustion (α = .85), Depersonalisation (α

= .59) and Personal Accomplishment (α = .64) (Zuraida & Zainal, 2015). This measure had Cronbach alpha's of .76 (*Emotional Exhaustion*), .29 (*Depersonalisation*) and .35 (*Personal Accomplishment*). This scale operates on a burnout continuum rather than a categorical variable; the scale did not intend to have cut-off score (Maslach, Jackson & Leiter, 2016). This scale was selected for its abbreviated nature and use amongst the Heath Care professions (Zuraida & Zainal, 2015)

vi. Well-being measured using PERMA profiler (Butler & Kern, 2016)

The PERMA-profiler measures well-being through 23-items, comprised of 9 domains. The PERMA overall well-being domain is the focus of this study which combines 5 of the domains (*Positive Emotion, Engagement, Relationship, Meaning and Accomplishment*) to provide an overall well-being score. Each item is responded to on a numerical scale from 0 (*extremely low*) to 10 (*extremely high*). This measure was chosen due to its robust psychometric properties including content, convergent and divergent validity (Butler & Kern, 2016). Within a global normative population of 23,692 adults, it demonstrated high cross-time and internal consistency (subscales ranged from α = .71 to .94 and overall PERMA score, α = .94) and high test-retest reliability (*r* = .80, *n* = 1372) (Butler & Kern, 2016). The current study has high internal consistency ranging from 0.77 to 0.96 (with .96 for PERMA overall well-being).

vii. Mindfulness measured using the Mindfulness Attention Awareness Scale (MAAS) (Brown & Ryan, 2003)

The Mindfulness Attention Awareness Scale is a 15-item scale which assess a core characteristic of mindfulness in participants, described as a state of mind,

'attention informed by a sensitive awareness of what is occurring in the present'

(Brown & Ryan, 2003). It employed a Likert scale ranging from 1 (*almost always*)

to 6 (*almost never*). Higher scores indicated a greater characteristic of mindfulness.

A systematic review of Mindfulness Scales summarised 20 studies using MAAS,

demonstrating high test-retest reliability (*ICC* = 0.81), internal consistency ranging

from .78 to .92 and high construct validity (Park, Reilly-Spong & Gross, 2013); this

widely disseminated scale was used for these psychometric properties. The current

study demonstrated high internal consistency (α = .89).

2.3.2. Focus Group Questions

The TMOs were asked approximately 10 open-ended questions to explore their

position and gain an understanding of their stressors, coping mechanisms and views

of an affective program fit to their needs. Questions were prepared for the focus

groups, with potential prompts to guide the conversation (See Appendix E). An

introductory question was used to help participants feel comfortable to discuss

matters, followed by questions directed at coping, stressors, an intervention program

and mindfulness.

The interview format was practiced with and evaluated by a Registrar at the

hospital to provide insight on the appropriateness of the questions and advise on the

direction to take. Caution was taken in questions to use depersonalized language,

rather than referring to 'you', generalised terminology such as TMOs, was utilised

to be less personal which allowed a more open discussion.

2.4. Procedure

Following ethics approval by the Women's and Children's Ethics Committee

(HREC/18/WCHN/170) and Governance, participants received an email endorsing the study

(Appendix C), Information Sheet (Appendix A) and link to the questionnaire on Survey Monkey. The email contained dates for the focus groups which interested TMOs could book into through a reply email. Walk-ins were accepted given the diverse and changing TMO schedule. Three focus groups were conducted over a two-week period, whilst the questionnaire remained open from 22nd February to 10th April 2019.

Quantitative aspect. For Questionnaire participants ($n = 26$), digital consent was received. Participants completed the questionnaire and were advised of pathways for assistance at the conclusion. The Questionnaire results were recorded and transferred to the program R studio, where further analysis was conducted. Results were compared to normative scores, where possible retrieved from Australian Populations, otherwise from similar cultures.

Qualitative aspect. Focus groups took place in the TMO lounge (a casual environment) in the Women's and Children's Hospital across three sessions, two with four participants and one with a sole participant ($n = 9$). Each session was approximately 50 minutes within a dedicated 60 minute time slot. The times and location were advised to be most convenient for TMOs.

The focus groups were conducted by a Masters in Clinical Psychology PhD and Psychology Honours student. An information sheet regarding the research, consent, confidentiality and anonymity was provided before commencement, as well as an explanation of pathways a participant should take should they experience bullying or require Mental Health assistance (see Appendix B). Researchers were required to take a similar pathway if they recognised an individual at risk which Participants were notified of. Participants provided consent. Open-ended questions from a prepared guide were used (See Appendix E). These sessions remained anonymous and were audio recorded, transcribed and analysed through a thematic analysis.

2.5. Analytic Approach

Statistical Consideration. The questionnaire data were analysed using the program R to gather descriptive statistics and correlations.

Thematic Analysis. A Thematic Analysis was conducted on the focus group transcriptions according to Braun and Clark (2006) 6 phase method, to identify, analyse and report patterns within data. The first phase consisted of transcribing the audio and familiarising one's self with the data by re-reading the transcripts, note taking, and marking theme coding ideas. Lines were numbered for extract referencing. Phase two consisted of producing codes for relevant data extracts and organising data. In the third phase the codes were sorted into themes and a thematic map was established. The relationship between codes, themes and sub-themes were contemplated. Phase four reviewed theme and extract accuracy. In phase five, themes were defined and refined through detailed analysis of the scope and content of each extract. Greater prevalence of a theme did not equal greater importance, rather the importance was whether the theme exemplified and addressed the research aims (Braun and Clark, 2006). The final phase produced themes and involved selecting extracts reflecting these themes in line with the research aims and relevant literature. A final thematic mind map was established to visually demonstrate themes and sub themes. Saturation is the point when no new themes arise in the data (Braun and Clark, 2006). Whilst saturation of the data did not appear to occur, the study saw most themes re-emerging by participant 6.

The analysis utilised an inductive and deductive approach to coding (Braun and Clark, 2006). Inductive approach allowed for identification of themes and coding without fitting them into a pre-exisiting frame; comparatively, the deductive approach identified themes in light of the researches theoretical position – the stressors and coping mechanisms of TMOs (Braun and Clark, 2006). Together these approaches allowed for a rich rigour of data and helped avoid researcher bias (Tracy, 2010).

Analysing both data sets. For further analysis, given the study's embedded mixed method design (Creswell & Plano Clark, 2007), the qualitative data were looked at in light of

the quantitative data, to help explain the characteristics of the TMO sample and assist in analysing the qualitative data.

2.6. Quality Criteria for Qualitative Component

This study was conducted according to Tracy's (2010) eight "big-tent" criteria for excellent qualitative research. To ensure transparency (Tracy, 2010), documentation of all decisions, meetings with individuals from the hospital and focus group responses were rigorously recorded, along with preliminary themes. As themes were selected in accordance with Braun & Clarke (2006), they were chosen in light of the research aims and theoretical position. Thus, to strengthen reliability (Tracy, 2010), at the conclusion of focus groups, potential themes were discussed with the research supervisor and scribed immediately after each focus group. This helped avoid researcher bias.

The researcher had no relation to the research cohort, adhering to sincerity criteria, as there was no motivation or bias for the researcher (Tracy, 2010). Whilst the research began as a hospital initiative, the researcher was independent to ensure findings were not influenced and protect anonymity. This was achieved by strictly following procedural ethics (Tracy, 2010), ensuring participant confidentiality by removing identification material and storing data on a locked computer. This added credibility to the study (Tracy, 2010), as participants were trustworthy of the researcher's intentions and more inclined to explain their personal experiences, without fear of being reported to senior staff or the hospital.

CHAPTER 3

Results

3.1 Participant Characteristics

The data corpus for this study comprised basic demographic information, health and well-being inventories and transcripts of focus groups. Nine Paediatric TMOs participated in the qualitative component across 3 focus groups; seven in advanced training and two in basic. Two participants were from overseas background. Rostered working hours varied from 20 to 68 hours per week (Table 1). Participants in the quantitative component were in Paediatric Training ($n = 26$) and with subspecialties in advanced training ($n = 17$) and basic training ($n = 9$). Post graduate year of study ranged from 1 to over 8 years ($M = 5.85$, $SD = 1.78$) (Table 2).

Table 1

Demographic and TMO Characteristics for Qualitative (n = 9)

Participant ID	Paediatric Subspecialty	Post Graduate Year of Study	Hours worked per week (approximately)
1	Advanced Training - Registrar - Neonatal	8+	68 (or more)
2	Advanced Training - Paediatric	-	40
3	Basic Training - Paediatric	1	40
4	Basic Training - Paediatric	8+	20 (Part-time)
5	Advanced Training	4	40
6	Advanced Training – Neonatal	Not disclosed	Not disclosed
7	Advanced Training – Neonatal	4 (Implied)	Not disclosed
8*	Advanced Training – Neonatal	4 (Implied)	Not disclosed
9*	Advanced Training – Neonatal	Not disclosed	Not disclosed

Note.

Participants in speaking order
* Both Participant 8 and Participant 9 arrived late, so some data is missing accordingly.

Table 2.

Demographic and TMO Characteristics for Quantitative Inventory (n = 26)

Participant ID	Paediatric subspecialty	Post Graduate Year of Study	Hours worked per week
1	Basic Training – Paediatric	4	35-45
2	Advanced Training - General Medicine	5	35-45
3	Advanced Training - General Medicine	4	35-45
4*	Basic Training - Pre-Vocational Training	4	35-45
5	Advanced Training - Respiratory	5	35-45
6	Basic Training - Paediatric	4	45-55
7	Basic Training - Orthopedics	8+	45-55
8	Advanced Training - General Medicine	8+	25-35
9	Basic Training - Paediatric	4	35-45
10	Advanced Training - Neuro	6	35-45
11	Advanced Training - Neonates	6	35-45
12	Advanced Training - Clinical Genetics	7	35-45
13	Basic Training - Resident Medical Officer	2	35-45
14	Basic Training - Paediatric	4	35-45
15	Advanced Training - General Medicine	8+	Less than 25
16*	Advanced Training - Neonatal	7	35-45
17	Basic Training - Paediatric	4	35-45
18	Advanced Training - Emergency Medicine	8+	35-45
19	Advanced Training - Child Psychiatry	8+	35-45
20	Advanced Training	6	35-45
21	Advanced Training - Neonates	8+	35-45
22	Advanced Training - Renal	5	45-55
23	Advanced Training - General Medicine	7	35-45
24	Advanced Training - Neonates	8+	35-45
25	Advanced Training - Neonates	7	35-45
26	Basic Training – Paediatrics	5	35-45

Note. Participants in order of completion

A TMO is part of a specialist training program where a minimum of 3 years in basic training and 3 years in advanced training. For this cohort, basic training would be Paediatrics and advanced training refers to a subspecialty, generally within the Paediatrics field.

*Both Participant 4 and Participant 16 were also part of the focus group participant pool

3.2 Overview of Quantitative Data

The quantitative data established baseline information of the cohort in areas of concern. Analysis focused on the normative scores of Distress, Stress, Well-being, Burnout and Mindfulness (Aim 1). Secondly, coping mechanisms identified supplement the qualitative data (Aim 2).

Distress. Distress scores ranged from low to very high, with three participants classified 'very high' (Table 3). Distress levels were slightly higher than normative data. 18 participants showed above normative average (Table 6).

Stress. Stress scores ranged from low to high, with two 'high' category participants (Table 3). Stress levels were similar to normative data. 14 participants showed above normative average (Table 6). A strong correlation exists between Stress and Distress ($r = .83$, $p \leq 0.005$) which should be considered in an intervention (Aim 3).

Mindfulness. Mindfulness ranged from 2.67 to 5.47 ($M = 3.82$, $SD = .74$) (Table 3). Mindfulness was slightly lower than the normative average, with 16 participants below the normative score (Table 6).

Well-being. Overall well-being ranged from 4.31 to 9.13 ($M = 7.39$, $SD = 1.39$) (Table 3). Well-being remained similar to normative scores, with 11 participants lower than the normative average (Table 6). A moderate correlation exists between Mindfulness and Well-being ($r = .54$, $p \leq 0.05$), with negative correlations between Mindfulness and Stress ($r = -.40$, $p \leq 0.05$) and Mindfulness and Distress ($r = -.54$, $p \leq 0.05$), providing background for Aim 3.

Table 3.

Well-being Characteristics of Participants (*n* = 26)

Participant ID	Distress Score / Risk	Stress Score / severity	Overall Well-being Score	Mindfulness Score
1	15 / Low	16 / Moderate	6.00	3.40
2	19 / Moderate	18 / Moderate	6.63	3.13
3	19 / Moderate	18 / Moderate	7.25	3.73
4	13 / Low	12 / Low	8.50	3.40
5	13 / Low	12 / Low	7.94	3.73
6	13 / Low	11 / Low	7.44	-
7	30 / Very High	18 / Moderate	6.31	4.80
8	38 / Very High	37 / High	4.75	2.67
9	17 / Moderate	19 / Moderate	-	-
10	17 / Moderate	14 / Moderate	8.19	3.20
11	21 / Moderate	21 / Moderate	5.13	3.60
12	12 / Low	7 / Low	8.38	4.47
13	13 / Low	7 / Low	9.00	4.53
14	15 / Low	10 / Low	7.38	3.80
15	13 / Low	10 / Low	8.50	4.20
16	20 / Moderate	21 / Moderate	7.13	3.33
17	29 / High	19 / Moderate	6.19	3.33
18	19 / Moderate	18 / Moderate	8.13	3.27
19	14 / Low	13 / Low	5.88	4.07
20	17 / Moderate	18 / Moderate	8.44	4.27
21	28 / High	20 / Moderate	8.00	2.87
22	16 / Moderate	9 / Low	9.13	4.27
23	13 / Low	4 / Low	9.06	5.20
24	20 / Moderate	20 / Moderate	8.69	4.13
25	19 / Moderate	7 / Low	8.44	5.47
26	34 / Very High	27 / High	4.31	2.80

Note. Measure abbreviations:

K-10: Distress

PSS: Perceived Stress

PERMA Profiler: Well-being

K-10 distress risk rating is included per Australian Bureau of Statistics (2012) as well as the PSS severity of stress rating State of New Hampshire (n.d.).

Burnout Characteristics. Burnout characteristics are reported in three domains: Personal Accomplishment (higher scores indicated *less* burnout), ranged 9 to 17 with 12 participants above normative average; Emotional Exhaustion ranged 2 to 17 with 12 participants above normative average and Depersonalisation ranged 0 to 10 with 8 participants above normative data (These higher scores indicated *higher* burnout) (See Table 4). There was no signifciant differences between burnout results and normative data (Table 6) (Aim 1).

Table 4.

Burnout Characteristics of participants ($n = 25$)

Participant ID	Burnout Severity		
	Emotional Exhaustion	Depersonalisation	Personal Accomplishment**
1	9	1	9
2	7	3	13
3	10	0	17
4	4	0	16
5	7	3	11
6	6	4	15
7	11	1	13
8	17	8	16
9*	-	-	-
10	7	3	14
11	13	0	14
12	3	1	13
13	9	6	17
14	5	2	16
15	5	0	16
16	13	2	15
17	14	5	14
18	10	10	14
19	14	2	9
20	8	4	14
21	12	6	11
22	6	1	18
23	2	2	16
24	10	3	16
25	10	1	17
26	13	7	10

Note. Used abbreviated Maslach Burnout Inventory.
* Participant 9 did not complete this measure.
** Higher scores indicate *less* burnout for this domain only

Coping Characteristics. Table 5 identifies coping characteristics TMOs are inclined to use,

demonstrating high scores in Active coping (responding to a situation), Planning (strategizing

action), Emotional Support (obtaining comfort and understanding) and Acceptance (learning to live

with it) (Garcia et al, 2018) (Aim 2).

Table 5.

Coping Characteristics of Participants using the Brief COPE (*n* = 25)

Participant ID	Self Distraction	Active Coping	Denial	Substance Use	Using Emotional	Using Instrumental	Behavioural Disengagement	Venting	Positive Reframing	Planning	Humour	Acceptance	Religion	Self Blame
1	4	4	0	0	5	6	2	0	4	3	3	4	0	4
2	4	4	0	2	4	4	0	1	4	4	3	4	0	2
3	6	5	0	3	6	6	0	3	4	6	3	3	1	4
4	2	4	0	0	4	4	0	4	4	6	1	4	4	3
5	5	4	0	0	4	4	1	1	4	4	2	4	0	3
6	3	4	0	1	5	4	0	0	2	2	6	2	0	4
7	5	4	0	0	2	2	0	2	3	4	1	4	6	6
8	4	4	4	0	4	3	2	4	3	4	0	4	0	6
9*	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	5	5	0	1	4	3	0	2	5	3	6	6	0	4
11	3	5	0	0	3	2	0	2	6	4	3	4	3	4
12	3	4	0	1	5	4	0	2	4	4	2	4	0	2
13	5	4	0	4	6	6	0	2	3	5	6	5	0	1
14	5	4	0	0	5	6	1	3	4	4	4	6	1	2
15	2	6	0	0	2	2	0	4	6	6	5	6	0	3
16	2	4	0	0	5	4	0	3	4	6	3	4	2	5
17	4	4	0	2	4	4	0	3	2	4	4	4	0	6
18	5	6	1	1	4	6	1	4	4	6	6	6	1	3
19	4	3	0	2	2	4	0	1	3	4	4	4	0	2
20	4	6	0	2	5	4	0	4	5	4	6	3	0	3
21	3	4	1	2	4	4	1	3	4	4	4	4	4	4
22	3	4	0	2	4	4	0	1	4	4	4	4	0	3
23	4	4	0	0	6	6	0	0	4	3	2	3	0	1
24	4	6	1	0	6	3	1	3	5	6	4	6	6	2
25	4	5	0	0	4	4	0	1	6	6	2	3	4	0
26	4	4	2	6	6	5	4	2	4	4	4	4	2	5

Note. The Brief COPE was not designed to provide an overall cope score rather a score for each 14 coping characteristics for each participant
* Participant 9 did not complete this measure

Table 6.

Descriptive Statistics for Measures with Normative Scores

Measure	n	Subscale	Normative Scores	*M*	*SD*
K-10 1 - 50	26	Distress	14.5	18.88	7.13
PSS 0 - 40	26	Stress	15.8	15.62	7.09
aMBI 0 - 18	25	Emotional Exhaustion	8.59	9.00	3.83
0 - 18	25	Depersonalisation	3.57	3.00	2.69
0 - 18	25	Personal Accomplishment	14.15	14.16	2.54
PERMA 0 - 10	25	Overall Well-being	7.50	7.39	1.39
MAAS 1 - 6	24	Mindfulness	4.20	3.82	0.74
Brief COPE* 0 – 6	25	Active Coping		4.27	1.19
0 – 6	25	Planning		4.23	1.42
0 – 6	25	Positive Reframing		3.88	1.31
0 – 6	25	Acceptance		4.04	1.34
0 – 6	25	Humour		3.38	1.81
0 – 6	25	Religion		1.31	1.95
0 – 6	25	Using Emotional Support		4.19	1.47
0 – 6	25	Using instrumental Support		4.00	1.5
0 – 6	25	Self – Distraction		3.73	1.28
0 – 6	25	Denial		0.35	0.89
0 – 6	25	Venting		2.12	1.37
0 – 6	25	Substance Use		1.12	1.51
0 – 6	25	Behavioural Disengagement		0.50	0.95
0 – 6	25	Self Blame		3.15	1.69

Note. Measure abbreviations:
K-10: Kessler Psychological Distress Scale.
PSS: Perceived Stress Scale.
aMBI: Abbreviated Maslach Burnout Inventory.
PERMA: Positive Emotion, Engagement, Relationships, Meaning and Accomplishment Profiler
MASS: The Mindful Attention Awareness Scale.
Brief COPE: The Brief COPE (abbreviated version of the COPE, a 60-item measure)
Normative Scores (retrieved where possible from Australian Populations otherwise from similar cultures):
(K-10): From general Australian adult population used for comparison (Slade, Grove & Burgress, 2011).
(PSS): From general Australian adult population used for comparison (Australian Psychological Society, 2015).
(aMBI): Normative sample scores from the MBI were provided by 'special permission of the Publisher, Consulting Psychologists Press, Inc., Palo Alto, CA 94303 from MBI-Human Services Survey by Christina Maslach and Susan E. Jackson' and adjusted to correspond to the aMBI.
(PERMA): From general South Australian population used for comparison (Iasiello et al., 2017)
(MAAS): From adult American population used for comparison (Brown & Ryan, 2003).

*(Brief COPE): Due to the nature of the scale, rather than a normative score a cut off point of 3 is regarded in the literature as the minimal acceptance of a coping method being used (Nunnally, 1978).

3.3 Overview of Qualitative Data

The qualitative component explored significant areas raised in the quantitative component demonstrating stressors and coping mechanisms and determining need for a program (Aim 2 & 3). Themes divided into 5 domains, two address coping mechanisms: Support and Coping, and two address stressors: Work Place Culture and Characteristics of the Profession, the other is recommendations. The fifth domain covers recommendations. Three Support themes were identified: Personal Support, Peer Support and Workplace Support. Workplace culture divided into three themes: Difficulties of Hierarchical Structure, Demands on the Individual and Comparatively Positive Paediatrics Culture. Coping had four themes: Signs of Coping, Signs of Not Coping, Individual Coping Mechanisms and Impact of Personal Situations. Characteristics of the Profession classified into three themes: Stressors of Academic Demands, Intensive Patient Interacts and Challenges of Balancing Home/Work Life. Figure 1 illustrates these thematic groupings.
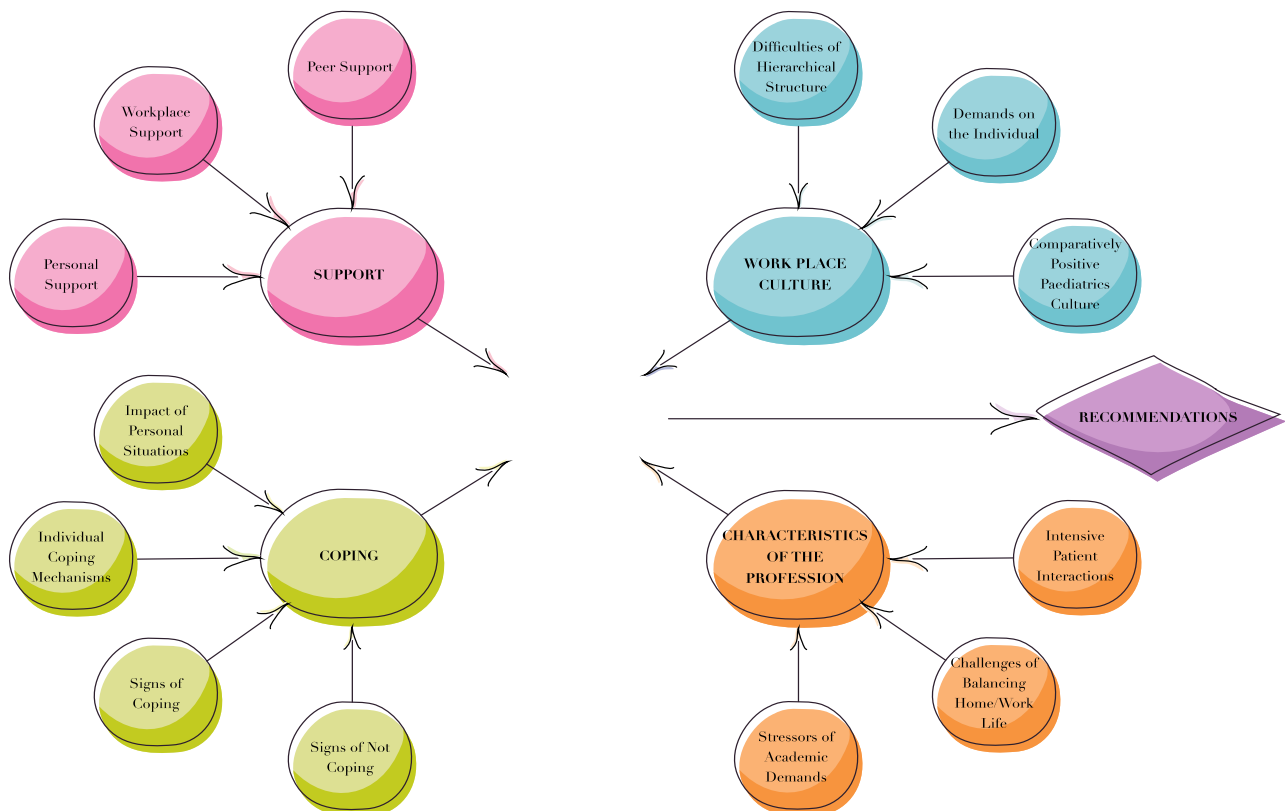

Figure 1. Thematic map of identified groups and themes

3.4 Themes

3.4.1   Support

All but one participant identified the importance of a support network, either through personal experience or observations of others. This included personal support, workplace support and peer support. The lack of workplace support, while a stressor, was not specifically referenced to the paediatric department, rather participants previous workplaces. Peer support was a highly regarded coping mechanism.

Personal Support. Three participants reported feeling supported describing strong family and/or friend networks. One participant stated "I am very lucky that my family live here, … my family are great, my friends are great, and that's who I go to" (P5, lines 1000-1006).

Work rostering adversely affected one participant's ability to see their support network, resulting in not wanting to attend work.

> *I feel very supported by family and friends, and usually if I can have a drink with them, or go for a walk with them, if I can actually get to those things, I feel a lot better afterwards...* [When] *I could never catch up with my school friends because I was working all evenings and weekends ...* (P5, lines 1029-1034).

Another participant observed the need for personal support in another TMO.

> *I had a colleague as an intern who … didn't have much in the way of social connections, he was a bit older, he was in his 50s, and um, family were interstate, no family here.* (P3, lines 306-308)

Peer Support. Four participants highlighted benefits of peer support as a coping mechanism, however one participant identified risks of creating a culture of complaining.

> *We're actually very supportive as a group and that's really great … but it isn't a bad idea to have something outside of work, because then I think you do enter this*

culture of ... complaining which isn't necessarily the best thing either. (P5, lines 1015-1018)

Formalised peer support to assist those without a support network was suggested.

It would be beneficial if you had a group… and you can just discuss, or offload any problems, not even needed to be specifically about something else but just 'oh how's your week been going?' (P2, lines 522-524)

Another participant agreed.

If you have a good social system outside of work then you're fine, for the people who don't ... having something in place at work would be something that would be a backup. (P4, lines 507-510)

Workplace Support. All participants identified the importance of work place support, particularly relationships with senior staff. Hospital culture was frequently referred to as hierarchical and "top down" causing stress to participants, through poor treatment by senior staff and unwritten rules. Support was summarised by one.

If consultants or… heads of units…were there [at a gathering] *and we knew we would see them every Thursday they would be there like clockwork, just like we would be there like clockwork, I think it just affords a comradery, a collegial relationship as opposed to a hierarchical relationship, which I think would make us more open to ask for help.* (P4, lines 533-537)

Participants viewed their current work environment as supportive with credit given to Senior Staff within paediatrics.

What CA has done an amazing job in the neonatal department is making a nice culture and L has done a nice job in rostering in that we're not all working ridiculous hours, so you need that to start with. (P8, lines 1677-1679)

This is further highlighted in the dialogue between three participants.

1929   P8:   *Yeah it was 2 days of paid orientation and we didn't have any*

workload at all… things like …CA taking us to his office and

sitting around the table and having a bit of an informal chat and

introducing everybody, sounds cheesy... *laughs*

1933   P9:   *Having a coffee...*

1935   P8:   *Yea having a coffee! That gave me an impression that you could ask*

anybody anything if you are uncertain. I think this was the best

orientation I've ever had in my medical career

1938   P9:   *Yeah same*

1940   P8:   *It was really extensive*

1942   P7:   *Yeah!*

Majority identified support on a psychological level, however two participants did raise the need for practical, hands-on support when calling a 'code blue' - medical jargon for an emergency situation.

3.4.2   Work Place Culture

Seven participants sought the paediatrics profession for its culture and more supportive staff compared to other specialities, "It's what I think neonates has done really well… if other people could emulate that [it] would be perfect" (P4, 542-543). Many comments regarding culture were specific to other specialities in which the TMOs had worked, whilst others were directly relating to the paediatrics department.

Difficulties of Hierarchical Structure. The hierarchical structure and its unwritten rules were voiced as a stressor by eight participants.

Participants raised concerns regarding not knowing senior doctors.

Being new to the hospital and being new to Paeds [sic] *training… I don't know who any of the other teams and bosses and things are…when they come through the unit, I'm like 'well I don't know who I'm talking to' *Laughs*.* (P3, 545-548)

One participant discussed the impact of a senior consultants' negative demeanour:

You had to be on egg shells around her [Senior Doctor] *… she hated ward rounds because it was a general medical and endocrine team … you were bound to make a mistake and she would yell and it was just not a very happy place.* (P4, lines 87-91)

Contrastingly, another compared senior staff treatment of TMOs to their behaviour with patients.

I love that the consultants can be horrible if need be to the junior staff but can turn around and be so wonderful to the kids … They see children and they just change. It takes a special kind of person to be able to do that. (P4, 97-99)

Unwritten rules was another stressor raised by a participant.

[Its] *getting to know what each boss likes…*[there is] *things that I feel relatively comfortable with, that they want to know every detail about, and then there's other that, they don't care… trying to get that balance of who wants to know what and when.* (P3, 212-216)

Another participant confirmed this.

There will be different ways things are done under different consultants and that can cause a lot of stress I think if people have an answer to something from someone and that doesn't fit when someone else is involved, someone being a consultant, that can be very stressful… and … very time consuming … you don't want to seem like you're— you're ignorant by asking stupid questions as well. (P7, 1498-1503)

Whilst one participant discussed senior doctor demands.

When doing oncology …courtesy is you be there for your patient …but the consultant was calling … saying 'I know you have your patient downstairs but

there's a ward round up here waiting for you'... but I cant just leave the code blue

team with my patient when I'm here, and so, he saw the patients ... but he doesn't

write notes and didn't really know how to cope without an underling (P4, 432-439)

Another participant described not understanding when to calling for help as a stressor.

Knowing when to call for help ... you never got told about the certain structure of

hierarchy, or like structure of work that you should be able to call for help. That

only came in after you started working. (P2, 401-406)

Two online survey responses affirmed hierarchical structure as a stressor. One said there

needs to be 'more appreciation from colleagues and bosses with less being used and abused'

(Respondent 24) whilst another said "thanked for work on a busy weekend or shift is enough

...it doesn't happen often" (Respondent 23).

All participants spoke extremely highly of a current senior staff member and his positive

workplace influence.

Demands on the Individual. Despite this positive culture in paediatrics, three

participants identified negative demands of the profession claiming "there's an assumption, this

is your job, you have to do it" (P4, 450-451) and "people are stressed out of their brain" (P1,

499). Some participants identified a *Paediatrics Façade*, where, to establish a relationship with

the patient, the TMO adopts a friendly, trustworthy persona which can carry on to their

relationship with colleagues

You have to... be quite happy and upbeat ... the kid is not going to engage with you

... if you project any of your stuff, so I think often there is this façade, I suppose,

when you are doing patients maybe then continues on when you are dealing with

colleagues, and then continues on ... your just continuing the persona you adopt.

(P5, lines 1299-1306)

This participant also raised issues regarding being taken for granted.

Everyone's always like 'it's so nice here'... but like it doesn't mean people don't get stressed, or people aren't put under pressure, or maybe even taken advantage of a little bit more because they're nice ... people do get shocked if you push back, they're like "oh what happened to that person, are they having a bad day"... sometimes people pick up more and more and more and more ...where they don't need to. (P5, 1314-1328)

This participant addressed feelings of guilt and letting the unit down when cancelling a shift.

If someone's sick, or if you need to take leave ... there is no one to cover you, its more work for the bosses, or who is going to cover you, what are you going to come back to ... the feeling bad about calling in sick is quite a big thing ... but it is a shame that you can't have those normal things ... it comes across, well we are kind of the shit kickers and you'll get leave where you can get leave. (P5, lines 963-983)

This participant continued, describing the cyclic nature of burnout.

You sometimes get called in on your days off ... but it can happen all the time. Then again you aren't getting rest, you're getting burnt out, and I think that's really stressful ... you are probably not doing your best work. You are probably tired, you are probably grumpy to everyone around you. (P5, lines 986-992)

This same participant described the risk of reliance on a willing worker to cover relief.

You kind of started to feel like but why me, why always me, why am I always the one getting called in, who are these people who aren't working the weekends... and I don't, think badly of any of my colleagues but it probably starts to play on your mind a little bit. (P5, lines 1002-1006)

Time demands and shift work also reflected work attitude and well-being. One participant reflected positively on paediatrics rostering.

[It] *has been done well, 'cause I think there is a lot of departments out there which have surge [sic: surgical] interns working 120 hour fortnights and they can't attend things like this* [focus group] *which are such a great idea!* (P8, 1688-1690)

Contrastingly, a participant reflected on the negative affects of poor rostering, comparing basic training to advanced.

[Last Year] *9 months ... was shift work, where until about the week before you start the rotation you don't know when your shifts will be, so it's quite hard to plan your life ... Its not a big deal ... but there is that anxiety that you are not going to be able to do those things that are important outside of work.* (P5, 954-961)

Comparatively Positive Paediatrics Culture. Six participants described paediatrics generally as a more positive culture compared to other specialisations, "the environment in paediatrics is great … it brings out the inner child in me" (P4, 94-95). Another participant described the Paediatrics culture influencing their specialisation choice.

In the adult [Medicine] *world, I was not that happy with the level of cynicism and patient blame, as well as some of the interactions from senior staff and the culture. I did a period of time here* [Paediatrics] *as an intern and really enjoyed that because there was that focus on the patient, no patient blame, better support from the seniors as a whole, it is a better culture in general.* (P7, 1432-1436)

Another talked specifically about this work area.

This team, neonate [sic], *has been really good about making sure that we all look after each other ... its been drilled into us by the head of unit saying 'look after yourselves', 'make sure that everyone helps each other out'... neonates makes it comfortable to call for help with a code blue…* (P4, 410-414)

Another participant agreed, explaining:

It's a combination of likeminded people… we are a little kiddie ourselves…we are a

little more jovial … [Paediatrics is] a bit more fun, bit bright and has quite a nice

culture... plus I love interaction with kids (P5, lines 920-924)

Of note, was a participant's comment who stated "everyone here …do it, in part,

because they can't put up with the grumps in adult medicine" (P1, 119-120).

Comparisons were made between paediatrics here and overseas, as one participant

described.

It's more the supportive environment that attracted me, I did paediatrics [Overseas]

… any support was quite, uh, insufficient. Even in paediatrics which was more

supportive… thats why it brought me to Australia … I came to experience a different

culture to work … I love it here, its really nice. (P2, 56-63)

A second participant discussed similar concerns to the overseas working environments.

When I was a student [Overseas] *I didn't like the way people treated each other, I*

was feeling really bad in hospitals in the atmospheres, I regretted doing medicine at

all…I did paediatrics because it was the first time I felt welcome and I felt like the

atmosphere was a nice one… I was able to interact with patients and families and

the people around me, which made me feel more comfortable, it's just a more

friendly atmosphere, because you have to be friendly because of the kids. (P6, 1404-

1414)

3.4.3   Coping

Signs of Coping. Some individual signs of coping were outlined but no useable measure

was described. An individual's demeanour was given as a sign of coping.

People who are coping better …[have] *a bit more of a confident air about them,*

holding themselves taller, I guess body language is probably a big one, just happier,

they seem to be doing things, they are more out there. (P5, lines 1053-1055)

Similarly, another participant described someone "thriving within a role… they enjoy coming to work" (P7, lines 1605-1606). Peer support in coping was described, "they usually offer help… make sure others are okay too" (P1, lines 338-339).

Signs of not coping. Identification of a colleague not coping varied. Six participants reported physical signs but agreed signs vary by individual, including an absence of signs. One participant identified two types of people who are not coping.

> *There are people where it can be quite obvious, quite flustered, physically flustered, fast, speaking fast, dropping things … often they'd be crying, or looking distressed … blowing up at situations … being on edge … then you have the people that I'd worry about probably even more that withdraw.* (P1, lines 288-293)

Two participants agreed and one further elaborated on the façade presented.

> *Or they put a face on and pretend that everything is okay when they are actually building up … after hours, at work, at night, like they'd stay behind, they don't really tell people they are doing things, they don't ask for help … they will say no I'm okay.* (P2, lines 296-300)

One participant described behavioural elements they had observed.

> *When people are struggling … they don't have time for… a simple chat in the hallways… they're a bit flustered ... I've certainly had people who have been speaking about something and have burst into tears, I mean that's a fairly obvious giveaway … sometimes I feel I get brushed away from them a little bit.* (P5, lines 1044-1051)

Another participant agreed.

> *If they are not sleeping well, it becomes more and more evident… if they're not taking breaks…* [their] *general demeanour, but I think some people do appear more stressed on the surface than others.* (P7, lines 1514-1516)

One participant discussed signs they'd observed of social withdrawal and staying back afterhours cross-checking their own work.

> *Reading over case notes to make sure he was up to date with what is going on, not missing things, felt like he was on top of each patient, not willing to hand jobs over to the people who are recovering for you, needing to chase everything up himself.* (P3, lines 316-319)

Unwillingness to handover patients to the next doctor was further described as an element of not coping.

> *People who would leave roughly on time would hand over some amount but not everything. If you are handing over lots … then that means you haven't got to them and it means you probably aren't coping. If you hand over nothing, then you are probably just too anal and you're not letting anyone else help. So it's sort of a balance... Realistically doing what you can do within your day, but realising when you can't.* (P1, lines 343-348)

Similarly, another participant discussed handover.

> *They would hand over the pager… and said "yep I've already seen them"… so there wasn't much to hand over… which is great, except that … she had seen them all, and verbalised a plan, but hadn't written it down in their notes, so she was staying back to write their notes.* (P4, lines 355-359)

Disagreeing, a participant firmly believed signs of not coping can be hidden and covered up.

> *I had a few friends … who were suffering from really bad depression … And those were people who were always social, always connecting, always happy, always doing the best job, always seeming to be coping very well, very self-confident, structured, never nervous, nothing on the surface and you would never recognise that.* (P6, lines 1592-1596)

They further discussed the differences between work and home personas.

> *Some people when you get to know them closer, you might find out that although*
> *they really seem to be self-confident at work, they might turn out to be crazy as soon*
> *as they are … home … I don't know if all the people who don't show they are*
> *stressed… at work are really coping that well at home… It's probably only when you*
> *get to know people better that they tell you that they can't really cope that well.* (P6,
> lines 1451-1460)

Individual Coping Mechanisms. Four participants identified individual coping
mechanisms (described below), however, workload often restricted ability to use these coping
mechanisms.

> *A reasonable amount of us are fairly active people … and* [if] *you are not able to go*
> *on your park run, or rowing regatta, or bike ride on the weekend, that kind of*
> *culminates it a little bit.* (P5, lines 1011-1013)

The importance of selfcare was raised.

> *It was 4pm, I really want to eat something, I'm looking after myself now, and I think*
> *that's number one before I can think through another emergency.* (P6, lines 1470-
> 1472)

One participant related to separting work and personal life, " "I got a life" I gotta go do
stuff... not my problem anymore" (P2, lines 351-352).

Three participants reported using mindfulness currently.:

> *In paediatrics where you do have a very difficult emotional case, mindfulness*
> *is very good … I do find that with any stressful situations.* (P2, 559-560)

Impact of Personal Situations. An individual's situation affects coping. One
participant discussed how having a baby gave her perspective on work/home life balance, whilst
another described struggles for international students.

You've been going through a particularly stressful time ... you've come to a new

country, a new hospital system, a new hospital and a new unit, if you had any one of

those things it would be incredibly stressful. (P7, lines 1478-1480)

3.4.4   Characteristics of the Profession

Stressors of Academic Demands. TMO academic examinations was recognised as a

stressor in this dialogue.

1626	P7:	*The exam period for P8 and I* [last year]… *was*
		the most stressful period I've ever been through and I think
		that would apply to...
1630	P8:	*Everyone *laughs**
1632	P7:	*Yeah - and I think a lot of that was to do with the way the*
		physician college structures those exams, and the way they
		only do them annually, but also the kind of cultural build up
		around an exam that is only run once a year
1636	Interviewer:	*Because it is so high stakes*
1638	P7:	*Exactly! … the examination had an issue and… had to be re-*
		sat two weeks later… I think that ties into a lot of the stress
		around as this something we are studying towards whilst
		working.

Intensive Patient Interactions. Patient interactions are especially intensive in

paediatrics given the emotionally-charged situations and were recognised as a stressor by four

participants. One participant noted "I did not want to do Paed [Sic]… the thought of a child

dying is something that I didn't think I could cope with" (P4, lines 82-83).

A similar pattern emerged with doctors over-empathising with patients.

I was 22 weeks [pregnant] *and the baby was 24 weeks and I was like "Oh! (*surprised*) Ohh... (*realisation of the baby being ill*) hmm. right. (*realisation that the baby may not make it*). ... In basic training I loved it ... cause you do post-nates and they shield you in the early part of your training...* (P4, lines 142-147)

Challenges of balancing Home/Work Life. Three participants observed the difficulties in balancing home and work life, especially switching feelings off from emotionally-charged work situations. As one participant described:

Its very stressful having ... dying babies... and um upset families and at times it's hard to off load those feelings when you go home ... trying to separate your work from your life is very tricky, for me, and I think for a lot of people who put a lot of themselves into their job ... there are such big life death things at work, you can't just go home and forget. (P1, 229-235)

However, another participant discussed how family responsibilities put her home/work balance into perspective, such as leaving work on time to collect her children from childcare.

3.4.5 Recommendations from TMOs

All TMOs believed a program to help their health and well-being would be beneficial. A variety of suggestions were made.

Information Provision and Lack of Reinforcement. There was a general lack of awareness of where to access help. Seven participants acknowledged information as given at induction, there was no reinforcement and was soon forgotten. As one participant reflected:

I don't remember anything about who to go to if you're struggling... I don't even know who that person to go to is now. If there is one person in the hospital, I don't know. (P5, 1258-1260)

Incorporating Heads of Units. Seven participants agreed senior input and support is needed for a successful program, as this dialogue highlights:

466	P4:	*Exactly, but if ... the team don't support it... it really does need to come more ...from a Head of Unit*
469	P3:	*Yeah it really needs to come from a head of unit down*
471	P1:	*Okay but we can't change what a Head of Unit is...*
473	Interviewer:	*This is actually a really good point. Maybe it is that the program needs to...*
475	P1:	*Incorporate the Heads of Units!*
477	P2:	*Yea *laughs* that's a good idea!*

(P1 - P4, lines 466-477)

Mentorship Program and Support. All participants expressed interest in a mentorship program explaining the benefit of advanced TMOs mentoring basic training TMOs on requirements of senior doctors, structure of the unit, and introducing staff. One participant explained why a peer support program is preferable.

...it's senior trainees and junior trainees and where there is no implication about your performance and what it means for your job prospects ... because often people can't actually speak to the consultants or... they are the same people that do your training fields and assess them. (P1, lines 579-582)

Another participant noted flaws in previous mentorship programs and suggested ideas for a successful program.

> [If its] *structured like "yes the senior person does need to check in on 'dh dh dh dh'*
> *these many times a year", whether the mentee engages or not is… not something*
> *you can force but placing some more responsibility on the senior, a bit more*
> *accountability ...* [In previous mentor programs] *they met up once at orientation …*
> *and said 'I'm here if you need me' but the mentee didn't reach out.* (P5, 1175-1180)

Integrated and Portable Programs. Five participants conceded that the program would need to be integrated into their work schedule and not affect their personal time.

> *A group session, that's never gonna happen … its hard to get lots of people together*
> *at the same time, and then after hours.... how much do these people want to put into*
> *that of their own time… it is important … we know that, but also at the same time*
> *we want to go to the fringe or go out to dinner.* (P5, lines 1211-1215)

The need for a program to be short and portable was also brought up.

> *It needs to be something that's not too time consuming… If it's an intensive, time*
> *consuming thing, people just wont stick with it.* (P5, 1243-1247)

Risks of online were acknowledged, that they "may not get done" (P5, 1082) nor reach those who need the program the most.

> *Online would be really easy, you can do it at home… you could do it whenever…*
> *whether people will engage in that and do that in their own time - hopefully people*
> *would.* (P5, 1101-1104)

Whilst supporting online programs, another outlined the risk of it not being used.

> *We get a bit bombarded - like we have so much mandatory training online course*
> *stuff that we are supposed to do, that it might get lost in those things we are*

supposed to tick off, but it is more flexible and makes much more sense for the

practical terms. (P9, 1905-1907)

Contrastingly, another participant described time constraints as limitation to use apps.

An app… I don't think I'd have time to sit there, unless it was something like a

podcast I could listen to when doing the dishes, or something that I didn't have to

watch, because my hands could do something else while my mind is settling. (P4,

683-686)

Support for Mindfulness. Mindfulness was endorsed by all participants as a beneficial add on, but core system changes would be required first, "mindfulness … [is] good but it's gotta be system changes" (P1, 563-564).

One participant described integrating mindfulness.

Mindfulness skills for people who don't have them or never done them would also be

useful … mindful walk or mindful eating those tasks, teaching people those skills

would be useful … Not everybody has practised mindfulness before and I think that

if people had the ability to just throw them into their day would be helpful. (P1, 597-

605)

This dialogue provided an example of how mindfulness helped a participant reset and focus during routine activities.

640 P1:   *I literally look at the bubbles, feel the bubbles, feel the water, hear the*

water and focus exactly on what I'm doing at that point, just for the

20 seconds that is, because it makes you clean your hands better and

allows you to just put a stop in some of the hard level of busy brain.

645 P2:   *And I do think that resets, when you focus on it*

647 P1:   *Yeah it helps me focus.*

One participant acknowledged that whilst she doesn't do mindfulness, they would if it was presented in a quick, integrated format and had workplace triggers.

> *I don't do mindfulness … so in all honesty I came in here thinking 'oh mindfulness, a coping mechanism, sure', but I don't know if that's for me. So if you were going to try and reach someone like me, wouldn't necessarily do this straight away, if you make me sit down at a seminar I'm not going to do it… if its just a one off no continual reminders, I'm not going to… follow through with it… if there was … posters on the stairs… a constant trigger that would work better for me… short sharp snappy would keep my attention.. (P4, 676-689)*

Three participants had similar views, specifically referencing the need for prompts to learnings from a mindfulness training program.

> *If someone has something they can go through their mind when they see that poster … if it triggers a process ... It's not really about the poster its more about the prompt. (P7, 1818-1822)*

Four participants agreed that any program teaching mindfulness skills would need an incentive. One participant suggested inclusion in TMO society educational nights.

Interestingly, some participants had a misconception of mindfulness, one participant explained her preconceived idea of mindfulness as "yoga classes … on the roof top", whilst others lacked understanding.

> *When you say mindfulness I HAVE NO IDEA what that means, but when you describe it, I'm like 'Oh, I've been doing that every day … I've been doing it all afternoon' (P4, 696-698)*

Pager Protected Time. Six participants recommended pager protected time for a successful program. This involves someone holding the TMOs pagers (thus attending to patients) allowing participants to engage in a program free of work responsibilities.

CHAPTER 4

Discussion

4.1 Overview

The aims of this study were to first establish base well-being characteristics of South Australian Paediatric TMOs compared to normative scores. Secondly, to identify their stressors and coping mechanisms and thirdly, to identify elements required for an intervention and feedback on mindfulness.

This discussion will briefly analyse quantitative results and summarise qualitative observations by theme, including participant recommendations for interventions and feedback on mindfulness. Furthermore, strengths and limitations of the study will be critiqued and suggestions made for future research.

4.2 Aim 1: Establish health and well-being characteristics and their variation from normative scores

Unlike previous research, the quantitative sample compared to normative scores were not significantly lower in well-being (Soares & Chan, 2016) nor higher in burnout and stress (Kumar, 2016; Wallace, Lemaire & Ghali, 2009). The exception was distress with 18 participants above normative scores (Beyondblue, 2013) and mindfulness with 16 below normative scores (Regehr et al., 2014). Aim 3 explores strategies to reduce distress and improve mindfulness (Krasner et al., 2009; Perez et al., 2015).

4.3 Aim 2: To identify stressors and coping mechanisms in the Paediatric TMO cohort

This aim was addressed through qualitative analysis and quantitative measure of coping. The online survey provided TMO coping strategies with high scores in Active coping, Planning, Emotional Support and Acceptance. Results explored in the qualitative analysis, identified two main themes: coping mechanisms with subthemes of support and coping, and stressors with sub themes of characteristics of the profession and workplace culture. Sub-themes are addressed below.

Support. In line with Ross & Mirowsky (1989), participants recognised sourcing emotional support from families and friends as a leading coping mechanism (Rø, Veggeland & Aasland, 2016; Perez et al., 2015; Zwack & Schweitzer, 2013). Inability to access support due to workload demands, shift work, rostering and long hours, negatively affected participants attitude towards work.

Consistent with previous findings, peer support was an important coping mechanism in formalised workplace structures and informal social settings (Satterfield & Becerra, 2010; Rø, Veggeland & Aasland, 2016). Participants outlined the importance of debriefing over a coffee and socialising, but highlighted the need for a formalised workplace peer support program providing a support network for those without access to family or friends, especially international students. Workplace support was identified as crucial for the success of any program, consistent with the findings of Redinbaugh et al. (2003).

Redinbaugh et al. (2003) highlighted the need for support from senior staff. This phenomenon in the current workplace was confirmed with one senior doctor specifically credited with creating a supportive workplace. The findings of Arnetz (2001) confirms the quality of leadership can determine work environment. This perhaps explains why the quantitative component failed to demonstrate differences from normative scores (Aim 1).

Positive culture is a factor reducing stress for this cohort. Further study with a view to identify factors unique to this workplace is recommended to ensure sustainability of this environment.

Coping. Individualised coping mechanisms were consistent to previous research including physical activity, self-care and interacting with support networks (Perez et al., 2015; Zwack & Schweitzer, 2013; Rø, Veggeland & Aasland, 2016). Ability to switch off and separate oneself from the work environment was also important (Perez et al., 2015). Self-care included having breaks and diet, to ensure preparedness for emergencies. Mindfulness was

recognised for coping with one participant exampling active mindfulness practises at work, when washing hands, allowing the individual to *reset* between patients.

Participants struggled identifying characteristics of TMOs coping and not coping. A variety of signs were reported but the focus groups emphasised variation between individuals and negative signs are often hidden. Signs of a TMO coping were evident in demeanour and being a supportive peer available for a chat.

Conversely, most participants described 2 types of TMOs not coping: those with obvious signs and those with hidden. Obvious signs included appearing flustered, fast talking, dropping items, crying, looking distressed, yelling, being on edge and withdrawal. Hidden signs were categorised as being apparent retrospectively, such as someone who isn't sleeping, the physical symptoms become evident over time to family and close colleagues. Other hidden traits were identified :staying back, excessively rechecking work or completing work afterhours, unwillingness to handover patients and being unrealistic about workload daily expectations.

Participants described not knowing what someone looks like at home and the tendency to put on a work persona. One participant referenced the recent suicide of a TMO as an example of someone not coping without prior signs.

Other coping factors included being new to the unit, being an international, interstate or regional student and personal situations, such as having children or relationships.

Workplace Culture. Participants frequently referenced positive, supportive culture in their current workplace (paediatrics), with some capacity for improvement. Most negative cultural aspects discussed referred to departments in which participants had previously worked. Many participants reported choosing paediatrics for both its culture and clientele; identifying the existence of stressing, far less supportive work environments, even elements of bullying in other medical specialisations. Findings were consistent with Curry et al. (2018) where effects of a positive workplace culture are learning environment, senior support and psychological safety.

Hospitals were described as hierarchical workplaces where passing of knowledge and expertise from senior to junior doctor in this structure is crucial to medical training. However, many examples were given of power imbalances in workplace relationships between senior and junior staff. There was a clear thread of demands on the individual as a stressor. One participant gave particularly insightful observations of three specific situations, summarised as: *the paediatrics façade*, *exploitation of the willing worker* and *leave guilt*. Most literature focuses on improving negative work culture (Curry et al., 2018; Braithwaite et al., 2017), these characteristics were found in a positive workplace culture but still adversely affect individuals.

The *Paediatrics Façade* describes the friendly approachable persona a TMO takes on in relationships with patients to engage with children, creating a happy culture in paediatrics. This façade potentially masks stress and pressures, hiding signs of not coping.

This same participant described this friendly culture allowing TMOs to be taken advantage of as *Willing Workers* taking on extra work, forfeiting leave or downtime to cover shifts to please others which becomes a stressor. *Leave guilt* is when individuals feel guilty and stressed taking leave knowing colleagues and bosses have to cover or would be called in from leave. Some may then defer leave making it harder to recover, adding to stressors. *Paediatrics Façade*, *Willing Worker* and *Leave Guilt* are stressors negatively impacting TMOs mental and physical health, consistent with burnout, confirming previous research (Barger et al., 2005; Lockley et al., 2004).

Characteristics of the profession. This study supports previous findings and themes. Despite working full time (for most), TMOs sit an annual exam as part of their training. Two participants described this as one of the most stressful periods of their life. Stress of studying for exams concurrently with working, may impact work ability, as reported in other studies (Soares & Chan, 2016). Academic pressures have a compounding effect on workplace stressors.

Reinforcing findings of Perez et al. (2015) this study found paediatrics' intensive emotional situations challenging in comparison to other specialities. Infant mortality and upset families were a stressing aspect of the job. One participant described being pregnant when working in the neonatal department and their patient, at a similar week of pregnancy, lost her baby. This highlighted the difficulty to switch-off, leading to the challenge of balancing home and work life. This was consistent with findings that patient doctor relationships are important to establish but can have a negative distressing effect on doctors (Maguire & Pitceathly, 2002; Platt & Keating, 2007).

4.4 Aim 3: To identify elements of a potential intervention program and whether mindfulness would be an appropriate option

A summary of focus group feedback and recommendations (Aim 3) follows.

Participant Recommendations. The theme of Recommendations highlighted specific areas TMOs believe need to be adjusted or could be implemented for a potential future program. Care was taken to ensure all suggestions were incorporated in the study. While mindfulness had the support of all participants as an add on (Perez et al., 2015; Zwack & Schweitzer, 2013), higher priorities were identified. TMOs made the following 6 recommendations:

I. Induction and Beyond. Provide more information more often about sources of support and help.

II. Incorporating heads of units. Endorsement by senior staff is essential for success of any intervention program

III. An integrated program. A program integrated with work will enable connection to TMOs and fit time availability – a compact program without extra workload.

IV. Apps and online. Trial mobile phone apps or online delivery of interventions.

V. Pager Free Time. Setting up "pager free" time allows specific time to participate in a program.

VI. Mentorship Program. Pair TMOs with more experienced TMOs for mentoring and support and/or structured positive mentoring from senior staff.

Mindfulness. This study included a focus on mindfulness as a potential intervention program idea. Participants endorsed mindfulness as an add on, with conditions as described above. Interestingly, in the quantitative sample, low levels of mindfulness had a moderate correlation with high levels of stress, high levels of distress and low well-being. Stress and Distress were also strongly correlated. Understanding these correlations assists in Aim 3, specifically the potential effect of a mindfulness program to reduce stress and distress. This was supported by Regehr, et al. (2014) meta-analysis findings that mindfulness practises can improve these areas. This study reinforced previous research which specifically looked at mindfulness, confirming elements of a program such as being integrated and compact, were more important than the type of mindfulness practise (Gilmartin et al., 2017).

Mindfulness is not the sole solution. There is an argument that learning mindfulness could improve well-being as suggested in many studies (Ludwig & Kabat-Zinn, 2008; Krasner et al., 2009; Regehr, Glancy, Pitts &LeBlanc, 2014; Irving, Dobkin & Park, 2009; Verweij et al. 2018).

Some participants had only a basic or no understanding of mindfulness which could have hindered their input.

4.5 Strengths of the Study

The study's mixed method design opened a more in-depth understanding of TMOs, enhancing what Tracy (2010) described as crystallisation. Method included statistical analysis as well as valuable, first hand observations and more importantly, meaningful suggestions from

the subject group, which would bring about meaningful change to support processes in this critical profession.

This research strictly adhered to ethics, enabling trust and openness within the focus groups, maintaining rigour throughout the study (Tracy, 2010). This gave the cohort anonymity and therefore the opportunity to influence change without having to rely on an individual to push for change. It also provides insight into a Paediatrics department in South Australia – and given the positive elements of its workplace culture, may promote the use of these practises in other specialities.

To maintain sincerity, self-reflexivity was enhanced through discussions of results with a supervisor, and an audit trail added to transparency (Tracy, 2010). The study's identification of, and comparisons to, previous research enriched triangulation, and contributed to this field (Tracy, 2010).

4.6 Limitations of the Study

Ideally, a larger sample size would have been preferable. There are 125 paediatric TMOs enrolled in South Australia, with only 65 working at the Women's and Children's Hospital and less than half of these participated in the quantitative component. Similarly, only nine TMOs were able to attend a focus group. This affirmed the difficulty of work demands with one Focus Group having a sole participant. However, this participant gave in depth, open, personal responses and consequently proved to be a valuable source of information.

It has been suggested personality types likely to participate in focus groups may not be representative of those not coping. This is problematic as the input of those most in need of support would not be included in the qualitative component. Future studies could incorporate other means of engaging with the cohort, such as multi-media qualitative engagement. Responses in the focus groups often referred to previous departments.

Certain demographic details including gender, age, relationship status, family information and heritage were not obtained in ethics approval due to the small sample size and

risk of individuals being identified. Focus groups highlighted differing experiences between TMOs from local, international, interstate and regional backgrounds, especially differences in access to family and friend support networks. A larger sample size might overcome these ethical concerns.

Some scales used, whilst recognised globally, did not have Australian normative scores and further studies for the Australian population would be of value for more precise analysis. Additionally, to keep the questionnaire short to increase participation, abbreviated scales were used (aMBI). The aMBI did not have high internal consistency in this study and was a sacrifice made to ensure greater participation.

4.7 Recommendations for Future Studies

There is an on-going need for research in this field. This study highlights how each specialisation and each individual's TMO experience is different. Strategies to address stress and coping amongst doctors are essential for this profession. Further studies are needed to identify the relative success (and failure) of these intervention strategies after implementation.

4.8 Implications

This research offers an advanced understanding of the TMO cohort, will assist in a co-designed intervention program as well as changes recommended by TMOs, in the Paediatric unit. Furthermore, the positive practices of the Paediatrics unit culture should be investigated and implemented into workplaces with less positive cultures.

4.9 Conclusions

This study found this cohort does not differ from the norm except in slightly higher distress levels and lower mindfulness characteristics (Aim 1). In terms of strategies for intervention, these two areas should be a focus. Secondly, it affirms previous findings of stressors and coping mechanisms, however there was universal feedback that environment and culture in the paediatrics department is much less distressing than other areas of practise (Aim

2). Many subjects reported being attracted to this specialty either because of the nature of the profession or this positive and supportive work place culture. Lastly, it delivers six recommendations for intervention strategies, as well as a general endorsement for trialling the use of mindfulness practices (Aim 3). Overall, the study has provided advice for the work area and hopefully can contribute to development of a program which incorporates recommendations.

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Appendix A: Participant Information Sheet

Participant information form

MINDFULNESS INTERVENTION FOR PAEDIATRIC TRAINING MEDICAL OFFICERS

Drs Poliana De Barros Medeiros (trial co coordinator), Chad Andersen, Scott Sypek, Yu-Ling Chen, A/Prof Michael Stark and Prof Deb Turnbull.

Women's and Children's Hospital and the University of Adelaide.

This Participant Information and Consent Form is **4** pages long. Please make sure you have all the pages.

1.   Your Consent

You are invited to take part in this research project.

This Participant Information contains detailed information about the research project. Its purpose is to explain to you as clearly as possible all the procedures involved in this project before you decide whether or not to take part in it.

Please read this Participant Information carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your local health worker.

Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent to participate in the research project.

You will be given a copy of the Participant Information and Consent Form to keep as a record.

2.   Purpose and Background

You are invited to participate in a research study looking at mindfulness practice in Paediatric trainees. The trial has two stages with the first stage set aside for design and development of a mindfulness intervention that will be later used in training medical officers (TMOs).

Research has found that TMOs are at high risk of anxiety, stress, burn out and dissatisfaction with work-life balance. Mindfulness is defined as a way of being where individuals maintain openness, patience, and acceptance, while focusing attention on an unfolding situation in a nonjudgmental way. These principles have been used to improve clinical practice in addition to reduce pain, depression, and burnout and increase life quality. The overall objective is to develop an intervention using mindfulness to help reduce these important issues in Paediatric TMOs.

This study has been designed in two parts. The Stage 1 Focus group, described here, will involve development of a mindfulness intervention with input from Paediatric trainee MOs and facilitation by University of Adelaide Psychology staff. The study staff will cover a variety of topics in order to develop an intervention that is both effective and time efficient. This co designed intervention will be later trialed in Stage 2 study in the 2019 Paediatric training group.

3. Procedures:

Participation in Stage 1 includes answering a number of anonymous questionnaires (measuring depression, anxiety, stress, burnout, coping, well-being and mindfulness skills) and participating on the Focus Group.
The anonymous questionnaires (relating to anxiety, stress, burn out, coping and work life balance) will help understanding the prevalence of mental health problems faced by the TMOs and therefore, help planning a more assertive intervention.
The Focus Group will help us develop an assertive and effective co-designed mindfulness intervention that fits comfortably into the daily workload of the trainee. The group interview will be conducted with approx. 6 staff for approx. 60 minutes duration. These focus groups will be conducted by a MPsychClin PhD and a trained honours student (facilitators), both neutral and independent to make sure that the TMOs can disclose. The MPsychClin PhD and the trained honours student will discuss issues regarding anxiety, stress, fatigue etc. in order to understand the key concerns of the group. The facilitators will discuss a number of previously studied interventions to draw out what elements are most relevant to a training group in a South Australian context. They will encourage the group of participants to comment on ideas about the possible format, structure and content to co-design the desirable intervention. Some of the time will be structured and some unstructured so as to capture the key issues in a training cohort. There will be audio-recording of the focus group to be transcribed and analysed, but all the data will be presented in an anonymous fashion. A summary of the proposed co designed intervention will be provided to the TMO for feedback. This proposal will then be used in a before versus after prospective cohort trail (Stage 2).

4. Possible Benefits

Aside from making a valuable contribution to our understanding of the needs of TMOs, participants have the opportunity to discuss important issues that may well have benefits for the individual during training. Participant time will occur within the rostered hours. Thus, there is no out of hours commitment.

Participation is voluntary and all answers will be anonymous. You can withdraw from the study without comment or penalty and your data will be kept anonymous. As participants are unable to be identified during all stages of the study, there is no risk associated with the identification of sensitive information in this research.

5. Possible Risks

The risks involved by taking part in this research are considered to be minimal and are no greater than what you would encounter in your position as a TMO. However, as certain questions relate to emotions and mood symptoms, there is a small risk that some questions may make participants feel uncomfortable.
A trained psychologist will assess participant safety from the focus group responses and will sub classify 'at risk' participants.
TMOs found to be in severe psychological distress, who are considered to be at high risk of harm, will be counselled and offered medical assistance and/or psychological support. The Director of Clinical Training may be informed to protect and support the TMOs. Whereas those TMOs found to be distressed, but not at risk of self-harm will follow an alternate pathway through notification of their GP and use of community-based resources.
If this study does raise any issues for you, we encourage you to seek support from Lifeline (13 11 44) or beyondblue (https://www.beyondblue.org.au).

If a bulling situation is identified, the Management of Disrespectful Behaviour Policy Guideline will be followed. The complaints will follow the "anonymous pathway" and will be addressed to the line manager. We will also encourage the trainees to use the Employee Assistance Program (EAP) which is a confidential external counselling service provided by the employer for employees and their family members to address issues that may be affecting their work.

6. Alternatives to Participation

There is no obligation to participate in this study.

7. Privacy, Confidentiality and Disclosure of Information

The TMO questionnaires responses will be anonymous. Potentially identifiable information and study questionnaires will be stored on a password protected database. Only the research team will have access to this data.

Any information obtained in connection with this project that can identify you will remain confidential. It will only be disclosed with your permission, except as required by law or as referred above in "Possible Risks" in case of high risk of harm. The group interview as described above will be conducted by a MPsychClin PhD and a trained honours student with approx. 6 staff. Therefore, your colleagues taking part of the same focus group will also hear and be aware of your comments during the interview.

If you give us your permission by signing the Consent Form, we plan to publish the results in a scientific journal.

In any publication, information will be provided in such a way that you cannot be identified.

8. Results of Project

You will receive information at the end of the study which will summarise the results.

9. Further Information or Any Problems

If you require further information or if you have any problems concerning this project (for example, any side effects), you can contact the principal researcher;

Dr Chad Andersen and A/Prof Michael Stark: (08) 81617631

10. Other Issues

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact

Name: Luke Fraser

Position: Research Information Officer, Research Institute, WCH.

Telephone: (08) 8161 6521

11. Participation is Voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage.

12. Ethical Guidelines

This project will be carried out according to the *National Statement on Ethical Conduct in Human Research* (March 2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.

The ethical aspects of this research project have been approved by the WCHN Human Research Ethics Committee.

13. Reimbursement for your costs

You will not be paid for your participation in this project.

Appendix B: Consent Form

Consent form

MINDFULNESS INTERVENTION FOR PAEDIATRIC TRAINING MEDICAL OFFICERS

Drs Poliana De Barros Medeiros (trial co coordinator), Chad Andersen, Scott Sypek, Yu-Ling Chen, A/ Prof Michael Stark and Prof Deb Turnbull.

Women's and Children's Hospital and the University of Adelaide.

I _____ hereby consent to my involvement in the research project entitled:

MINDFULNESS INTERVENTION FOR PAEDIATRIC TRAINING MEDICAL OFFICERS

1. The nature and purpose of the research project described on the attached Information Sheet has been explained to me. I understand it and agree to taking part.

2. I understand that I may not directly benefit by taking part in this study.

3. I acknowledge that the possible risks and/or side effects, discomforts and inconveniences, as outlined in the Information Sheet, have been explained to me.

4. I understand that I can withdraw from the study at any stage and that this will not affect medical care or any other aspects of my training journey or relationship with this healthcare service.

5. I understand that there will be no payment to me for taking part in this study.

6. I have had the opportunity to discuss taking part in this research project with a family member or friend, and/or have had the opportunity to have a family member or friend present whilst the research project was being explained by the researcher.

7. I am aware that I should retain a copy of the Consent Form, when completed, and the Information Sheet.

8. I understand that my information will be kept confidential as explained in the information sheet except where there is a requirement by law for it to be divulged.

Signed: ....

Full name: ....

Dated: ....

I certify that I have explained the study to the named person and consider that he/she understands what is involved.

Signed: ....

Title: ....

Dated: ....

Appendix C: Invitation and Recruitment Poster
(Sent via email to potential participants and displayed in the TMO lounge at the Women's and Children's Hospital)

TMO Health & Wellbeing Study

Women's and Children's Hospital and The University of Adelaide

Women's & Children's Hospital

THE UNIVERSITY of ADELAIDE

This is a great opportunity for your input!

We are a team of Doctors and Psychologists from the Adelaide Women's and Children's Hospital and The University of Adelaide researching the health and wellbeing needs of TMOs and we are inviting you to participate in our research study - *The TMO Health and Wellbeing Study*.

The study aims to better understand the health and wellbeing needs of TMOs and to identify the most successful coping strategies.

We expect to use the information from this research to co-develop ways to improve support for TMOs

The Study is in two parts and while participation is not compulsory, we are inviting **all TMOs** to participate in **both parts**.

If you are unable to commit to both parts, we ask that you at least contribute to part one which is a simple 10-minute online questionnaire. We hope to get 100% participation in this part.

TO PARTICIPATE IN PART ONE:
The questionnaire can be accessed now via this link:

https://www.surveymonkey.com/r/TMOsurveySA

The questionnaire will close on the 3rd of March.

The second part will be a Focus Group of TMOs to expand on part one and to obtain input for structuring a program to help TMOs cope with work stressors and improve their general wellbeing. Focus Group meetings will be held in late February.

TO PARTICIPATE IN PART TWO: please confirm your availability and preferred time Wednesday (4:45pm, 27/02) or Thursday (11:30am, 28/02 & 7/03) to this email address: **tmostudysa@gmail.com.** They will be held at the local TMO Lounge. If these times are not suitable and you still want to participate, please contact us.

Our findings will be used to develop future programs to help TMO wellbeing; the more responses we get, the better we can design a program to suit TMO needs.

We understand that some individuals may feel anxious about taking part in a research project and would like to re-assure you that this entire project will be anonymous, confidential and administered with the utmost care. Our research team has considerable experience working with TMOs; and will be pleased to answer any other questions about the project.

Thank you.

Yours sincerely,

The TMO Health and Wellbeing Study Team.

Appendix D: Quantitative Online Survey - Sample of Online Survey Monkey

TMO Health and Well-being Survey

1. Welcome to the TMO Survey

Thank you for participating in our survey. It should take approximately 10 minutes of your time. There are 7 short parts. Your feedback is important.

* 1. Consent: Terms and Conditions

☐ By ticking this box I agree that the nature and purpose of the research project described on the attached Information Sheet has been explained to me. I understand it and agree to taking part. I understand that I may not directly benefit by taking part in this study. I acknowledge that the possible risks and/or side effects, discomforts and inconveniences, as outlined in the Information Sheet, have been explained to me. I understand that I can withdraw from the study at any stage and that this will not affect medical care or any other aspects of my training journey or relationship with this healthcare service. I have had the opportunity to discuss taking part in this research project with a family member or friend, and/or have had the opportunity to have a family member or friend present whilst the research project was being explained by the researcher. I understand that my information will be kept confidential as explained in the information sheet except where there is a requirement by law for it to be divulged.

TMO Health and Well-being Survey

2. Demographics

Please answer the following demographic questions.

1. What is your paediatric subspecialty?

[⬍]

Other (please specify)

[   ]

2. What is your Post Graduate Year of study?

[⬍]

3. How many hours do you roughly work per week?

○ Less than 25   ○ 45 - 55

○ 25 - 35   ○ More than 55

○ 35 - 45

Other (please specify)

[   ]

4. Are you/have you participated in a Focus Group for this study?

○ Yes

○ No

TMO Health and Well-being Survey

3. Reflection on past 30 days

These questions concern how you have been feeling over the past 30 days. Tick a box below each question that best represents how you have been.

1

* 1. During the last 30 days, about how often did you feel tired out of no good reason?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 2. During the last 30 days, about how often did you feel nervous?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 3. During the last 30 days, about how often did you feel so nervous that nothing could calm you down?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 4. During the last 30 days, about how often did you feel hopeless?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 5. During the last 30 days, about how often did you feel restless or fidgety?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 6. During the last 30 days, about how often did you feel so restless you could not sit still?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 7. During the last 30 days, about how often did you feel depressed?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 8. During the last 30 days, about how often did you feel that everything was an effort?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 9. During the last 30 days, about how often did you feel so sad that nothing could cheer you up?

  ◯ None of the time   ◯ Most of the time

  ◯ A little of the time   ◯ All of the time

  ◯ Some of the time

* 10. During the last 30 days, about how often did you feel worthless?

○ None of the time   ○ Most of the time

○ A little of the time   ○ All of the time

○ Some of the time

TMO Health and Well-being Survey

4. Reflect on the past month

For each question reflect on the last month and choose the most appropriate option.

* 1. In the last month, how often have you been upset because of something that happened unexpectedly?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 2. In the last month, how often have you felt that you were unable to control the important things in your life?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 3. In the last month, how often have you felt nervous and stressed?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 4. In the last month, how often have you felt confident about your ability to handle your personal problems?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 5. In the last month, how often have you felt that things were going your way?

○ Never   ○ Fairly Often

○ Almost never   ○ Very often

○ Sometimes

* 6. In the last month, how often have you found that you could not cope with all the things that you had to do?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

3

* 7. In the last month, how often have you been able to control irritations in your life?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 8. In the last month, how often have you felt that you were on top of things?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 9. In the last month, how often have you been angered because of things that happened that were outside of your control?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

* 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

○ Never   ○ Fairly often

○ Almost never   ○ Very often

○ Sometimes

TMO Health and Well-being Survey

5. Coping

The following questions address coping in a situation. Think of a situation in which you have been stressed and how you cope.

* 1. I concentrate my efforts on doing something about the situation I'm in.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 2. I take action to try to make the situation better.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

4

* 3. I try to come up with a strategy about what to do.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 4. I think hard about what steps to take.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 5. I try to see the situation in a different light, or make the situation seem more positive.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 6. I look for something good in what is happening.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 7. I accept the reality of the fact that it is happening.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 8. I learn to live with it.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 9. I make jokes about it.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 10. I make fun of the situation.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 11. I try to find comfort in my religion or spiritual beliefs.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 12. I pray or meditate.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 13. I get emotional support from others.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 14. I get comfort and understanding from someone.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 15. I try to get advice or help from other people about what to do.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 16. I get help and advice from other people.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 17. I turn to work or other activities to take my mind off things.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 18. I do something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 19. I say to myself "this isn't real".

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 20. I refuse to believe that it is happening.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 21. I say things to let my unpleasant feelings escape.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 22. I express my negative feelings.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 23. I use alcohol or other drugs to make myself feel better.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

7

* 24. I use alcohol or other drugs to help me get through it.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 25. I give up trying to deal with the situation.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 26. I give up the attempt to cope.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 27. I criticise myself.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

* 28. I blame myself for things that happen.

○ I don't do this at all.

○ I do this infrequently.

○ I do this frequently.

○ I do this a lot.

TMO Health and Well-being Survey

6. Work life

For each statement, mark the box that most accurately reflects your response

* 1. I deal very effectively with the problems of my patients.

○ Everyday   ○ Once a month or less

○ A few times a week   ○ A few times a year

○ Once a week   ○ Never

○ A few times a month

* 2. I feel I treat some patients as if they were impersonal objects

○ Everyday
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 3. I feel emotionally drained from my work.

○ Every day
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 4. I feel fatigued when I get up in the morning and have to face another day on the job.

○ Every day
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 5. I've become more callous towards people since I took this job

○ Every day
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 6. I feel I'm positively influencing other people's lives through my work.

○ Every day
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 7. Working with people all day is really a strain for me.

○ Every day
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 8. I don't really care what happens to some patients.

○ Every day
○ A few times a week
○ Once a week
○ A few times a month

○ Once a month or less
○ A few times a year
○ Never

* 9. I feel exhilarated after working closely with my patients.

◯ Every day   ◯ Once a month or less

◯ A few times a week   ◯ A few times a year

◯ Once a week   ◯ Never

◯ A few times a month

TMO Health and Well-being Survey

7. Health and Wellbeing

The following questions regard your emotions, relationships and health. Please answer using the sliders accordingly.

* 1. How much of the time do you feel you are making progress towards accomplishing your goals?

0 - never   10 - always

* 2. How often do you become absorbed in what you are doing?

0 - never   10 - always

* 3. In general, how often do you feel joyful?

0 - never   10 - always

* 4. In general, how often do you feel anxious?

0 - never   10 - always

* 5. How often do you achieve the important goals you have set yourself?

0 - never   10 - always

* 6. In general, how would you say your health is?

0 - terrible   10 - excellent

* 7. In general, to what extent do you lead a purposeful and meaningful life?

0 - not at all   10 - completely

10

* 8. To what extent do you receive help and support from others when you need it?

0 - not at all   10 - completely

* 9. In general, to what extent do you feel that what you do in your life is valuable and worthwhile?

0 - not at all   10 - completely

* 10. In general, to what extent do you feel excited and interested in things?

0 - not at all   10 - completely

* 11. How lonely do you feel in your daily life?

0 - not at all   10 - completely

* 12. How satisfied are you with your current physical health?

0 - not at all   10 - completely

* 13. In general, how often do you feel positive?

0 - never   10 - always

* 14. In general, how often do you feel angry?

0 - never   10 - always

* 15. How often are you able to handle your responsibilities?

0 - never   10 - always

* 16. In general, how often do you feel sad?

0 - never   10 - always

* 17. How often do you lose track of time while doing something you enjoy?

0 - never   10 - always

* 18. Compared to others of your same age and sex, how is your health?

0 - terrible   10 - excellent

* 19. To what extent do you feel loved?

0 - not at all   10 - completely

* 20. To what extent do you generally feel you have a sense of direction in your life?

0 - not at all   10 - completely

* 21. How satisfied are you with your personal relationships?

0 - not at all   10 - completely

* 22. In general, to what extent do you feel contented?

0 - not at all   10 - completely

* 23. Taking all things together, how happy would you say you are?

0 - not at all   10 - completely

TMO Health and Well-being Survey

8. Everyday Experiences

Below is a collection of statements about your everyday experience. Using the scales, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

* 1. I could be experiencing some emotion and not be conscious of it until some time later.

- ○ Almost always   ○ Somewhat infrequently
- ○ Very frequently   ○ Very infrequently
- ○ Somewhat frequently   ○ Almost never

* 2. I break or spill things because of carelessness, not paying attention, or thinking of something else.

- ○ Almost always   ○ Somewhat infrequently
- ○ Very frequently   ○ Very infrequently
- ○ Somewhat frequently   ○ Almost never

* 3. I find it difficult to stay focused on what's happening in the present.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 6. I forget a person's name almost as soon as I've been told it for the first time.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 7. It seems I am "running on automatic," without much awareness of what I'm doing.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 8. I rush through activities without being really attentive to them.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 10. I do jobs or tasks automatically, without being aware of what I'm doing.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 11. I find myself listening to someone with one ear, doing something else at the same time.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

13

* 12. I drive places on 'automatic pilot' and then wonder why I went there.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 13. I find myself preoccupied with the future or the past.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 14. I find myself doing things without paying attention.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

* 15. I snack without being aware that I'm eating.

○ Almost always   ○ Somewhat infrequently

○ Very frequently   ○ Very infrequently

○ Somewhat frequently   ○ Almost never

TMO Health and Well-being Survey

9. Conclusion

We would like to thank you for taking the time to participate in this survey. If you would like to get in contact with us regarding the study, our email is TMOstudySA@gmail.com. If this study does raise any issues for you, we encourage you to seek support from your local physician or alternatively the following helplines: Lifeline (13 11 44) or beyondblue (http://beyondblue.org.au)

1. Any additional comments regarding the survey or recommendations for a program for TMOs to help them cope within their position?

Appendix E: Example of prompt Questions used in Focus Groups

PART 1: WARM UP & TMO INFORMATION
1. **What was it that spiked your interest in Paediatrics? How about we go around the room.**
2. **To gain an understanding of workloads, how many hours a week do you devote to your job?**

PART 2: STRESSORS & COPING
- From our background research we have found TMOs are at risk of elevated distress, stress and burnout. As well as low well-being and coping. Whilst most research is from overseas, we have seen similar results in studies of medical students in Australian Universities. From the literature, we found 'workload' to be one of the significant stressors.
3. **Tell us about what you find are the major stressors in the role of a training program?**
    - **FOLLOW UP:** Tell us a bit about that or any other stressors that you think impact TMOs.
4. **What are TMOs told about coping mechanisms?**
5. **What are the characteristics of a TMO who ISN'T coping?**
6. **What would be the characteristics of a TMO who IS coping?**

PART 3: THE PROGRAM
- It's interesting to learn about TMO coping mechanisms. As we mentioned, our goal is to co-develop a new program for TMOs to help improve these areas and TMO general well-being, but as well we want to enhance strengths TMOs demonstrate. So now we are going to ask a few questions on your views of the program.
7. **What do you believe the priorities of the program should be?**
    - <u>Seek suggestions.</u> **Follow up:** Some suggestions we have investigated are:
    - Positive coping?
    - addressing anxiety and depression?
    - enhancing general well-being?
    - Do any of the above seem relevant for a program for TMOs?
    - **2nd Follow Up:** Do you believe the program should also focus on building strengths? And if so, what strengths?
    - Building resilience?
    - Enhance coping Strategies?

8. **Tell us about what format for the program would best fit in with TMO workloads.**
    - *Seek suggestions.* **Some ideas we thought of**:
    - Online?
    - App?
    - Face to face?
    - peer support?
    - Initiative?
    - All of the above?

9. **FOLLOWS ON FROM 7: Recent research has shown that the development of apps such as 'Calm' and 'Headspace' are useful to teach methods of mindfulness, to de-stress and for relaxation. Has anyone used or heard of these programs or any other programs which are currently available?**
- **FOLLOW UP:** A benefit of both of these programs is that they are Phone Apps and have some free features. So these programs are quite easily accessible, especially when you are on the go. We have previously discussed the idea of an app, however if it was to be paid, who do you believe should cover the costs for TMOs to use it?
- **FOLLOW UP:** Both 'Calm' and 'Headspace' have a strong focus on mindfulness. Have you heard or used mindfulness techniques before or know of someone who has, in a TMO position?

PART 4: CONCLUSION

10. Are there any extra suggestions you would like to contribute regarding the contents of the program? Any other questions or concerns?

Appendix F: Saturation Table

Theme	Participant ID								
	1	2	3	4	5	6	7	8*	9*
Support									
Personal Support (4)			X	X	X	X			
Peer Support (4)		X		X	X		X		
Workplace Support (5)			X	X			X	X	X
Workplace Culture									
Difficulties of Hierarchical Structure (8)	X	X	X	X	X	X	X	X	
Demands on the Individual (3)	X			X	X				
Comparatively Positive Paediatrics Culture (6)		X	X	X	X	X	X		
Coping									
Signs of Coping (3)	X				X		X		
Signs of NOT Coping (7)	X	X	X	X	X	X	X		
Individual Coping Mechanisms (4)		X		X	X	X			
Impact of Personal Situation (3)				X		X	X		
Characteristics of the Profession									
Stressors of Academic Demands (2)							X	X	
Intensive Patient Interactions (4)	X	X		X	X				
Challenges of balancing Home/Work Life (3)	X			X	X				
Recommendations									
Information Provision and Lack of Reinforcement (7)	X	X		X	X		X	X	X
Incorporating Heads of Units (7)	X	X	X	X			X	X	X
Mentorship Program (9)	X	X	X	X	X	X	X	X	X
Integrated and Portable Programs (5)	X				X	X		X	X
Support for Mindfulness (9)	X	X	X	X	X	X	X	X	X
Pager Protected Time (6)	X	X	X	X			X		X

Focus on Support (9)	X	X	X	X	X	X	X	X	X

* Participant 8 and 9 came into the session late and missed some questions.