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Title:

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Date:

2022-03-01

Citation:

Valentine, L., McEnery, C., O'Sullivan, S., D'Alfonso, S., Gleeson, J., Bendall, S. & Alvarez-Jimenez, M. (2022). Young people's experience of online therapy for first-episode psychosis: A qualitative study. *PSYCHOLOGY AND PSYCHOTHERAPY-THEORY RESEARCH AND PRACTICE*, 95 (1), pp.155-172. <https://doi.org/10.1111/papt.12356>.

Persistent Link:

<https://hdl.handle.net/11343/302990>

## Young People's Experience of Online Therapy for First-Episode Psychosis: A Qualitative Study

Original paper

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### Key words:

Young people, first-episode psychosis, digital intervention, social media-based intervention, youth mental health, therapy, online therapy, digital health

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1111/papt.12356](https://doi.org/10.1111/papt.12356)

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## **Abstract**

### **Objectives**

This study aimed to understand how young people with first-episode psychosis experienced online therapy on a Moderated Online Social Therapy (MOST) platform known as Horyzons.

### **Methods**

Semi-structured in-depth qualitative interviews were conducted with 12 young people who had previously participated in Horyzons, a randomised controlled trial (RCT) of a long-term digital intervention for first-episode psychosis. Interviews were analysed using a phenomenological approach.

### **Results**

This study found that the online therapy experience for first-episode psychosis was idiosyncratic, taking on different meaning for different users. The relatively fixed therapeutic content led to experiences that included on-demand help-seeking, positive distraction, revision, generalisation and translation, and normalisation.

### **Conclusions**

The self-directed and flexible nature of the Horyzons online therapy gave some young people a sense of welcomed control over their mental health journey, while others felt overwhelmed by the high level of choice. Feeling overwhelmed by the level of choice appeared to interrupt their engagement with the platform and thus their overall ability to use the intervention meaningfully. We also found that on-demand help-seeking and positive distraction were two functions unique to young people through online therapy and may have been related to the significant reduction in the number of overall presentations by young people to emergency departments and psychiatric admissions in the intervention group of the Horyzons RCT.

## Introduction

The use of digital technology in the treatment, management, and support of psychotic disorders has been an area of interest to the digital mental health field for some time (Allan et al., 2020; M. Alvarez-Jimenez et al., 2019, 2018; Bell et al., 2018; Bradstreet, Allan, & Gumley, 2019; Lal, Nguyen, & Theriault, 2018; Lim et al., 2019). Due to the early age of onset and symptom severity, psychotic disorders can significantly impact a person's psychological and functional life trajectory (Bucci et al., 2018). Evidence-based treatments such as cognitive behavioural therapy (Topooco et al., 2018), strength-based approaches (M. Alvarez-Jimenez et al., 2019), mindfulness (Lahtinen & Salmivalli, 2020; Sevilla-Llewellyn-Jones, Santesteban-Echarri, Pryor, McGorry, & Alvarez-Jimenez, 2018), and positive psychology (Lim et al., 2019) have been adapted for digital therapeutic interventions and have allowed for the delivery of personalized, accessible, and flexible, evidence-based therapy to people experiencing first-episode psychosis (M. Alvarez-Jimenez et al., 2019; L. Valentine et al., 2019). Research in this area previously has examined factors related to the safety, efficacy, feasibility, and user perspectives of digital health treatment in psychosis (M. Alvarez-Jimenez et al., 2019; Bradstreet et al., 2019; Bucci et al., 2018, 2015; Lal et al., 2020; McEnery et al., 2019).

Previous research suggests that the majority of young people use the Internet as a 'first port of call' when experiencing the initial onset of psychotic symptoms (Birnbaum et al., 2018; Lal et al., 2018) and endorse the use of digitally delivered mental health treatment for first-episode psychosis (FEP) (M. Alvarez-Jimenez et al., 2014; Lal et al., 2018). However, to date, little is known about how young people experience and attribute meaning to the phenomenon of online therapy. The knowledge of how people experience therapy and the expectations they have for it can be beneficial to the therapeutic process in relation to engagement with therapy content as well as potential mechanisms of action. For instance, previous research on the experience of face-to-face therapy in first-episode

psychosis has identified people's expectations for the therapeutic experience; desire for control over the therapeutic process (Griffiths et al., 2019), desire for control over mental health experiences (Windell, Norman, Lal, & Malla, 2015), desire to share and examine a wide range of issues within the therapy setting (Griffiths et al., 2019), support to generate new perspectives (Griffiths et al., 2019), symptomatic recovery (Windell et al., 2015), to make meaning of the mental health experience (Windell et al., 2015), and negotiation and acceptance of treatment (Windell et al., 2015).

To explore the experience of online therapy, we interview participants from the Horyzons randomized controlled trial (RCT), an 18-month digital mental health intervention designed to support young people in their recovery following treatment at the Early Psychosis Prevention & Intervention Centre at Orygen in Melbourne, Australia. The Horyzons platform was based on the Moderated Online Social Therapy (MOST) model (M. Alvarez-Jimenez et al., 2013). MOST is a digital mental health platform designed by a multidisciplinary team. It comprises three core components: (1) Evidence-based online therapy, (2) access to peer and clinical moderation, and (3) a therapeutic social network that encourages communication among participants and with peer and clinical moderators.

This current exploration of young people's experience of online therapy is part of a broader qualitative study of young people's experience of the Horyzons platform. The phenomenological approach to the qualitative interviews generated a large and complex data set, which during the analysis phase, we found separated meaningfully into three overarching themes: i) social connection (Lee Valentine et al., 2020), ii) clinical and peer moderation (in preparation), and iii) experience of therapy. In this study, we specifically explore young people's experience of using the MOST online therapy through the use of in-depth semi-structured interviews.

## **Method**

### **Design**

A phenomenological qualitative methodology was used to explore young people's experience of a long-term moderated online social therapy (MOST) platform. As phenomenology is concerned with the subjective experience, it was selected as the most appropriate methodology to explore the lived meaning of young people's experiences of this novel therapeutic technology (van Manen, 2016). Three overarching themes relating to young people's MOST experience emerged as part of the broader qualitative study. They included a) social connection as experienced through the social network (Lee Valentine et al., 2020), b) the experience of clinical moderation, and c) the experience of online therapy. Pseudonyms used for participants in the first paper on social connection (Lee

Valentine et al., 2020), however, have been carried over to maintain continuity and transparency across the span of both papers.

## Setting

Participants of the current study had previously participated in the Horyzons randomized controlled trial (RCT), which investigated the maintenance effects of the Horyzons platform compared to treatment as usual, following two years of specialized care at a first-episode psychosis service (M. Alvarez-Jimenez et al., 2019). For this study, we provide details of the online therapy element and inclusion/exclusion criteria of the Horyzons RCT; however, more detailed information is published in the protocol elsewhere (M. Alvarez-Jimenez et al., 2019).

### Moderated Online Social Therapy

‘Online therapy’ can vary in meaning across the digital mental health literature and is commonly used to refer to ‘telemental health,’ or the more general use of phones, videoconferencing and the Internet to provide mental health services (Mohr, 2009). However, online therapy in this paper refers to interactive, self-guided therapy modules known as Steps on the Horyzons platform (M. Alvarez-Jimenez et al., 2019). Steps were organised into strings of thematically related content, known as Pathways, which were a series of individually tailored therapeutic content relevant to each young person randomized to the intervention arm of the Horyzons platform based on their psychosocial needs. The therapeutic content was underpinned by a positive psychology framework focused on self-compassion, personal strengths and increasing self-efficacy. Behavioural application suggestions, or Actions, were linked to each step to encourage participants to put the therapeutic content into action in real-world environments. The content was varied; related to psychosis, as well as mental health topics more generally. Participants were each allocated a key online clinical moderator to support their engagement with the platform. The clinical moderator would suggest personalised content to the participant based on the information shared and collected by the participant and check in with the participant regarding its suitability and completion. The online therapeutic component of Horyzons was designed to be flexibly completed so young people could access and complete it at their convenience (M. Alvarez-Jimenez et al., 2019). The therapeutic content was delivered in both full written prose, and via co-designed therapeutic comics, an approach known as graphic medicine (**Figure 1**) (Santesteban-Echarri et al., 2017).

Figure 1. An introduction to low mood/negative symptoms



## **Participant Selection**

### **The Horyzons Project**

Young people were eligible to participate in the Horyzons RCT if they met the following criteria (4): (1) a first episode of a psychotic disorder or mood disorder with psychotic features; (2) between the ages of 16–27 years inclusive; (3) less than 6 months of treatment with an antipsychotic medication prior to registration with Early Psychosis Prevention & Intervention Centre (EPPIC) at Orygen in Melbourne, Australia; (4) remission of positive symptoms of psychosis. Additional inclusion criteria to ensure low level of risk included: (5) low aggressiveness (6) moderate or low suicidality, (7) ability to nominate an emergency contact. Further detail can be found in the Horyzons outcome paper (Mario Alvarez-Jimenez et al., 2019).

### **Current Study**

All 85 participants randomised to the treatment group of Horyzons RCT were considered eligible for the qualitative study. Young people randomized to the Horyzons intervention were all given at least 18-months access to the Horyzons platform and thus constituted a “reasonably homogenous sample (Smith, Flowers, & Larkin, 2009)” due to their shared experience of the phenomenon under examination. A purposeful sampling of participants with different platform usage levels was conducted to explore any similarities and/or differences in meaning within the sample (Merriam, 2015). As such, the 85 young people randomized to the treatment group were divided into quartiles based on the number of logins each participant made to the platform over their 18-month intervention period. These usage groups were labelled: very low, low, moderate, and high.

12 young people from across the four user groups were randomly contacted via phone call or text and invited to participate in an interview exploring their experience of the Horyzons platform. Three young people from each of the four user groups were contacted and agreed to participate. A young person who would have been the third participant in the moderate user group was scheduled to be interviewed. However, as they were experiencing acute psychotic symptoms on the interview day, the interview did not go ahead. A final participant was then recruited from the low user group following saturation to ensure no new themes arose.

### **Procedure**

The interviews took place between October 2018 and March 2019. On average, participants were interviewed three months following the final date they had access to the Horyzons platform.

Participants identified their preferred locations to complete the interviews; thus, interviews were conducted at participants' homes, the Orygen campus, cafes, and a public library. Participants were required to complete a consent form before the interview began and were reimbursed AUD 20 for their participation. Author LV conducted all interviews. LV had pre-established relationships with all participants due to a previous role as a research assistant on the Horyzons RCT.

In line with phenomenological inquiry – that is, what is an experience like? (van Manen, 2016), the interview schedule comprised two core phenomenological questions; "What was Horyzons?" and "What was Horyzons like?" The questions were designed to minimise leading participant responses and to better understand the experience, and the meaning of the experience, under examination; in this case, the experience of the Horyzons platform. While the initial question of "What was Horyzons?" tended to prompt a concrete description of the platform, the second question, "what was Horyzons like?" tended to elicit a deeper, more personal response. Small prompts such as, "can you say more about that?" and "what was that like?" were also used.

All interviews were audio-recorded and transcribed verbatim. The study received approval from the Melbourne Health Human Research Ethics Committee (HREC/13/MH/164) in 2019.

### **Data Analysis**

To analyse the data, a phenomenological approach guided by Creswell (2013) was taken. To begin, data familiarisation was undertaken by reading and rereading all participant transcripts several times. Individually, each transcript was coded section by section, and emerging ideas, keywords, and phrases were noted in the right-hand margin. This process was repeated several times over for each transcript as the coding process generated new and connecting codes within and across transcripts. Thus, transcripts were coded individually and in relation to the other 11 corresponding transcripts as they were completed. Participants were interviewed until saturation occurred at 11 interviews; additionally, a 12th participant was interviewed to ensure no new themes arose.

The codes formed the basis of what Creswell (2013) coined equally weighted significant statements or statements which describe what it was to experience the Horyzons platform. Once the significant statements within each transcript had been identified, significant statements across all transcripts were compared. Significant statements were often endorsed across multiple transcripts; however, some were only endorsed once or twice. In line with Creswell (2013), all statements were given equal weighting regardless of how many endorsements they received. These significant statements were then grouped into themes or meaning units representing different Horyzons experiences and attributed meanings.

At this phase of the analysis, due to the breadth of the data, the meaning units were inductively grouped into the experience of i) social connection, ii) clinical and peer moderation, and iii) therapy. From this point on, they were analysed separately due to the amount of data relating to each group. As already described, the experience of therapy was the specific focus of this paper.

The similar and varied experiences of online therapy by all participants were given deep consideration and rich paragraphs were written (with illustrating quotes) to describe the phenomenon of online therapy as told by the participants. This description included interpreting the meaning that participants attributed to these experiences and highlighting, where present, the variations in meaning across the sample.

### **Reflexivity**

LV (non-binary) conducted the data analysis under the supervision of senior author SB. LV is currently completing a PhD exploring the phenomenological experience of social media-based mental health interventions in first-episode psychosis and has a history of qualitative interviewing. In order to maintain rigour, LV's analysis of the data was regularly reflected on with SB. As part of the IPA approach, LV kept a reflective journal and recorded their thoughts regarding the interviews and analysis and engaged in regular reflective supervision with senior author (SB) to consider biases and preconceptions that may or may not be immediately aware to them.

### **Results**

12 participants ranging in age from 19 to 28 years were included in the study. Of the participants, 7 were female, and 5 were male. All female participants were cisgender. Of the male participants, 4 were cisgender, and 1 was transgender. Time since last possible login to the Horyzons platform at the time of interview ranged from 1 to 5 months ( $M = 3.25$ ,  $SD = 1.36$ ). Interview times ranged from 20 to 86 minutes ( $M = 49.25$ ,  $SD 19.48$ ). See Table 1 for a full description of corresponding pseudonyms, ages, genders, number of logins, Steps and Actions completed on the Horyzons platform.

**Table 1.** Participant pseudonym, gender, age, logins, usage group, steps, & actions completed on Horyzons (n=12)

<b>Pseudonyms</b>	<b>Gender</b>	<b>Age</b>	<b>Logins</b>	<b>Usage Group</b>	<b>Steps</b>	<b>Actions</b>
Audrey	f	24	1916	High	59	13
Sam	M	28	1568	High	39	4

Babak	M	23	109	High	70	27
Jacob	m	21	73	Moderate	21	2
Emily	f	26	70	Moderate	39	8
Tom	m	22	32	Low	34	19
Abigail	f	19	23	Low	10	2
Olivia	f	22	15	low	16	3
Celeste	f	23	13	Low	5	2
Eugene	m	25	15	Very low	3	0
Linh	f	25	7	Very low	13	4
Ruby	f	30	6	Very low	2	0

Two superordinate themes emerged from the analysis (**Fig 2**). The first superordinate theme related to function and refers to what purpose the therapy fulfilled for participants. Although all participants had access to the same online therapeutic material, the content was experienced in different ways among the group. These experiences, or functions, constituted sub-themes related to on-demand help-seeking, positive distraction, revision, generalization and translation, and consciousness-raising. The second superordinate theme related to how the self-directed nature of online therapy was experienced by participants. Whereas some participants identified the self-directed nature of the platform as an empowering experience that offered them greater autonomy over their mental health treatment, others characterized it as an overwhelming experience that interrupted their motivation to engage with the therapeutic platform. Several quotes can be attributed to both overarching themes as the themes were operating in parallel to each other.

**Figure 2.** Superordinate and subordinate themes

Superordinate Theme	Subordinate Theme
Function	On-demand help-seeking Positive distraction Revision Generalization and translation Normalisation
Experience of self-directed therapy	Empowering Overwhelming

## **1. Function**

### **1.1 On-Demand Help-Seeking**

Nine of the participants described using the Horyzons therapy modules as a way to "seek help." That is, to gain access to support and information, both in moments of crisis and as a learning tool more generally. The therapeutic content found on Horyzons was identified as trustworthy by participants; Tom, for instance, described it as "curated knowledge from a bunch of professionals rather than what Google tells you." In addition to using it as a tool to seek help and access trustworthy information, young people also spoke to the value of having access to 'on-demand' therapy in the moments when they needed it. This support enabled them to self-manage their distress without having to access external mental health support. For instance,

*"I lost my dad last year in November. I had a bit of a break down and I found that I was struggling really badly with my anxiety. So, it was a really helpful tool for me to go in and be able to have access to that information while also was traveling a lot between Queensland and Melbourne. So, it was really helpful for me, like ... just sitting on the plane, and being like, "Okay, I can access this information." And it's there, and I don't need to call my psychiatrist or my psychologist or whatever." [Eugene]*

### **1.2 Positive Distraction**

Three participants described experiencing Horyzons therapy as a form of positive distraction. When engaging with the therapeutic content, either by reading the therapy or focusing on the "colours" and "shapes" of the comics, participants reported that their difficult thoughts and experiences were interrupted. This redirection, or positive distraction, provided relief from difficult mental health symptoms. For instance,

*"It like, turns the voices off or something like that. I mean, it takes your mind off it. It's actually like playing a video game or something. It's like doing an activity ... but [one that] is useful." [Babak]*

*"So, I went to Horyzons, like trying to seek help, seeing if anything could help me even if it's just like pictures or diagrams that would take my mind off things. And it did actually help, cause I actually lost my train of thought of what I was thinking while I was feeling down, It just brought up my mood again." [Emily]*

### 1.3 Revision

Six participants reported experiencing the Horyzons therapy content as "revision" from their previous engagement with EPPIC. The meaning they attributed to "revision," however, varied broadly among the group.

For instance, Tom identified that it had been a “*super helpful*” process to go back over therapeutic content. In this sense, the concept of revision was a helpful and welcomed refresher that Tom was able to apply to his current-day life.

Sam also identified that he was familiar with the therapeutic content from his time with EPPIC but explained, “it was probably a little less important because you sort of work through those things with your psych and case manager.” In this sense, the concept of revision was not necessarily redundant but not as valuable to Sam as when he first entered EPPIC.

By contrast, Jacob reported a previous familiarity with the content but explained "not needing to" engage with the therapy modules as he was in a "better state." Jacob's decision that therapy was needed solely when managing active difficult symptoms or experiences, as opposed to maintaining wellness, was also endorsed by other participants.

Given her years of experience within the youth mental health system, Celeste explained, " I didn't really feel like I was learning anything [new]" from the therapy modules. She said, “there were like a lot of stuff that if you've had any experience in the mental health system then you've already probably gone through those steps or been shown those steps.” She identified that she would benefit from content that provided a more "in-depth" mental health exploration.

### 1.4 Generalisation and Translation

Four participants described learning information from the Horyzons therapy modules, which they then put into practice in real-world environments, experiencing a subsequent reduction in symptoms, such as anxiety in social situations.

*“Cause the one thing that troubled me was social anxiety. It's okay now cause I think ... um, one, one thing that I read was um, exposure. Because it's a step. Yeah, it said that um, the more that you expose yourself to the things that make you nervous and anxious, the more used to it you become and the more comfortable you will be. I think that worked.” [Audrey]*

One participant described reflecting on the therapeutic content in social situations as a way to feel more grounded in the moment, which allowed her to self-manage her environment in a new and helpful way,

*“So, when I was doing the activity [on Horyzons] and then I went into the actual social environment, I would imagine those colours [from the comics] and I would see those colours exactly relating to what I'd seen in the pictures. It made me more self-aware of what's going on [in the moment]. I thought about what I saw in the colours, like be aware of it and like how to um take in the situation. It's more of being able to walk into that social environment and [understand] how to interact with it better. Instead of going in there feeling alone, lost and isolated.” [Emily]*

## **1.5 Normalisation**

The therapy component of the intervention appeared to raise participant consciousness that other young people had gone through or were going through "very similar" mental health experiences and who may also be benefiting from the content. For instance, Babak described,

*“It's like a story about what we are all going through.”*

Participants identified a variety of responses at the realisation that *“I'm not the only person”* who had experiences of first-episode psychosis, and their reactions ranged from *“shocked”* to *“amaze[d]”* to *“relieved.”*

*“So, it kind of just shocked me at first, and then you go, "Cool. I wonder how many other people feel this way?” [Olivia]*

Several participants endorsed a parallel process of recognizing through the therapeutic comics that: (1) the participant is not the only young person who has experienced or is experiencing psychosis, which was reassuring and (2) participants derived a sense of comfort that *“lots of other people are reading this comic and realizing that they're not alone [either].” [Abigail]*

## **2. Experience of self-directed therapy**

A theme about the way young people approached self-directed online therapy emerged with two subthemes: Empowering and overwhelming.

## 2.1 Empowering

Eight described feeling an increased sense of autonomy over their mental health treatment through the use of the Horyzons platform. This experience of autonomy generally referred to a sense that participants were afforded "greater control" of their mental health journey overall and greater control to address and manage symptoms in the moment.

Tom shared his experience of being referred to a mental health service at a younger age and "just doing what was expected" of him regarding treatment. He described attending sessions and "ticking [the] boxes" required of him, but now that he was getting older, he had become more invested in more actively participating in his mental health care. He said,

*"at the end of the day you're gonna get out what you put in, so you know if you know put in those extra steps, and then Horyzons has pretty much, you know, a lot of the early information, that you need, it's already on there, it's just up to you to use it."* [Tom]

Another participant described experiencing a sense of control over his mental health experience when he could access therapy content during moments of acute distress and manage this experience on his own in the moment. Eugene described a particular instance of using Horyzons therapy content when he felt very distressed while visiting a family member in hospital.

*"I was just like, sitting there, in the hospital and [thinking], 'I'm going to freak the fuck out, like everything is going to be really awful and I'm not going to be able to stop it,' ... I was like, able to, just, kind of read my way through it and be like, 'These are the steps you can take.'" [Eugene]*

Olivia shared that when attending face-to-face therapy appointments, she is able to *"sit there for the whole hour just talking shit."* This use of distraction is possible as she can redirect and avoid the experience of being present with her therapist. However, when engaging in online therapy on Horyzons, she could not avoid being present because she was the only person responsible for her engagement. Olivia voiced, "and at the end of the day, you're just reflecting on yourself with yourself."

Ruby reported not recalling any therapeutic content. Instead, she identified that she had a close circle of friends that she trusted to provide therapeutic support. As such, engaging in the online therapy component of Horyzons was not something she was motivated to engage with as this need was met elsewhere for her. Similarly, Jacob commented on the benefit of engaging in one's therapeutic process for the sake of oneself and not as an obligation to others. He identified that while the Horyzons platform facilitated this type of experience for him, not all people were willing or able to engage with this type of experience and explained, "*you can bring a horse to water, but you can't force him to 'eat' it.*"

## **2.2 Overwhelming**

While some participants were motivated to engage with online therapy as a result of the increased level of autonomy and control afforded to them by the self-directed nature of the intervention, three participants described feeling "*overwhelmed*" by it.

For instance, Linh described a range of concerns at the level of independence she felt was required of her on the MOST platform compared to face-to-face therapy. She appeared to ruminate on these concerns, and the anxiety acted as a barrier to her engagement. She described trepidation regarding the following: not having a set time to start and complete the therapy tasks, how to complete the tasks independently, a concern that she may not get the task completed, as well as a concern that if she did complete the task, that the tasks would evidently increase in difficulty and she would subsequently fail at them in the future. All of these concerns resulted in her being "*flustered and feeling exhausted and all that.*"

## **Discussion**

This study aimed to explore young people's experience of online therapy for the treatment of first-episode psychosis. We found that the online therapy available via the Horyzons platform was idiosyncratic in nature and assumed different functions for different users. That is to say that the relatively fixed therapeutic content was perceived differently depending on the needs of the young person engaging with it. Consequently, the therapeutic functions experienced by young people related to on-demand help-seeking, positive distraction, revision, generalisation and translation, and normalisation. We also found that for some young people, the self-directed nature of the Horyzons therapy was an opportunity to take greater control of their mental health treatment, and this sense of increased autonomy was perceived as motivating. By contrast, others found the self-directed nature of the platform overwhelming; this experience, in turn, reduced their motivation to engage with the platform thereby interrupting their overall ability to use the intervention meaningfully.

## On-demand help-seeking and positive distraction

Encouraging appropriate and effective help-seeking behaviours in young people has been previously identified as beneficial to health and well-being (Rickwood, Deane, Wilson, & Ciarrochi, 2005). On-demand help-seeking and positive distraction were two ways that young people reported using online therapy that differed substantively from themes found in young people's experiences of face-to-face early psychosis treatment (Griffiths et al., 2019; Windell et al., 2015). Access to trusted information and support after hours, between appointments and between locations was a benefit of online therapy that appeared to have a multifaceted impact for young people as (i) a tool for mental health management, both immediate and generally, and (ii) to encourage autonomous self-management. Additionally, access to on-demand information in moments of crisis appeared to empower young people to self-manage difficult experiences that may have otherwise required external mental health support.

That online therapy functioned as a positive distraction tool is a novel finding of this study. While distraction techniques are commonly used in cognitive-behavioural therapy practices (Keefe, 1996) as a coping skill to shift focus from aversive inner experiences to something more helpful, there is potential for online therapy to be used as a mechanism to facilitate this practice. For example, while technology is not necessarily a replacement for face-to-face care in acute distress, it can offer individuals increased choice and flexibility to provide a sense of relief and control and help reduce the intensity of symptoms in the moment. Interestingly, however, positive distraction in face-to-face CBT is designed to move the person's focus from the issue causing distress to something else entirely, such as watching TV or going for a walk. A point of difference for the use of positive distraction on the Horyzons platform was that young people described using the online platform to distract themselves, but the distraction itself was a therapeutic tool designed to help them address the problems that were causing distress. It may be that for some Horyzons participants, a subtle immersive experience was found in the therapy comics and graphics. Previous research by Clark and Paivio's (1991) on dual coding theory suggests that combining visual and verbal information can help capture readers' sustained attention. Likewise, it has also been theorised that colour can capture attention and impact mood and behaviour (Babin, Hardesty, & Suter, 2003; Jalil, Yunus, & Said, 2012; N. Kwallek, Woodson, Lewis, & Sales, 1997; Nancy Kwallek, Soon, & Lewis, 2007; Tao, Xu, Pan, Gao, & Wang, 2015).

Results from the Horyzons trial found that young people in the treatment as usual group were twice as likely to present to emergency departments compared to the Horyzons group and that a non-significant trend for lower hospitalisation due to psychosis was identified in the Horyzons group compared to the treatment as usual group (Mario Alvarez-Jimenez et al., 2019). Considering these

findings, it is possible that the mechanisms identified in this current study, both positive distraction and on-demand help-seeking, may have played a role in supporting young people to cope in moments of crises and prevented escalation. However, a direct cause and effect relationship cannot be established from these findings alone, and further targeted research is needed to investigate more precisely how and in what measures, aspects of the Horyzons intervention, i.e., the social network, clinical and peer moderation, and therapy content, contributed to reduced emergency services.

#### Normalisation

The combination of access to an online therapy platform that is available on-demand and connected to a broader social network of users appeared to normalise experiences of psychosis and positively reduce self-stigmatisation, which is of great importance when considering the highly stigmatized nature of psychosis (Gronholm, Thornicroft, Laurens, & Evans-Lacko, 2017). Previous research has highlighted the beneficial impact of peer support in the context of psychosis, in which the effect of social isolation and loneliness often compounds overall outcomes related to social functioning and quality of life (M. Alvarez-Jimenez et al., 2018; M. Alvarez-Jimenez, Gleeson, Rice, Gonzalez-Blanch, & Bendall, 2016; Castelein et al., 2008; Lim & Penn, 2018; Robinson et al., 2010). Our study demonstrates that the experience of sharing a social and therapeutic online space could be akin to that experienced in face-to-face psychosocial groups (Lagace, Briand, Desrosiers, & Lariviere, 2016). Peer support, a key feature of the Horyzons intervention, has also been shown to help foster feelings of belonging and a sense of social connectedness amongst individuals experiencing mental ill-health (M. Alvarez-Jimenez et al., 2016; Mario Alvarez-Jimenez et al., 2020; González-Blanch et al., 2020; Naslund, Aschbrenner, Marsch, & Bartels, 2016; Lee Valentine et al., 2020).

#### Impact on Motivation

We also found that while the experience of online therapy was motivating to some, it was overwhelming for others and, for some young people, not of interest at certain times of their mental health journey or not of interest at all. For some, the impetus to engage and the level of decision-making required to navigate self-guided online therapy was a burdensome task due to the amount of choice available. Over choice or "choice overload" refers to a cognitive difficulty in which people struggle to make a decision when faced with too many options (Fernandez, 2017; Scheibehenne, Greifeneder, & Todd, 2010). This is in line with the choice overload hypothesis that suggests increasing the number of available options can adversely affect an individual's motivation to engage in the decision-making process, resulting in lower levels of engagement and lower satisfaction levels with their overall choice (Scheibehenne et al., 2010)(Fernandez, 2017).

However, while online therapy was burdensome for some, we also found that the increase in choice was attractive to others. The digital intervention's autonomous nature was empowering for some

young people who wanted greater ownership of their mental health journey. This example highlights how perception (e.g., whether a task feels empowering versus overwhelming) interacts with motivation and ability to engage with an intervention. For instance, a central tenant of Self-Determination Theory (SDT) (Deci & Ryan, 2015) posits that motivation is directly impacted by whether an individual's basic need for autonomy is satisfied. If we consider self-guided online therapy through an SDT framework, theoretically, both needs, autonomy, and competence, must be met for a person to find a therapeutic intervention engaging. Our finding that some young people were empowered while others were overwhelmed by the experience of online therapy perfectly illustrates the relationship between autonomy and competence and the necessity to strike a balance. If the experience of choice increases, it logically follows that autonomy also increases. However, this increase can become a risk to competence if the experience becomes too complicated and requires more motivation and self-initiation to engage with it. In short, one would not want to sacrifice autonomy for competence, or vice versa, but instead, the goal is to find the balance between both needs.

### **Implications for Practice**

Implications for practice include developing tailored therapeutic content systems that can minimise choice overload and offer customised content choices to strike a balance between autonomy and competence and better satisfy the basic needs of motivation is recommended. Including automated recommender systems that provide personalised recommendations which consider individual usage patterns could be beneficial. The findings also emphasise the value of peer work in the digital mental health space and how this practice works to strengthen social connection and belonging and functions to destigmatise mental ill-health and normalise the experience of help-seeking.

### **Limitations**

This study had several important limitations. Firstly, the representation of younger adolescent experiences of online therapy is limited due to the homogenous older age range of participants. Secondly, it had been, on average, three months since participants had last had access to the MOST platform. This latency may have had an impact on their recall. Thirdly, as author LV completed all interviews for this study and had previous relationships with participants due to a prior role as a research assistant on the Horyzons RCT, this is considered an opportunity for participant bias. Fourthly, the research team did not include a young person with lived experience in the design and analysis of the study.

### **Future Research**

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Future research is needed to better understand how to support young people's sustained engagement with digital mental health interventions. For instance, while we found that some young people engaged with therapy content to manage symptoms already present or in times of acute distress, little is known about how to engage young people sustainably overtime to maintain treatment effects and prevent the re-emergence of more severe symptoms and relapse. Further, more research is needed to distil what comic (e.g., narrative, humour, interplay of text and image) and graphic elements (e.g., cool or warm colours) contributed to facilitating positive distraction, and for what duration and level of intensity, to better inform the design of future online intervention modalities. Finally, future research is needed to further explore the possible relationship between on-demand help-seeking and positive distraction and the reduction of emergency service visits and psychiatric admissions by young people in the intervention arm of the Horizons RCT.

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