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Soundy, Andrew; Hemmings, Laura; Gardiner, Lucy

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Title Page:

Title

Screening and supporting the mental health of student physiotherapists during the COVID-19 pandemic

Andy Soundy^{1*}
Laura Hemmings¹
Lucy Gardiner¹

**Corresponding author*

Andrew Soundy, School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, United Kingdom, B15 2TT. Email: A.A.Soundy@bham.ac.uk

Address of authors

¹ School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, United Kingdom, B15 2TT

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Abstract

Objectives

The purpose of this study was to use the MEAH as a way to screen and support physiotherapy students and understand the impact of COVID-19 on their health by focusing on the stories (narrative) they tell.

Design

A pilot mixed methods study

Setting

Online single screening interview (conducted via Zoom or Skype)

Participants

A convenience sample of student physiotherapists across both BSc and MSc levels.

Intervention

A single screening e-based interview was performed.

Main Outcome

Quantitative: The Model of Emotions, Adaptation and Hope

Qualitative: Screening interview

Results

Nineteen students took part in this study.

Qualitative findings: Students identified 4 master plot narratives as a response to the screening interview. These included: 1: The future control narrative, 2: The lost productivity narrative, 3: The isolation narrative and 4: The opportunity narrative.

Quantitative findings: Significant pre to follow up change was found in acceptance, pleasantness and energy.

Conclusion

It is possible to support the mental health of physiotherapy students by screening for difficulties and listening and exploring responses.

Key words: mental health, student health care professionals, COVID-19, screening, support, narrative

Key points:

- This paper provides evidence of the need for listening support to be given to students during the COVID-19 pandemic using online approaches.
- The identification of shared master plots (common plots of experience) provides a way to consider how students experience the effects of COVID-19.
- The master plots could be translatable to other situations or experiences of life events that create uncertainty.
- The paper identified specific challenges apparent for student physiotherapists in the time of COVID-19.
- The Model of Emotion, Adaptation and Hope screening tool provides a unique way to support students in improving emotional distress and shows potential for changing responses that relate to hope and adaptation
- A significant change from feelings of anxiety towards being more hopeful or expectant that perceived difficulties could change was identified
- Current findings can be used to help universities support the mental health of students. This approach could also be applied to health care staff.

Reflective questions

- Are there master plots mentioned within this paper that you relate to? Are there master plots within the paper that you do not relate to?
- Are there master plots you admire? Or may be able to tell in the future?
- Are you able to identify narrative master plots in your own clinical environment? Are there instances during interaction where you could explore the individual's story more?
- Do you believe that stories could be a way to create positive psychological adaptation in patients from a clinical interaction?

Introduction

The COVID-19 pandemic has had a physical and psychological impact on the global population with groups such as health care professionals (HCP) identified at high risk of a mental health challenges (Chen et al., 2020). Research is urgently needed to investigate the mental health of frontline HCP (Holmes et al., 2020). This should include evaluation of mental health screening and strategies of support to be provided for all HCPs (Pfefferbaum & North, 2020; Cullen, Gulati & Kelly, 2020). Student physiotherapists are one particular group that have been affected by the outbreak of COVID-19 (Health Education England, 2020). Primarily this has included disruption to clinical placements, altered teaching delivery and potential early qualification or addition to a temporary register (Health Care Professions Council, 2020). Research into the impact of COVID-19 on HCP students has so far identified a significant increase in anxiety (Cao et al., 2020; Callagher and Schleyer, 2020).

Student HCP are an important population with whom to explore the psychological response to COVID-19 because of their higher age and gender match levels of psychological morbidity (Walsh et al., 2010). Novice physiotherapists have significantly increased levels of stress and anxiety in comparison to their experienced colleagues when addressing emergency situations (Dunford, Reeve, and Larmer, 2011) with suggested predictors of psychological distress in physiotherapy students including a lower sense of coherence, poorer perceived health and lack of family support (Biro, Veres-Balajti and Kosa 2016). This less experienced cohort may therefore be at heightened risk of psychological distress in the face of COVID-19 and research is needed to explore the impact of this and to identify support mechanisms.

Flexible, cost-effective and widely accessible approaches are urgently needed, with online screening and intervention being an obvious choice during the COVID era and recommended within literature (Cullen et al., 2020). E-based methods provide both student and qualified HCPs with an opportunity and means to reflect and self-correct their actions and behaviours (McDonald et al., 2018). E-based screening and support for the mental health of HCPs, can bypass the need for direct contact with trainers (Pfefferbaum and North, 2020). Developers must appreciate existing concerns of their use. Review evidence (Lal and Adair, 2014) highlighted concerns relating to an inability to establish therapeutic relationships online, potential physical, financial or cognitive barriers for users. A lack of uptake by health care professionals and the motivation of financial reward for developers and/or publication bias as a result. However, such methods are important during the pandemic and can potentially identify and support levels of distress in HCPs on a national scale.

The model of emotions, adaptation and hope (MEAH) was developed by reconceptualising psychological adaptation (Soundy et al., 2016a). The MEAH screening tool was constructed¹ to be used in situations of extreme challenge and provide mental health screening and support within a brief time period. Individuals identify the greatest difficulty/challenge they currently face and rate it on 4 simple nine-point scales (hope, psychological adjustment, pleasantness and perceived energy). The rating of hope and psychological adjustment reflect one validated scale and a first axis (Soundy et al., 2016b; Soundy, 2018). The rating of pleasantness and

¹ The MEAH was the final development of a set of 12 theory-led reviews (see www.meah.rocks) that focused on the (re)conceptualisation hope and psychological adaptation. This work was conducted across various chronic conditions (e.g., Parkinson's, Multiple Sclerosis, Stroke, Spinal Cord Injury) and palliative conditions (e.g., Motor Neurone Disease and Cancer).

energy provide another axis that is combined to identify specific emotions (e.g., sadness, frustration, anxiety or worry) (Russell, 1980).

All four questions combined identify the central psychological characteristics of illness narrative master-plots (common story plot) (Soundy, 2018). This understanding provides a way to assess and support an identified difficulty.

Collective responses from student HCP would generate master plots and illustrate different approaches to psychological adaptation. Understanding this information would likely have value for other students who want to consider their own story. This could act to support psychological adaptation (Soundy, 2018).

Students are likely to identify difficulties similar to those highlighted by other HCP during the COVID outbreak such as clinical placement, care for people and general uncertainty (Zerbini et al., 2020; Barton et al., 2020). Ability to understand the value of discussing such challenges is important when considering what support can be provided to students during the pandemic. Furthermore, the process of sharing difficulties will provide an opportunity to experience real play (Norris et al., 2019). Real play provides opportunity to understand the reality of completing a screening tool that would normally be given to patients in clinical practice. This experience could also help the students understand patients' stories and the importance of patient centred narrative medicine (Kumaga, 2008). With clinical experience health care students prefer an ideal type or story that fits with rehabilitation. This is problematic because it reduces empathy (Soundy et al., 2010). Understanding the importance of telling a story without perceived judgement is essential if empathy is to be improved in interactions.

To the best of the authors knowledge no other research has used a screening tool as a basis to identify and support difficulties faced by HCP students during the COVID-19 pandemic and this is the first study to use the MEAH as a screening support tool. The purpose of this study was to use the MEAH as a way to screen and support physiotherapy students and understand the impact of COVID on their health by focusing on the stories (narrative) they tell.

Methods

Design: A mixed methods pilot study was undertaken. The mixed methods appraisal tool (MMAT) was used to document the methods (Hong et al., 2018).

Eligibility: Any pre- or post-registration student physiotherapist based at the University of Birmingham. Students were excluded if they were currently part of other communication or psychology-based research.

Study setting: A single online interview (via Skype or Zoom) was set up and delivered by Dr Soundy.

Sampling: A convenience sample of students undertaking a pre- and post-registration degree relating to physiotherapy was invited to partake.

Sample size: A sample size of 15-20 participants was sought as the expected treatment size was estimated to be a medium effect (Whitehead et al., 2015), and to achieve sufficient understanding of narrative master plots (Soundy, 2018).

Randomisation processes: No randomisation was undertaken.

Intervention: A single screening interview with Dr Soundy, who has extensive experience with qualitative research, following the completion of a MEAH questionnaire. Before the interview a MEAH questionnaire was sent to students who completed it and emailed the responses back. MEAH outcome assessments were

taken at baseline, post intervention, and at 2-week follow up. Two reminder emails were sent if a student didn't respond to the follow up request. The following information was recorded:

Demographics; Age, gender, year of study and program.

Primary outcome measure: The MEAH was identified as the primary outcome measure to capture change in psychological adaptation. The MEAH is made up of 5 simple questions taking between 30 seconds to 2 mins to complete. See Appendix A for the scale used.

Secondary outcomes measures; A screening interview schedule was developed within the research team, considering previous literature and anecdotal reports.

Analysis; A narrative analysis was conducted by Dr Soundy for screening interview data. Four stages of narrative analysis were undertaken (see supplementary file for the audit trail). Descriptive statistics and a Mann-Whitney U-test with Bonferroni adjustment was used to analyse quantitative findings.

Trustworthiness: quality was enhanced according to recommendation for narrative research (Loh, 2013). Peer validation and audience validation was achieved as well as documenting an audit trail of analysis.

Results

Demographics

Nineteen students (18 female, 1 male) volunteered to take part in this research. The average age of students was 22.9 ± 4.9 years. Ten students were in their final year of the BSc programme, 2 students in their second year, and 3 students in their first year. Two students were in their second year of the MSc pre-registration programme, and 1 student was from the MSc post registration programme.

Named difficulties identified by the MEAH

Difficulties identified by students most often included social and environmental difficulties (10/19, 52%), future related concerns (3/19, 16%), the experience of a significant personal loss or challenge (2/19, 11%), being able to cope psychologically (1/19, 5%), and the ability to adapt to online learning (1/19, 5%).

Narrative Master Plots

Four narrative master plots, with common defining features, were identified during the screening process with students. Three plots identified negative stories with associated anti-plots; (1) the future control master plot, (2) the lost productivity master plot, and (3) the isolation master plot. One plot identified a positive story with an associated anti-plot entitled the opportunity master plot.

Master plot 1: The future control narrative

The basic plot of this narrative was the complete lack of control in the overall situation. Students were worried about the future and uncertainty of the impact that COVID-19 will have on their programme and studies. Students were also worried about others in general; including family who were more vulnerable to the disease. Worry and uncertainty was identified as worse at the point where they had to return home from University. This point was perceived as the most uncertain for impact on their programme.

Hope was identified as an important part of an anti-narrative. Hopes included; (a) a hope it will get better, but not sure how or the pathway, (b) an initial hope that the situation would pass, society would be back to normal quickly and normality restored, and (c) a hope that there will be time in the future when the situation is

improved. Seeing others appeared to help; especially if the greatest difficulty was seeing friends. Achievements or meeting goals help support the anti-narrative.

Master plot 2: The lost productivity narrative

The basic plot identified a reduction in productivity of university related work.

Productivity reduced at certain times; especially once university work finished and before a placement was obtained. A combination of factors were often told as part of this narrative including; (a) being within an environment less conducive to work, (b) reduction in the efficiency of producing work due to online teaching, (c) a lack of routine and inability to change the environment, structure and restrictions in movement that acted to reduce motivation and energy, (d) a sedentary lifestyle with less energy and motivation for work often associated with increased fatigue over time, (e) the pressure of work as a health care assistant or within high pressure environments, and (f) the (in)ability to get a placement could influence. If found, clinical placement could act to support an instant anti-narrative by providing structure and altered environments.

The anti-narrative described ways students would structure their day and change environments to enhance coping. Planning activities and structuring the day around activities was important. Examples included; arrangement of meetings, exercise, cooking, applying for jobs, and participation in this research.

Master plot 3: The isolation narrative

The basic plot of this narrative was difficulties associated with limited social contact.

Different forms of isolation were represented by the narrative; (a) a need to meet in

person rather than via the internet, (b) the constant consideration of the impact of COVID-19 in conversations and the uncertainty of what it means, (c) talking about the situation will worsen their own mental health, (d) non-university peers having limited understanding of the pressures or problems faced meant that sharing had limited perceived value, (d), and (e) not going out and avoiding contact because of COVID-19, possibly because of a medical condition. Isolation was impacted by the unknowns of when they can see friends or when shielding restrictions may be eased and exacerbated when the UK was not the student's home country.

The anti-narrative was valued social support and being able to talk with people. However, the value of this varied because of internet interactions. The anti-narrative was also supported by interactions found whilst undertaking work within hospital settings; during which more 'normal' interactions were possible with patients and peers.

Master plot 4: The opportunity narrative

The basic plot of this narrative was about identifying an opportunity that provided a sense of purpose and structure. It was most clearly represented by the ability to access work and the impact of this. This narrative was identified as representing the opportunities that could be obtained due to COVID-19. This was most often represented by the opportunity to join the work force as a health care assistant or physiotherapy assistant. Examples were also found of accessing employment through other means including care homes and online physiotherapy treatment. One student was able to move to the university location to obtain the opportunity. When placement wasn't possible, other examples of opportunity included becoming a volunteer to provide telephone support.

The anti-narrative was focused on the lost opportunity and inability to access placements. The plot negatively impacted when considering future role requirements and the perceived need for practical hands-on skills. Chronic medical conditions, being in a high-risk category for COVID-19 or living with someone in a high-risk category acted against this narrative.

The impact of the screening and questioning identified MEAH

Friedman's test identified a significant change in acceptance ($p = 0.005$), Pleasantness ($p = 0.005$) and energy ($p = 0.007$). Pairwise comparison identified a significant change (Bonferroni adjusted p values presented) from pre-follow up for acceptance ($F = -2.6, p = 0.03$), pleasantness ($F = -2.9, p = 0.01$) and energy ($F = -2.6, p = 0.03$). Energy was also approaching significance from pre-post ($F = -2.3, p = 0.06$). See Figure 1 for mean change.

The responses to MEAH and master plots told

Table 1 provides a consideration of the main comments made by each participant and the change across time of the MEAH scores. The future control master plot was identified by all 19 students, the isolation master plot and lost productivity were both identified by 17/19 students. The opportunity master plot was identified by 16/19 students.

Discussion

This is the first study to use the MEAH as a screening tool to support mental health. Positive improvements nearing significance were identified for changes in hope and adaptation and significant changes in emotions were identified with the principle change from worry and uncertainty towards possibility and hope. Allowing students space to be heard may help mental health and protect the wellbeing in HCPs during COVID-19 [21]. The master plots identified through the screening interviews illustrate the challenge faced by students. However, it also illustrates that sharing challenges could be of value. Students having access to different narrative master plots and anti-plots is important in itself due to the access this gives to response which is different in terms of psychological adaptation and hope (Soundy, 2018).

The findings from this study have identified a number of elements which have impacted upon students' mental health resulting from the COVID-19 situation. The narratives support concerns identified by other HCPs including work related concerns, concerns for other people and general uncertainty for the future (Zerbini et al., 2020). However, this research is able to consider student stories which illustrate an ability to view experiences in different ways. The variation of the narratives identified provide an opportunity for peers to (re)consider their own experience. The results may be most related to health care related courses but may also have applicability across different student groups. Programme leads from a spectrum of university courses considering appropriate support interventions for their cohorts may consider the results. The future concern narrative was the only master plot

identified by all students. However, very few students did not identify with other narratives.

The most prevalent master plot was the future concern narrative, focussing around a lack of control and uncertainty which has also been broadly discussed within the context of COVID-19 and may relate to any level of the population (Zerbini et al., 2020). Nursing education literature (Purba, 2020) supports this by suggesting a lack of control of students is focused around uncertainty around future studies, graduation and qualification. The captured change from a mean of 'worry' towards hope is an essential finding because it signifies the potential of associating sharing of perceived difficulties with change from seeing uncertainty towards considering possibility. This is one of the most centrally important changes for hope to be restored (Banarjee and Raj, 2020). This was further identified within the current study with students identifying lack of control and uncertainty around how long the situation would continue as a major concern and further exacerbated by a concern around the impact that the current situation might have upon graduation and placement experience. Lacking motivation was commonly reported alongside concerns about current training and future progress. In some cases, close links between this decreased drive and fatigue, which is often discussed in relation to the impact of COVID-19 circumstances, were identified.

Isolation is a common risk factor for poor mental health and decreased mood [23]. The current findings support this. Isolation was particularly identified for students unable to join frontline services, a factor exacerbated by potential feelings of worthlessness in a time where HCPs are driven to help (Dubey et al., 2020). Some

participants in isolation reported further challenges of the constant discussion around COVID-19. Limiting discussions that focus on uncertainty of any given situation could be limited and replaced by considering stories of managing within the current situation.

A sense of isolation has been referred to as a factor which may have a lasting impact on communities, even greater than direct effects of COVID-19 (Zhou et al., 2020). Virtual platforms for accessing social support from peers were described as limited and having 'no soul' or ability to create the same connection as received in person. This supports a need for face to face contact at the earliest opportunity, whilst also recognising the complexities of this.

This need to be heard may be relatable within university communities, healthcare environments and also home environments. There was report of juggling responsibilities and competing priorities within households as well as lacking awareness and understanding of specific needs. Holistic approaches are discussed in depth in terms of healthcare. Universities may also now benefit from such an approach and consideration and listening to individual student needs and making necessary adjustments to suit their learning environments, demands and home situations.

Limitations

The findings from this research are limited by internal and external threats to validity and a small sample size. However, the findings warrant further investigation.

Implications:

Several implications are made, but these should be considered within broader models of student health care (e.g., Duffy et al., 2020) and understanding of other peer support mechanisms (e.g., Zhang, 2017).

- Tele-screening for mental health of student HCP must be considered going forward.
- Positive mental health change can through exploring questions related to the MEAH. This demonstrates that with some limited training educators could support students using the MEAH as a supportive screening tool. In order to allow this to happen most effectively we are able to provide access to free training resources (please email corresponding author).
- This work has significant implications for supporting physiotherapists and other HCP on the frontline and further research is urgently needed given the impact of COVID-19.
- It is important that, as hearers of stories we don't lock on to particular stories and or try to 'correct' them. This may be particularly important towards the start of a difficulty e.g., many students identified a restitution (things would go back to normal within a short time), but qualified the change as part of the journey.

Conclusion

This work has provided access to a unique screening tool and consideration of stories told by physiotherapy students that directly relate to the difficulties they perceive.

Ethical approval: Ethical approval was obtained from the University of Birmingham Ethics Committee (Number 20-0565). Written consent was obtained from each participant via email. As standard all students received an email with a link to all available university and local community services following the intervention.

Funding: No sources of funding were used for this study.

Conflict of Interest: None

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Appendix A: The Model of Emotions, Hope and Adaptation Screening Tool

Version 3.3

Participant ID:

Hope and Adaptation Questions

Please answer the following five questions. The questions will relate to an aspect of your current situation to which you are finding it difficult to adapt. Examples of this include adapting to the following; experiences relating to the process of diagnosis, the impact of the diagnosis, changes or losses in relationships in the work place, socially or at home, the inability to be independent, and the loss of an identity like being an athlete or father. This assessment and screening tool is designed to identify the need you have for support and is able to track your process of adaptation to the difficulty over time. During subsequent meetings, you may like to track other difficulties.

Note: The numbers identified on the left-hand side of each scale distinguish responses by a rating relating to hope, adaptation and emotions. Positive or negative numbers further away from zero illustrate a more intense response.

1. Complete the sentence below and name the one aspect of your adaptation that you are finding most difficult?

I am finding considerable/most difficulty adapting to _____

2.Regarding the difficulty you have identified how hopeful are you right now that you can or will overcome it?

Level of Hope associated with difficulty	<u>Circle</u> a number reflecting the statements on the left
I am completely certain and have no doubt that I will be able to overcome this difficulty	+4
I am certain that I will be able to overcome this difficulty	+3
I believe it is likely that I will overcome this difficulty	+2
I believe it is possible to overcome this difficulty	+1
I accept that it might not be possible to overcome this difficulty	0
I feel uncertain and don't know if this difficulty can be overcome	-1
I feel that it is likely that I won't overcome this difficulty	-2
I have little hope or ability to overcome this difficulty	-3
I see neither hope or ability to overcome this difficulty	-4

3. Regarding the difficulty you have identified do you feel able to psychologically adapt to it right now? Circle a number by considering the statements.

Ability to adapt to the difficulty	Circle a number reflecting the statements on the left
I am able to positively embrace and use this difficulty for benefit	+4
I am able to fully accept and embrace this difficulty	+3
I am able to fully accept this difficulty	+2
I acknowledge this difficulty but can't fully accept it	+1
I am able to acknowledge this difficulty	0
I struggle with acknowledging this difficulty	-1
I find it difficult to accept this difficulty	-2
I find it very difficult to accept this difficulty	-3
I reject and cannot accept this difficulty	-4

Mood Questions

Mood or feelings, for the purpose of this study, is considered by using two separate questions.

4. What level of energy do you have today right now with regards to dealing with the difficulty you have identified. Please mark it on a scale from extremely high to extremely low

Energy Level to deal with the difficulty	Circle a number reflecting the statements on the left
I feel very highly energised to deal with this difficulty	+4
I feel highly energised to deal with this difficulty	+3
I feel moderate levels of energy to deal with this difficulty	+2
I feel above average levels of energy to deal with this difficulty	+1
I feel average or normal levels of energy to deal with this difficulty	0
I feel below average levels of energy to deal with this difficulty	-1
I feel moderately low levels of energy to deal with this difficulty	-2
I feel little energy available to deal with this difficulty	-3
I feel very little energy available to deal with this difficulty	-4

5. Please score how you feel about the difficulty you have identified in a range from pleasant to unpleasant

Valence or Pleasantness on how you feel about the difficulty	<u>Circle</u> a number reflecting the statements on the left
I have extremely positive feelings regarding the difficulty I am facing	+4
I have positive feelings regarding the difficulty I am facing	+3
I have pleasant feelings regarding the difficulty I am facing	+2
I have above average feelings regarding the difficulty I am facing	+1
I have average or normal feelings regarding the difficulty I am facing	0
I have below average feelings regarding the difficulty I am facing	-1
I have below average or unpleasant feelings regarding the difficulty I am facing	-2
I have negative feelings regarding the difficulty I am facing	-3
I have extremely negative feelings regarding the difficulty I am facing	-4