Article

Putting Technology Into Youth Mental Health Practice: Young People's Perspectives

Alice E. Montague[1,2,3], Kandice J. Varcin[1,2],
Magenta B. Simmons[1,2,3], and Alexandra G. Parker[1,2,3]

Abstract

Although young people aged 16 to 25 are particularly susceptible to mental ill-health, they are difficult to engage in ongoing treatment. Meanwhile, young people are more engaged with digital technologies than ever before, with the Internet and mobile technologies reaching ubiquity in young lives. Despite this, it is unclear from the literature how young people's high technology use may be harnessed for the better management of youth mental health problems in face-to-face treatment. To explore young people's opinions on how technology can be used for treatment engagement and as a complement to mental health treatment, a total of 21 participants aged 16 to 25 years were consulted in two focus groups. Transcripts were analyzed using thematic analysis, with consensus coding by two independent raters. Participants were positive about the integration of technology into youth mental health practice, but indicated that identifying the client's preferred technology was the most reliable means of engagement. They reported already using technology as an informal complement to treatment, and asserted that formal technology integration must have a clear benefit to treatment while not replacing face-to-face time. Technology use to provide support beyond discharge and between sessions was suggested as a useful means for continuity of care and to prevent relapse. While various technologies were described as engaging, easy-to-access, informative, and empowering, their benefits are not yet being harnessed in youth health services to their full potential. More research is required to better understand how to best put technology into youth mental health practice.

Keywords

youth mental health, technology, treatment engagement, complementary interventions

Young people are particularly susceptible to mental illness, with one in four Australians aged between 16 and 24 experiencing a mental disorder in a given year, most commonly anxiety disorders, substance use disorders, and affective disorders (Milnes et al., 2011). Despite frequently experiencing mental health problems, young people are particularly difficult to engage in mental health treatment (Rickwood, Deane, Wilson, & Ciarrochi, 2005). This is because they seek mental health treatment less often than other age groups, be it in primary, community, or specialized care settings (Milnes et al., 2011). Even when engaged with a clinical service, young people are more resistant to accepting any treatment than any other age group, leading to high treatment drop-out rates across services (King, Bickman, Shochet, McDermott, & Bor, 2010; McKay, Nudelman, McCadam, & Gonzales, 1996). For example, a retrospective study of 11,659 children and adolescents who were new users of a range of mental health services indicated that most patients stayed in treatment for only 2 months, with 45% dropping out after 1 month, and only 22% remaining in the treatment for 6 months

(Harpaz-Rotem, Douglas, & Rosenheck, 2004). One 3-month follow-up of young people in mental health primary care treatment reported treatment retention rates as low as 9% (McKay & Bannon, 2004). This high rate of client disengagement poses a major obstacle to effective service delivery and positive outcomes in the youth mental health field, as clients often drop out before receiving a sufficient treatment dose (Baydar, Reid, & Webster-Stratton, 2003; Meyers, Miller, Smith, & Tonigan, 2002). Without appropriate professional support, young people are at risk of disrupting a

[1]Orygen, The National Centre of Excellence in Youth Mental Health, Melbourne, Victoria, Australia
[2]Centre for Youth Mental Health, The University of Melbourne, Australia
[3]headspace, National Youth Mental Health Foundation, Melbourne, Australia

Corresponding Author:
Alice E. Montague, Orygen, The National Centre of Excellence in Youth Mental Health, Locked Bag 10, 35 Poplar Rd., Parkville, Victoria 3052, Australia.
Email: aemo@unimelb.edu.au

critical period of social and intellectual development, with potential deleterious effects lasting into adulthood (McGorry et al., 2007). It is clear that there is a need to develop more effective methods to promote ongoing treatment engagement and thus foster positive outcomes for this group.

Technology is one aspect of life with which young people are strongly engaged. Internet use is reaching ubiquity among young people in Australia: 99% of Australians aged between 12 and 25 access the Internet, with 95% connecting daily (Burns et al., 2013). Be it at home, at school, or in public, young people are making use of new technologies to interact and collaborate with both the consumption and production of multimedia (Burns et al., 2013; Livingstone & Helsper, 2007). Given the pervasive role technology plays in young people's lives, new technologies offer a promising avenue for engaging young people in treatment and improving the management of mental health problems in this group (Christensen & Hickie, 2010).

Technology-based treatment interventions may also offer an opportunity to enhance face-to-face treatment benefits for those who do seek and remain engaged in treatment. Stand-alone online interventions (e.g., online cognitive behavioral therapy [CBT] or online counseling via chat) have been found to produce treatment benefits of comparable effect sizes to face-to-face therapy for individuals with anxiety, depression, and eating disorders (for reviews, see Farrer et al., 2013; Richards & Viganó, 2013). The use of technology as an adjunct to face-to-face treatment for mental health problems has also produced promising results. For example, adults with depression who were engaged in face-to-face general practitioner (GP) care plus an online-CBT program (*MoodGYM*) tended to have a more prompt and sustained resolution of depressive symptoms compared with GP care alone (Hickie et al., 2010). However, there is a lack of such high-quality evidence on how to use technology as an adjunct intervention to face-to-face treatment in young people aged between 12 and 25 (Montague, Varcin, & Parker, 2014).

Considering the high prevalence of mental health issues among young people and their high degree of engagement with technology, the integration of technology in youth mental health practice critically warrants further research. To begin to address this need, we consulted young people directly on the use of technology in mental health treatment. We therefore sought to supplement the limited literature with an exploration of young people's views on putting technology into youth health practice. We consulted young people about two specific areas: (a) the use of technology to engage young people seeking face-to-face treatment and (b) the use of technological interventions as an adjunct to face-to-face treatment.

Method

Setting and Participants

The current study recruited youth advocates and advisors from two youth mental health organizations—headspace and

the Orygen Youth Health Clinical Program (OYHCP): (a) headspace, Australia's National Youth Mental Health Foundation, is a network of enhanced primary care centers offering services for young people's health, mental health, vocational, and substance use concerns across Australia (Rickwood, Telford, Parker, Tanti, & McGorry, 2014); and (b) OYHCP is a specialized youth mental health service for young people aged 15 to 25 years in the Western and Northwestern areas of Melbourne, Australia (Purcell et al., 2012). OYHCP services include inpatient and acute community-based care, outreach, case management, psychological treatments, and psychosocial programs, with a focus on treating or preventing mood and psychotic disorders.

Both headspace and OYHCP actively consult young people on various aspects of their service delivery development and assessment. The headspace Youth National Reference Group (hY NRG) is made up of a diverse group of youth mental health advocates from across Australia who consult with headspace on a range of projects. The OYHCP Platform team is comprised of former and current clients of the OYHCP who form a consultation group who use their experience to contribute to development and improvement decisions at OYHCP.

Existing members of the hY NRG and OYHCP Platform were invited via email to attend a focus group to discuss the use of technology in face-to-face treatment by the Youth Participation Officer at headspace and OYHCP, respectively. The hY NRG participants were 10 females and 6 males (total hY NRG $n = 16$) with a mean age of 20.88 years ($SD = 2.99$; range = 16-25) from five states and territories in Australia. The Platform sample comprised of 3 females and 2 males (total Platform $n = 5$) with a mean age of 22.5 years ($SD = 2.65$; range = 19-25) who, as current or past clients, reside within the OYHCP catchment area.

Procedure

Ethical approval was obtained for this research from the Human Research Ethics Committee of Melbourne Health (ID: QA2013013). All participants provided written informed consent prior to participation and were reimbursed for their time. The hY NRG focus group was conducted in a closed Facebook discussion group accessible only to participating members, the researchers (K.J.V. and A.G.P.), and the headspace Youth Participation Officer. Participating Platform members took part in a face-to-face focus group facilitated by two researchers (K.J.V. and A.G.P.) and the OYHCP Youth Participation Coordinator.

Data Collection

A focus group discussion method was chosen so to capitalize on the communication between participants to generate as much data as possible (Kitzinger, 1995). The central interactive element of focus groups allowed participants to generate

ideas and identify key issues on the integration of technology and youth mental health practice that may not have arisen across one-on-one interviews. As hY NRG is a national group and members reside throughout Australia, they took part in an online focus group, so as to gather perspectives from all hY NRG members living in urban, regional, and rural areas.

In accordance with our research aims, two core topics were discussed in all focus groups. Questions were asked to elicit discussions on (a) the use of technology for ongoing youth treatment engagement and (b) technology as a complementary intervention to face-to-face treatment. The full focus group discussion schedule is outlined in a supplementary file. The face-to-face focus group discussion lasted 81 min and the online focus group was live from May 8 to 24, 2013. The face-to-face focus group was audio recorded and then transcribed verbatim by an external contractor. Comment data saved from the Facebook focus group were used as a record for analysis.

Analysis

A process informed by Interpretative Phenomenological Analysis (IPA) and inductive thematic analysis (Braun & Clarke, 2006) was performed, aided with the qualitative analysis software NVivo 10. This study adopted the iterative, four-stage process outlined by Smith and Osborn (2003), that is, (a) the full text of the focus group records was read, while making note of any observation of interest; (b) common emerging themes that highlighted the conceptual essence of the response while remaining true to the verbatim word choice of participants were identified and labeled; (c) themes were interpreted in terms of their relationship to one another and were arranged hierarchically; and finally (d) a final summary table of themes that were consistently endorsed across both groups and participants was produced. This process was supplemented with the focus-group-specific protocol outlined by Palmer and colleagues (2010).

Considering the research questions of the present study, a full phenomenological analysis of the data was deemed inappropriate. Therefore, in contrast with interpretative phenomenological theory, and in line with the positivist approach of inductive thematic analysis, thematic interpretations of the transcripts were derived directly from the text (Braun & Clarke, 2006; Patton, 2015). This method thus utilized the systematic process outlined by Smith and Osborn, without extrapolating too far beyond the focus group data. Coding continued until no new themes emerged from the data, and all responses could be explained in terms of the thematic structure. Consensus coding was completed by two independent coders (A.E.M. and A.G.P.), whereby one secondary partial code was conducted by one author (A.G.P.) to ensure reliability of coding of the primary coder (A.E.M.). Consensus meetings revealed no meaningful differences between the two coders, and thus the analysis was deemed reliable and trustworthy.

Of note, across both the online and in-person focus groups, themes were consistent and represented, with no one key theme emerging in either format alone. It was therefore considered appropriate that both focus group results could be presented together.

Results

Young people endorsed the view that as technology played such an important role in their lives, it had a central role to play in the future of youth health service provision. Most young people were positive about using technology as a tool to coordinate and remain engaged with their service providers. One Platform youth representative, for example, expressed that as they were always connected, it would be a natural extension for health care services to connect with them that way:

> I am always on Facebook, Google, Tumblr, or pretty much everything. Gmail, Hotmail, Yahoo . . . All that. If you have got health care staring at you right in the face . . . well yeah, I think that would be great. (Platform youth representative)

This was extended by another young person, who suggested that using technology to connect with young people was not only wise but also essential for "getting through" to and engaging with young people in treatment:

> Technology is part of life now. If you don't work health care into something that's such a huge part of your life, it doesn't work. Like, technology is how I get through my day and I am sure it's the same with a lot of other people my age. And having health professionals in where I am looking all day . . . it gets through to me better. (Platform youth representative)

The Need for Tailored Contact

All participants were highly engaged with technology, citing various technological platforms as their main way of organizing their daily routines, communicating with others, and keeping informed. While participants indicated that technology was a potentially beneficial means to maintain clients' engagement with treatment services, individual preference for mode of clinician contact was not homogeneous—there was no "one size fits all" model for engaging with clients using technology. Most participants cited SMS as a reliable means of contacting them throughout the day, a few preferred being contacted by phone, while a further few indicated that email would be a useful way for clinicians to keep in touch with them between appointments.

The variance in preferences for contact was explained by participants as differing personal preferences, their level of activity throughout the day, as well as differing levels of

access—according to geographical location, Internet and phone reception, and monetary resources. Participants explained that without consideration of these various preferences and needs, contact through technology might well result in poor engagement, especially for the most vulnerable young people. For example, one hY NRG member commented that for someone like her sister, who has specific needs due to her anxiety when talking on the phone, keeping her preferred mode of contact on file would be the best way to keep her feeling comfortable and in contact with a service:

> I think that texting could be useful [for those] who find it nerve wracking to speak to strangers on the phone. I know my sister hates even calling to make a booking and I feel like this could be a common problem. Can we possibly ask individuals to identify their preference on how to get hold of them and have it on file? (hY NRG member)

This was perhaps the most prominent and important theme that came from the discussion on engagement. The variety of young people's backgrounds, circumstances, and preferred technologies indicated that a shared discussion between clinician and client around contact method is crucial for optimal youth engagement.

> It's nice to be asked how you want to be communicated with and I think that you automatically pick the mediums that you are most comfortable with and are more likely to check. . . . I was also given the option to have a chat over the phone if it was easier for me; I felt valued in the process because the health professional was trying to make it work as much as possible for me. (hY NRG member)

General Recommendations for Tech-Facilitated Contact

Despite the differing preferences and needs of the current sample, there was still some consensus in both focus groups on the most appropriate mode of contact in given situations, and importantly, which technologies should be avoided when engaging with young people. While not universally endorsed, these themes should be considered when engaging with clients in youth health services using technology.

While most participants were positive about communicating with their clinicians using technology, this did not appear to apply in the initial stages of treatment engagement. Indeed, the preference expressed by most participants for contact prior to their first appointment was through a personal telephone call from their clinician. Young people described telephone calls as more "personal," "friendly and welcoming," and "comforting" than SMS, email, or other forms of tech-facilitated contact. Hearing their clinician's voice alleviated some of the anxiety associated with the first appointment:

> I like calls because they are more personal and clients would be able to hear who they'd be speaking too [*sic*] (if its their first

appointment) and hear their tone which I think would be comforting knowing a bit more about what the session would be like. (hY NRG member)

However, when it came to ongoing contact, telephone calls were seen as too intrusive or bothersome and SMS was largely the preference for contact between sessions. This was especially true for SMS reminders. Several young participants were already being contacted by their clinicians or reception staff through SMS, and were satisfied with the service:

> I really like the SMS system that is happening at my headspace . . . and my local GP practice. I forget a lot of things like appointments but with classes and work I'm not allowed to answer my phone, I'm much more likely to answer an email or SMS! (hY NRG member)

As in the above quotes, most participants cited convenience and flexibility as the main advantage of SMS as a means of contacting them, as they "always" had their phone with them. SMS was seen as a good fit to their busy lifestyles, with easy, reliable, contact and reminders at work, school, or where they were otherwise inaccessible by telephone:

> I like reminders, actually, SMS, because I am always on my phone and it's good to have just an SMS reminder in case I forgot to put it in my calendar or something; letting you know that it's coming up. (Platform youth representative)

> Text definitely works best for me. I think email is too unreliable and I also find calling a bit annoying. It's during business hours then people are often at school/work/uni and can't answer the phone and if it's after then it's intrusive. (hY NRG member)

This "annoyance" with telephone calls appeared to be embedded in a sense of intrusion experienced by young people when they received calls from their mental health service providers. Text messages, in contrast, were perceived to be far less invasive in the everyday lives of these clients:

> It is just that you are busy. You have got things going on. You don't want to have a phone call with someone. Obviously, you see the Orygen number and you don't know who it's going to be and you sometimes ignore it, if you don't want to talk to anybody. So a text message—"just confirming your appointment"—would be much better than having to ignore a phone call because you can't be bothered to. (Platform youth representative)

Engagement Using Social Media: Don't Bring My Mental Health Into My "Personal Space"

In relation to engagement through social media, the main theme was the overwhelming negative attitude toward the proposal of personal client–clinician contact on social media

platforms. Almost universally, participants described their social media profiles as their "personal space" and denied it as a potential means of client–clinician contact, and were adamant that contact with clinicians should not occur in the context of their social media profiles:

> Most of these services—I don't know about you guys, but you don't really talk in detail with friends, a lot of friends don't even know about me. So it's already separate. So the idea of integrating it with something that you are already separated with . . . it's very compartmentalized, like: life, and mental health. (Platform youth representative)

Young people often explained their concerns with social media contact in terms of confidentiality. This was partially entrenched in a perceived loss of control over the rate and content of the disclosure of their personal information to their clinician:

> Social media I think not so much; there could be a ton of issues there in relation to how much information the client wants you to see for instance and just that for many, that's their personal space! . . . I think it would be anxiety inducing to me to think of personal contact being made through the more popular social mediums—Facebook, Twitter etc. They're just not as private as people think they are. (hY NRG member)

The young people's fears of breach of confidentiality on social networking sites also extended to a fear of sharing their personal information with peers, which was ultimately linked to the fear of being stigmatized due to their mental health problems. As discussed in the Platform focus group when asked about a health professional contacting them via social media:

> Mmm, yeah, I don't think so. (laughs)

> No. I suppose if they know that the person—other people could see that the person contacting you is from mental health or—there's a lot of stigma.

> Yeah, you wouldn't want that.

> A lot of my friends don't know there's anything up.

> (Mostly agreed).

> And they see it online and go, "Ooh, you know, that's what happened to her." (Platform youth representatives)

That is, the participants rejected social media contact by a clinician as they believed it may result in a display of their mental health concerns to their social network in a way that was beyond their control, as to them, it was a private concern that they did not want to share indiscriminately with wider social connections. Essentially, social media was seen as a nonconfidential space, and any such public facing discussion about their mental health concerns should be solely at their discretion to prevent stigmatization.

However, the use of social media in the mental health sector was not entirely rejected. Participants in all focus groups acknowledged the potential of social media as a mental health and well-being promotional tool by mental health organizations, as a means for youth participation in organizational development, and as a source of health information:

> I think the online medium is vitally important to where health service provision goes and that there MUST be positive health based and help seeking information/messages/discussion on social media. (hY NRG member)

In short, participants were positive about youth engagement through social media at a universal, impersonal level, but not for any kind of personal communication or ongoing treatment coordination.

Perspectives on Online Clinician Profiles

Another theme was that young people were largely positive about public profiles—modeled on social networking profiles—that contained introductory information on clinicians. Young participants saw online service provider profiles as a potential tool to alleviate anxiety and build a trusting therapeutic relationship, before the first appointment even occurred. As one young participant explained, it helped to "humanize" their clinician:

> Where they are from, kind of thing. Maybe even likes and interests. I don't know, it just makes them seem more human than just a professional telling you what to do. It's always nice to have a human-being helping you along. (Platform youth representative)

Online profiles also helped to inform the client on what to expect, increasing comfort with and demystifying the service, which led to increased engagement:

> I always like a bit of background about the woman I am about to tell my entire life story to.

> I think if you knew more about them, then you would be more inclined to go and see somebody, as opposed to someone else, I think. (Two Platform youth representatives)

Technology as an Adjunct Treatment Tool

Technology must not replace face-to-face treatment. An important theme from the analysis was that the participants were positive about using technology as an adjunct to more traditional treatment methods "so long as it's ONLY in addition to appointments, NOT as a replacement for/at the expense of

face to face consultation" (hY NRG member). This indicates that although they themselves often communicate via technology, the participants still valued the face-to-face interaction central to standard therapies. By comparison, stand-alone technological replacements for face-to-face treatment were perceived as less effective than traditional therapy, as they considered this would result in a less powerful therapeutic relationship between clinician and client. Therefore, the most engaging and effective method was considered to be therapy grounded in face-to-face methods, enhanced with technological tools. As one hY NRG participant said, technology can be a powerful complement to the process of face-to-face treatment:

> I pretty much agree with all that's been said. No doubt that technology, especially online counseling, is subordinate to the face-to-face services. Yet the online things, apps especially, can play a massive part in helping those clients suffering anxiety and struggle to keep appointments. The potential for technology in this regard is limitless.

Technology as an informal complement to treatment. Participants in both focus groups indicated that they had already used technology to complement their face-to-face treatment. Importantly, beyond basic email and SMS communication, not one young person reported being introduced to a technology by their service provider. Instead, technology was used as a means of client-initiated self-care. That is, the young people sought out these resources and online support themselves outside of the face-to-face clinical interaction.

One such example of the informal, self-sought use of technology as an adjunct to treatment was online support groups. A number of young people indicated that they had found support from peers on social media and blogging communities, as well as online forums specific to their disorder as a helpful source for both mental health information and psychoeducation—including research evidence—and informal support from peers.

Young people also indicated that they had already found smartphone and tablet apps as a useful adjunct to their services, with one Platform participant explaining, "I spend most of my time on apps." Discussed technologies included tracking and management of disorder-specific symptoms (e.g., eating disorder or mood tracking apps), fitness, sleep, menstruation, and apps with resources for psychoeducation. As one hY NRG member described, such technologies can give clients a sense of independence and empowerment, enhancing their ability to take control of their own mental health and well-being between appointments:

> I also think that having apps or something online would give people a sense that they are able to do something to help themselves between appointments too rather than feeling completely dependent on their appointments with psychologists, etc. (hY NRG member)

Continuity of Care

Despite the lack of formal integration into treatment plans, young people expressed that these technological tools had the benefit of providing better treatment management and a stronger sense of continuity of care, providing low-level support between appointments:

> I think it is important to have something to work on between sessions and with apps, online interventions and emails, its almost like a keep track tool to ensure things are kept on track as oppose to waiting for each session and relying on each session to actively work on oneself, be it working on self esteem or working on strategies for an issue. (hY NRG member)

With its potential for ongoing, lower level support, young people also suggested that technology might be able to extend care beyond discharge, where they believed that there was an increased need for support. Self-guided or moderated online therapeutic modalities were suggested as a useful tool beyond discharge, providing a continued, lower level tenure of care to help them transition into recovery, prevent relapse, and "keep things in order":

> Even when you are out of Orygen, there's still support kind of in the background, online, and you are still talking to other people who have been through Orygen and it doesn't completely disconnect you from all the services. I think it's good to have that background support and just keep going for as long as you need it, really. (Platform representative)

> . . . whether that might be a bit more cost-effective in a way; where we look at saying, "Is there some way of keeping a connection?" and online might be useful then, if it is not possible to still do face-to-face stuff.

> Yeah, definitely.

> That makes more sense. Keep some kind of support----(Three Platform representatives)

Technology Must Have a Clear Benefit for Treatment

While both young people and clinicians were positive about the use of technology as a supplement to treatment, many participants emphasized that any addition of technology into face-to-face practice should have a clear rationale and a clear benefit to the client's treatment plan. Adjunct technological interventions would not be received well if they were "for the sake of it," but rather should have a clear clinical benefit and be followed up throughout the treatment:

> Seeing that it's followed up, not something that you go home and work on and then it's just completely ignored. See that is affecting something, rather than just mundane homework that is not worthy at all.

If it's something that is beneficial to you and so forth, then you are more inclined to use it; compared to something that you brush off. (Two Platform youth representatives)

Like their thoughts on tailored communication methods, the participants indicated that technology provided opportunities for a targeted, client-centered, and thus potentially more effective, treatment intervention:

The professional should work through the app/program with the young person first about how to use it and how it could complement but be responsive to the young person—there are still many who exist who just would not do it or be comfortable with it. (hY NRG member)

Extending this thought of tailored technologies, some participants discussed that targeted—rather than general—apps would be the most useful tools for young people.

I have a feeling it's not going to be one app. There has to be a series of the same app that has to be slightly tailored to slightly different areas and conditions because someone who is suffering depression isn't going to be the same person as someone suffering bipolar. . . .You have no choice but to tailor it that way. If you generalize it too much, then no one will feel that it's personalized to them and then they will just disregard it. (Platform youth representative)

On the whole, young people agreed that the integration of technology and treatment should begin with a discussion between client and clinician on how any given tool would be beneficial to treatment, and whether or not it suits their needs and preferences. They expressed that such an active engagement of the young person in the treatment process would increase motivation to use a given technology meaningfully in the treatment. In considering the vast array of available technological tools to recommend, they emphasized that clinicians should be cognizant about which ones would best suit the client's individual needs and treatment plan.

Discussion

While there is growing evidence for the potential of e-mental health as a stand-alone treatment intervention, there is little evidence on how technological interventions may be integrated into existing face-to-face treatment services (Montague et al., 2014). We thus consulted young people on their experiences and opinions about the potential for technology in promoting ongoing treatment engagement and as an adjunct to face-to-face mental health interventions in this cohort. As young people themselves have been seldom consulted on potential treatment retention strategies in youth mental health, the information collected as part of this study has important implications for advancing our knowledge of treatment engagement from a youth perspective, while posing technology as a potential means to address the treatment retention problem in youth mental health.

A primary finding from this investigation is that technology, as one would expect, plays a key role in the lives of young people today. The participants' descriptions of being highly engaged with technology are consistent with quantitative survey information on the near-universal use of the Internet and mobile phones by Australian young people (Burns et al., 2013). The focus groups provided insight into the various and complex ways technologies are integrated into young people's lives throughout their day, making use of e-tools not only to communicate with peers and access entertainment but also to navigate busy schedules, keep informed, and remain organized. As technology is now an inextricable part of the participants' lives, this further supports the notion that for young people, their identities are not divided into the "digital" and "off-line" self, but rather are combined as one and are mutually reinforcing one another. As previous research has found, young people use the online space to strengthen off-line relationships (Reich, Subrahmanyam, & Espinoza, 2012) and make use of online and other technologies for identity exploration (DeHaan, Kuper, Magee, Bigelow, & Mustanski, 2013).

As the participants considered technology to now simply be a "part of life," they were comfortable with its integration into youth mental health services, as long as it did not usurp face-to-face clinical interaction. Young people also expressed the need for clinicians to first consult with young people, individually, on their personal preferences prior to the implementation in practice. While young people were generally positive about using technology to interact with their clinician or reception staff, opinions and reliable modes of contact differed for each given individual. This too applies to technological tools as an adjunct to the treatment. The views expressed by the participants indicated that technology must have a clear, tailored rationale for any given client's treatment plan. This indicates that the perceived benefit of an e-tool in treatment is a key precursor to successful technology–treatment integration—without such an understanding, any given technology is likely to have poor uptake or be abandoned.

These findings suggest that the integration of technology in practice with young people cannot follow a "one-size-fits-all" approach, and instead, should be implemented through a collaborative discussion between clinician and client. Such a collaborative care model has been proposed to optimize engagement in youth mental health treatment (Hetrick, Simmons, & Merry, 2008) and may be a valuable approach in the integration of technology into youth mental health practice. It is likely that young people want to be more involved in their mental health care (Simmons, Hetrick, & Jorm, 2011). Moreover, active involvement in treatment decision making may lead to increased patient satisfaction with services and subsequent improvements in engagement and clinical outcomes (Clever et al., 2006; Loh, Leonhart, Wills, Simon, & Härter, 2007) as well as having positive benefits for youth self-esteem (Costello, 2003). A process

like shared decision making, whereby the client and practitioner work together to exchange information and clarify values, preferences, and needs to come to a health care decision (Adams & Drake, 2006), could be adapted for use in this situation.

Interestingly, despite the central role of contemporary technologies in young people's lives, this group still regarded the telephone as a useful means to build the therapeutic relationship and reduce anxiety prior to the first face-to-face session. In the initial engagement stages, it appears that current practice to call a client is well accepted by young people. However, when a young person is successfully engaged in a treatment service, between-session engagement should transition to the young person's preferred mode of contact. SMS was the most commonly reported tool that was considered useful for ongoing treatment engagement. This supports the results of a systematic review indicating that SMS reminders significantly improve appointment attendance in adults (Car, Gurol-Urganci, de Jongh, Vodopivec-Jamsek, & Atun, 2012). However, despite young people being the most intense users of mobile technologies (Walsh, White, & McD Young, 2010), there has not been any research into the effect of SMS contact on youth treatment engagement outcomes (Montague et al., 2014). The lack of research in this area may be due to the perceived risks associated with such clinician–client contact, which are often cited as arguments against the integration of technology in mental health practice (Ward, Stevens, Brentnall, & Briddon, 2008). However, descriptions of the benefits of technologies, such as SMS, endorsed by the young people in the present sample may more accurately reflect the potential role of technology in treatment. For example, one feasibility study on the use of SMS in youth mental health outreach indicated that for the vast majority of interactions, SMS was used to schedule appointments, share treatment information, or express empathy (Furber et al., 2011). Only 2% of messages were classified as inappropriate, indicating that statements of risk may be exaggerated.

The finding that young people would not like to be personally contacted on social networking sites is consistent with past research and has clear indications for the engagement of young people in this space. Young people see their social networking profiles as their private space where they deliberately curate their "ideal digital self" (Dunne, Lawlor, & Rowley, 2010). It is therefore unsurprising that an uninvited discussion of personal mental health concerns would not be well received in these spaces, likely due to a fear of stigma (Eisenberg, Downs, Golberstein, & Zivin, 2009). However, young people strongly believed that mental health promotion and prevention messages on social media were a powerful tool. Such depersonalized engagement in social media could continue, as long as it does not venture into young people's personal space. The results also suggested that one such way of engaging with a client through social media without any personal contact was with online clinician profiles. As the young participants believed that online

clinician profiles were a useful means of engaging clients and demonstrating the more "human" side of their service provider, this could be an important use of technology to engage young clients. The relationship between such profiles and the development of the therapeutic alliance may also warrant further research.

Importantly, while technology-facilitated contact, online resources, and apps were described by the participants as engaging, easy-to-access, informative, empowering, and nonstigmatizing, no young person reported that technology use—beyond static communication—was formally integrated into their face-to-face treatment with a clinician. This indicates that the benefits of technology for engagement and as an adjunct treatment intervention are not yet being harnessed in youth mental health services to their full potential. This may be due to inflexible organizational policy, a barrier that has previously been reported by Australian youth mental health clinicians (Blanchard, 2011; Montague et al., 2014). Considering the client demand for technology use as a part of treatment as described in the present study, a more nuanced health service organizational policy should be considered to better utilize technology's potential in practice, especially given the risks associated with poor engagement in youth mental health treatment (McGorry et al., 2007). The reported lack of technology use in face-to-face clinical treatment may also be due to the scarcity of high-quality research and thus evidence-based resources to support such an implementation (Montague et al., 2014). Therefore, it is clear that high-quality research evaluating adjunct face-to-face and technological treatment interventions, followed by good translational science, is required to support youth service providers' technology uptake in practice.

Conclusion

Technology plays a central role in the lives of young people in Australia. While overwhelmingly positive about technology, the differing needs and preferences of the participants in the present study indicate that a collaboration between clinician and client is the best means for the integration of technology into a given young person's treatment. While the results indicated that technology has the potential to enhance treatment engagement and outcomes for young people, it was also found that most technology used by young people as an adjunct to treatment was self-initiated and not formally integrated into youth mental health services. Further research is required to establish how to formally implement technology in face-to-face youth mental health services so that the benefits of technology—as reported by young people—can be harnessed to their full potential.

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Author Biographies

Alice Montague is currently a research assistant at Orygen, The National Centre of Excellence in Youth Mental Health. Her research interests include the role of technology in clinical practice, engaging consumers in their own care, and mapping and translating research evidence to support evidence-based practice in youth mental health.

Kandice Varcin was a senior research assistant Orygen, The National Centre of Excellence in Youth Mental Health and is currently a postdoctoral research fellow at Boston Children's Hospital, Harvard Medical School. Her research focuses on early identification of neurodevelopmental and psychological disorders to facilitate early intervention. Dr. Varcin obtained her PhD and Clinical Masters in Psychology from the University of New South Wales in Sydney, Australia.

Magenta Simmons is a research fellow in Evidence-Based Clinical Decision Making and the Youth Partnership in Research coordinator at Orygen, The National Centre of Excellence in Youth Mental Health. Her work focuses on how young people can be meaningfully involved as collaborators in research projects, as consumers in clinical decision making about their own care, and as peer workers supporting other consumers.

Alexandra Parker is a psychologist and senior research fellow in knowledge transfer at Orygen, The National Centre of Excellence in Youth Mental Health. Her research work focuses on physical activity and skill building interventions for young people with predominantly depressive disorders. She is also involved with the synthesis, translation and dissemination of evidence for interventions in youth mental health and workforce development through education and training.