MoOD MoVEMENT

Identifying Research Priorities focused on Digital Technologies and Young People's Mental Health

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THE TOP RESEARCH PRIORITES

1. What are the factors that affect young people's digital resilience (e.g., understanding when they may be at risk online, learning from their experiences of being online) to risk online?

2. What are the most effective digital technologies for young people's mental health?

3. How do we implement practical ways for people to keep themselves safe online at an early age?

4. Can we identify school based digital interventions for mental health that we can integrate into the school system?

5. How to best engage young people in the co-production of research (i.e., young people are involved in an equal partnership with researchers) on what does or doesn't work in using digital technologies to support mental health?

THE TOP RESEARCH FACILITATOR PRIORITES

1. Ensuring the use of accessible and understandable language when developing digital technologies to support young people.

2. Ensuring a human rights perspective through the development and implementation of all digital technologies to support mental health in young people

3. Educating stakeholders on the mental health literacy of young people (i.e., understanding mental health difficulties, increasing help seeking) using digital technologies to minimize stigma

4. Continuing evolved and innovative digital mental health education in schools and with parents, carers and practitioners

5. Co-production and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.

Introduction

Overview

The 'Mood Movement Network' is a project funded by the Economic and Social Research Council (ESRC) and the Irish Research Council (IRC) and focused on exploring both existing and emerging technologies to facilitate help-seeking, stigma reduction, and support of young people's mental health. This network was set up to explore several elements of digital life as they pertain to young people who require support for their mental health; including engaging in online help-seeking, ways technology may support or hinder stigma reduction, and how technology can be used to provide support services for mental health issues. What makes this project unique is that it specifically focused on digital components in relation to young people's mental health. The Mood Movement Network aimed to bring together academics and practitioners from across the social sciences, alongside input from those with lived experience of mental ill health, young people, and their parents/carers to develop an inter-disciplinary research agenda and create opportunities for people to work together to address challenges within this area.

Since launching, the Mood Movement Network hosted four separate networking events with a wide range of stakeholders to discuss current research and clinical practice results, as well as innovations concerning the use of new and emerging technologies to support (or otherwise) young people's mental health. The primary aim of these events was to identify key priorities for research and the facilitation of research, which would be most useful in supporting children and young people's emotional wellbeing, in the specific realm of the use of digital technologies. After developing a bank of relevant research priorities and facilitators, the network conducted an online consultation survey in May 2022. The purpose of this survey was to ask expert researchers, clinicians, young people, parents/guardians, and anyone who works with young people, their opinions on what, from our bank of research priorities and facilitators, should be ranked as the top priorities to best support young people in the area of digital technologies and mental health.

The Mood Movement network also has a website, which contains further

information on the history of the Mood Movement, the networking events which were hosted, and details of our youth advisory panel. The website can be accessed here: https://moodmovement.org/

What is covered in this report?

This report consolidates the information gathered across each of the four networking events as well as the results of the research prioritisation exercise.

Section 1 of this report focuses on the consolidation the information gathered across each of the four Mood Movement networking events.

Section 2 of this report details the methodology, results, and implications of the research prioritisation exercise.

Background

As a society, we are spending more time online than ever before (Ofcom, 2017). Digital technologies are culturally embedded into most aspects of our lives including work (email), relationships (social media), and now healthcare (telemedicine, mobile health apps etc.). The Mood Movement network strived to focus on several elements of digital life as they pertain to young people who require support for their mental health; including engaging in online help-seeking (OHS), ways technology may support or hinder stigma reduction, and how technology can be used to provide support services for mental health issues.

Worldwide, approximately 175 million health-related searches are performed using Google, every day (Live Internet Stats, 2017). Some have questioned the benefits of health-related searches (Biddle et al., 2008; Mars et al., 2015), particularly as one cannot mitigate the 'risks' associated with retrieving poor quality information or treatment advice online. Young people tend to place a high degree of trust in online sources (Best et al., 2016) and search engine ranking is often mistaken as a quality indicator. Young people with mental health issues are particularly vulnerable because they are less likely to access traditional forms of support (Leavey et al., 2011). Indeed, young people are increasingly engaged with

digital technology; with the majority connecting to different social media on a daily basis (Rideout & Robb, 2018; Winchester, 2019). Consequently, there is mounting curiosity about the capabilities of digital technologies to support mental wellbeing in young people. Yet the dearth of research in this area means that little is known about the benefits and risks of digital technologies in this context; this is a priority area identified by the James Lind Alliance (JLA; Hollis et al., 2018).

Since the outbreak of COVID-19 there has been a rapid transition to technology-mediated communication and resource provision across health, educational, voluntary, political, and entertainment sectors, to sustain a degree of societal functioning which may permanently

change how such sectors operate (Ting et al., 2020). Having quickly adapted to facilitate provision of these services remotely, there is recognised value in assimilating digital technologies in mental health services to expand availability of resource and time (Keesara et al., 2020; Torous et al., 2020). However, the risks are less understood (Hollis et al., 2018; Holmes et al., 2020).

Why launch the Mood Movement?

To date, the research agenda relating to mental health digital technology has largely been influenced by the research community, technology developers, and health policy makers, with little reference to, or input from, people with mental health concerns, their families and carers, or non-academic clinicians. The World Psychiatric Association (Bhugra et al., 2017) declared that user needs, and priorities must drive the use of digital technology and its application to the field of mental health sciences.

The Mood Movement Network is a response to the global need to build an evidence base for digital technology in youth mental health care in the UK and Ireland. The network aims to bring together academics and practitioners from across the social sciences with input from those with lived experience of mental ill health, young people, and their parents/carers to develop an inter-disciplinary research agenda.

What are the aims of The Mood Movement?

1 IDENTIFY

existing (Instagram, snapchat, tik tok etc) and **emerging** (AI Chatbots, Virtual Reality, Augmented Reality and Mixed Reality) **technologies** that **promote help-seeking** and stigma reduction in young people at risk of mental health problems.

2 UNDERSTAND

how **existing** (Instagram, snapchat, tik tok etc) and **emerging** (AI Chatbots, Virtual Reality, Augmented Reality and Mixed Reality) **technologies** can **influence** (positively and negatively) adolescent mental health problems

AND

what aspects of the digital world can **support** those with mental ill health and what can promote resilience.

How were these challenges addressed?

1 PROJECT BRAND & VISIBILITY

The research team created an identifiable project brand, website (https://moodmovement.org/) and social media presence. This ensured the visibility of the Mood Movement Network and allowed the research team to engage with a wide range of professionals and the public. The website was also used to disseminate key information including details of all Mood Movement events, the team, the general activity of the network including collaboration with young people and any project outputs.

2 COLLABORATION WITH YOUNG PEOPLE

Prior to the launch of the Mood Movement Network, the team conducted a user engagement exercise, liaising with 8 young people (4 were resident in the UK and 4 were resident in Ireland).We collaborated with both Jigsaw (https://www.jigsaw.ie/) and the McPin Foundation (https://mcpin.org/our-work/public-involvement/) to set up a youth advisory panel. This panel liaised with the research team across all aspects of the project. This ensured that the stakeholders and activities were directly aligned to the issues that are important to the young people themselves; guaranteeing their direct input throughout the entire process.

3 UK & IRELAND PRIORITY SETTING

The Mood Movement Network hosted four separate networking events with a wide range of stakeholders to discuss current research and clinical practice results, as well as innovations concerning the use of new and emerging technologies to support (or otherwise) young people's mental health. Each event was followed up with a 'network activity brief' placed on the network website and further promoted via social media platforms for the benefit of the professional and public community. All were welcome at these events (e.g. early career researchers, clinicians, academics, young people, parents, members of the general public etc.). All events were online due to the ongoing pandemic situation.

4 KNOWLEDGE CONSOLIDATION

The research team alongside the youth advisory panel attended a meeting to consolidate the work of all 4-network meetings and draft a consensus statement detailing key priorities based on that information. The structure of the consultation survey based on this information was also discussed. This ensured that the consultation survey and associated findings produces clear actions and policy relevant recommendations.

5 CONSULTATION SURVEY & CONFIRMATION OF TOP PRIORITES

Launched a consultation survey of national and international experts and laypersons concerning the content of the consensus statement. Participants were asked to review the consensus statement and rate their level of agreement on various research priorities. They were also asked to identify if any gaps were present in the research priorities detailed in the survey. The survey was widely promoted on social media and sent directly to a range of mental health researchers and clinicians, as well as mental health charities and organisations.

Section 1. Summary of The Mood Movement Networking Events

This section focuses on the consolidation of the key information gathered across each of the four Mood Movement networking events. These events took place over the course of 4 months in 2021 (April – August) and were held online via Microsoft Teams/Zoom due to the ongoing COVID-19 pandemic situation.

Each event focused on a particular theme (see event titles detailed below) and was hosted by a member of the core research team. A wide range of stakeholders (including leading academics in their field, early career researchers, clinicians, and other service providers) were invited to present and discuss current research concerning the use of new and emerging technologies to support (or otherwise) young people's mental health.

All events were open for all to attend, i.e., academics, clinicians, policymakers, and other stakeholders, as well as the public (including young people themselves, parents/guardians, people with lived experience of mental ill health).

The titles of each event are as follows:

Event 1. **Exploring prevalence, risk and protective factors of mental distress in young people in the UK and Ireland**

Event 2. **The good, the bad, and the ugly of existing and emerging technologies on young people's mental health**

Event 3. **Using technology to enhance data collection methods in research and clinical practice**

Event 4. **Exploring government recommendations, safeguarding of technology use, and mental health policy related to young people's mental health**

Event 1. Exploring prevalence, risk, and protective factors of mental distress in young people in the UK and Ireland

Overview

Event 1 was held on Monday 26th of April 2021 and focused on exploring empirical research which investigated the rates of mental ill health among young people across the UK and Ireland, as well as exploring the particular risk and/or protective factors which may play an important role in the onset and maintenance of a range of mental health outcomes. Five speakers were invited to speak and provide an overview of their research and expertise in this area, this also was supplemented with two activity/engagement sessions.

Figure 1. Overview of Event 1 Agenda

Topic Schedule	Speaker	Time
Welcome	Prof. Cherie Armour	9.30am
The Mental health of young people in Northern Ireland	Dr Lisa Bunting	9.35am
The Mental health of young people in Ireland	Prof Mary Cannon	10.00am
Activity Session	Hosts	10.30am
Understanding Depression & Anxiety in the context of Emotional Regulation	Dr Emily McGlinchey	11.00am
CO-Space UK & Ireland; The Impact of COVID-19 on young people	Dr Polly Waite & Dr Jenny McMahon	11.30am
Innovations in mental health care for young people in the UK	Andy Bell – Centre for Mental Health	12.00am
Activity Session	Hosts	12.30am
Close	Dr Amanda Fitzgerald	1.00am

Summary

Knowledge Sharing

The first speaker was Dr Lisa Bunting from Queens University Belfast. Dr Bunting focused her presentation on reporting the findings of the Youth Wellbeing Prevalence Study. This is a random probability household survey, conducted between June 2019 and March 2020, with the primary aim of collecting robust data on the prevalence of mental health disorders among children and adolescents (aged 2-19 years old) living in Northern Ireland. The study sample included 3074 young people and 2800 parents. The Youth Wellbeing Prevalence Study gathered data examining the prevalence of wide range of disorders and factors relating to mental ill health.

Readers can access Dr Bunting's presentation slides here

The second speaker was Professor Mary Cannon from RCSI University of Medicine and Health Sciences. Professor Cannon focused her talk on the prevalence of mental ill health disorders in Young People in Ireland specifically.

Professor Cannon reported on data gathered from several different studies. In summary Professor Cannon highlighted high rates of young people living in Ireland with comorbidity of mental health disorders who in turn report poorer outcomes, based on the results of these studies. Professor Cannon reported that these rates are similar to rates demonstrated in Northern Ireland and that the rates are comparatively high to other countries.

Readers can access Professor Cannon's presentation slides here

The third speaker was Dr Emily McGlinchey from Queens University Belfast. Dr McGlinchey focused her talk on the results from her PhD studies that assessed the role of emotion dysregulation and its relationship to depression and anxiety disorders in female adolescents (aged 11-18) in Northern Ireland. Dr McGlinchey reported that the way in which girls regulate their emotions can differ and that discreate groups may exist that can be characterised by their use of emotion regulation strategies. In summary, Dr McGlinchey reported that adolescent females who had the highest level of emotion regulation ability were significantly less at risk for internalising problems. Therefore, a key implication is that adaptive emotion regulation skills should be taught and reinforced at an early age.

Readers can access Dr McGlinchey's presentation slides here

The fourth and fifth speakers were Dr Polly Waite from the University of Oxford and Dr Jennifer McMahon from the University of Limerick. They discussed the Co-Space UK and Co-Space Ireland study which focuses on young people's mental health in response to the COVID-19 pandemic. Dr Waite discussed the impact that the first Covid-19 lockdown in the UK had on children's wellbeing; reporting that during lockdowns mental health outcomes were poorer and this is especially the case for primary school aged children, with similar patterns seen for parents. Dr McMahon provided an overview of the results from the Co-Space Ireland study, demonstrating that in the context of the Co-Space Ireland study, pandemic anxiety was significantly correlated with psychological distress but that Irish adolescents overall appeared to be resilient.

Readers can access Dr Polly Waite's presentation slides here and Dr McMahon's slides here

The final speaker was Mr Andy Bell, Deputy Chief Executive from the Centre for Mental Health. Mr Bell's talk focused on the conceptualisation of mental health as a spectrum, that each of us are somewhere along this at any point of time and can move in both directions. Mr Bell also focused on discussing the challenges around the study and discovery of risk factors for mental ill health in young people and as such it is difficult to create a fully exhaustive list.

Readers can access Mr. Bell's presentation's slides here

Engagement Sessions

The event also included two engagement sessions in which people were invited to interact with hosts and other attendees and complete two activities.

Activity 1.

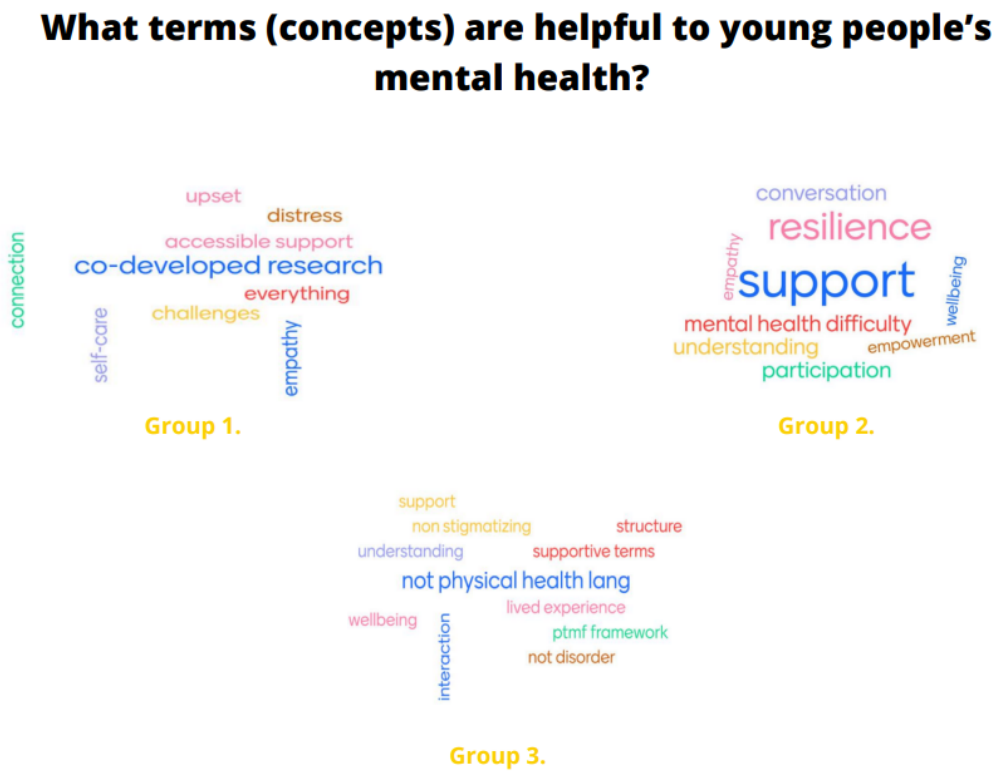
For the first activity, the attendees were split into three groups using Teams breakout rooms. Each of the groups were asked two questions:

Question 1: What terms (concepts) are helpful to young people's mental health?

Question 2: What terms (concepts) are not helpful/are harmful to young people's mental health?

Responses were collected using the application Mentimeter[1] and are as follows:

Figure 2. Question 1 Mentimeter Results



When discussing what terms and concepts are helpful, all groups discussed the importance of language and facilitating initiatives to improve language in a way that can support and empower young people. This is summarised in the below comments from group members:

[1] Mentimeter is an online application which enables users to engage with an online audience live polls, word clouds, quizzes, multiple-choice questions etc.

• Language can be misinterpreted, or language can be misappropriated. For example, referring to "self-care" might place an unreasonable expectation on the young person, i.e., it is their responsibility and only their responsibility to care for their mental health. As another example, the emphasis on being positive can lead to "toxic positivity". The consequence is that a positive word can be unhelpful. Or, in other words, the onus is on the individual to address any issues.

• What the question means also depends on perspective. For example, are we interested in what is helpful from the perspective of the young person, or from the perspective of a parent, or a community worker? • There are also challenges around knowing when to advocate for yourself.

• Wellbeing (the term) can be useful but also need to be cautious. There is an obsession with language.

• There is a lot of confusion, so we need to understand young people's needs and provide relevant education.

• We need to consider ways to empower young people by increasing participation in decision-making e.g., youth advisory panels for research and service facilitation

• Groups highlighted that the discussion of 'helpful' terms is a positive exercise in itself!

• Groups suggested the need for a focus more on the positives or a least a balance between what is positive as well as what is negative.

• There was an emphasis on the need to increase and utilize informal support resources to address the gap between having no support and being receipt of professional mental health support or to provide an alternative to/supplement for formalized support e.g., community organizations, Jigsaw approaches.

• There was an emphasis on the need to foster resilience; however, the groups also suggested caution should be exerted when using this term (see below for further expansion on this point).

Figure 3. Question 2 Mentimeter Results

When discussing unhelpful comments, groups discussed the use of buzzwords and the heavy focus on positivity, in addition to a reluctance of parents to acknowledge the negative aspects of young people's mental health journeys. Concerns were also raised around how language can be so important related to stigmatisation and the need to be careful with this online. This is summarised in the below comments from group members:

- The groups discussed that for them the term 'resilience' has seemingly become a buzzword, which has lost its nuance – can put across the idea that young people should be able to 'bounce back'.

- They discussed that resilience exists on a spectrum and within this there should be the expectation and consideration that struggles, and challenges will still occur.

- The groups highlighted that there can be a tendency to focus on the positives only and a dismissal of the challenges, particularly in the context of families. For example, parents can avoid the negative aspects of their young person's mental health journey and focus on the positives, which can diminish the struggles their young person is experiencing.

- They also discussed issues of resistance among some parents to acknowledge the negative aspects of the mental health trajectory of a young person.

Activity 2.

For the second activity, the attendees were split into three groups using Teams breakout rooms. Each of the groups was asked a single question:

Question 1: What are young people's mental health support needs? Especially in the context of COVID-19?

Key discussion points across groups related to the provision on offer and how easy it was to access support particularly during and after the COVID-19 pandemic. Collaboration and coproduction on the development of supports were frequently discussed including formal and informal support providers. Each of the groups included a facilitator who noted key points throughout the discussions as follows:

- It is difficult for students at university to know where to go for support. For example, they might know to approach their lecturers, but their lecturers are also delivering lectures, assessment etc so there is the potential for role conflict.

- Providing evidence of mental health issues is hard, or at least harder, in contrast to (for example) providing evidence of a physical issue, such as a broken limb. Therefore, getting evidence for extenuating circumstances is hard.

- Services are available (e.g., Student Association/Union) but they are also oversubscribed. This means there is a delay to starting a process/programme, delays in its progress, and hoops to jump through. There is work to be done on resources, availability, and evidence for Mental Health.

- There is a challenge around knowing when to go for help, e.g., at what point is it sensible/appropriate to seek help?

Event 2. The good, the bad, and the ugly of existing and emerging technologies on young people's mental health

Overview

Event 2 was held on Monday 24th of May 2021 and focused on exploring research on existing (Instagram, Snapchat, Tik Tok etc) and emerging technologies (Artificial Intelligence Chatbots, Virtual Reality, Augmented Reality and Mixed Reality) in relation to young people's mental health (including help seeking and stigma reduction, mental ill health support and resilience promotion). This event was co-hosted with members of the Mood Movement youth advisory panel. Six speakers were invited to speak and provide an overview of their research and expertise in this area, this also was supplemented with two engagement sessions.

Figure 4. Overview of Event 2 Agenda

Topic Schedule	Speaker	Time
Welcome	Dr. Amanda Fitzgerald	9.30am
Insights from My World Survey 2: Is social media use linked to the mental health of young people in Ireland?	Prof. Barbara Dooley	9.35am
Understanding young people's online help-seeking for mental health concerns	Dr. Claudette Pretorius	10.00am
Break		15 minutes
Storyteller, a digital caregiver-led programme to foster emotional wellbeing in young people	Dr. Joseph Morning	10.45am
Learning through collaboration in digital mental health	Dr Paul Best	11.10am
Break		15 minutes
Highly visual social media and young people's mental health	Alanna McCrory	12pm
SpunOut.ie & 50808: Providing digital responses to support young people's mental wellbeing	Ian Power	12.25pm
Activity session	Hosts	12.45pm
Close	Prof. Cherie Armour	1.00pm

Summary

Knowledge Sharing

The first speaker was Professor Barbara Dooley from University College Dublin. Prof Dooley's talk focused on the relationship between social media use and young people's mental health based on findings from the My World Survey 2. The My World Survey 2 is a national study in Ireland, between UCD School of Psychology and Jigsaw-The National Centre for Youth Mental Health, which examined risk and protective factors of mental health. Data were collected from approximately 19,000 young people aged 12-25 years.

In summary, Professor Dooley outlined how 97% of adolescents had a social media profile or account. Just over a third (35%) of adolescents reported spending more than three hours online a day, with females more likely to report this. Using standardized measures of anxiety and depression, there was a significant association between time spent online and higher levels of anxiety and depression. More time spent online was related to higher levels of risk factors and lower levels of protective factors. Professor Dooley also demonstrated how social support is potentially accessed online. Social support from friends mediated the relationship between time online and depression, such that, higher levels of time online was related to higher social support from friends, and this in turn was related to lower levels of depression. Thus, concluding that adolescents may be using social media to build on and extend their social connections in real life. The My World Survey 2 also investigated the 'displacement hypothesis', where adolescents who spent more time online (more than 3 hours per day) were more likely to report not playing sports or engaging in hobbies regularly, and not getting the recommended amount of sleep (as defined by National Sleep Foundation https://www.thensf.org/).

Readers can access Professor Dooley's presentation slides here

Our second speaker was Dr Claudette Pretorius from the Insight Centre for Data Analytics, University College Dublin. Dr Pretorius's talk focused on designing technologies to support young people's online help-seeking for mental health. Specifically, Dr Pretorius outlined the methodologies and research findings of four related studies (1) a systematic narrative review; (2) a large-scale online survey; (3) a co-design study; and (4) a user study. Key points generated from the findings of these studies suggest that technology can play a significant role in addressing some of the traditional barriers to help-seeking, whilst also meeting young people's help seeking needs in a manner that cannot be done offline. Additionally, the research findings highlighted that collaboration, better service providers, researchers and designers are necessary in order for a help-seeking technology to fully meet online seekers needs.

Readers can access Dr Pretorius presentation slides here and the peer reviewed journal publications related to the systematic review can be accessed here, the survey here and the co-design study here.

The third speaker was Dr Joseph Morning from Verbal, a Northern Ireland-based charitable organisation which develops and delivers language-based emotional wellbeing programmes. Dr Morning focused his talk on a digital caregiver-led programme, called *Storyteller*, which fosters emotional wellbeing in young people. The Storyteller model includes a curated collection of age-appropriate short stories exploring mental health topics combined with targeted conversations. Storyteller targets wellbeing topics relevant to young people today, developed by experts in the field of psychology and literature. Dr Morning outlined how Verbal's Road to digital was based on a desire to increase capacity of delivery along with the recognition of the family as a vital source of mental health support. New digital platforms offered by Verbal include webapp platform, chatbot-based app, and in-built psychoeducation and parental support.

Future directions for improving outcomes for young people outlined by Dr Morning included:

- Interdisciplinary networking
- Appropriate research and evaluation approaches in a digital landscape
- Continued innovation of digital tools in partnership with young people

Readers can access Dr Mornings presentation here

The fourth speaker was Dr Paul Best from Queen's University Belfast. Dr Best's presentation focused on learning through collaboration in digital mental health. Dr Best discussed whether virtual reality exposure therapy could be an option for treatment highlighting both the strengths and challenges of this approach. He presented a case study on low-cost virtual reality (VR) versus immersive 360 video to treat post-traumatic stress disorder (PTSD) highlighting the advantages and disadvantages of immersive 360. This was followed by a discussion on Dr Best's collaboration with a technology company to modify a current 360 video approach needed to implement within clinical care. Some future research priorities identified by Dr Best included:

- Improve the accessibility of immersive technologies within routine clinical practice
- Continued exploration of new technologies and their impact on mental well-being
- Investigation into the longer-term impact of lockdown

Readers can access Dr Best's presentation here

The fifth speaker was Ms Alanna McCrory, a doctoral student based in Queen's University Belfast. Alanna's doctorate research focuses on the use of highly visual social media and relationships with anxiety, depression, and self-esteem among adolescents in Northern Ireland. Alanna outlined her scoping review on the relationship between highly visual social media (HVSM) and young people's mental health, where HVSM such as Snapchat and Instagram share their messages through images rather than relying on words. Her scoping review highlighted studies exploring concepts related to HVSM such as 'Fear of Missing Out' (FOMO), act of taking selfies, use of filters, and their relationship to young people's mental health and wellbeing. Alanna indicated that the influence of HSVM on wellbeing and mental health remains unclear, with the need for consistent use of measures to compare findings across studies, and further qualitative research.

The sixth and final speaker was Mr. Ian Power, CEO of Community Creations, the non-profit organisation behind Spunout.ie and 50808 in Ireland. Spunout is Ireland leading online source of youth information and 50808 is a free, anonymous, 24/7 messaging service for young people needing support. Ian discussed an impressive array of new digital innovations

which are being used by Spunout.ie, including the Youth Information Chat System, the Miyo App, Ditch the Monkey Animation Series, In My Own Words Podcast series, and Lived Experience Mental Health Animation Series with the Institute of Art, Design and Technology and the Royal College of Surgeons Ireland.

Mr. Power detailed that the most recently accessed factsheet on Spunout.ie in 2020 was 'The effects of social media on mental health'. Mr Power also discussed the contribution of 50808, a 24/7 anonymous text service, providing a calming chat or immediate support during a mental health or personal challenge. The majority of the texters using 50808 were aged between 14-34 years, with young adults mostly using the service. Key values of 50808 are that it is people-centred, equitable, empathetic, innovative, safe, and secure.

Mr Power concluded his presentation considering what the future research priorities in the field should be, these included:

- What type of help options would young people like to have?
- What would make young people more comfortable help-seeking online?
- What are the factors involved in young people deciding to use different digital help-seeking options?
- What are the most effective digital interventions for young people?

Readers can access Mr. Power's presentation here and the Spunout website here

Engagement Session

The event also included an online engagement session during which attendees were invited to provide their input and reflections via Mentimeter in response to the following questions:

Question 1: **What technology tools are the most helpful for supporting young people's mental health?**

Question 2: **Based on the talks so far today, what do you think are the research priorities in the field of digital technology and mental health?**

Responses were collected using Mentimeter and are as follows:

Figure 5. Question 1 Mentimeter Results

Attendees identified a variety of helpful digital tools for supporting mental health including online peer support, blended models of care, trigger warnings on social media platforms, tools delivered through a range of mediums including reputable information on websites, chat-based supports, text services, apps, videos, blogs, and group supports. In addition, innovations such as virtual reality and artificial intelligence platforms were also identified. An important finding yielded from this activity was that attendee's highlighted the importance of the dynamic and interactive component of these digital tools, along with the need for informative trustworthy information.

Figure 6. Question 2 Mentimeter Results

When discussing what are the research priorities in the field of digital technology and young people's mental health, during this engagement session, the following concepts were identified as the top priorities.

- Virtual reality, artificial intelligence
- Social media
- Use of storytelling
- Creating impactful research, considering ecological validity and validation
- Personalised digital interventions
- Importance of partnership, interdisciplinary working, youth engagement and public and patient involvement in research (PPI)

Following this, these concepts identified were discussed in greater with both the presenters and attendees and were developed into a list of research priorities. These were as follows:

- Co-production and partnership with young people
- How do we integrate technology and maintain the human element?
- How do we co-develop personalised digital interventions sensitive to inter-individual heterogeneity and diversity to target psychological mechanisms?
- Interdisciplinary action and partnership
- What are the most effective digital technologies for young people?

- Is there an optimal integration of human support with digital technologies to optimise outcomes?
- What would make people more comfortable seeking help online?
- Continued innovation and development of digital tools in partnership with young people (e.g., VR, AI, social media, storytelling)
- How do we refine the design of an online help seeking technology which enables both issue based and content type help seeking?

This list of priorities was then included in a ranking poll online via Mentimeter. Attendees were then asked to complete this poll ranking what they think are the top research priorities in the field of digital technology and young people's mental health. The results from the Mentimeter poll were as follows:

How would you rate the research priorites gathered at the previous Mood Movement events?

1. Co-production and partnership with young people
2. How do we integrate technology for mental health and maintain the human element?
3. How do we co-design personalised digital interventions sensitive to inter-individual heterogenity and diversity to target psychosocial mechanisms?
4. Interdisciplinary action and partnership
5. What are the most effective digital technologies for young people?
6. Is there an optimal integration of human support with digital technologies to optimise outcomes?

7 **What would make people more comfortable seeking out help online?**

8 **Continued innovation and development of digital tools in partnership with young people (e.g VR, AI, social media, story telling etc)**

9 **How do we refine the design of an online help seeking technology which enables both issue based and content type help seeking?**

The top three research priorities identified by the attendees were:

1. Co-production and partnership with young people in the design of technologies for mental health

2. Consideration of how best to integrate the human element into technologies for mental health

3. Co-develop personalised interventions sensitive to inter-individual heterogeneity and diversity to target psychological mechanisms.

Event 3. Using technology to enhance data collection methods in research and clinical practice

Overview

Event 3 was held on Monday 28th of June 2021 and focused on exploring ways in which technology can be used to promote change in the lives of young people. Twelve speakers were invited to speak and provide an overview of their research and expertise in this area, this also was supplemented with three engagement sessions.

Figure 7. Overview of Event 3 Agenda

Topic Schedule	Speaker	Time
Welcome	Dr Paul Best	9.30am
From dream to (virtual) reality: the rise of immersive technologies	Dr Tom Van Daele	9.35am
Immersive 360° Video Virtual Reality to Deliver Exposure Therapy for Public Speaking Anxiety and Interrelated conditions	Dr Rachel Reeves	9.45am
Using Ultrasonic Haptics to provide Multi-Sensorial VR with Spiders	Mr Daniel Brice	10.00am
Authoring and Applying Virtual Reality Experiences for Mental Health	Dr David Trainor	10.20am
Activity session	Hosts	10.40am
Coffee Break		11.00am
Games for Good	Dr Mathew Barr	11.10am
What's an emoji powered jukebox	Mr Nick Jedrzejewski	11.25am
Using Virtual Reality to increase empathy towards children that have experienced adverse childhood experiences	Mrs Jane Pickhall	11.40am
Activity session	Hosts	12.00pm
Coffee Break		12.20pm
Digital Life Story Work – Using Technology to Help Young People Make Sense of their Experiences	Dr Simon Hammond	12.30pm
Media and Entertainment for positive change	Dr Brendan Rooney, Mrs Lauren Christophers, Mr David Hayes and Dr Claire Howlin	12.45pm
Newham's Youth Climate Assembly	Dr Amanda Taylor-Beswick, Mr Tim Aldcroft, Mr Tom Bayley & Mrs Ishrat Hussain	1.00pm
Apart but not alone: Moderated Online Social Therapy for youth mental health	Mr Emmet Godfrey & Mrs Talissa Walsh	1.20pm
Activity session	Hosts	1.35pm
Close	Dr Paul Best	2.00pm

Summary

Knowledge Sharing

The first speaker was Tom Van Daele from Thomas Moore University of Applied Sciences. Dr Van Daele talk focused on reflections regarding the earliest applications of virtual reality (VR), which already date back over 50 years. He emphasised its clinical potential for dealing with a wide range of psychopathologies, while also acknowledging the fact that the evidence-base needs further improvement, especially for young people.

Key research priorities were:

- The current lack of research into the effectiveness of VR interventions for children and young people.

Readers can access Dr Van Daele's presentation here

The second speaker was Dr Rachel Reeves, who is a clinical psychologist working within an NHS specialized psychological service for trauma. Dr Reeves outlined the utility of immersive 360°video virtual reality as a mode of delivering exposure therapy. The results of a randomized controlled trial conducted in a sample of university students with high public speaking anxiety demonstrated that 360°video virtual reality exposure therapy is a novel and effective intervention with significant reductions found in public speaking anxiety and interrelated conditions post-intervention

Some future research priorities identified by Dr Reeves included:

- Direct comparison of VRET and "Gold Standard" In-Vivo Exposure therapy for Public Speaking Anxiety.
- More sophisticated VR software will improve the quality and perceived "realness" of VR stimuli.
- Continuing to build suite of VRET stimuli encompassing different exposure tasks e.g., social scenarios, PTSD triggers etc.

Readers can access Dr Reeve's presentation here

The third speaker was Mr. Daniel Brice, a research assistance at Queen's University. Mr. Brice's discussed a proof-of-concept combining state-of-the-art VR and ultrasonic haptic technologies to produce a multi-sensorial spider simulation, which has utility in aiding in therapies for spider phobias. In this presentation the multisensorial system is introduced and a user study validating its effectiveness is disseminated.

Some future research priorities identified by Mr Brice included:

- Further research into the sole effect of the additional haptics on presence is recommended
- Collaboration with relevant healthcare to further develop technology platform for real world implementation
- Collaboration to support longer term user studies with the target demographic in the target setting

Readers can access Mr. Brice's presentation here

The fourth speaker was Dr Daniel Trainor, founder of Sentireal. Sentireal create software and media to present guidance and training using virtual and augmented reality. Dr Trainor's talk focused on the therapeutic benefits of such technologies. In summary, immersive technologies such as virtual/augmented reality offer particular therapeutic benefits for people with mental health challenges combined with, or stemming from, physical health

conditions. An example was presented in which Virtual/Augmented Reality experiences were used to provide psychological therapies to young people presenting with gastrointestinal problems that have no underlying physical cause. Creating or authoring such experiences is difficult for subject matter experts who do not possess significant technical skills in computer science or games development. A new software platform that bridges this gap was presented. This platform allows subject matter experts to create and deploy their own Virtual/Augmented Reality experiences as easily as authoring a PowerPoint presentation.

Readers can access Dr Trainor's presentation here

The fifth speaker was Dr Matthew Barr, from the University of Glasgow. Dr Barr's talk focused on the potentially positive effects of playing video games on wellbeing were presented, drawing on recently published research that examined the relationship between games and player well-being during the COVID-19 pandemic. These effects were organised into seven distinct, but inter-related, themes: mental health, stress relief, escape, cognitive stimulation, agency, normalisation, and socialisation. Prior work on how games may be used to develop transferable skills including communication, adaptability, and resourcefulness was also discussed.

Readers can access Dr Barr's presentation here

The sixth speaker was Dr Nick Jedrzejewski, who is the communication and public affairs manager for See Me. See Me is the national programme to end mental health discrimination. Dr Jedrzejewski's talk focused on an overview of the collaboration between See Me and the Scottish Government. See Me took a brief from Scottish Government to get young people ages 8-26 to talk about mental health. This involved using music, emojis and social media to engage over 5000 young people in Scotland on a discussion about how mental health stigma impacts people their age. This strategy utilising music, emojis and media was called 'an Emoji Powered Jukebox'.

Readers can access Dr Jedrzejewski's presentation here

The 7th speaker was Mrs Jane Pickthall, who is the Head of the Virtual School and interim programme manager for the Barnardo's Alliance in North Tyneside. Her presentation focused on how Virtual Reality can be used to support a better understanding of the lived experiences of children that have experienced early life trauma caused by neglect and abuse. The immersive experience of VR can help to develop empathy across the children's workforce with the hope that professional practice changes to better support the needs of children and young people.

Readers can access Mrs Pickthall's presentation here

The 8th speaker was Dr Simon Hammond, who is based at the University of East Anglia. Dr Hammond presented findings from the 4-year Digital Life Story Work programme which aimed to explore the usefulness (or not) of digital technologies in narrative rescripting work with children and young people with care-experience. In highlighting the emergent themes of how the online intervention (Memorify) and offline intervention (Podwalking) were

understood and implemented within the residential childcare context, Hammond draw on the emergent concept of digital resilience. Whilst recognising that people can be more or less resilient depending on their environment, experiences, and circumstances at any given time, Hammond highlighted the applicability of digital resilience to wider conversations about internet safety education. Hammond finished his presentation by sharing his future research plan and funding for taking his digital life story work and digital resilience work further.

Readers can access Dr Hammond's presentation here

The ninth speaker was Dr Brendan Rooney, who is based at University College Dublin. Dr Rooney (alongside colleagues) presented an overview of his work that aims to embed positive change within media entertainment experiences. Dr Rooney described research exploring (1) how the design of media can prompt social cognition and empathy (2) how music can be used to help with pain (3) considerations for designing "realism" into VR and (4) the theory behind gamification and serious games.

Readers can access Dr Rooney's presentation here

The tenth speaker was Dr Amanda Taylor-Beswick, who is a social worker and lecturer based at Queen's University Belfast. Dr Taylor-Beswick's presented an overview of the Nothing About Us Without Us Study (NAUWA), which sought to examine civic activism as a mental health intervention for youth people.

Readers can access Dr Taylor-Beswick's presentation here

The final speakers were Mr. Emmet Godfrey and Mrs. Talissa Walsh, who are both research assistants based at the University of Ireland Galway. Their presentation focused on their research surrounding the efficacy of an early digital intervention for young people. The intervention is called Moderated Online Social Therapy (MOST) and aims to improve psychosocial functioning in several ways. MOST was shown in the presentation through a demo of the app.

Readers can access Mr. Godfrey and Mrs. Walsh's presentation here

Engagement Sessions

Event 3 also included three online engagement sessions (a panel discussion, a breakout room discussion among attendees and presenters and a Mentimeter poll) during which people were invited to interact with hosts and other attendees

Activity 1

Activity 1 involved a panel discussion with first four speakers (Dr Van Daele, Dr Reeves, Mr Brice and Dr Trainor). The key topics of discussion were as follows:

Question 1. What are the barriers, risks and potential rewards of using technology within clinical practice?

Question 2. How can we collaborate more closely with those from engineering and computer sciences backgrounds to maximize opportunities for the treatment of MH conditions?

Question 3. Why are industry and academic partnerships important and why don't they happen more often?

Activity 2

For the second activity, the attendees were split into groups using Teams breakout rooms. Each of the groups were asked two questions:

Question 1: Can anything you have heard so far be applied to your own work or area of interest?

Question 2: Are there any connections that you would like to make today given what you have heard so far?

During panel discussions for activities 1 and 2, there was enthusiasm for more opportunities to engage in joint funding opportunities, particularly those that can be led by industry but need an academic partner. The potential for cross fertilization of ideas was greater when collaborations were formed in this manner (rather than a more transactional relationship where a piece of software is purchased or commissioned). In addition, more opportunities for joint working spaces were viewed as important to support more natural and organic partnerships. Ultimately, complex societal problems require complex solutions and siloed thinking is not the answer. Academia has a lot to offer industry (especially regarding robust evaluation) however industry can also offer academia some creative solutions and innovation. The key challenge has been finding a way to work together that meet the goals and aspirations of both parties e.g., how can companies make money/profits while still providing value for money.

Activity 3

The final activity involved attendees providing their input and reflections via Mentimeter. Specifically, attendees were presented with a list of research priorities, based on those generated from events 1 and 2 and they were asked the following questions:

Question 1: How would you rate the research priorities gathered at the previous Mood Movement Events?

Question 2: Given what you have heard today, would there be any priorities that you would add to the list?

The attendee responses to the above two questions are displayed below:

Responses were collected using Mentimeter and the results were as follows:

The top three research priorities identified by the attendees of event 3 were as follows:

1. What are the most effective digital technologies for young people?
2. Co-production and partnership with young people
3. How do we integrate technology for mental health and maintain the human element?

Given what you have heard today, would there be any priorities that you would add to the list?

- Access & signposting to digital support
- The implementation of digital interventions in routine clinical practice
- Acceptability of digital interventions for people
- Incorporating digital technologies to enhance existing supports
- Application of technological interventions to a wider range of mental health difficulties for children and young people
- Digital Resillience
- Consideration of the postive aspects of gaming for mental health
- New and immersive technologies and how they can be used with youth in exposure therapy

Event 4. Practice and policy recommendations related to technology and young people's mental health and safety online for young people in the UK and Ireland

Overview

Event 4 was held on Monday 6th of September 2021 and focused on exploring the practice and policy recommendations related to young people's digital technology and mental health and considerations of safeguarding young people online. Six speakers were invited to speak and provide an overview of their research and expertise in this area, this also was supplemented with one activity/engagement sessions.

Figure 8. Overview of Event 4 Agenda

Topic Schedule	Speaker	Time
Welcome	Dr. Amanda Fitzgerald	9.30am
Digital World Update	Wayne Denner	9.35am
Promoting Digital Literacy, Digital Citizenship and Wellbeing for Young People	Dr. Sangeet Bhullar	10.00am
Break		**10 minutes**
The lives behind the data: Experiences of vulnerable young people throughout lockdown, a participatory approach	Charlotte Mindel	10.40am
Exploring Risks and Opportunities for Young People in the Digital Landscape	Alex Cooney	11.10am
Children's Well-being in Today's Digitized Society	Mattia Messena	11.40am
Break		**10 minutes**
Co-Designing with Children: A Rights-based approach to fighting cyberbullying	Dr. Tijana Milosevvic	12.15pm
Activity session	Hosts	12.45pm
Close	Prof. Cherie Armour	1pm

Summary

Knowledge Sharing

The first speaker was Mr Wayne Denner, public speaker, author and trainer who specialises in online safety and the ever-changing digital landscape. He delivers workshops on the practical uses of digital technology and social media. Mr Denner focused his talk on digital

literacy, promoting awareness of the risks of online use and the need for a cultural change surrounding internet usage.

The workshops Mr Denner delivers to young people promote internet safety for a myriad of online activities. He demonstrates how to employ practical social engineering techniques such as a two-factor identification and reverse image searching. When young people are taught these skills, it encourages proactive involvement on their part in their own online safety. The digital landscape is constantly changing. Children's digital safety is not the primary concern of app or website creators, and new apps, platforms and trends are constantly emerging on the internet. During lockdown, Wayne provided parents with videos on how to use popular apps or websites and discussed what the primary use of these apps are among young people. This provided parents with a context to and aided their risk assessment of their child using the apps or websites. For example, parents could ensure they have the correct settings in place, such as parental controls, and outline the boundaries of using the app with their child, for instance, only spending a short amount of time on it daily.

Wayne made a key point that collaboration is necessary. Firstly, between academics and laypersons to ensure the findings of research are disseminated in an accessible manner. In addition, it is also necessary to have more collaboration between public and private sectors to ensure knowledge transfer in this area. All groups and sectors working in tandem would be a help in holding social media platforms and technology companies accountable. Current issues in the digital world were summarised as the knowledge surrounding 'selfies' and where they can end up on the internet; what children are searching on the internet; cyber risks such as viruses; excessive screen time and access to devices at a very early age; COVID-19's influence on tech reliance in many age groups; and commercialisation of children on social media.

Recommendations highlighted by Mr Denner included:

1. Continuing evolved and innovative education in schools and with parents, carers and practitioners
2. Nationwide campaigns on risks of excessive use, for instance, suicide risk
3. Continued lobbying against the commercialisation of children
4. Shifting focus from digital inclusion to damage limitation
5. Healthy media habits & practical skills
6. More collaboration between public sector and private sector by exchanging knowledge and funding

Readers can access Mr Denner's presentation here

The second speaker was Dr. Sangeet Bhullar, the Executive Director of WISE KIDS. WISE KIDS is a non-profit organisation which works with parents, carers, educators, youth workers and other professionals to promote digital education, digital literacy, digital citizenship and develop critical thinking. They focus on going beyond teaching functional skills in order to help young people to thrive online safely. Dr Bhullar focused her talk on promoting digital literacy, online safety, digital citizenship, and wellbeing for young people. Dr Bhullar highlighted that online safety can often be described in many complex terms which can paint an abstract picture for children to visualise. To aid young people's understanding, Dr Bhullar suggests describing the internet as a city. There are so many amazing sights to see but also a lot of dangerous places and people. Young people need to understand the vastness of the internet, to understand the varied possibilities of danger. Dr Bhullar concluded with a final piece of advice on the best way for talking with young people about the laws related to cyber risks – she recommended engaging them through creative methods such as storytelling, quizzes, using current issues related to their lives, drama, role-play and games. She also highlighted the importance of having a balanced discussion about the online environment including positives and negatives.

Key research priorities identified by Dr Bhullar included:

1. What are the factors that affect young people's resilience to risk online?
2. How do young people wish to be engaged to develop their digital literacy and agency?
3. What are the critical digital literacies young people need to thrive?

Readers can access Dr Bhullar 's presentation here

The third speaker of the day was Charlotte Mindel, Head of Research at Kooth. Kooth provide online mental health services in the UK, and it is a text-based service providing professional support and community-based support. Kooth has separate digital platforms for adults and young people. Charlotte's talk focused on a study carried out by Kooth's research team. The team designed a study on the experiences of vulnerable young people (11-24yrs) throughout lockdown with a qualitative participatory design. Vulnerable young people were classified as those with adverse childhood experiences (ACEs), trauma and other criteria. Participants were practitioners working for Kooth, who gave accounts of the lockdown experiences of vulnerable young people on their behalf. In summary, the study indicated that already vulnerable young people do experience increased risk, for example, of self-harm and suicidality. The study showed that more support is necessary in schools to support students during this transition through the pandemic, using trauma-informed practice to identify and tackle this trauma early. It also showed that consistent digital support was crucial to supporting vulnerable young people. Kooth also gives privacy to its users as it is a text-based

app, which made it accessible to use for people confined to home with others during lockdown. Digital services such as Kooth had an important role to play in providing a stable source of support for young people where care otherwise is unavailable or to support existing provision.

Key research priorities identified by Ms Mindel included:

1. The role of digital mental health support and resilience in real world and tech settings.

2. How can we be more intelligent with assessing young people and offer right support at right time?

Readers can access Ms Mindel's presentation here

The fourth speaker was Alex Cooney, CEO of CybersafeKids Ireland, a not-for-profit organisation working to empower children and the adults around them to navigate the online world in a safer and smarter way. Alex provided an overview of the current UK based evidence regarding young people and the impact of the current digital landscape.

Key research priorities identified by Alex included:

1. Investigating more directly at effects of young people's viewing of pornography on their development and relationships.

2. Examining longer-term impact on younger children of exposure to pornography on their development and how best to address through education

Readers can access Ms Cooney's presentation here

Our fifth speaker of the day was Mr Mattia Messena, a PhD student at UCD collaborating with CyberSafeKids on a project aiming to better understand how to sustain positive and safe use of information and communication technologies (ICT) for children. Mr Messena discussed the current state of play in relation to children's ICT use and wellbeing, as well as plans for this own PhD study. The PhD will be achieved by investigating the relationship between children's ICT use, digital skills, and well-being.

Key priorities for research and policy identified by Mattia include:

1. Favouring the development of the child's digital skills through family-school coordination.

2. Raising awareness on safety and protection through community engagement

3. Encouraging media industry/tech designers to develop programmes that sustains opportunities

Readers can access Mr Messena's presentation here

The sixth and final speaker was Dr Tijana Milosevvic, an Elite-S Post-Doctoral Research Fellow jointly appointed with the National Anti-Bullying Research Centre (ABC) and ADAPT SFI, focusing on social media policies and digital media use among children and youth. Dr. Milosevvic's talk centred around the creation of a rights-based approach to fighting cyberbullying through co-designing with children and the empirical evidence-based surrounding this.

Readers can access Dr. Milosevvic's presentation here

Engagement Sessions

Event 4 included one online engagement session during which people were invited to give their input to research priorities in the field via Mentimeter. Attendees were asked the following question during the event.

Question 1: Based on the talks today, please rank the top future research priorities.

The results of the Mentimeter ranking poll were as follows:

How would you rate the research priorites gathered at the previous Mood Movement events?

1. How can we educate children to become more competent users through the access of technologies while providing them with better skills for positive use?
2. What are the factors that affect young people's resilience to risk online?
3. What are the critical digital literacies young people need to thrive?
4. How do we implement practical ways for people to keep themselves safe online from an early age?
5. Critical dignity based interventions - understanding the role of culture in teen social relatios
6. Longer term impact on younger childre of exposure to pornography and how to best address this through education
7. How can we be more intelligent with young people and offer the right support at the right time

The top three research priorities identified by the attendees were as follows:

1. How can we educate children to become more competent users through the access of technologies while providing them with better skills for positive use?

2. What are the factors that affect young people's resilience to risk online?

3. What are the critical digital literacies young people need to thrive?

Section 2. The Mood Movement Network Consultation Survey

Overview & Purpose

This section details the methodology, results, and implications of the consultation survey.

Across each of the 4 Mood Movement events (summarised in section 1) an emphasis was placed on each of our speakers and attendees to express, based on their knowledge and experience, what areas they would consider as important future research priorities for supporting young people's emotional wellbeing in the context of digital technologies. This resulted in a wealth of valuable information (as summarised in section 1). The purpose of the survey was to bring consensus to the wealth of the core findings, implications and impacts highlighted across each of the four events. And in doing so, create a clear pathway for impact and direction for future research and service provision.

Therefore, the main aim of the consultation survey was to explore what are the top priorities for both research and research facilitation, in harnessing digital technologies to promote emotional well-being for young people. Top priorities are defined as, the topics that researchers/academics etc should focus on when studying digital technologies and mental health in young people.

Therefore, in broad terms the consultation survey sought to provide participants with a list of key priorities for both research and service provision, which they were asked to rate based on their importance for the future of young people's emotional wellbeing.

This section is structured as follows:

Part 1. Consultation Exercise: Provides an overview of the consultation exercise, where the survey content was planned and agreed.

Part 2. Methodology: Provides an overview of the methodology behind the recruitment strategy and procedure in relation to the consultation survey.

Part 3. Findings: Provides a summary of the survey findings.

Part 4. Implications & Recommendations

Part 1. Consultation Exercise

Prior to the survey launch it was imperative that a consensus had been reached regarding the survey content and that this accurately reflected the key priorities as identified across the 4 Mood Movement events. However, given the vast amount of knowledge and information identified across these four events (regarding key priorities) it was important to strike a balance and consolidate this information to ensure that the key priorities included in the survey were not overly burdensome for participants to complete, repetitive in nature, or jargon heavy.

To address both those points, the research team, in partnership with the youth advisory panel, conducted a consultation exercise. This consultation exercise took place at Queen's University Belfast Campus on the 10th of October 2021 and this exercise involved the research team and youth advisory panel only. Several attempts were made to include charitable partners supporting young people however it was not possible with the existing demands on stakeholder's time.

The goal of the exercise was to consolidate a large list of key priorities for research and service provision obtained from all 4 Mood Movement networking events and refine this list down systematically to a concise list of approx. 10 *'research'* based priorities and 10 *'research facilitator'* based priorities. The following section describes that process.

> How are 'research' priorities defined in this study?
>
> By research priorities we mean the topics that researchers working in this area should turn their focus to when studying and understanding the area of harnessing digital technologies to support (or otherwise) young people's mental health and wellbeing.
>
> How are 'research facilitator' priorities defined in this study?
>
> By research facilitator priorities we mean priorities that will make conducting research in the area of harnessing digital technologies to support (or otherwise) young people's mental health and wellbeing easier to achieve.

Stage 1.

A member of the research team compiled a list of all research and research facilitator priorities based on the those expressed by our speakers across all 4 events and those that were communicated via attendees of these events via the engagement sessions attached to each event. This resulted in a total of 38 research priorities and 16 research facilitator priorities (see below).

Originally Identified Research Priorities

1. What are the most effective digital technologies for young people's mental health?
2. Can we apply technological interventions to a wider range of mental health difficulties for children and young people?
3. How do we improve access and signposting of digital supports?
4. How do we refine the design of online help-seeking technologies to ensure it enables both issue-based and content type help-seeking?
5. How can new immersive technologies be used with youth in exposure therapy?
6. Can we investigate innovations of digital tools that have ecological validity such as VR, AI, social media, storytelling?
7. How can we educate children to become more competent users of technologies while providing them with better skills for positive use?
8. What are the factors that affect young people's resilience to risk online?
9. What are the critical digital literacies young people need to thrive?
10. How do we implement practical ways for people to keep themselves safe online at an early age?
11. How can we develop critical dignity-based interventions and enhance our understanding of the role of culture in teens social relations online?
12. What is the longer-term sociopsychological impact on younger children when exposed to online pornography?
13. How can we best address online exposure to pornography through education?
14. How can we be more intelligent when assessing young people via a range of technologies and offer the right support at the right time?
15. How do we effectively integrate technology in mental health support and simultaneously maintain the human element?
16. What types of technology based mental health help options would young people like to have?
17. What are the factors involved in young people's choice of which digital help-seeking option to use?
18. How do we make young people more comfortable seeking help online?
19. How do we best optimise and implement the use of digital interventions in routine clinical practice?
20. What is the acceptability of digital interventions for people incorporating digital technologies to enhance existing mental health supports?
21. Are there positives of gaming for mental health?
22. Can we use VR to increase empathy towards children that have experienced adverse childhood experiences?
23. Can we promote Civic Activity online as a mental health intervention for young people?
24. What is the effectiveness of on VR's application in clinical practice for children and young people?

25. What is the role of AI and machine learning in mental health support?
26. Can we co-develop personalized digital interventions sensitive to inter-individual heterogeneity and diversity to target psychological mechanisms?
27. How can we use digital storytelling to enhance wellbeing and increase awareness of mental health in youths?
28. How do we best develop young people's digital literacy and agency?
29. What is the influence of visual social media on mental health and wellbeing?
30. What's the best and most appropriate way of evaluating programs in a digital landscape?
31. What is the best way to teach children skills for internet use/healthy media habits and practical skills?
32. How can we improve our understanding of the rates and implications of comorbid psychological disorders experienced by youths?
33. How do we identify and differentiate between youths experiencing psychological distress as related to traumatic life events and those not?
34. How do we better characterise to the role of emotion regulation in youths and its impact of psychological distress?
35. Do girls experience a higher rate of complex PTSD compared to boys, and if so, why?
36. Can we identify school-based interventions focusing on emotion regulation and can we integrate these into the school system?
37. What will be the most effective mental health interventions to mitigate against long term impacts of COVID-19 on young people's mental health.
38. Which groups of young people have been disproportionately impacted by COVID-19 in turn increasing the risk for mental ill health outcomes?

Originally Identified Research Facilitator Priorities

1. The utilisation of language that focuses on wellness rather than illness when discussing youth mental health.
2. Importance of partnership, interdisciplinary working, youth engagement and public and patient involvement in research
3. Developing virtual environments into research method(s).
4. Co-production and partnership with young people in the design of technologies for mental health.
5. Collaboration with relevant healthcare to further develop a technology platform for real world implementation
6. More collaboration between public sector and private sector by exchanging knowledge and funding
7. Partnership between local mental health providers and online mental health resources to optimize outcomes
8. Interdisciplinary action and partnership to improve outcomes for young people
9. Favour family-school coordination in the development of the child's digital skills.

10. Collaboration to support longer term user studies in terms of the target demographic in the target setting.
11. Political will
12. Interdisciplinary action and partnership to improve outcomes for young people
13. Continuing evolved and innovative education in schools and with parents, carers and practitioners.
14. Nationwide campaigns on risks of excessive use, for instance suicide
15. Continued lobbying against the commercialization of children
16. Increased legislation and public awareness surrounding children's pornography use to change societal norms

These priorities were inputted into an online survey via Qualtrics, and the survey link was distributed to all present at the consolidation meeting. Attendees were presented with a list of research priorities and research facilitators as above and asked to rate each of these on a scale of, 1 = *least important*; 2 = *slightly important*; 3 = *important*; 4 = *fairly important;* 5 = *most important*. The top 11 priorities with the highest average rating were retained and moved on to the next stage of the exercise. These are detailed below and presented in order of ranked importance:

Stage 1 List of Reduced of Research Priorities

1. What are the most effective digital technologies for young people's mental health?
2. How can we educate children to become more competent users of technologies while providing them with better skills for positive use?
3. Can we identify school-based digital interventions focusing on emotion regulation and can we integrate these into the school system?
4. What are the factors that affect young people's resilience to risk online?
5. How do we implement practical ways for people to keep themselves safe online at an early age?
6. What is the influence of visual social media on mental health and wellbeing?
7. How do we best optimize and implement the use of digital interventions in routine clinical practice?
8. Which groups of young people have been disproportionately impacted by COVID-19 and how do we best support them through existing and emerging digital technologies?
9. Can we apply technological interventions to a wider range of mental health difficulties for children and young people?
10. Can we investigate innovations of digital tools that have ecological validity such as VR, AI, social media, storytelling?
11. How do we make young people more comfortable seeking help online?

Stage 1 List of Reduced of Facilitator Priorities

1. Co-production and partnership with young people in the design of technologies for mental health.
2. Importance of partnership, interdisciplinary working, youth engagement and public and patient involvement in research
3. Partnership between local mental health providers and online mental health resources to optimise outcomes
4. Continuing evolved and innovative education in schools and with parents, carers and practitioners.
5. The utilisation of language that focuses on wellness rather than illness when discussing youth mental health.
6. Interdisciplinary action and partnership to improve outcomes for young people
7. Nationwide campaigns on risks of excessive use, for instance suicide
8. Continued lobbying against the commercialisation of children
9. Increased legislation and public awareness surrounding children's pornography use to change societal norms
10. More collaboration between public sector and private sector by exchanging knowledge and funding

Stage 2.

During the next phase of the consultation exercise the team reviewed the newly revised 11 research priorities and 10 facilitator priorities. Based on discussions around concern that the priorities in the context of the Mood Movement Network must be related to the digital technologies to some extent, and considerations regarding whether any key components were missing from the list, revisions were made.

Specifically, three research priorities were rephrased and one new research priority was added. This was:

- *How best do you engage young people in the co-production of research on what does/doesn't work in using digital technologies to support mental health?*

Regarding the facilitator priorities it was felt by the team that many were overlapping and that some key priorities were missing. Therefore, four were retained and four were newly added. These new additions were:

- *Co-production, partnership, and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.*
- *Ensuring a human rights perspective through the development and implementation of all digital technologies to support mental health in young people.*
- *Educating stakeholders about mental health literacy in digital technologies to minimize stigma.*

- *Ensuring the use of evidence informed accessible and understandable language when developing digital technologies to support young people.*

Once the revised lists of priorities (both research and research facilitator priorities) were agreed, these were inputted into an online survey via Qualtrics, and the survey link was distributed to all present at the consultation meeting. Attendees were presented with the new reduced list of research priorities and facilitators identified during the consultation process and again asked to rate each of these on a scale of, 1 = *least important*; 2 = *slightly important*; 3 = *important*; 4 = *fairly important;* 5 = *most important*. These became the finalised list of research and research facilitator priorities, which are listed below and presented in order of ranked importance:

Stage 2 Finalized list of Research Priorities

1. How best do you engage young people in the co-production of research on what does/doesn't work in using digital technologies to support mental health?
2. How can we educate children to become more competent users of technologies while providing them with better skills for positive use?
3. What are the factors that affect young people's digital resilience to risk online?
4. What are the most effective digital technologies for young people's mental health?
5. Can we identify school based digital interventions that we can integrate into the school system (such as those focused on emotional regulation, empowerment and digital skills)
6. Which groups of young people have been disproportionately impacted by Covid19 and how do we best support them through existing and emerging digital technologies?
7. Can we apply technological interventions to a wider range of mental health difficulties for children and young people?
8. How do we implement practical ways for people to keep themselves safe online at an early age?
9. How do we make young people more comfortable seeking help online?
10. How do we best optimise and implement the use of digital interventions in routine clinical practice?
11. Can we investigate innovations of digital tools that have ecological validity (real world application) such as VR, AI, social media, storytelling?
12. What is the influence of visual social media on mental health and wellbeing?

Stage 2 Finalized list of Facilitator Priorities

1. Co-production, partnership, and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.
2. Ensuring the use of accessible and understandable language when developing digital technologies to support young people

3. Ensuring a human rights perspective through the development and implementation of all digital technologies to support mental health in young people
4. Continuing evolved and innovative education in schools and with parents, carers and practitioners.
5. Educating stakeholders about mental health literacy in digital technologies to minimize stigma
6. Continued lobbying against the commercialisation of children
7. Nationwide educational campaigns on risks of excessive social media use, for young people
8. Increased public awareness surrounding children's pornography use to change societal norms

Each grouping of newly revised research and facilitator priorities (detailed above) was subsequently approved and finalized by the core research team and the youth advisory panel for inclusion in the consultation survey.

Part 2. Survey Methodology

Who was eligible to complete the survey?

Any individuals over the age of 18 were eligible to complete the survey. The team were interested in receiving a broad range of opinions from a range of individuals. Whether potential participants were individuals working in the academic or healthcare sectors, a young person or parent/guardian, someone who has lived experience of mental ill health or caring for someone who has a mental health difficulty, or if they were a lay person interested in this topic – all were welcome.

Recruitment

The Mood Movement Network utilised a wide-ranging recruitment strategy. Specifically, via a combination of both advertisement via social media and targeted recruitment.

To ensure the study reached a wide range of individuals, particularly those within the general population (such as young people, parents, people with lived experience of mental ill health) the study was advertised via social media platforms such as Twitter and Facebook. Additionally, as it was important to reach academics, service providers and other stakeholders, within these social media advertisements, academics who specialise in emotional wellbeing among young people across various academic institutions were tagged, as well as several service providers and other stakeholders such as Spunout, PureMentalNI, Action Mental Health, YouthActionNI, Jigsaw, BeLonG to Youth Services, NI Youth Forum and McPin Young People's Network. These social media posts were posted by the core research

team at regular intervals for a period of several weeks. Additionally, a selection of these individuals/organisations were sent email invitations directly by the core research team, asking them to promote the survey and inviting participation in the study.

Survey Design & Procedure

The survey was online only and was hosted on the website Qualtrics. Ethical approval was provided by the Queen's University Belfast's Engineering and Physical Sciences Faculty Research Ethics Committee (EPS 22_33).

Participants were invited via the recruitment strategy outlined above. If participants were interested in the study, they clicked the link provided on the study advertisement, this directed them to a participant information sheet and consent form which detailed further information about the Mood Movement and what the survey involves and required them to consent before beginning the survey.

Within the survey participants were first asked a series of demographic questions (see Figure 9). A total of 52 participants completed the survey and were eligible for analysis following data cleaning. Participants were majorly female and had an average age of 35 years. Table 1 provides a demographic breakdown of all participants who completed the survey. Additionally, participants were presented with a list of research priorities identified during the consultation process (detailed in part 1 above and asked to rate each of these on a scale of: 1 = *least important*; 2 = *slightly important*; 3 = *important*; 4 = *fairly important;* 5 = *most important*. Finally, participants were presented with a list of facilitator priories also identified during the consultation process and asked to rate these in the same way (detailed in part 1 above). Participants were also invited to specify whether there were any specific priorities they felt were missing from each list and asked to detail these in their response. The survey took approx. 5 – 10 minutes to complete.

Upon completion of the survey all participants were provided with debriefing and supporting information. All responses were anonymous.

The resulting data gathered from the survey was analysed by conducting a series of descriptive analyses using SPSS software. Specifically, the average score and associated standard deviations was calculated for each research and facilitator priority.

Figure 9. Summary of Survey Questions

1 DEMOGRAPHIC QUESTIONS

- Gender Identity
- Age
- Current living location
- Ethnicity
- Employment Status
- If they had lived experience of mental ill health
- If they had caregiving responsibilities for friends or family with mental health difficulties

Participants were also asked:

- To pick one or more 'roles' from a list which would best described their background and experience, as it relates to young people and emotional wellbeing.
- These roles were: young person, academic, general practitioner, caregiver, someone with lived experience, psychiatrist, nurse, clinical psychologist, decision/policy maker, organisation focused on workforce development for provision of mental health services, manager of a clinical service or NGO supporting those with mental health difficulties).
- If participants didn't fit into any of these role, they could specify there own role.

2 RESEARCH PRIORITIES

Participants were presented with the following list of 12 research priorities:

1. How to best engage young people in the co-production of research (i.e., young people are involved in an equal partnership with researchers) on what does or doesn't work in using digital technologies to support mental health?
2. How can we educate children to become more competent users (i.e., having the ability, knowledge and skills to use technology successfully) of technologies while providing them with better skills for positive use?
3. What are the factors that affect young people's digital resilience (e.g., understanding when they may be at risk online, learning from their experiences of being online) to risk online?
4. What are the most effective digital technologies for young people's mental health?
5. Can we identify school based digital interventions for mental health that we can integrate into the school system (such as those focused on emotional regulation (e.g, how we control our emotions), empowerment (e.g., encourage young people to take charge of their lives), and, digital skills)?
6. Which groups of young people have been disproportionately impacted by COVID-19 and how do we best support them through existing and emerging digital technologies?
7. Can we apply technological interventions to a wider range of mental health difficulties for children and young people?
8. How do we implement practical ways for people to keep themselves safe online at an early age?
9. How do we make young people more comfortable seeking help online?
10. How do we best optimize and implement the use of digital interventions in routine clinical practice (e.g., when young people are accessing services and seeking support)?
11. Can we investigate newly developed digital tools that have ecological validity (i.e., real world application) such as virtual reality, artificial intelligence, social media, story-telling apps?
12. What is the influence of visual social media (i.e.,social media based on sharing images, photos, videos) on mental health and wellbeing?

3 FACILITATOR PRIORITIES

Participants were presented with the following list of 8 facilitator priorities:

1. Co-production (i.e., young people are involved in an equal partnership with others) and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.
2. Ensuring the use of accessible and understandable language when developing digital technologies to support young people
3. Ensuring a human rights perspective (i.e., ensuring that young people's human rights are promoted and protected when they require support for their mental health) through the development and implementation of all digital technologies to support mental health in young people
4. Continuing evolved and innovative digital mental health education in schools and with parents, carers and practitioners
5. Educating stakeholders on the mental health literacy of young people (i.e., understanding mental health difficulties, increasing help seeking) using digital technologies to minimize stigma
6. Continued lobbying (e.g., trying to influence change in practices) against the commercialization (e.g., the use of images of children to see products) of children
7. Nationwide educational campaigns on risks of excessive social media use, for young people
8. Increased public awareness surrounding children's access to and use of pornography

Table 1. Summary of Participant Demographics (N=52)

Demographic Variables		Sample Size %
Gender Identity		
	Female	69.2%
	Male	21.2%
	Non-Binary	5.8%
	Prefer not to say	3.8%
Living Location	Republic of Ireland	69.2%
	England	13.5%
	Northern Ireland	11.5%
	Other	5.8%
Ethnicity		
	White	98.1%
	Asian or Asian British	1.9%
	Black, African, Caribbean or Black British	0%
	Mixed or multiple ethnic groups	0%
	Other	0%
Employment Status		
	Employed (full-time, part-time or self-employed)	73.1%
	Student	15.4%

	Unemployed	5.8%
	Other	5.8%
Caregiving Responsibilities		
	No	78.8%
	Yes	19.2%
	Prefer not to say	1.9%
Lived Experience of Mental Health Difficulties		
	Yes	80.8%
	No	19.2%
Role[1]		
	Someone who has experienced or does experience mental health difficulties	59.6%
	Friend/Family/Carer of someone who has experienced or does experience mental health difficulties	46.2%
	Young person (18- 25 years)	23.1%
	Nurse	1.9%
	General Practitioner	0%
	Psychiatrist/Clinical Psychologist or any other allied mental health professional	7.7%
	Academic Researcher	21.2%
	Manager of a clinical service or NGO supporting those with mental health difficulties	5.8%
	Organisation focused on workforce development for provision of mental health services	3.8%
	Decision/policymaker	1.9%
	Other[2]	23.1%

Note: [1] Participants were asked to choose a role that best describes themselves as it relates to the topic of mental health. They could choose more than one role; therefore, these are not exhaustive categories; [2]Other types of roles disclosed were CEO roles in mental health charities, childminders, community welfare officers, police force members, editors of mental health content, organizations involved in service provision in school settings, students, research roles

Part 3. Summary of Survey Finding

The top five rated priorities for future research as identified by the sample in the consultation survey were:

1. **What are the factors that affect young people's digital resilience (e.g., understanding when they may be at risk online, learning from their experiences of being online) to risk online?**

2. **What are the most effective digital technologies for young people's mental health?**

3. **How do we implement practical ways for people to keep themselves safe online at an early age?**

4. **Can we identify school based digital interventions for mental health that we can integrate into the school system?**

5. **How to best engage young people in the co-production of research (i.e., young people are involved in an equal partnership with researchers) on what does or doesn't work in using digital technologies to support mental health?**

Table 2. Summary of Ranked Research Priorities (*N*=52)

	Mean[1]	SD[2]
What are the factors that affect young people's digital resilience (e.g., understanding when they may be at risk online, learning from their experiences of being online) to risk online?	4.35	.76
What are the most effective digital technologies for young people's mental health?	4.31	.81
How do we implement practical ways for people to keep themselves safe online at an early age?	4.29	.94
Can we identify school based digital interventions for mental health that we can integrate into the school system (such as those focused on emotional regulation (e.g., how we control our emotions), empowerment (e.g., encourage young people to take charge of their lives, digital skills)?	4.12	.94
How to best engage young people in the co-production of research (i.e., young people are involved in an equal partnership with researchers) on what does or doesn't work in using digital technologies to support mental health?	4.08	.76
Which groups of young people have been disproportionately impacted by COVID-19 and how do we best support them through existing and emerging digital technologies?	4.06	.99
How can we educate children to become more competent users (i.e., having the ability, knowledge and skills to use technology successfully) of technologies while providing them with better skills for positive use?	4.02	1.02
Can we apply technological interventions to a wider range of mental health difficulties for children and young people?	4.02	.94
How do we make young people more comfortable seeking help online?	3.90	1.13
What is the influence of visual social media (i.e., social media based on sharing images, photos, videos) on mental health and wellbeing?	3.88	1.11
How do we best optimize and implement the use of digital interventions in routine clinical practice (e.g., when young people are accessing services and seeking support)?	3.87	.97
Can we investigate newly developed digital tools that have ecological validity (i.e., real world application) such as virtual reality, artificial intelligence, social media, story-telling apps?	3.40	1.13

Note: [1] scores ranged from 1 to 5 (1= least important; 2 = slightly important; 3 = important; 4 = fairly important; 5 = most important);[2] SD = Standard Deviation

The top five rated facilitator priorities for future service provision, as identified by the sample in the consultation survey, were:

1. **Ensuring the use of accessible and understandable language when developing digital technologies to support young people.**
2. **Ensuring a human rights perspective through the development and implementation of all digital technologies to support mental health in young people**
3. **Educating stakeholders on the mental health literacy of young people (i.e., understanding mental health difficulties, increasing help seeking) using digital technologies to minimize stigma**
4. **Continuing evolved and innovative digital mental health education in schools and with parents, carers and practitioners**
5. **Co-production and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.**

Table 3. Summary of Ranked Facilitator Priorities (*N*=45[1])

	Mean[2]	SD[3]
Ensuring the use of accessible and understandable language when developing digital technologies to support young people.	4.53	.625
Ensuring a human rights perspective (i.e., ensuring that young people's human rights are promoted and protected when they require support for their mental health) through the development and implementation of all digital technologies to support mental health in young people	4.49	.944
Educating stakeholders on the mental health literacy of young people (i.e., understanding mental health difficulties, increasing help seeking) using digital technologies to minimize stigma	4.42	.753
Continuing evolved and innovative digital mental health education in schools and with parents, carers and practitioners	4.09	1.10
Co-production (i.e., young people are involved in an equal partnership with others) and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.	4.04	1.19
Increased public awareness surrounding children's access to and use of pornography	3.82	1.25
Continued lobbying (e.g., trying to influence change in practices) against the commercialization (e.g., the use of images of children to see products) of children	3.80	1.22
Nationwide educational campaigns on risks of excessive social media use, for young people	3.69	1.36

Note: [1] Sample size of 45 due to 7 participants having missing data for this question; [2] scores ranged from 1 to 5 (1= least important; 2 = slightly important; 3 = important; 4 = fairly important; 5 = most important); [3]SD = Standard Deviation

Part 4. Implications & Recommendations

The top five research priorities represent key areas where more research attention is needed in relation to new and emerging digital technologies as they relate to young people's emotional wellbeing. Therefore, creating a clear and directed pathway of objectives for future research examining the role of digital technologies and emotional wellbeing in young people.

Likewise, the top five research facilitator priorities represent key areas that will facilitate researchers to conduct the research required to improve emotional wellbeing among young people and how digital technologies can be utilised to do so. This allows stakeholders to innovate and ensure best practice is adhered to the area of developing and implementing digital tools for young people's emotional wellbeing.

The top priorities identified in this report are broad in nature. This is intentional, given how broad the area of young people's emotional wellbeing is, even when focused on the role of digital technologies (because there are a range of issues digital tools can target and a range age groups to focus on). Therefore, any researcher or other stakeholder who wishes to action any of these priorities should be mindful of some important considerations to ensure maximum effectiveness and impact. Specifically:

- Young people are not a homogenous group (meaning they are not one group who all share the same experiences, characteristics, and needs) and therefore academic research and service provision should not approach them like they are.
- Future research actioning the priorities in this report should aim to capture the nuance and unique experiences of subgroups of young people who are disproportionately disadvantaged or, conversely, disproportionally protected.
- It is imperative that future research is intersectional, and therefore strives to understand young people's relationships and engagement with the digital world and digital technologies through the lenses of gender identity, age, culture, race and class.

The top five priorities (both for research and research facilitation) will now be discussed below in relation implications and recommendations.

Recommendations based on each the top five research priorities are detailed below.

1

What are the factors that affect young people's digital resilience to risk online?

This was the top-rated research priority in the survey.

More so than any other demographic in our population, young people's lives are deeply tied to the online world. This brings ample opportunities and space for growth, but it also poses risks. The mechanisms through which online spaces negatively impact young people's emotional wellbeing and the degree to which young people are at a heightened risk of suffering the negative consequences of online engagement needs to be explored. Relatedly, what buffers the negative impacts of the digital world and thus builds digital resilience requires further attention.

Specific recommendations in line with this priority include:

1. A need for researchers to adopt a balanced and holistic approach to try and understand young people's relationship with the digital world and its risks or benefits.

2. A focus on research geared towards identifying factors which build digital resilience among young people, such factors could include:
    - Enhancing Digital Literacy – referring to being able to identify credible online information resources and evidence based digital tools in relation to emotional wellbeing, awareness of safe vs risky online activities
    - Awareness of and access to tools to manage online hate/bullying/trolling
    - Enhancing emotional awareness of the impact the digital world can have on emotional wellbeing i.e., awareness of the amount of time spent online and the degree to which it effects general wellbeing, awareness of the impact of certain content on specific platforms as they relate to one's own wellbeing and the insight to reflect and monitor this
    - Awareness of, access to and ability to navigate online supportive communities
    - Fostering not just skills around how to keep themselves safe online, but also skills which empower young people with the tools they need to reach their potential as online citizens. This means treating others with kindness and respect in the digital space.

2

What are the most effective digital technologies for young people's mental health?

This was rated as the second most important research priority in the survey.

Specific recommendations in line with this priority include:

1. More research is required measuring the effectiveness of existing digital technologies (in relation to different aspects of emotional wellbeing)

2. It would be useful to identity existing digital tools for emotional wellbeing which are evidence based and generate a list of these evidence-based tools which is accessible for young people to receive support advice for various issues. This should be organized by target age, aspect of emotional wellbeing each digital tool aims to target and at what level (i.e., psychoeducation, guided self-help, for parents or teachers only, for clinicians only etc.).

3. Any research outcomes focused on the evaluation and efficacy of digital tools for enhancing wellbeing among young people must be accessible to the end user of these digital tools or interventions i.e., the young people themselves. Academics need to find a way to easily communicate any research outcomes to the end user of these digital tools/interventions.

3

How do we implement practical ways for people to keep themselves safe online at an early age?

This was rated as the third most important research priority in the survey.

Specific recommendations in line with this priority include:

1. A need for research focusing on examining what current training courses are available for young people and their parents/guardians aimed at tackling online safety; and the evaluation of the effectiveness of these. An important part of this will also be training course for parents aimed at building their own digital literacy to understand how best to help their child stay safe online.

2. A focus is needed on the development of preventative strategies for young people and parents highlighting the relationship between online and digital technologies and mental health and wellbeing. These should provide practical tips which are evidence based, age appropriate and are routinely updated in line with innovations in the digital world.

3. While in person online safety training is a useful tool to promote safe practices online. Not all young people or parents are able to attend or access online safety training courses. It is important to create and run online evidence based online safety information campaigns to bring the information to young people. This could take the form of a target social media campaign utilizing targeted ads or pop ups on platforms such as YouTube, TikTok, Snapchat or Instagram as well as dedicated social media posts or videos on these platforms also.

4. There should also be a focus on how to teach young people from the early years skills which help them be good digital citizen, this goes beyond practical skills to keep yourself safe online but also how to be a positive influence on others and treat others with kindness and respect in the digital space.

4

Can we identify school based digital interventions for mental health that we can integrate into the school system?

This was rated as the fourth most important research priority in the survey.

Specific recommendations in line with this priority include:

1. A systematic review of the current existence and effectiveness of digital tools for emotional wellbeing for young people within a school-based environment would be beneficial.

2. It would be useful to set up a network of stakeholders, involving those from the education sector, academic sector, mental health sector, application and digital tool developers and young people themselves. Such a network would be integral in gathering information around what the need is within schools for digital interventions and for what issues would they be most useful, what interventions exist and are available, what the barriers to implementation are in a school information, coming to a consensus around delivery of such interventions. Such a network could be used to identify gaps that exist and lead to the creation of new and innovative digital tools where there is a need to address a specific issue.

5

How to best engage young people in the co-production of research on what does or doesn't work in using digital technologies to support mental health?

This was rated as the fifth most important research priority in the survey.

Specific recommendations in line with this priority include:

1. Consideration should be given by researchers regarding what methods work best when engaging young people to take part in the co-production of research and give young people the best chance of ensuring their views, opinions and experiences are heard and lead to meaningful youth led research

2. It is essential research in this area is YOUTH LED not simply YOUTH FOCUSED.

3. Young people need to be stakeholders in the entire research process.

4. Researchers must consider carefully at which stage of the research process they are involving them so they can shape it – if they ask too late in the process important insights are lost.

Recommendations based on each the top five research facilitator priorities are detailed below.

1

Ensuring the use of accessible and understandable language when developing digital technologies to support young people.

This was the top-rated research facilitator priority in the survey.

Specific recommendations in line with this priority include:

1. As a first step in the development of digital technologies, developers should adhere to plain English guidelines by consulting tools such as the National Adult Literacy Agency. This will ensure general readability and reduce technical jargon.

2. Consult young people across all stages of development and validation of the tool

3. Prioritize accessibility and usability of the digital tool

4. It is important to ensure consistency in both the definition and use of certain terms 'i.e., mental health, emotional wellbeing, resilience etc.'. This creates clarity and transparency around what specific factor/topic a given digital tools aims to address. To develop digital tools aimed at addressing these issues it needs to be clear exactly how they are defined and what specific factors are being tackled, without which, it is impossible to measure and evaluate properly from a research standpoint.

2

Ensuring a human rights perspective (i.e., ensuring that young people's human rights are promoted and protected when they require support for their mental health) through the development and implementation of all digital technologies to support mental health in young people

This was rated as the second most important research priority in the survey.

Specific recommendations in line with this priority include:

1. It is important to ensure developers and researchers are working under the advisement of an ethical committee who can evaluate the project and ensure all participants rights are protected and are at the forefront of the research surrounding the development and implementation of digital tools for young people.
2. As already mentioned, it is essential research in this area is YOUTH LED not simply YOUTH FOCUSED. Young people need to be stakeholders in the entire research process – including the development phases.

3

Educating stakeholders on the mental health literacy of young people (i.e., understanding mental health difficulties, increasing help seeking) using digital technologies to minimize stigma.

This was rated as the third most important research priority in the survey.

Specific recommendations in line with this priority include:

1. It is imperative all stakeholders stay tied to what is evidence based regarding digital mental health education.

2. It is imperative all other stakeholders listen to the views of young people themselves regarding what they need from digital mental health education, what topics should be covered and what format should be used to deliver this education, in order to have maximum impact. Such views can be ascertained via online surveys, focus groups or by consulting youth advisory panels.

4

Continuing evolved and innovative digital mental health education in schools and with parents, carers and practitioners

This was rated as the fourth most important research priority in the survey.

Specific recommendations in line with this priority include:

1. It is imperative all stakeholders involved in mental health education within a school context stay tied to what is evidence based regarding digital mental health education, are up to date on new and innovative advances in all things related to the digital world and how (if at all) this impacts the students in their care. This is important, especially in the context of considering what digital interventions/tools should be used within a school environment and the evidence based in line with a given digital tool.

2. In order to address the priority above, schools could appoint a 'digital technologies champion'. This would be an individual whose role would involve keeping up to date with the existing evidence base around digital tools, examine what tools are needed/required by their cohort of students, provide information sessions for parents/carers who wish to improve their own digital literacy and how to help their child manage the digital world.

5

Co-production (i.e., young people are involved in an equal partnership with others) and interdisciplinary working with relevant stakeholders at all phases of research and technology design, implementation, and evaluation.

This was rated as the fifth most important research priority in the survey.

Specific recommendations in line with this priority include:

1. All stakeholders involved in ensuring the co-production of research and service provision in partnership with young people should strive to minimize the barriers to engagement in the co-production process as much as possible. Such barriers include time constraints, financial constraints, resources, travel logistics and the processes by which one becomes involved in co-production such as application or interview processes etc. These types of barriers may disproportionately affect some individuals from being able to be involved.

2. Fostering positive relationships between different disciplines should be paramount.

3. Networking events aimed at fostering collaborative relationships among a range of individuals from different disciplines and backgrounds (who work in the area of supporting young people's emotional wellbeing and the use of digital tools/interventions) on a more regular basis should be prioritized. Such events should strive to bring together academics and researchers, service providers, digital tools developers and also young people themselves in order to share their work, experiences, and reflections with one another.

Conclusion

The Mood Movement Network was a large-scale consultation exercise aimed at bringing together a broad range of stakeholders to explore the ability of both existing and emerging technologies to facilitate help-seeking, stigma reduction, and support of young people's mental health.

This resulted in the cultivation of a total of 10 key priorities for future research and research facilitation. These priorities provide a clear and directed pathway of objectives for future research examining the role of digital technologies and emotional wellbeing in young people and highlighted key areas that will facilitate researchers to conduct this research. Future researchers in this area should seek to answer the specific research questions identified by this report and project funders should seek to give due consideration to projects focused on addressing the key properties raised by this report, in partnership with young people in both cases.

It is important to mention that we recognise that this report and the resulting priorities are a product of the knowledge, background, and opinions of the research team, the wider participating network, the youth advisory panel and those who responded to our consultation. The report and priorities were also created in the context of Covid-19. This means that there is a possibility that had this been conducted at a different time with a different set of people there may have been fluctuations in priorities and rankings. While this is an important limitation, we assert the Mood Movement Network is an important step in bringing together several stakeholders to combine their knowledge and experiences to lay a solid foundation down for the direction of future research. This resulted in the fostering of many collaborative relationships between those who attended the event, among each other, and the research team. We hope those continue to flourish to improve the research landscape of using digital technologies to support and improve young people's mental health in a digital age.

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