Family/whānau perspectives on the use of E-therapy tools in the treatment of youth mental health: SPARX and family/whānau participation

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Abstract

Mental health for young people under 24 in New Zealand is poor compared to other OECD countries, with data showing higher rates of youth depression, anxiety, and suicide than those seen globally. Self-help youth E-therapy has been gaining popularity as a treatment solution for young people experiencing mental distress like depression and anxiety that can help to remove treatment barriers. Social support has been identified as an important factor to improve youth treatment retention and mental health outcomes. Family/whānau have been identified as a central provider of social support for young people due to their reliance on the family/whānau system. One way of increasing family/whānau social support may be to include family/whānau in youth mental health treatment. To date, no studies in New Zealand have investigated the perspectives of family/whānau members on self-help youth E-therapy programs or the inclusion of family/whānau participation in such E-therapy programs. Such perspectives are underrepresented and may provide insights specific to family/whānau members that may be otherwise unobtainable by researchers This qualitative study utilised interview data to investigate family/whānau perspectives on self-help youth E-therapy in New Zealand. Six family/whānau members were recruited to participate in the study and provided their perspectives on the youth self-help E-therapy tool SPARX (Smart, Positive, Active, Realistic, X-Factor thoughts) via a semi-structured online interview. Their opinions on the concept of family/whānau participation in youth E-therapy were also explored. Interview data were analysed using thematic analysis and three major themes identified: (1) CBT skills and psychoeducation facilitate understanding and support, (2) "Game-ified" E-therapy facilitates youth engagement, and (3) Family/whānau participation – direct or indirect involvement. A novel finding was that some participants showed a preference towards indirect methods of family/whanau participation in self-help youth E-therapy, while others preferred direct methods of family/whanau participation. These findings fill a gap in the literature as no prior research has been conducted investigating family/whānau perspectives on the SPARX application specifically relating to family/whānau participation. The results indicate the need for further investigation of family/whānau perspectives on youth E-therapy and an exploration of the relevance of these by comparison with youth perspectives.

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Abbreviation List

ACT – Acceptance and Commitment Therapy

ADHD – Attention-deficit/hyperactivity disorder

BPD – Borderline Personality Disorder

CBT – Cognitive Behaviour Therapy

DBT – Dialectical Behaviour Therapy

E-therapy – Electronic or internet-based therapy, psychological interventions, and/or support

IPT – Interpersonal Psychotherapy

LGBT – Lesbian, Gay, Bisexual, Transgender

NZ – New Zealand

OCD – Obsessive Compulsive Disorder

OECD - Organisation for Economic Co-operation and Development

ROC – Reach Out Central

SPARX – Smart, Positive, Active, Realistic, X-Factor thoughts

TA – Thematic Analysis

Introduction

E-therapy is an emerging area of research that shows promise for the treatment of mental health disorders and difficulties without the need for clients to attend face-to-face appointments. E-therapy refers to electronic or internet-based therapies where psychological interventions, education, and support are provided to a client electronically through methods such as a computer or phone application, self-help games, video calling with a therapist, chatbots, or text services. E-therapy can assist in removing traditional barriers to attending therapy such as time, scheduling, cost, and travel. Increasingly, E-therapy interventions are being targeted towards young adults and adolescents. Adolescents and young adults are natives to the digital world and thus are strong candidates for using E-therapy interventions, although these programs must be easy to use and up-to-par with the usability and visual appeal that are offered by other programs and websites that youth regularly use. Social support can offer strong benefits for traditional and online therapies and family is generally the strongest source of social support for a young person. To date, little research has been conducted exploring the perspectives of family/whānau on these E-therapy tools. Furthermore, it is unknown whether family/whānau support can be facilitated through a stronger understanding of what their young family/whānau member is experiencing and the tools they are using for treatment. The current study sought to explore family/whānau perspectives on the use of E-therapy tools with young people under 25. Participants in the study were family members of a young person (under 25), where the young person was either involved with E-therapy, had been previously involved in E-therapy, or there was interest in E-therapy either from the young person themselves or their family/whānau. Participants used an online E-therapy computer program called “Smart, Positive, Active, Realistic, X-Factor thoughts” (SPARX) over a two-week period before attending an online interview via Zoom to provide perspectives, thoughts, and feelings on the youth E-therapy tool. Responses were analysed using Thematic Analysis to classify, group, and understand participant responses. Articles were collected from journals via online databases such as Google Scholar and Discover and were primarily chosen with the following criteria in mind: inclusion of youth mental health (particularly in New Zealand), youth adherence to mental health programs, CBT and E-therapy, and the inclusion of family support and/or involvement. The literature examined data from across the USA, UK, Netherlands, Australia, New Zealand (NZ), and Spain and focused on a range of disorders such as OCD (Comer et al., 2017; Peris et al., 2020; Rosa-Alcázar et al., 2019), ADHD (Maric, van Steensel, & Bögels, 2018), Bipolar (Isaia, Weinstein, Shankman, & West, 2018), Depression (Lucassen, Stasiak, Samra, Frampton, & Merry, 2017; Shepherd et al., 2015; Skilbeck, Spanton, & Roylance, 2020; Stasiak et al., 2015; Tompson, Hughes, & Asarnow, 2017; Yap et al., 2017), Anxiety (Kendall & Suveg, 2006; Lee et al., 2019; Maric et al., 2018; Podell & Kendall, 2011; Reuman, Thompson-Hollands, & Abramowitz, 2020; Spence, March, & Donovan, 2019; Stasiak et al., 2015; Wei & Kendall, 2014;

Yap et al., 2017), Insomnia (Kamen et al., 2019), and Eating Disorders (Reyes-Rodríguez et al., 2019).

Chapter One - Literature Review

Youth Mental Health

Globally high rates of mental illness in people ages 10-24 (Fleming et al., 2020; Institute for Health Metrics and Evaluation, 2019; Yap et al., 2017) indicate the need for targeted programs and interventions that will work for today's youth and their families (Isaia et al., 2018; Kendall & Suveg, 2006; Rosa-Alcázar et al., 2019; Stasiak et al., 2015; Wei & Kendall, 2014; Yap et al., 2017). Global Burden of Disease (GBD) data from the Institute for Health Metrics and Evaluation (IHME) show that mental health disorders affected over 970 million people globally in 2019 and 248 million of these people were between 10 and 24 years of age (Institute for Health Metrics and Evaluation, 2019). Young people experience a range of mental health disorders but the most prevalent four disorders are Anxiety disorders, Attention-deficit/hyperactivity disorder (ADHD), Intellectual disability, and Major depressive disorder (Institute for Health Metrics and Evaluation, 2019). Anxiety is defined as worry and apprehension rising from an individual's anticipation of a threat or danger (American Psychiatric Association, 2018). Anxiety disorders are characterised by an ongoing experience of hypervigilance and anxiety towards perceived future threats, and the anxiety experienced by persons with these disorders differs from a regular experience of anxiety by being excessive or persisting much longer than is appropriate (American Psychiatric Association, 2013). Anxiety disorders in young people can manifest anxiety in both cognitive and physical ways such as rumination, excessive worry, avoidance, tense muscles, sweating, and trembling (Kendall & Suveg, 2006). Depression is defined by the American Psychiatric Association as a negative affective state that varies in intensity and is characterised by low mood, sadness, pessimism, discontent, and/or unhappiness (American Psychiatric Association, n.d.). A lack of energy or motivation, alongside difficulty concentrating or making decisions are also often experienced by those with depressed mood which negatively affects their ability to function (American Psychiatric Association, 2013). Globally in 2019, over 75 million youth aged 10 to 24 were reported with anxiety disorders and over 34 million youth had major depressive disorder (Institute for Health Metrics and Evaluation, 2019) which shows there is a need for psychological programs and interventions that can effectively treat youth anxiety and depression.

In New Zealand the rates of depression and anxiety for youth are much higher than the global rate. Data published in 2019 data reported 4859 cases of depression per 100,000 people in New Zealand versus 2470 cases per 100,000 people globally and 8148 cases of anxiety per 100,000 people in New Zealand versus 4075 cases per 100,000 people globally (Institute for Health Metrics and Evaluation, 2019). Young students report high levels of mental distress in New Zealand, with 19% of participants in the Youth19 survey reporting they had difficulty getting help for difficulties with their mental health (Fleming et al., 2020). The decline seen in the mental and emotional health of youth who participated in the Youth19 study appears to align with a general decline in the mental health of young people internationally (Fleming et al., 2020; Yap et al., 2017), indicating the need for change on a global scale. In 2019, 8.15% of global deaths for people aged 10 to 24 were caused by self-harm, whilst 29.89% of deaths in New Zealand for the same age group were caused by self-harm in the same year (Institute for Health Metrics and Evaluation, 2019). The Ministry of Health statistics for Suicide in New Zealand between 1996 and 2016 show that youth (ages 14 - 24) have the highest rates of suicide (although this rate has been consistently dropping), with Māori rates being disproportionately higher than non-Māori (Ministry of Health, 2019). New Zealand ranks among the highest for teenage (aged 15 – 19 years) suicide rates out of all the OECD (Organisation for Economic Co-operation and Development) countries and longitudinal data from the Youth2000 project shows a persistent rising in self-reported rates for both anxiety and depression (Menzies, Poulton, & Gluckman, 2020). These statistics indicate the need for stronger youth mental care in New Zealand and the removal of barriers to ensure that youth have adequate access to mental health support programs.

It is important to also take cultural factors into consideration when examining youth mental health, particularly in a multicultural country like New Zealand. Cultural factors can have a strong influence on both mental health disorders and distress (Bolton & Bhugra, 2021) and on the use of mental health services by minority groups (Gopalkrishnan, 2018). Ideas about mental health attitudes, perception, treatment, where to seek help, how supportive community/family are, and appropriate coping can vary drastically across different cultures (Gopalkrishnan, 2018; Shepherd et al., 2015). This indicates that a one-size-fits-all approach is insufficient when it comes to mental health service provision and treatment. Mental health services in New Zealand are underpinned by a western understanding of health that is individualistic and assumes the separation of the mind and body (Gopalkrishnan, 2018). This may deter some people from minority groups from seeking help if their understanding of their own health and mental distress will be ignored in favour of a western conceptualisation. In New Zealand, Māori youth are disproportionally affected by mental illness both in terms of depressive symptoms and suicide attempts, with statistics in the Youth19 study (Fleming et al., 2020) showing 8% higher and 10% higher rates respectively when compared to Pākehā (New Zealand European) youth. Shepherd et al. (2015) reports that some studies in New Zealand show rates of depressive symptoms that are much higher for Māori youth when compared to Pākehā youth, with one study showing 16.4% of Māori girls reporting depressive symptoms compared with 12.7% of Pākehā girls. Pasifika adults and youth are similarly affected with elevated levels of mental illness and higher suicide risk, alongside lower engagement with mental health services in comparison to non-Pasifika people (Vaka, Holroyd, Neville, & Cammock, 2022). Pasifika peoples make up 8.1% of the population in New Zealand according to the 2018 census (Stats NZ, 2019), and thus their differing mental health needs have to be addressed by service providers. Pasifika youth in particular have high rates of mental distress, with 15% of males and 33% of females in the Youth19 study on emotional and mental health reporting significant depressive symptoms (Fleming et al., 2020). In the same study, 12% of Pasifika youth reported attempting suicide in the last twelve months compared to 3% of their Pākehā and other European peers (Fleming et al., 2020). Both Māori and Pasifika youth mental health show a worsening trend over time for emotional and mental wellbeing and elevated mental distress compared to Pākehā youth (Fleming et al., 2020). These unfortunate statistics again illustrates the strong need to take cultural factors into account when providing mental health care in New Zealand and that a 'one-size-fits-all' approach fails to adequately support all young peoples' mental health.

Additional to the increased and differing needs of Māori and Pasifika youth regarding mental health, Asian adults and youth in New Zealand also report experiencing mental health difficulties and barriers to treatment, thus their differing needs and experiences should be considered in treatment interventions and mental health services. The Asian population in New Zealand has grown significantly in recent years with a 33% increase in the number of people who identify with an Asian ethnicity between the 2006 census and 2013 census (Chow & Mulder, 2017). More recent data estimates place the New Zealand Asian population at 15.1% based on the 2018 New Zealand Census (Stats NZ, 2019). Mental health service use by Asian people is much less than NZ Europeans, with cultural factors/differences identified as being one potential cause (Chow & Mulder, 2017). New Zealand's health system is informed by western understandings and explanations of mental illness which may not align with the cultural explanatory model of mental illness that many Asian people hold (Chow & Mulder, 2017). Asian people living in western countries are less likely to disclose their mental health issues to healthcare professionals due to cultural stigma and shame and are instead more likely to present to their general practitioner with somatic symptoms of mental illnesses such as depression and anxiety (Shah, Corter, Bird, & Goodyear-Smith, 2019). Many Asian cultures view illness as a threat to familial homeostasis and any stigma or discrimination related to the mental illness of one family member is extended to rest of the family which also discourages individuals from seeking mental health support(Shah et al., 2019). Asian youth in the Youth19 study report high rates of distress with 30% of Asian females and 19% Asian males reporting significant depressive symptoms (Fleming et al., 2020). Additionally, a greater proportion of Asian youth reported significant depressive symptoms than their NZ European peers (25% and 20% respectively)(Fleming et al., 2020). In common with the increased mental health risk of ethnic minority groups, sexual minority groups are at an approximate three times higher risk of depressive symptoms or disorder than heterosexual youth (Lucassen et al., 2018; Lucassen et al., 2017). Lesbian, gay, bisexual, and transgender (LGBT) young people are believed to make up approximately 12% of the adolescent population (Lucassen et al., 2018). Therefore their needs cannot be ignored, particularly in light of the fact there is higher risk of depressive symptoms and disorders in this population compared with heterosexual young people (Lucassen et al., 2018; Lucassen et al., 2017). These statistics indicate the need to address these inequalities through programs that will work for youth and adolescents whilst also being effective for indigenous, ethnic minority, and LGBT youth populations. The frontline response to most mental distress experienced by adolescents is Cognitive Behavioural Therapy (CBT) (Kamen et al., 2019; McCashin, Coyle, & O'Reilly, 2019; Shepherd et al., 2015), although program adherence and access to therapy are both factors that can influence the effectiveness of CBT (Kamen et al., 2019; Lee et al., 2019; Spence et al., 2019). Interpersonal psychotherapy (IPT) has also proven effective for treating depression in adolescents (Mychailyszyn & Elson, 2018) and adults (Cuijpers et al., 2011), alongside other mental health disorders (Cuijpers, Donker, Weissman, Ravitz, & Cristea, 2016). One answer to the issue of mental health treatment accessibility is electronic internet-delivered therapies (E-therapies) which have become an increasingly popular area of interest for treating adult populations, and more recently adolescents (Christie et al., 2019; McCashin et al., 2019; Stasiak et al., 2015).

Overall, the research shows that mental health is a globally important issue that affects both adults and youth. Depression and anxiety are two of the most prevalent types of mental distress that youth experience globally, and this trend is also true of New Zealand youth. In New Zealand, the rates of depression and anxiety are higher comparatively than the global rates for these two types of mental distress and the three most affected groups are males, ethnic minorities, and sexual minorities. Youth suicide risk is also high in New Zealand and serves as another indicator that New Zealand youth urgently require easy access to mental health care. CBT is a frontline response to both anxiety and depression in young people, but barriers related to cost, location, and transport can impact or obstruct therapy attendance and treatment outcomes. CBT E-therapy may act as a solution by providing New Zealand youth with access to mental health care from their own computer, phone, or tablet, removing these barriers associated with traditional therapy.

Cognitive Behavioural Therapy

Cognitive Behavioural Therapy or CBT is a psychological treatment that is considered a frontline or gold standard response to a range of mental distress experienced by adults and youth alike (Cuijpers et al., 2021; Kamen et al., 2019; McCashin et al., 2019; Shepherd et al., 2015). Many research studies have suggested that CBT improves quality of life and functioning for patients across disorders such as anxiety, depression, addiction, and more severe mental illnesses (American Psychiatric Association, 2017; McCashin et al., 2019). CBT is largely based on the Beck cognitive model of mental illness that asserts behaviours and emotions are influenced by an individual’s perception of events, rather than the events themselves (Beck, 2020; Fenn & Byrne, 2013). CBT is an empowering framework for clients as it puts power back into the client's hands – people often cannot change situations or events, but they can change their perception of events and the reactions they have to them. Three key levels of cognition that relate to the cognitive model are core beliefs, intermediate beliefs (dysfunctional assumptions/rules/attitudes), and negative automatic thoughts (Beck, 2020; Fenn & Byrne, 2013). Core beliefs are fundamental, deeply held ideas about the world, others, and the self that are generally formed in early childhood and may not be fully conscious to the individual (Beck, 2020; Fenn & Byrne, 2013). Most people hold primarily positive and realistic beliefs but all people will have some latent negative beliefs – these dysfunctional beliefs are challenged in CBT (Beck, 2020). Intermediate beliefs are rigid, conditional rules for the self, others and the world that are informed by core beliefs and are not context specific (Beck, 2020; Fenn & Byrne, 2013). The third level of cognition is automatic thoughts which are involuntary thoughts that are activated in specific contexts (Beck, 2020; Fenn & Byrne, 2013). For example, negative automatic thoughts like 'I'm worthless", "I'm unlovable", "I'm a failure", etc. may be activated in contexts such as when failing a test or when being romantically rejected. Due to the near instant occurrence of these negative automatic thoughts, people generally believe the thoughts to be correct and then experience an emotional reaction without first critically examining the thought's validity. Often the thoughts are so brief that people are more aware of their emotional or behavioural reaction rather than the content of the automatic thoughts themself (Beck, 2020). A strong core component of CBT treatment is the critical examination of the validity of automatic thoughts and the beliefs that inform them, with the aim to correct maladaptive or dysfunctional cognitions and bring them into line with reality (Beck, 2020; Fenn & Byrne, 2013). CBT also draws upon the understandings of behaviour therapy in order to conceptualise behavioural interventions. Behaviour therapy is based upon Pavlov's work on classical conditioning that revealed extreme stress can cause lasting abnormal disruptions of behaviour in animals, which researchers later used as the basis for the conceptualization that dysfunctional behaviour can be de-conditioned (Pavlov, 1927; Rachman, 2015). De-conditioning of anxiety through desensitization (known contemporarily as exposure therapy or Exposure Response Prevention) involves the client coming into closer and closer approximations of the thing they have anxiety about and are avoiding (e.g. a socially anxious person thinking about public speaking on a stage may work on this by imagining speaking on stage, then speaking in front of one person, followed by speaking in front of a few people, then speaking in front of a group, and finally public speaking on a stage) (Rachman, 2015). Additionally, Skinner's work on operant conditioning was instrumental in behaviour therapy, which posits that behaviour in animals can be reinforced or extinguished through the use of reward and punishment (Rachman, 2015; Skinner, 1953). These two types of conditioning form the basis for behavioural interventions that are used in CBT to reinforce positive behaviours and extinguish maladaptive behaviours relating to coping and avoidance. Other core components of CBT treatment include a strong therapeutic relationship that is based upon collaboration and trust, a problem-oriented focus that emphasises the present, goal setting, and homework completion. Another relevant core component of CBT is psychoeducation which will be explored further in the next section.

Psychoeducation

Psychoeducation is an important element of CBT and can be defined as a professionally delivered treatment that integrates educational and psychotherapeutic interventions (Lukens & McFarlane, 2004). In more general terms, psychoeducation refers to the information and education received by people engaged in mental health services or treatment that relates to mental distress, mental health disorders, treatment options, and teaching destigmatisation. This education can take the form of in-person education with a mental health professional, pamphlets, reading books, online videos, online resources, and worksheets etc (Bersani & Delle Chiaie, 2021). Psychoeducation can provide mental health service users with a better understanding of their own mental distress and serve to normalise their experience (Bersani & Delle Chiaie, 2021; Lukens & McFarlane, 2004). Psychoeducation can also allow users to understand they are not alone and that mental distress is a fairly common experience in general. This also allows people who experience mental distress to separate it from their sense of self, which may help to reduce the guilt and self-blame that are commonly experienced by people with mood disorders (Fristad, Ackerman, & Nick, 2018). Additionally, psychoeducation can assist people who experience mental distress to understand emotionally loaded and complex information related to their mental health, supporting them to use that information in proactive and healthy ways (Lukens & McFarlane, 2004). Psychoeducation is often focused on the person seeking treatment, but increasingly family/whānau psychoeducation is being utilised in youth mental health treatment to ensure that family/whānau are better able to understand the experience of their young person. Furthermore, psychoeducation may work to ensure that family/whānau members have the skills to support the young person and their treatment which may improve treatment effectiveness. Family/whānau psychoeducational interventions can facilitate increased youth and parent knowledge and understanding about mental health disorders and treatment which can lead to improved communication, coping, problem-solving, and conflict resolution (Bevan Jones et al., 2018; Brady, Kangas, & McGill, 2017). Evidence supporting the effectiveness of family/whānau psychoeducational interventions is limited but show some promise in improving treatment outcomes for adolescent depression (Bevan Jones et al., 2018; Brady et al., 2017; Fristad et al., 2018). Some evidence also suggests that family/whānau psychoeducational interventions may reduce accommodating and reinforcing behaviours that parents or family/whānau display that maintain youth OCD and anxiety related behaviours (Demaria et al., 2021; Peris et al., 2020; Rosa-Alcázar et al., 2019). It should be noted that low levels of family cohesion and high levels of family conflict have been associated with poorer outcomes in youth treatments that include family/whānau psychoeducational interventions (Isaia et al., 2018; Peris et al., 2012; Wei & Kendall, 2014). These findings indicate that the effectiveness of family/whānau psychoeducation may be moderated by family cohesion and family conflict and as such these factors should be assessed and considered when implementing family/whānau psychoeducational interventions in youth mental health treatment. Recently there has been a move towards providing young people with treatment and psychoeducation through online/internet-based therapies that electronically provide users with self-help CBT skills and psychoeducation.

E-therapy theoretical background

CBT has traditionally been performed in-person with the clinician or therapist and patient located in the same room together, however there has been a move in recent years towards developing internet delivered therapy (E-therapy) programs which provide people who experience mental distress greater accessibility to treatment at low or no cost whilst still being effective (Hof, Cuijpers, & Stein, 2009; McCashin et al., 2019; Shepherd et al., 2015; Stasiak et al., 2015). E-therapy can take the form of chat rooms or video conferencing where the client directly works with a therapist remotely, or they can take the form of self-help apps, chatbots, games, or computer programs that use modules to work through different therapeutic skills or challenges (Calear, Christensen, Griffiths, Mackinnon, & O'Kearney, 2009; Holt-Quick et al., 2020; McCashin et al., 2019; Merry et al., 2012; Shandley, Austin, Klein, & Kyrios, 2010; Shepherd et al., 2015; Stasiak et al., 2015). CBT-based e-therapies draw from a range of other therapeutic modalities such as acceptance and commitment therapy (ACT), dialectical behaviour therapy (DBT), interpersonal psychotherapy (IPT), and psychodynamic therapy. ACT and DBT both emphasise mindfulness and emotional regulation which are techniques that appeared in most E-therapy programs examined for this study. ACT specifically focuses on the active acceptance of distressing thoughts in order to reduce their influence on behaviour (Yovel, Mor, & Shakarov, 2014). ACT also advocates for the separation of self from cognition (cognitive 'defusion'), where there is less focus on changing thoughts but instead a focus on changing the way in which an individual relates to their thoughts and the power those thoughts hold (Yovel et al., 2014). DBT is a therapy that was originally developed for people struggling with suicidal thoughts and borderline personality disorder (BPD), and is based upon a biosocial and dialectical theory of mental illness that emphasises the role of emotional and behavioural dysregulation (Linehan, 2015). DBT targets these dysfunctional patterns directly through training skills such as mindfulness, distress tolerance, interpersonal effectiveness, and emotional regulation (Chapman, 2006; Linehan, 2015). DBT teaches both "acceptance skills" and "change skills" where some skills focus on accepting what cannot be changed and other skills focus on changing the emotional and behavioural response or reaction of the individual (Chapman, 2006; Linehan, 2015). DBT draws from dialectical philosophy which asserts that reality consists of opposing forces, and within DBT specifically these two forces are change and acceptance which have to be carefully balanced and synthesised by the therapist (Chapman, 2006). DBT also draws influence from Zen practices such as contemplative prayer and mindfulness to encourage clients to stay focused, non-judgemental, and remain present in the moment (Chapman, 2006). These techniques are also vital to helping the client deal with distress in the current environment (distress tolerance skills) and to facilitate client participation in their experiences (as opposed to being distant or detached). IPT is a structured, time-limited psychological intervention developed for the treatment of major depression that focuses on life events, interpersonal disputes, life transitions and social isolation or deficits (Cuijpers et al., 2016; Mychailyszyn & Elson, 2018). IPT has a strong focus on interpersonal relationships and social functioning and is a frontline response (alongside CBT) to treat a range of mental health disorders such as depression and anxiety (Duffy, Sharpe, & Schwannauer, 2019; Mychailyszyn & Elson, 2018). IPT has been adapted to be used clinically with adolescents (IPT-A) for the treatment of depression to positive results, with postintervention depressive symptoms reduction similar to those seen in CBT interventions (Duffy et al., 2019; Mychailyszyn & Elson, 2018). Psychodynamic therapy aims to understand the unconscious processes that impact on a person’s interpersonal relationships and regular daily functioning in order to help the individual to become aware of these processes so they are then be able to modify the behaviour and responses that are informed by said processes (Sankar et al., 2018). Psychodynamic therapies are informed by psychoanalytic and supportive psychotherapies and place heavy focus on the patient-therapist relationship (Sankar et al., 2018; Summers & Barber, 2010). Psychodynamic therapies utilise a psychodynamic frame of reference which asserts that our conscious thoughts, feelings, and behaviours are affected by unconscious mental activity (Cabaniss, Schwartz, Douglas, & Cherry, 2017). A core feature of psychodynamic therapies is the exploration of an individual’s current relationships and conflicts in order to understand how they relate to the past, where there are recurring patterns, and how conflicts are repeated (Summers & Barber, 2010). The important idea here is that the current behaviours or conflicts that the individual is experiencing are influenced by their childhood experiences and unconscious repetitive thoughts. Psychodynamic therapists utilise techniques that uncover what is going on in a client’s unconscious and bring it to their awareness when beneficial. Such therapists also utilise techniques that support functioning without uncovering unconscious thoughts and feelings when they consider making clients aware would not be beneficial for them (Cabaniss et al., 2017). Since CBT-based E-therapies draw from a range of other therapeutic modalities, the way different E-therapy programs function and the methods of interaction can vary quite a lot from program to program. The following section explores a range of youth E-therapy programs that have been utilised in academic research and explains how they function.

Youth E-therapy application examples

Many studies concerning CBT E-therapy have been conducted using adult populations but increasingly interventions are being developed for adolescents; some examples are "MoodGym" (Calear et al., 2009), "Reach Out Central (ROC)" (Shandley et al., 2010), "SPARX" (Merry et al., 2012; Shepherd et al., 2015; Stasiak et al., 2015), and "Headstrong" (Holt-Quick et al., 2020). "MoodGym" is a self-directed online CBT program that aims to reduce depression and anxiety symptoms in an adolescent school-based population (Calear et al., 2009). The program centres around five interactive modules that are completed sequentially, and these modules can be accessed both inside and outside of the classroom environment (Calear et al., 2009). Homework tasks are assigned to support the material covered by the modules and quizzes are used to track mood and symptom changes. Whilst the program is introduced in a class-sized group, modules are self-paced, completed individually, and results are confidential (Calear et al., 2009). It was developed in Australia and a study by Calear et al. (2009) found that the program had a beneficial effect on both anxiety and depression in the adolescent participants. Although only one third of the students completed all five modules, previous research on adult populations using MoodGym indicate that the completion of at least 3 modules was sufficient for significant effects on anxious and depressive symptoms (Calear et al., 2009). Reach Out Central (ROC) is a web-based interactive CBT computer game that was designed to support young people's mental health (Shandley et al., 2010). The gameplay and mental health education are tied strongly to the overall narrative and the program utilises repetition to solidify the skills learnt. The program was piloted with 15 Australian adolescents (Shandley et al., 2010) and showed some promising results. The reduction of maladaptive coping such as avoidance and alcohol use were observed in the study alongside an increase in healthy coping (such as problem solving) and resilience (Shandley et al., 2010). However, the authors do note low engagement with the program, seeing an average of 1.6 sessions completed by females in the study and 1.5 sessions completed for males (Merry et al., 2012; Shandley et al., 2010). It is worthy to note here that the low levels of engagement likely negatively mediated the effects reported in the study (reduction of maladaptive coping and increase in health coping) which illustrates the need for youth programs to be engaging to encourage participation. The therapeutic skills and interventions used in E-therapy can be incorporated in the best way possible and still fail if youth do not enjoy or want to use the tool. Adherence and engagement factors will be explored further in later sections.

Another example of this type of program is the CBT-based computer game "Smart, Positive, Active, Realistic, X-factor thoughts" (SPARX) that rolled out nationally across New Zealand in 2014 (Previous to 2014 there were no E-therapy options available to youth in New Zealand) (Merry et al., 2012; Shepherd et al., 2015; Stasiak et al., 2015). SPARX is a fantasy role-playing computer game that incorporates CBT and mindfulness to educate and support youth that are struggling with their mental health (Shepherd et al., 2015; Stasiak et al., 2015). Participants work through seven modules/levels sequentially, with each module focussing on new CBT strategies to learn. There is also a guide character in the game who sets and monitors challenges that work similarly to traditional CBT 'homework' (Merry et al., 2012; Stasiak et al., 2015). Similar to this design is the CBT-based computer game Quest – Te Whitianga (Christie et al., 2019) in which users are taken to an imaginary archipelago of islands and tasked with saving the host Tata's five 'kaitiaki' friends, each of whom is a guardian of one of the islands. Māori language, proverbs, and cultural knowledge are tied into the gameplay such as each guardian being represented by a bird or creature with users learning each creature's Māori name and information on its cultural significance in Māori culture (Christie et al., 2019). These aspects are included with the partial aim of fostering ongoing engagement, repetition, and reinforcement of knowledge – akin to homework in traditional CBT that is known to be associated with increased therapeutic effectiveness (Christie et al., 2019). Each island is based on proven CBT skills such as a gratitude journal, relaxation and mindfulness, behavioural activation, reflection and rethinking, problem solving, and interpersonal skills (Christie et al., 2019). Another example of a different form of E-therapy is "Headstrong" which is a chatbot that was developed as mental health support and education to build resilience for school-aged New Zealand youth (Holt-Quick et al., 2020). The 4-week program focuses on key activities that users engage with on a daily basis including problem solving, interpersonal and communication skills, relaxation, and identifying negative or maladaptive thoughts (Holt-Quick et al., 2020). Four avatars that were diverse in culture and gender were used in the program, and these avatars were designed to be slightly older than the user to allow them to act as a coach or support once rapport had been developed (Holt-Quick et al., 2020). Using the technology developed for Headstrong, two similar chat bots were created with different goals in mind. 21-Day Stress Detox was developed to promote resilience in undergraduate university students through daily interactions with a chatbot over 21 days (Holt-Quick et al., 2020). Each day the chatbot would check in with the user at an agreed time and ask them to rate their stress levels, before beginning an activity module (Holt-Quick et al., 2020). Aroha was developed for young people as support for the impacts of the COVID-19 pandemic and focused primarily on one-off user interactions rather than the conversational design of the previous two chatbots discussed (Holt-Quick et al., 2020). Aroha utilised minigames, gratitude journaling, and meditation from the previous chatbots with modified dialogue to be context specific and sensitive, alongside new content developed by two clinical psychologists.

Gamification

Quest, ROC, and SPARX are strong examples of 'gamification' (Christie et al., 2019; Jamaludin, Wook, Noor, & Qamar, 2021; Stasiak et al., 2015) which is the incorporation of video game elements into non-gaming contexts such as therapy and health. Incorporating these elements into therapy can be effective as young people and adolescents in modern society have grown up around the internet, video games, and are native to the technological world (Christie et al., 2019; Stasiak et al., 2015). Due to being ‘digital natives’ to technology and regularly being exposed to sleek and visually appealing media, young people are a discerning audience who will not respond well to outdated or difficult-to-use programs (Stasiak et al., 2015). Thus, gamification can provide a way to get young people to engage with content as it appeals to an already existing interest that many young people hold (Christie et al., 2019). The effectiveness of online therapies may be moderated by their level of visual appeal and ease of use, which will likely need to reflect the visual appeal and ease of use of other games or online content that youth engage with regularly (Stasiak et al., 2015). If youth consider the programs to be ‘clunky’ or ‘hard to use’ then uptake and adherence would likely be negatively affected (Stasiak et al., 2015). Regardless of the delivery method, therapeutic programs like CBT require program adherence and engagement to achieve positive treatment outcomes (Kamen et al., 2019; Lee et al., 2019; McCashin et al., 2019; Spence et al., 2019). Techniques such as gamification can increase engagement (Christie et al., 2019) but may not be enough on their own to ensure youth program adherence. Current evidence for the overall effectiveness of gamification is inconclusive (Cheng, 2020) with some studies showing positive impact and some studies showing no effect. Additionally, there has been little research conducted on whether the gamification related effects sustain long-term (Cheng, 2020). The factors that lead to E-therapy dropout and act as barriers to engagement and adherence are expanded upon in the next section.

Overall, the research indicates that E-therapy may be a promising vehicle for CBT delivery, removing barriers and reducing therapy costs for young people and their family/whānau. Whilst CBT E-therapy programs are still relatively new they show promise for improving youth mental health outcomes. However, there does not appear to be a consensus on which type of E-therapy is most useful for particular types of distress or particular personalities (i.e., are chatbots, videocalls, apps, computer games, or text services more effective for depressive symptoms). It may be helpful for the field if researchers explored whether individual differences and/or differences in the type of mental distress can moderate the effectiveness of certain interventions. For example, someone with high social anxiety may find regular text messages and reminders to complete tasks to be distressing versus a computer program or app with modules that they can work on at their own pace. Some of the more recent programs have incorporated inclusivity and representation through culturally diverse avatars (Holt-Quick et al., 2020) and the incorporation of Māori language and values (Shepherd et al., 2015). This is a trend that should be encouraged to ensure that these programs can meet the differing cultural and social needs of their users. In an increasingly multicultural world, it is important that people from many different backgrounds are able to benefit from these programs and reap the benefits for their mental health and quality of life.

Adherence and dropout

Adherence and dropout rates are important factors in both psychological research and mental health treatment. Adherence refers to the level of engagement and how closely the patient is following the treatment program, whilst dropout refers to the stage at which an individual prematurely leaves the treatment or study. Improving treatment adherence and dropout rates have both been identified as key factors for improving youth mental health and the effectiveness of therapeutic interventions (Isaia et al., 2018; Lee et al., 2019; McCashin et al., 2019; Podell & Kendall, 2011; Reyes-Rodríguez et al., 2019; Spence et al., 2019). Literature concerning dropout in traditional face-to-face therapy has shown that between 30% and 60% of participants dropout of mental health care before completing the full course of treatment (Melville, Casey, & Kavanagh, 2010). Fernandez, Ramtahal, Salem, and Swift (2015) examined studies reporting on dropout rates from CBT programs specifically and reported that only 26% of enrolled clients completed the full course of treatment in one study and found dropout rates of 0%-68% in another study. Isaia et al. (2018) reported high dropout rates in youth populations of approximately 40%-60% and, furthermore found that dropout rates were worse for low income and minority groups. Additionally, the same authors reported that on average children and adolescents attend few therapy sessions and treatment setting can affect the level of attendance (Isaia et al., 2018). For E-therapies, on the other hand, adherence and dropout results can be mixed. Kok, Bockting, Burger, Smit, and Riper (2014) reported 84.5% of participant program completion in a mobile phone and computer based cognitive therapy program that used a blend of telephone therapist support and self-directed completion of eight online modules. Another E-therapy program that utilised a CBT-based computer role playing game found low engagement, reporting that most participants only accessed the program for an average of 60 to 90 minutes (1.5 - 1.6 sessions) (Shandley et al., 2010). The therapeutic skills and interventions used in E-therapy can be incorporated in the best way possible but will still fail if young people do not want to use and engage with the application. Adherence and engagement factors and barriers will be explored further in the next paragraph.

Although adherence has been identified as an important factor for treatment, it is not defined consistently across the literature (Lee et al., 2019; Melville et al., 2010). For example, Lee et al. (2019) identified that the three most common adherence indicators are homework completion, observer ratings of compliance, and attendance. On the other hand Christ et al. (2020) identified that the most common measure for adherence is generally either number of completed sessions divided by the number of maximum sessions or overall program completion. This shows that there is no consensus on a gold standard definition for adherence in the current literature (Lee et al., 2019). This lack of clarity is also reflected in the various ways that adherence has been defined/measured across the literature, such as session attendance (Christ et al., 2020; Kamen et al., 2019; Oromendia, Orrego, Bonillo, & Molinuevo, 2016; Podell & Kendall, 2011; Rosa-Alcázar et al., 2019; Spence et al., 2019) program completion (Christ et al., 2020; Comer et al., 2017; Oromendia et al., 2016), engagement in session (Comer et al., 2017; Isaia et al., 2018; Lee et al., 2019; Podell & Kendall, 2011), homework completion (Lee et al., 2019; Rosa-Alcázar et al., 2019), and dropout/attrition rates (Isaia et al., 2018; Kamen et al., 2019; Melville et al., 2010; Oromendia et al., 2016). Haine-Schlagel and Walsh (2015) note that whilst attendance is often used as a proxy for engagement and participation, there is a general consensus that attendance does not fully encapsulate participation engagement. Factors that facilitate or impede youth program adherence such as social support, familial factors, individual factors, and therapeutic alliance should also be considered as potential moderating factors for program adherence (Comer et al., 2017; Isaia et al., 2018; Lee et al., 2019). The literature examined suggests that parental and/or familial factors can play a large role in youth program adherence and that social support in general (familial or otherwise) improves treatment adherence (Comer et al., 2017; Podell & Kendall, 2011; Reyes-Rodríguez et al., 2019; Spence et al., 2019). Overall, the literature reviewed regarding adherence shows some inconsistencies, with different studies using disparate terms or measurements to determine adherence and/or dropout. Having a consistent and validated definition for what adherence and dropout are and how they are best measured needs to be established so that researchers can accurately compare adherence and dropout across studies and not be confounded by differences in measurement and definition. What is certain from the literature is that adherence and dropout are still relevant challenges for both E-therapy and traditional forms of therapy that should be considered when conducting treatment or research. One way that adherence and dropout challenges may be addressed is through increased social support for young people engaging in mental health treatment.

Social Support and Family Participation

The American Psychology Association dictionary defines social support as “the provision of assistance or comfort to others, typically to help them cope with biological, psychological, and social stressors” (American Psychiatric Association, 2016). Social support is an important factor that relates to both treatment adherence and treatment outcomes (Casale, 2021; Kamen et al., 2019; Lee et al., 2019; Reyes-Rodríguez et al., 2019; Spence et al., 2019). Social support can come from a close friend, family member, partner, or other significant person in an individual’s life and can be material, emotional or practical in nature (American Psychiatric Association, 2016). Family involvement in therapy is one way of providing social support to youth experiencing mental distress, particularly due to the reliance of children on their family system for protection, cognitive guidance, and for emotional, physical, and monetary support (Comer et al., 2017; Lee et al., 2019). Family involvement in therapy was directly examined in 19 articles (Baker-Ericzén, Jenkins, & Haine-Schlagel, 2013; Comer et al., 2017; Demaria et al., 2021; Florensa, Keliat, Wardani, & Sulistiowati, 2019; Haine-Schlagel & Walsh, 2015; Kendall & Suveg, 2006; Lee et al., 2019; Maric et al., 2018; Murphy, Heary, Hennessy, O'Reilly, & Hennessy, 2021; Peris et al., 2020; Podell & Kendall, 2011; Reuman et al., 2020; Reyes-Rodríguez et al., 2019; Rosa-Alcázar et al., 2019; Shepherd et al., 2015; Skilbeck et al., 2020; Tompson et al., 2017; Wei & Kendall, 2014; Yap et al., 2017) and indicate that family member involvement can improve treatment outcomes across a range of disorders. Unfortunately, family/whānau involvement in youth therapy is not consistently defined across the literature and is often synonymous with maternal involvement (Murphy et al., 2021; Podell & Kendall, 2011; Reuman et al., 2020). In their systematic review of help-seeking interventions for parents of adolescents, Murphy et al. (2021) also found a strong overrepresentation of mothers in most studies, with only one study having an equal number of mothers and fathers. In their study on maternal and paternal involvement in therapy for anxious youth, Podell and Kendall (2011) found that the best outcomes were achieved when both parents were involved in therapy, but still reported gains for either maternal or paternal involvement alone. These studies reflect that the bias towards the idea that ‘parent’ equals ‘mother’ is still prevalent and demonstrates how research regarding parents of adolescents needs to include fathers alongside mothers. Otherwise, researchers are in fact gathering maternal perspectives rather than parental perspectives whilst labelling the research as the latter.

Whilst the research indicates that familial involvement in youth therapy can be beneficial, the form that family involvement takes can vary greatly across the literature. Five articles investigating family/whānau participation (Comer et al., 2017; Kendall & Suveg, 2006; Podell & Kendall, 2011; Reuman et al., 2020; Wei & Kendall, 2014) identified specific roles for parental involvement in CBT for youth anxiety that conceptualise parents as consultants, collaborators, or co-clients. Parents as consultants provide information to the therapist that may not be clear or accessible in the session, parents as collaborators work with the child to learn new skills and motivate them throughout their treatment, whilst parents as co-clients work on skills to manage their own anxiety and accommodating behaviours that maintain the child’s anxiety (Comer et al., 2017; Kendall & Suveg, 2006; Podell & Kendall, 2011; Reuman et al., 2020; Rosa-Alcázar et al., 2019; Wei & Kendall, 2014). Other studies were less formal in naming such roles but often included parent-only therapist sessions, group family therapist sessions, homes visits, and consultations between the family and the young person’s school (Demaria et al., 2021; Florensa et al., 2019; Haine-Schlagel & Walsh, 2015; Murphy et al., 2021; Reyes-Rodríguez et al., 2019; Rosa-Alcázar et al., 2019; Tompson et al., 2017; Yap et al., 2017; Yap et al., 2018). Psychoeducation and communication skills have also been targeted when working with families to improve their knowledge and relationship with the young person experiencing mental distress (Reyes-Rodríguez et al., 2019). The level of improvement gained from family involvement in therapy may be influenced by the parental and/or familial factors such as beliefs about mental illness and therapy, family conflict/stress, family psychopathology, and family environment/behaviour (Baker-Ericzén et al., 2013; Lee et al., 2019; Maric et al., 2018; Podell & Kendall, 2011; Reuman et al., 2020; Reyes-Rodríguez et al., 2019; Rosa-Alcázar et al., 2019; Skilbeck et al., 2020; Tompson et al., 2017; Wei & Kendall, 2014; Yap et al., 2017). Family behaviours that accommodate youth mental distress (such as aiding a child to avoid an anxiety inducing situation rather than overcoming it) can reduce the effectiveness of youth treatments (Comer et al., 2017; Reuman et al., 2020; Rosa-Alcázar et al., 2019; Wei & Kendall, 2014). Family behaviours that reflect a lack of understanding/empathy of the difficulties a young person is facing (such as belittling or dismissive attitudes) can also reduce the effectiveness of treatment (Reyes-Rodríguez et al., 2019; Skilbeck et al., 2020). This highlights the need for treatment providers and programs to consider familial factors when working with youth, preferably by working with families to reduce the effects of these factors on youth. It is also important for parentsto increase their own knowledge of mental distress and what their child is experiencing, although this may not always be possible. The predominant conclusion that can be drawn from this literature is that family can be a strong source of social support for young people or can act as a barrier to the treatment and recovery of youth from mental distress (Baker-Ericzén et al., 2013; Lee et al., 2019).

It is important to note that much of the literature focused on Caucasian cohorts (Comer et al., 2017; Lee et al., 2019; Peris et al., 2020; Podell & Kendall, 2011; Rosa-Alcázar et al., 2019) which appears to be consistent with a wider trend in this area of research (Kamen et al., 2019; Reuman et al., 2020; Wei & Kendall, 2014). As noted by Shepherd et al. (2015) It cannot be assumed that CBT theories and research will be applicable to indigenous minority groups in the same way they are for non-indigenous groups as people's views, beliefs, and experiences can vary greatly between cultures. Western psychological research and models typically take an individualistic approach and focus on changing individual factors to ameliorate mental health issues or distress, whilst many indigenous cultures do not place importance on individualism but rather take a collectivist or interdependent approach (Reyes-Rodríguez et al., 2019; Shepherd et al., 2015; Skilbeck et al., 2020). Therefore, the typical western approaches that underpin the field of psychology may not be conducive to positive treatment outcomes for indigenous groups such as New Zealand Māori (Shepherd et al., 2015). This understanding should inform future research to be more inclusive of other ethnic groups in their samples. Overall, the literature collected indicates that social support has a positive effect on treatment outcomes and adherence. Additionally, it shows that family involvement can be a strong way of providing social support to young people involved in therapy. Behaviours at home that may maintain or exacerbate mental health issues can be effectively reduced when family are involved in youth treatment. Interestingly the effectiveness of family involvement may differ depending on the cultural background of the participants but most of the research in this area has utilised primarily Caucasian samples so further investigation is required. Family involvement and support are also not well defined across the literature, with some papers equating maternal involvement with family involvement, ignoring the roles of fathers in the mental health of their child (Murphy et al., 2021; Podell & Kendall, 2011). There is also no consistent definition of what the best type of familial involvement or support is, with some papers referring to direct involvement in therapy sessions and other focusing on psychoeducation and reduction of maintaining behaviours. It would be advantageous for future research to examine what form or forms of familial involvement are most effective for treating youth mental health.

In summary, the body of research to date indicates that E-therapy shows great promise as a way to treat youth mental health problems. E-therapy can reduce barriers association with location, travel, and costs. Incorporating social support through the family system may help to address adherence problems in youth mental health treatment and provide a way to tailor psychological treatment to better suit indigenous people and cultures. In a New Zealand context, incorporating family/whānau into treatment may help to address health inequalities that Māori (and other minority groups) experience by making treatment more comfortable, familiar, and culturally relevant to them and their family/whānau. Establishing what works and does not work for whānau/families in New Zealand regarding participating in and supporting youth E-therapy is important and would go a long way in working to reduce barriers to youth mental health treatment. Family/whānau need to feel comfortable and have a strong understanding of what the young person is experiencing and feeling, alongside a strong understanding of how their support (or lack of support) and behaviours have direct effects on youth mental health and youth treatment. It is anticipated that by investigating perspectives of family/whānau regarding their participation and support in youth E-therapy, will allow us to identify what works and what does not from the perspective of the population engaged in supporting youth E-therapy. This could lead to the establishment of norms and processes regarding how to involve family in youth E-therapy in a meaningful and positive way in the future.

Chapter Two - Methodology

To date there has been little research conducted investigating youth E-therapy and family/whānau participation that utilises family/whānau perspectives and insights. The current study seeks to explore family/whānau perspectives on the use of E-therapy tools with young people under 25, and on the concept of family/whānau participation in youth E-therapy. Participants in the study were family members of a young person (under 25), where the young person was either involved with E-therapy, had been previously involved in E-therapy, or there was interest in E-therapy either from the young person themselves, or their family/whānau. All participants were aged 25 or older and were living in New Zealand at the time of the study. Participants were invited to use an online E-therapy computer program called "Smart, Positive, Active, Realistic, X-Factor thoughts" (SPARX) over a two-week period before attending an online interview via Zoom to provide their perspectives, thoughts, and feelings on the youth E-therapy tool generally, and regarding family/whānau participation specifically. Participants were provided a one-page sheet of nine questions to guide their attention and focus over the two-week period of using SPARX. Some questions in the interview related to E-therapy more generally, regarding topics such as engagement, ease of use, appeal to people from different cultures, whilst others related specifically to family/whānau participation and what that might look like in practical terms.

Epistemology and methodological approach

A qualitative cross-sectional observational study was conducted to investigate the perspectives of the family/whānau of young people under 25 regarding E-therapy and family participation. Participants were asked to access the E-therapy application "Smart, Positive, Active, Realistic, X-Factor thoughts" (SPARX) over a two-week period before attending online semi-structured individual interviews via the video calling application "Zoom" to obtain participant's thoughts, feelings, and perspectives. The authors took a Critical Realist (CR) approach to the research which places strong importance on data collection methods and the context in which phenomena occur, in order to understand the meaning of the data (Shepherd et al., 2015). Critical realism recognises that reality exists separately from human perception and posits that whilst evidence collected by researchers can come close to capturing reality, the evidence always produces a subjective account of reality rather than representing objective reality itself (Sturgiss & Clark, 2019). This reflects one of the core beliefs in a critical realist perspective, which is that ontology is not reducible to epistemology and thus human knowledge only represents a part of wider reality (Fletcher, 2017). Critical realism originated as an alternative to constructionism and positivism but draws upon both in regard to its epistemology and ontology (Easton, 2010; Fletcher, 2017). Where positivism and constructionism both reduce reality to knowledge, critical realism recognises that knowledge is subjective and theories are built from this knowledge in order to reach the closest approximation of reality, reflecting the belief that reality cannot fully be captured by human knowledge. Through this perspective, value is gained from theories that get the closest to capturing reality, such as those that identify causal mechanisms that drive phenomena (Easton, 2010; Fletcher, 2017). Applied critical realism seeks the most accurate explanation for observed events through the development of more adequate accounts of the causal powers, relations, dependencies, and entities which created these events (O'Mahoney, 2016) Critical realist ontology views reality as stratified into three interconnected levels – the empirical, the actual, and the real (Easton, 2010; Fletcher, 2017). The empirical level is events as we experience/observe them i.e., events observed and interpreted by humans. The actual level removes the filter of human experience and relates to events occurring whether observed or not. The real level is the realm of causal mechanisms – inherent properties that act as causal forces to produce events. Critical realism targets the real level as the goal is to explain social events through causal mechanisms and the effects that they have throughout the three layers of reality (Easton, 2010; Fletcher, 2017).

There are eight key assumptions made by critical realism as outlined by Sayer in Easton (2010). The first is that the world (or reality) exists regardless of whether knowledge of it exists (Easton, 2010; Haigh, Kemp, Bazeley, & Haigh, 2019), and the second is that the knowledge we do have of reality is informed by theory and is a fallible, subjective interpretation of reality, rather than knowledge being a direct reflection of reality (Easton, 2010; Fletcher, 2017; Haigh et al., 2019). Regarding the current research, these assumptions reflect that qualitative data collected from participants will reflect a version or interpretation of reality but not fully encapsulate reality itself. The third assumption made by critical realism is that knowledge develops neither wholly continuously, nor discontinuously (Easton, 2010). The fourth assumption is that objects (whether social or natural) have particular powers, liabilities, and ways of acting (Easton, 2010; Fletcher, 2017; Haigh et al., 2019). The fifth assumption is that the world is stratified and differentiated, consisting of both events themselves, and the structures which are capable of generating such events (Easton, 2010; Haigh et al., 2019). The sixth assumption is that social phenomena are concept-dependent; to understand social phenomena we have to use related concepts such as explaining production or material effects (Easton, 2010). The seventh assumption is that the production of knowledge is a social practice that is influenced by social conditions and relations (Easton, 2010). Knowledge is also largely linguistic (although not exclusively), and the way we communicate is not the same as what is known and communicated. The eighth assumption is that social phenomena must be evaluated critically in order to understand and explain it (Easton, 2010). Regarding the current research, the objective will be to collect and interpret the data in a way that brings knowledge closer in alignment with reality. The knowledge generated by participants will rely on previous related concepts, understandings, and social structures. Although knowledge will always be a subjective representation of reality, the goal in critical realist research is to create knowledge that represents a closer approximation of reality than what was known before. Thus, we seek to produce further knowledge about family perspectives on youth E-therapy programs that will be a closer representation of reality than what is currently known.

Participants

Participants were recruited both from existing users of the E-therapy program SPARX, and online via Facebook page advertising. Participants were recruited using the following inclusion criteria: family/whānau member/s of someone that is under 25 who has used E-therapy or is interested in E-therapy, people that are interested in E-therapy for someone in their family/whānau that is under 25, family/whānau of a young person under 25 who has experiences with anxiety, low mood, and/or depression, is living in New Zealand, is aged over 25. A data release contract was established between Auckland UniServices ltd (who run the SPARX program) and Massey University to allow the researchers access to contact information for the users who had accessed SPARX within the last 12 months, identified themselves as family/whānau, and indicated that they are happy to be contacted regarding future studies. The data release contract took some negotiation between the two parties regarding the secure storage of information, alongside legal and insurance details. Once the specific details were agreed upon, the contract was signed by Auckland UniServices staff and the Massey University Vice Chancellor, alongside a signature from the primary researcher. Upon completion of the contract, Auckland UniServices provided the researchers with contact details for 146 potential participants. From this list, 22 invalid email addresses were removed (comprising of test accounts and accounts associated with school email addresses), leaving 124 potential participants. These 124 potential participants were emailed directly with information regarding the study and provided the relevant forms alongside the participant information sheet. Of the 124 potential participants from the SPARX user list, only 1 participant was recruited. Facebook page adverts were used to attract further participants to the study, alongside sharing basic study details via social media networks and asking interested parties to get in touch. 36 potential participants contacted the researchers via email, five of which were ineligible due to being youth themselves rather than family/whānau members. 31 potential participants were sent further information about the study alongside the relevant forms. Seven participants were successfully recruited from the Facebook page and advertising initially. Unfortunately, two participants from the Facebook recruitment had to drop out of the study leaving five participants from Facebook and one from the SPARX user list, a total of six participants. From the recruited participants (n = 6), all identified as female. Ethnicities reported were Indian (1), NZ European (2), NZ European/Māori (1), German (1) and other (1). Participant age ranged from 26 to 53 and had a median age of 39, with a mean age of 39.5 and a standard deviation of 11.3 (see table 1 below).

Table 1

Participant Demographic Information

Demographic	*N*	Percent
Gender		
Male	0	0%
Female	6	100%
Age		
25 – 30	2	33.3%
31 – 40	1	16.6%
41 – 50	1	16.6%
51 – 60	2	33.3%
Ethnicity		
NZ European	2	33.3%
Indian	1	16.6%
German	1	16.6%
NZ European / Māori	1	16.6%
Other	1	16.6%
Recruitment source		
Facebook	5	83.3%
SPARX	1	16.6%

Note. N indicates the number of participants.

Data collection

The data collection phase consisted of individual semi-structured interviews conducted online through the video calling application "Zoom" on a windows 10 laptop computer (Zoom version 5.10.4). Participants had previously been provided a one-page sheet with nine questions to consider whilst using the application to guide their attention (available in appendix 'E'). Each interview took between 15 and 45 minutes and consisted of 10 open-ended questions (see appendix 'G') that correlated with the one-page sheet to ensure participants had given the topics some consideration.

Each individual interview was recorded and subsequently transcribed to ensure no information was lost or missed out. Participants were given the opportunity to review their transcript and make any changes if required. Each interview took place as close to two-weeks after participant recruitment as possible, where participant availability allowed. Upon completion of the interview and the return of the transcript release form, participants were provided a $40 online gift voucher from ‘GiftPay’ as remuneration.

Procedure

Potential participants were recruited via two main avenues. The first was through a Facebook page advertising the study and providing basic information about it. Posts made on this page were paid advertising posts to reach more people across Facebook. The Facebook page directed people to email the researchers if they required further information or wanted to participate. Once a participant had made contact via email, they were sent the participant information sheet and consent form (appendices ‘A’ and ‘B’), alongside a basic demographics form (age, gender, living in New Zealand, ethnicity). The second avenue was through contacting existing or past SPARX users (people who had accessed SPARX within the last 12 months) that had indicated they were (1) family/whānau and (2) that they were happy to be contacted regarding future studies. The potential SPARX participants were emailed directly with basic information about the study and the brief demographics form, alongside the participant information sheet and consent form (appendices ‘A’, ‘B’, and ‘C’). This email advised to reply with the signed forms if they wanted to participate or to email the researchers back for further information. It was made clear in both the SPARX and Facebook communications that there was no obligation to participate, and that recipients would only be considered participants of the study if they returned the signed forms. Once the forms were signed and returned, participants were invited to sign-up and interact with SPARX for as much or a little time as they pleased over a two-week period. Participants were also provided the one-page sheet of nine questions at this point to consider and guide their attention whilst using SPARX. An appointment for the Zoom interview was arranged at this time for two weeks after the date the participant was recruited (or as close to this as possible, working around participant availability). Following the two-week period, a Zoom interview was completed with participants and a follow-up email was sent thanking them for their participation. For participants who had opted not to review their transcript, this email also contained a transcript release form (appendix ‘D’). If participants had opted to review their transcript, then a follow-up email containing a copy of the transcript and the transcript release form was sent. Each interview was transcribed in Microsoft Word and once participants had returned the transcript release form; they were emailed a $40 online gift voucher from ‘GiftPay’ to thank them for their time.

Data analysis

Data was analysed using reflexive thematic analysis (TA) (Braun & Clarke, 2006; Braun, Clarke, Hayfield, & Terry, 2019). Thematic analysis involves searching across a data set to find repeated patterns of meaning (Braun & Clarke, 2006). Reflexive TA is an approach underpinned by the qualitative orientation/paradigm that centres the active role of the researcher in the production of knowledge and meaning (Braun et al., 2019). There is no agreed definition of a qualitative orientation but usually this paradigm emphasises realities as multiple, meaning as contextual and views researcher subjectivity as a resource (Braun et al., 2019). Themes in reflexive TA are shared meaning-based patterns that can be evident in semantic or latent ways and are the result of the researcher's involvement through analysis and coding (Braun et al., 2019). A semantic approach does not require the researcher to look past what has been said, believing that everything the researcher needs is contained within the participant responses, whilst the latent approach involves interpreting the meaning of the data, considering the ideologies, assumptions, beliefs and ideas that are theorised as informing the semantic content (Braun & Clarke, 2006). The aim in reflexive thematic analysis coding and theme development is for the researcher to provide a coherent interpretation of the data that is grounded in the data itself, rather than to suppress or minimise researcher subjectivity (Braun et al., 2019). The critical realist approach to reflexive thematic analysis allows for theorising on motivations, meaning, and experience from the data due to the core assumption that language articulates experience and meaning (Braun & Clarke, 2006). The core analysis arises in moving from describing and organising the data to the researcher interpreting significant patterns in the data and theorising their meaning (Braun & Clarke, 2006).

Reflexive thematic analysis has 6 distinct phases as presented by Braun and Clarke (2006); familiarisation with the data, initial code generation, identification of themes, reviewing themes, defining and naming themes, and producing the report. In the first phase, the responses obtained from participants were repeatedly read and re-read by the student researcher (DK), with close attention paid to identifying potential meanings and patterns. Approximately one week was spent on each interview at this phase to ensure that each transcript had multiple readings and to ensure that the patterns and meanings had been correctly identified. In the next phase each of the participant responses were coded with as many of these potential patterns as possible. This was completed independently by the student researcher (DK) and involved again reading through the participant responses and assigning codes that reflect the core meaning of each statement. Some responses were assigned multiple codes if there was overlap, whilst other statements fit into one clear code. Each transcript was reviewed three times at this phase to ensure that no initial codes were missed, which resulted in 10 to 22 codes generated per interview. Once these initial codes had been generated by the student researcher (DK), the supervising researcher (MS) reviewed, provided feedback, and approved them. Phase three involved the student researcher (DK) sorting the coded responses into specific theme groups and identifying relationships between themes, codes, and between the themes & subthemes. This phase was conducted by grouping similar codes from across the data set together and using them as ‘building blocks’ to develop clusters of meaning (Braun et al., 2019). Once these clusters of meaning had been formed, the student researcher (DK) assigned each one a tentative candidate theme title. Candidate themes were then discussed with the supervising researcher (MS) who reviewed them and provided feedback to the student researcher (DK). The fourth phase of the analysis involved the review and refinement of themes, which helped to identify weak themes, themes that should be combined, and themes that should be further broken down into multiple themes. This involved the student researcher (DK) collating each code and its’ related data into a single word document, with data organised under headings that reflected each candidate theme. Patterns within the theme groups were identified by the student investigator (DK) at this phase to ensure a coherent pattern existed within the group and that the coded data was not fragmented when viewed together. This informed the student researcher’s (DK) construction of a thematic map (see Figure 2) which was then compared to the overall dataset to ensure the themes and map accurately represented the data. At this stage both researchers had a meeting to discuss the established themes and their accuracy. When the themes and map appeared to accurately represent the data, the researchers moved onto the fifth phase which included the final defining and naming of themes. This required a detailed analysis of each theme itself, alongside in comparison with one another. The construction of the thematic map and the final defining and naming of themes was first completed by the student researcher (DK), and then discussed with and approved by the supervising researcher (MS). Once the final themes and sub-themes had been agreed upon by both researchers, the student researcher (DK) grouped the themes and subthemes with all of the data excerpts that related to them. This informed the creation of a shortlist of specific excerpts from across the data set that were most illustrative of each theme. At this stage both researchers further discussed the themes and reviewed the data. Once both were satisfied that the themes accurately represented the data, the student researcher (DK) began the final phase which required the writing up of the thematic analysis results.

Chapter Three – Results

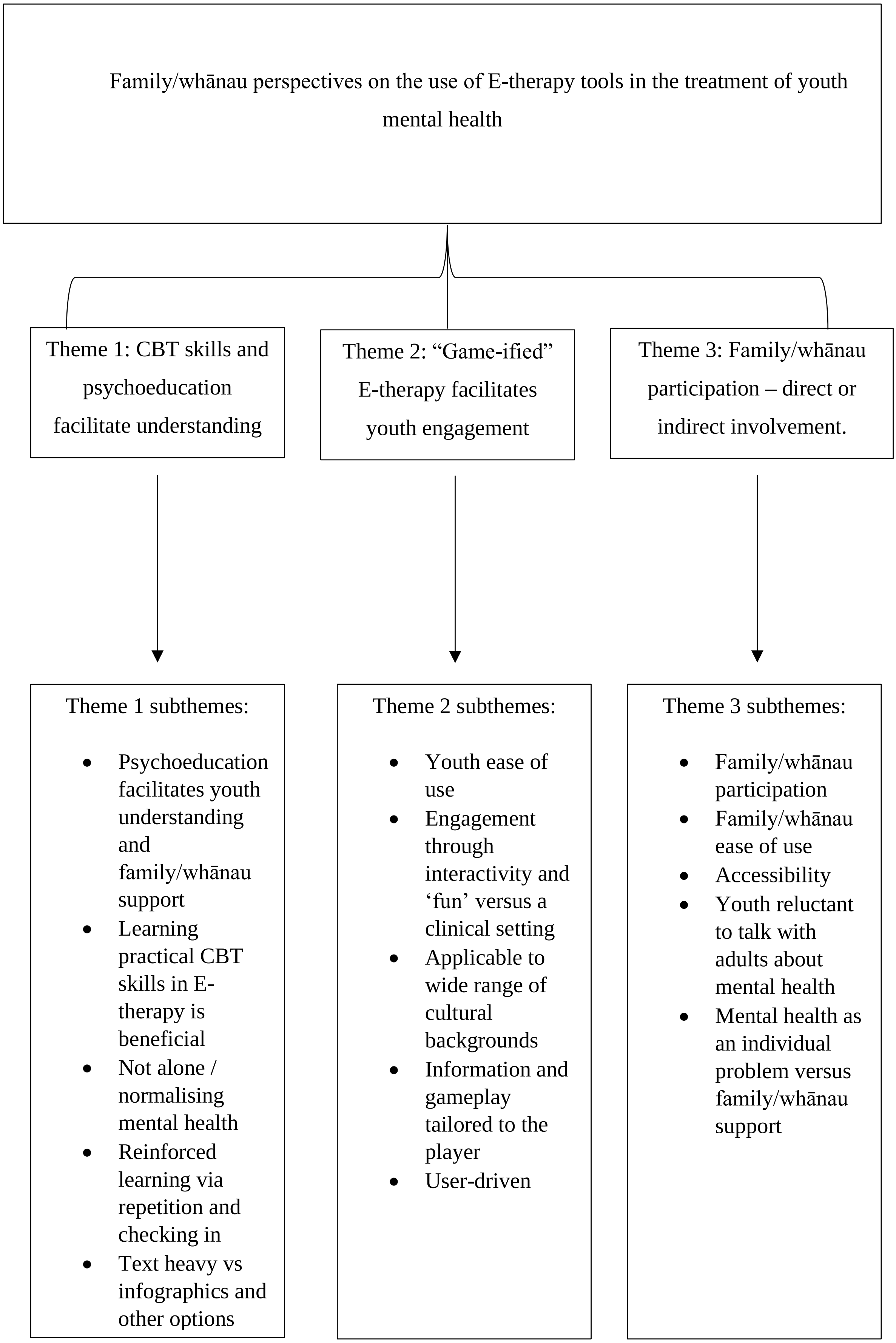
A qualitative study was conducted interviewing six participants aged 25 or older who are family/whānau members of young people (that are aged under 25) via the video calling application Zoom. Interview questions related to family/whānau perspectives on youth E-therapy generally, and on family/whānau participation in youth E-therapy specifically. Participants in the study were family members of a young person (that is aged under 25), where the young person was either involved with E-therapy, had been previously involved in E-therapy, or there was interest in E-therapy either from the young person themselves, or their family/whānau. Participants used an online self-help youth E-therapy computer program called "Smart, Positive, Active, Realistic, X-Factor thoughts" (SPARX) over a two-week period before attending a recorded online interview via the video calling application "Zoom" to provide their perspectives, thoughts, and feelings on the youth E-therapy tool generally, and the concept of family/whānau participation in youth E-therapy specifically. The data was analysed using reflexive thematic analysis and the researchers reported three major themes: (1) CBT skills and psychoeducation facilitate understanding and support, (2) "Game-ified" E-therapy facilitates youth engagement, and (3) Family/whānau participation – direct or indirect involvement (see figure 1).

Theme 1: CBT skills and psychoeducation facilitate understanding and support

The first theme reflects that CBT skills and psychoeducation taught by self-help E-therapy applications like SPARX facilitate both youth and family/whānau understanding of mental health and distress. This major theme is comprised of five sub-themes: (1) Psychoeducation facilitates youth understanding and family/whānau support, (2) Learning practical CBT skills in E-therapy is beneficial, (3) Not alone / normalising mental health, (4) Reinforced learning via repetition and checking in, and (5) Text heavy versus infographics and other options. Psychoeducation allows young people to begin to deal with their mental distress and allows family/whānau members to provide a supportive and nurturing environment to best help the young person in their family/whānau. Through learning CBT skills and knowing more about their own mental distress, young people can also see that they are not alone in their experience and this acts to normalise the experience of mental distress and mental health issues. The learning of these skills is then reinforced via repetition and checking in with the player so they can regularly be mindful of their mood, thoughts, and feelings, alongside considering which techniques or skills can help and when to use them. A point of consideration here is that players may benefit from being able to choose from a range of different information delivery methods as some young people may like to read whilst others may not, some will prefer video or audio to text, some may prefer pictures or diagrams etc.

Figure 1

Thematic Findings



Psychoeducation facilitates youth understanding and family/whānau support

As noted above, psychoeducation can have benefits for both youth and family/whānau members. All six participants that were interviewed indicated that they found psychoeducation beneficial for their understanding & support of mental distress and treatment, their young person's understanding, or both. The participants in the current study who had engaged with CBT and psychoeducation in the past were able to identify that their understanding and conceptualisation of mental distress had been improved and they now had the words and concepts to understand and engage with mental distress

> …for example lots of people don't realize, even I didn't realize before I, you know, started to look into SPARX, like "oh hold on, I'm doing mind reading now, oh", you know so these type of things, "oh I'm being really negative now" or "I'm, sort of, catastrophizing", you know, to learn about those type of things are really helpful I think. (Barbara)

> … [SPARX] gives knowledge or understanding to family/whānau to be able to support people. Something to make [the family/whānau] understand that actually [her sister]'s not just being silly, she's actually going through something… sometimes her anxiety is treated like it's silly rather than as a real situation so that knowledge could help with better understanding. (Vicky)

This deeper understanding of mental distress and treatment allows family/whānau to better support their young person and the treatment that they may need. Family/whānau members in the current study indicated that family/whānau often do not know what to do and how to react when young people start presenting with mental distress, presumably because they have not had the opportunity to experience or learn about it. It is logical then to think that psychoeducation is a vital first step for family/whānau members who have a young person in their family/whānau experiencing mental distress.

> We as a family, when it hits you first it's like you don't understand, you know, you're at a loss and it's really hard to cope, like the whole family… I don't know it can actually, it can be very, very difficult for family to try and deal with things. (Brenda)

> I wish, you know, we knew that – all about those, you know, issues and CBT earlier on so that we could choose our, you know, words more carefully, the way that we approach to him more carefully. It would help us definitely to be, you know better in our communication with him, in our relationship with him, and in terms of our support for him. (Barbara)

> Definitely, so I remember there was a time about 5 or 6 years ago, my sister had really really crippling anxiety, it stopped her from doing things that she normally would normally do. My parents response was to send her to a psychologist – the attitude around that was that you send the person, and then they go do their thing, they don't talk about what they learn, they come back to the family. So there's like no

> kind of … discussing how to cope with it and when things were getting bad again it was like 'well you've been to therapy, you should use those skills' without any kind of idea of what to do. (Sandra)

Learning practical CBT skills in E-therapy is beneficial

Teaching young people and their family/whānau how to use practical CBT skills was considered a major asset by four of the family/whānau members interviewed. Through learning how anxiety and depression operate, alongside how to combat and manage these types of distress utilising CBT skills – family/whānau members can more easily operate from a place of empathy and understanding to properly support and validate the experience of their young person. Additionally, when young people are experiencing distress family/whānau have a therapeutic point of reference to draw validated and evidence-based techniques from in order to help their young person (or themselves) with coping in that moment.

> … [SPARX] gives resources and supports to help people like techniques of what to do when someone is feeling anxious. So even if you don't believe in depression or anything, as a family member you could see that well there is this technique or tool we can try if things get really bad so it's a really nice way of teaching people (Sandra)

> I wasn't sort of very familiar with the CBT. So in that sense, I thought that, oh, it's great source and such a great way of, you know, getting young people, or you know family members like myself to be you know, to be more familiar with the concept and through games and things. (Barbara)

> … they're useful tips, you know, that you can use in all situations, so the other nice thing is that it actually makes you do some techniques like the breathing techniques. (Brenda)

Through learning CBT skills, the young person themselves can understand how to manage their mental distress with proven techniques and skills, whilst being validated and uplifted. This helps to combat the potential experience of young people learning good skills when engaged with mental health services but then potentially having no support and validation for these skills when at home. If family/whānau members understand why the techniques/skills work, what they are, and when to use them, it makes it much easier for the young person to get support when they are experiencing symptoms of anxiety and/or depression.

> Um, but I know [her son] took on a lot of um, a lot of the um - like it's sort of said oh you can do this if you're feeling this way, and this will help you and I know he's taken a lot of that on board 'cause he does it now [outside of SPARX]. (Dianne)

> …it's important that the parents or other family member know all those techniques as well, you know, like the breathing or walk away if you're angry, so that they can help, because sometimes you're just so overwhelmed that you can't even think and then if another person can say, "hey we learned that, we

> learned you're gonna do your breathing exercises", or "we have learned you're gonna walk away, you're so angry so go outside for a while". (Brenda)

Overall, four of the six participants indicated support for the components of SPARX that teach practical CBT skills. Participants noted that family/whānau and youth can benefit from learning such skills, both in daily functioning and in high stress or crises moments. The only negative view captured relating to the CBT skills component in SPARX related to accessing these techniques when needed – one participant felt the techniques should be easier to access after having practiced them once (e.g. something like a toolbox that can be clicked on at any time that brings up previously practiced techniques).

> …but I expect for parents and older people they want to be able to see where the resources are so they can get them when they need, or if they found something really helpful, how do I go back to getting that same technique again or that same teaching again so just making it as simple for them to use as possible would be helpful I think. (Sandra)

Not alone / normalizing mental health

Learning about mental distress and engaging with mental health services like SPARX can foster a sense of not being alone in one's mental health struggles alongside normalising the experience of mental health. For young people, it is helpful for their own recovery that they understand the experience of mental distress is common and thus they are not alone. Many people experience mental distress and as such there are proven, effective tools and resources to manage and understand what the young person is experiencing. This understanding can help to mitigate the self-blame and guilt that is often experienced by people who live with mental distress. Normalising mental health and distress for young people through learning about mental health concepts and skills was considered an important component of SPARX by three of the participants interviewed.

> …but in knowing that there's something there that you can work through because it's describing um feelings and stuff that you yourself would be having and you're like "Oh OK, so it's normal, so people feel like that" 'cause you know society doesn't talk about this sort of stuff. (Violet)

> I guess it's helped him, as in you know, other people know what he's feeling, what he's going through… the people in the game know what you're going through and can help you with it… (Dianne)

> So even that that awareness would make him like "Oh yeah, OK, you know, it's not only me". You know, so that would be quite a helpful thing I think for him. (Barbara)

> … he's been quite a while he's been thinking like "why is it happening to me? Why me?" you know? And if he was more aware, through something like SPARX that that can happen to anybody, and even because of the, you know, there is a game like that for the young people, so that means that it is quite a

> widespread thing, you know, otherwise, you know, no one would think of, you know, sort of coming up with it in game, isn't it? (Barbara)

This normalisation effect can also be beneficial for family/whānau members who may be distressed or emotional about their young person having a mental health disorder or regularly experiencing mental distress. Through learning about mental health and understanding that mental distress is a common experience with a wide range of proven treatments, family/whānau and young people can achieve the understanding that there is not anything ‘wrong with them’ for experiencing mental distress and they have treatment options to pursue if required.

Reinforced learning via repetition and checking in

The repetition of CBT skills, alongside checking in with the player to reinforce these skills, were identified as key areas of importance by three of the family/whānau members interviewed. Some elements of repetition and reinforcing that already exist within SPARX were praised such as the mood interview and the level summaries but some participants wanted more such as pop-up reminders and more frequent check-ins. The repetition of skills and concepts reinforces them for the user and makes it more likely that these skills will be retained and remembered when needed.

> The guide for example, in the beginning is going through the, you know, the previous level, and then at the end of the level going through those again and give new things – these are great I think, so it's really reinforcing (Barbara)

> But so what I also liked where those questions in the beginning where you have to answer to see how you're feeling, you know what your mood is? …because sometimes maybe you don't even realize that you're feeling low or you're a little bit on the more depressed side, and by answering all these questions, um you will see your point, your score. So I thought that was quite good. (Brenda)

> I liked the breathing and stuff he would do that, it would be really good if the um, if like the character could do that with them. And if there could be uh, even maybe uh a reminder to do that – It comes up and it beeps or turns on… It reminds you to go back and try that throughout the week or throughout the day. That would be quite good.(Violet)

> I know it would be annoying to have, like your own character pop up and say “oh you are you feeling under stress? Because all these bug things are attacking you now?” um so well “how are you feeling now?” That sort of thing um and then it will maybe… When things get on top of you, just like on top of your character, it's… this is what you can do. (Violet)

Whilst the existing elements of repetition and reinforced learning were praised, some participants felt that SPARX would benefit from more checking in with the user and getting them to practice a technique. This would need to be balanced so as not to interrupt the gameplay too frequently as too many interruptions that happen often may cause users to disengage.

Text heavy versus infographics and other options

Five participants gave their thoughts on the delivery of information and the wide range of information and resources available through SPARX. The SPARX website was praised for having a range of available resources and information for young people, family/whānau, health professionals, and teachers. This resources section can be found and accessed at any time above the game window, so it is easy to locate. SPARX was praised for utilising a game format to ensure engagement from youth, compared to solely providing written information or video. Although, some participants noted that more audio and video options may be preferable for some young people to ensure engagement, alongside diagrams and other visual options.

> With the resources and where to get help and things – I really liked that function (Sandra)

> The target of being a game as opposed to something information loaded works really well for younger people. (Vicky)

> I think a video [demonstrating the technique] would be really good, or even for people who are not going to sit down and watch a video, um screenshots with arrows and bullet points. (Violet)

Additionally, too much information being delivered at once was identified as potentially overwhelming for some young people which may cause them to disengage. Specifically, too many techniques and anagrams with no clear way to track or remember them effectively within the application.

> Um no, I think there was a bit much reading for him. (Dianne)

> Uh, but sometimes those can be uh, too much of talking. I am not sure that someone who's psychologically having already problem would have that patience, you know, maybe sometimes, instead of, you know, talking it in long paragraphs or sentences, maybe just giving another page there with a picture and with little, you know, explanation underneath might be better. (Barbara)

> It's, you know, it's better to keep them, you know, few things, and not too many, and not to confuse I thought… (Barbara)

> …when there are too many phrases and things to remember, it becomes confusing. (Barbara)

Such responses indicate that there is still some tweaking required to the information delivery in self-help E-therapy applications to ensure that they are engaging and feasible for most users.

In summary, the first major theme encompasses the idea that teaching CBT skills and providing psychoeducation to both young people and their family/whānau is crucial for understanding, support, and empathy. Family/whānau understanding helps family/whānau members to not exacerbate youth mental distress and facilitates their ability to support their young person in a day-to-day sense, but also in crisis or high stress situations such as panic attacks. Youth understanding of mental health helps young people to better support themselves and understand what they are experiencing. It also helps them to not feel alone through normalising mental health and distress, revealing that it is a common experience that many people go through. Reinforcing this learning with the repetition of skills and concepts mean that users are much more likely to retain the information and be able to access it when needed. The wide range of resources and information provided through SPARX was praised by participants and considered helpful, but some participants also noted that switching up the delivery of information or offering alternative ways to get the same support would be beneficial as not all users will enjoy predominantly reading text.

Theme 2: "Game-ified" E-therapy facilitates youth engagement

The second major theme reflects issues of engagement and dropout that are commonly present in E-therapy programs and studies. This major theme is comprised of five sub-themes: (1) Youth ease of use, (2) Engagement through interactivity and 'fun' versus a clinical setting, (3) Applicable to wide range of cultural backgrounds, (4) Information and gameplay tailored to the player, and (5) User-driven. SPARX utilises gamification to keep young people engaged through mixing together learning and having fun at the same time. Ease of use is a large component of this theme due to young people being very well versed in computers and applications as digital natives. Another component to this theme concerns the 'fun' and interactivity of gaming facilitating youth engagement compared to the typical clinical setting that some may find scary or boring. Another component to this theme is that E-therapy and other mental health care needs to be applicable to people from a wide range of cultural backgrounds, particularly those that are not Caucasian due to the youth mental health outcomes that are disproportionately worse for people of colour in New Zealand. The information, skills, and resources that are provided through E-therapy should ideally be tailored to what the user experiences or needs help with so as to not overload the user with information that is not applicable to them. The final component to this theme is that the user-driven aspects of self-help youth E-therapy are important and allow the user to work at their own pace and prioritise the information or skills they want to learn.

Youth ease of use

Most young people have extensive experience with the internet, computers, phone applications, and games. Due to this experience, young people expect a level of polish and intuitive ease of use in such technology. If programs and applications are 'clunky' or have technical issues and 'bugs', young people will likely disengage as they are used to sleek and intuitive applications and technology that they can use without much difficulty. Five participants spoke directly about the ease of use of SPARX and how they thought youth would fare with it.

> I think um the way it was presented was very user-friendly – it took me a while to master the actual game itself because I'm not a gaming person but the actual app was really good. (Sandra)

> Normally I'm a bit wary about, you know, logging onto new programs and getting an account but it was very user friendly – not difficult at all. (Sandra)

> So, there are two SPARX [android apps] and, you know, it might be confusing which one to download? I don't know… if someone is in a new to it. (Barbara)

All participants were able to access and use SPARX successfully, but some users did encounter some difficulties which may be off putting for young people. Such issues revolved around not knowing where to go, unsure what to do, feeling confused, and issues with the movement controls.

> [Her son]'s also got ADHD inattentive and he's gonna struggle with finding things just like I did. Couldn't find them, he'd just give up. So if you had that little map, that would be really useful, 'cause he'd get a general idea of what direction he's supposed to go. (Violet)

> Uhm, yep it was good, I initially tried to do it through my phone, but it wasn't… that didn't work, so um I ended up doing it on my computer and then it was fine. It was quite easy to do, I did notice that takes a long time to load, once you sign in and yeah, but other than that it was good. (Dianne)

> Sometimes the game was a little bit irritating, when I kept going into the water because I was using the wrong thing… And then trying to use my finger instead of this little toggle thing. (Vicky)

Overall, participants found SPARX relatively easy to use but had some minor areas of concern that may be difficult and disengaging for young people. These responses indicate that further investigation with young people themselves is required to assess if the issues raised would be easy or difficult for youth to overcome. It may be the case that the issues raised by family/whānau participants are not be a concern for young people or that these issues do not fully encapsulate the ease of use engagement barriers that affect young people.

Engagement through interactivity and 'fun' versus a clinical setting

Facilitating engagement through the fun and interactivity of gaming was identified by four participants as a strength of SPARX. E-therapy applications and programs often have issues with users not engaging fully or stopping before finishing the course. Through making the application a fun gaming experience, young people are much more likely to engage and enjoy using E-therapy applications like SPARX. Additionally, they can engage when they feel able to rather than having to be committed to a set time, date, and place.

> …It's so different like try this game or try this app and see – it looks more like it's fun and interactive as opposed to … Lowdown is great, I have seen it and used it before but it's very much like resource heavy, it's targeted, if you're feeling depressed go and read this you know (Sandra)

> The target of being a game as opposed to something information loaded works really well for younger people. (Vicky)

Applications like SPARX offer a laid back and non-scheduled engagement which is potentially beneficial to youth anxiety when comparing this to receiving therapy in a clinical setting or even using self-help applications that are presented more clinically. More clinical settings and presentations can be off-putting and anxiety inducing for young people, particularly if they have not engaged with mental health services previously.

> Yeah. I think he liked that he was learning ways to deal with what's going on um, without it actually being really um clinical and, you know, someone actually telling them to do that? (Dianne)

> Um I think it could be a really good thing for people 'cause I know from experience I don't like, you know, going to a counsellor and – where it's very clinical and stuff and, um where you feel like somethings wrong with you, whereas with this game it was kind of, you know the people in the game know what you're going through and can help you with it so it was just very… a lot easier? (Dianne)

> It's done very skilfully, it's not like in your face or very obvious so I think it's a really good way of getting younger people to engage and get support. (Sandra)

> I think it's better than, um… a lot of in person CBT for young kids, yeah. Because they don't want to engage, like my youngest has just been discharged from CAMS because he wouldn't engage with his psychologist so, but he'd engage with a game if it was at his level. (Violet)

These responses indicate that participants were supportive overall regarding youth engagement with SPARX through the fun and interactive medium of gaming. Particularly when comparing the experience of using SPARX to traditional treatments in clinical settings. Participants felt that SPARX offered a fun and flexible option to receiving mental health education and skills without young people having to engage with a clinical setting that may cause them more distress.

Applicable to wide range of cultural backgrounds

Another aspect of engagement is that applications like SPARX need to have a wide cultural appeal – that is, they cannot be alienating to people from different cultural backgrounds. Five participants advised that they felt SPARX was applicable to people from different cultural backgrounds. Whilst SPARX has a strong New Zealand or 'Kiwiana' feel to it – utilising Māori artwork and cultural understandings, it also does not alienate people from other cultures. Some participants identified that the aspects of gaming, mental health, and CBT are universal and relatable across cultures, and that the art style did not take away from this.

> I think so – I know it's marketed as you know, using graphics and with Māori animation and things, but I think a game is something universal right? You know, you get popular games throughout the world so that's definitely a strength of the app. (Sandra)

> I think it's very respectful in that it doesn't frame mental health from one perspective, because it's very different from culture to culture and from family to family but at least gives resources and supports to help people like techniques of what to do when someone is feeling anxious. (Sandra)

> Um, I would say. Yes, it's, it's, it's… You've got the multicultural greeting at the start, which is good. Um, You've got a lot of, um Māori culture and symbolism in it, and that's just how New Zealand is um. So I mean from a Pākehā perspective, it that's what you expect in New Zealand anyway, so it would be fine. I don't know about other ones [cultures] though. (Violet)

> Well, it appealed to me, I'm a different, you know, I'm from a different cultural background, so yes. You know, at the end of the day, we are all going through the, you know, similar problems, isn't it? Regardless of which culture, you know, there's something called psychological problem in anywhere, psychology is part of the human experience. (Barbara)

> So it is, you know, beyond the cultures, or you know races, or gender, or you know. It's a condition, unfortunately, that you know human… as human beings we go through (Barbara)

Overall, those participants who identified as a New Zealander found that the cultural aspects in SPARX were welcome as they reflect our society and country. They did not indicate support for the idea that such aspects affected the gameplay enough to alienate people from other cultural backgrounds. The participants who identified with other cultural or ethnic backgrounds and/or were not raised in New Zealand found that these cultural aspects did not detract or otherwise negatively affect their engagement and they still found SPARX was appropriate for their needs.

Information and gameplay tailored to the player

Another component to the second major theme is that of customising and/or tailoring the information and gameplay offered to the user to ensure the information is relevant to their specific distress or disorder. Three participants indicated that further customising the content to the specific player would be advantageous such as changing the wording or the techniques being taught based off of what distress the user is experiencing, gendered versions, and letting the player visually customise their character more. The existing components of customisation regarding the player character's visual aspects in SPARX were praised but some participants felt that further developing such options would be advantageous for youth engagement.

> I think with SPARX is it's particularly focused at kids with depression. If you're putting kids with anxiety through, they can still get a lot of those feelings as well, but because it says at the start it's for

depression, I think maybe you need to broaden it a little bit more? Or have… have like the same game but change the wording to meet the certain conditions that they're having. (Violet)

Yeah that, that sort of thing, I think. Because it was appearing, you were thinking “oh my kid doesn't have depression, they don't need to do this” without understanding that a lot of the skills can be beneficial for what they're going through. (Violet)

I don't find meditation for example to be too useful. I mean OK having a deep breath, yeah that's one – But apart from that, another technique, I'm not sure that it is for me, you know? Everybody have their own ways, so. (Barbara)

Um, I think that's one thing and maybe just making it a little bit more um… I think you can choose whether you're a boy or a girl, maybe adding like I can choose this outfit or that outfit, or you could play like a um boys version or girls version sort of, if you know what I mean. (Dianne)

Tailoring both techniques and information, alongside implementing further customisation options, allow for a tailored and customised experience that can feel more personal and relevant to the user themselves and to the specific distress that they are experiencing. When the information feels more personal and relevant to the user, then they are more likely to stay engaged and benefit further than when receiving non-customised information.

User-driven

Three participants identified the user-driven aspect of SPARX to be advantageous as the player chooses what they want to engage with and in what order they do so, as opposed to a more rigid structure. Although levels are sequential, players are free to move around the levels and the ‘home’ area and engage with SPARX in the way they want to engage. Users can walk away and stop playing at any time and can return to where they were in the game when they feel ready.

Yeah definitely, so it’s really open from that perspective and the fact that you can choose how you run the game, where you go, what activities you do, rather than a prescribe model which is really good. (Sandra)

So that's quite nice, um, and of course, so you will choose if you want to do [techniques] or not, that's up to the person interacting with the game. (Brenda)

Yes, as I said due to my sister’s anxiety it offers an alternative option [to an appointment at a set time] – her thing is avoidance so if she is anxious about something she just won’t go. (Vicky)

Due to the support from participants regarding the user-driven aspects of SPARX, it may be advantageous to explore ways of further incorporating user-driven aspects and decisions, choice freedom, and player agency into self-help youth E-therapies.

In summary, the second major theme relates to E-therapy and its historical issues with dropout and program engagement. Through utilising gamification, self-help youth E-therapies can engage with youth at a level that they are more receptive to than traditional clinical settings and also sets a precedent of fun for youth when working on their mental health. Both of these gamification effects may assist young people to engage with mental health care more readily than they would otherwise. Ease of use is incredibly important here as young people are ‘digital natives’ and thus will pick up gamified E-therapy quickly, although they will also pick up on technical issues and ‘clunky’ gameplay faster than other users might which can cause disengagement. Gaming is a universal experience that many people of all ages engage with and thus provides a good common ground for people across different cultural backgrounds to access mental health self-help treatment. Further customisation options were also identified as important for personalising the gaming experience alongside tailoring content and techniques to the user’s own mental health and distress. The user-driven aspect of gamified self-help E-therapy was praised due to giving the user agency on when they engage and how they want to play each level. It may be advantageous for self-help youth E-therapies like SPARX to further incorporate user-driven aspects in order to increase user engagement. The overall attitude of participants towards the gamification elements in SPARX were positive with some feedback for improvement regarding youth engagement.

Theme 3: Family/whānau participation – direct or indirect involvement

Family/whānau participation and support have been identified as ways to increase the positive outcomes of CBT therapies, including E-therapies. Few studies to date have investigated specifically what family/whānau believe would benefit them and their young person, alongside what they think about family/whānau participation in youth E-therapy more broadly. This major theme is comprised of five sub-themes: (1) Family/whānau participation, (2) Family/whānau ease of use, (3) Accessibility, (4) Youth reluctant to talk with adults about mental health, and (5) Mental health as an individual problem versus family/whānau support. Family/whānau participation in youth E-therapy can facilitate understanding and empathy for the young person’s experience and allow families/whānau to better support them. Family/whānau ease of use is important here as people from older generations have not grown-up using technology in the same way that most young people today have. Due to this they may need extra help around explaining controls and gaming concepts that young people may more naturally intuit. Accessibility is an important sub-theme as family/whānau can often face barriers to mental health care such as cost, travel, planning appointments around work, etc. E-therapy for youth that incorporates family/whānau participation can remove such barriers by providing an evidence-based online tool that is free and can be accessed anywhere from a phone or computer with an internet connection. Another important sub-theme that comprises this theme relates to youth reluctance to talk about their mental health with adults, whether that is a professional or a family/whānau member. By providing a self-help E-therapy tool like SPARX, young people have a way to process and reflect on their mental health without having to talk to someone face-to-face which may induce more anxiety or even shame. The final component to this theme is that of mental health being treated by family/whanau as an individual problem versus treating mental health as a family/whānau issue that requires community, understanding and support.

Family/whānau participation

The first component of the third major theme concerns family/whānau participation in youth E-therapy. Both direct and indirect methods of family/whānau participation were raised by participants as being potentially viable ways of actively incorporating family/whānau into youth E-therapy treatment. There was a minor bias preference toward indirect methods such as a family/whānau version of the program or as a component within SPARX, brief psychoeducation summaries, and information/updates on what the young person is learning at the different levels. Five participants provided their perspectives on family/whānau participation and what that might look like when incorporated into self-help youth E-therapy applications like SPARX.

> I think particularly if you've got like siblings or people around the same age playing the same game, that's a very powerful way of firstly connecting and then opening up the conversation for mental health… it's not the most difficult app to use so you can learn and like I say I think it has the greatest power amongst like our generation and people like brothers and sisters and friends playing together. (Sandra)

Three participants indicated support for direct methods of family/whānau participation such as in-game pop-ups within SPARX that ask the young person to have a family/whānau member come over and participate for a short time. For example, this could take the form of the family/whānau member actively participating in learning, practicing techniques, or answering questions alongside their young person.

> So, the young people can play, and they do their tasks, their missions and everything, and then if there was a bit where like other people have to participate as well… So yeah, I think maybe if the questions in the beginning could be answered together, so that we could see how, you know, parents are not feeling 100% all the time either. You know they have times as well, where they're not feeling great for whatever reason. Um, and then maybe some of the exercises could be done together, you know, let's all do the breathing exercises together. (Brenda)

> Um…. Hmmm. I guess maybe um, like my son he when he finished playing, if I haven't been sitting with him, he'll come and tell me "this is what I learnt today", so maybe some sort of um, you know, like a prompt to go and get someone in your family to come and do this exercise with you or something like that, um or yeah. (Dianne)

Other participants preferred indirect methods of incorporating family/whānau such as a family/whānau version or component of SPARX with their own login that teaches them what their young person is learning. This could be particularly advantageous as not all young people will have someone to come and interact with their E-therapy either due to factors such as lack of support or family/whānau may have busy working schedules. Other options that came up were information sheets explaining what each level is teaching their young person, general psychoeducation about anxiety and depression, and tips or techniques regarding what to do when things get challenging.

> So, if there was like the option for um kids to do it by themselves if they haven't got family that will. I think you still need that, but I also think you need the parents… you need to at least attempt with the parents first and see if they will help engage. (Violet)

> It does, yeah. But I mean, if the parents know generally what the kids going to be doing, if they get stuck or if they bring up… like at level one you're going to learn this, um so you can talk to your kid about… here's some questions to ask them, and then if they come back and they ask them [the parents], you know I don't understand this - there's a, you've got a little maybe a printed resource of what's at each level and what it means. (Violet)

> Um. Maybe not so much like playing the game itself but…tips. Yeah kind of tips on how to deal with things if they don't understand it themselves? (Vicky)

> Maybe there would be a sort of version talking about a how to help people, you know, in the family going through that difficult time… I think if there was a sort of SPARX version maybe, you know, for people, you know, like parents for example how to answer, you know? – That that would be quite a good one as well. (Barbara)

> Yeah, [a] summary of what they've learned would be good. Yeah. (Dianne)

These responses indicate that participants were supportive of incorporating family/whānau participation into self-help youth E-therapy programs but had differing ideas on how best to implement this participation. Further investigation of indirect and direct methods of family/whānau participation is needed to establish whether one is more advantageous than the other.

Family/whānau ease of use

The next component of this theme is that of family/whānau ease of use. For family/whānau participation in youth E-therapy to work, SPARX and other self-help E-therapies need to ensure that concepts and controls are explained to users in an easy-to-understand way. Four participants offered perspectives on family/whānau ease of use for E-therapy and indicated overall support for the ability of family/whānau to participate in youth E-therapy programs like SPARX but brought up concerns that some users who are older or not as computer literate may struggle with using SPARX. Some participants expressed difficulty in figuring out the game controls, finding what to do, figuring out where to go etc. Younger participants noted that they were not always confident that their parents or other older family/whānau members would be able to use and access SPARX and similar applications due to limited computer or gaming skills.

> Yeah, although you know so I'm obviously not the computer, like, game player, so I got a bit uh frustrated. But then I haven't played computer games for very long time, so I couldn't figure out like what keys to use and whereas young people, they know that immediately, they know what to use. (Brenda)

> I found it very difficult that I had to look behind the rocks for hidden SPARX… But you know I am someone, obviously old age, I don't play games and things so I am not familiar with the, you know, those games and, you know, young people maybe my son would straight away maybe think of "oh, you know, I've got to do this and look here maybe" but for me, it's like, you know, "ok I'm stuck here, I'm not able to move" but, you know, I couldn't guess or think that I had to look behind the rocks for the SPARX. (Barbara)

> I do wonder like for example with my parents, I don't know whether would be able to play the game. That tech confidence is also definitely a factor in enabling that to happen but if people are open, it's not the most difficult app to use so you can learn (Sandra)

> I think from personal experience using the app, once you're getting into the actual computer game of it maybe just fleshing out exactly how to use it with the control keys, what you should be aiming to do – for the older generation might be helpful. Because, you know, I just went into it and I was like "oh what do I do" and you just figure it out but a lot of people won't be able to do that. So that would help, um and then I think the other things are just making it as user friendly as possible but not being too confrontational but I expect for parents and older people they want to be able to see where the resources are so they can get them when they need, or if they found something really helpful, how do I go back to getting that same technique again or that same teaching again so just making it as simple for them to use as possible would be helpful I think. (Sandra)

> Um but if you had a video that showed them how the controls worked, what the purpose of SPARX was, what their kids, you know, a bit about CBT and what the kids are going to be doing. (Violet)

Incorporating more clear explanations of concepts that gamers or young people may intuitively know but older family/whānau may not is vital to ensure that family/whānau can use and understand E-therapy tools like SPARX effectively.

Accessibility

The next component that contributes to the third major theme is accessibility. Engaging with and attending traditional therapy is associated with accessibility barriers such as cost, travel, set appointment times, location, clinics often operate in business hours when people are working, etc. These barriers can make it hard for youth and their family/whānau to access mental health care easily.

Self-help youth E-therapy options like SPARX can eliminate such barriers and allow more people to access mental health care. Three participants gave their perspectives on accessibility, with participants noting that having a free application that is accessible anywhere on a wide range of devices was very advantageous.

> It’s [traditional therapy] not really accessible for most people anyway, therapy – I think there’s – it’s not the most affordable thing to do long term to have real change so this is a much more accessible way of gaining those skills. (Sandra)

> Yeah, so I think that's why putting it as an app will open [accessibility] up a lot I would say. (Violet)

> And it's, um so accessible. Um, like I've found it, I’ve struggled with trying to find counselling and things for an 8-year-old… So if it's, you know, online easy to access, I don't have to leave the house to do it, they can, you know, leave them unattended doing it. So I think that's really, really good. (Dianne)

These responses indicate that participants value the increased accessibility of self-help youth E-therapies like SPARX over traditional therapy that can be associated with a range of barriers to attendance.

Youth reluctant to talk with adults about mental health

Another core component of this major theme is that youth often do not want to talk to adults about their mental health. Through self-help E-therapy applications like SPARX, young people can process and learn about the mental distress that they are going through without having to talk and open-up to adults in their family/whānau directly which they may be resistant to. Even if young people are engaged with mental health services, they may find it hard to talk to a clinician about their mental distress and so having an alternative that does not require talking to an adult may make it easier for some young people to seek help. Four participants gave perspectives on this sub-theme and indicated support for the idea that self-help youth E-therapy can assist with young people who are reluctant to talk with adults about their mental health.

> Due to my sister’s anxiety it offers an alternative option [to in-person therapy] – her thing is avoidance so if she is anxious about something she just won’t go. (Vicky)

> Because we were unable to, you know, uh, communicate with our son about those type of things. He just wouldn't wanna know anything coming from us, you know, as a recommendation…. Yeah, especially if it is coming from the parents, I think it becomes straight away “oh no, they want it so I won’t do it”. (Barbara)

> They might be feeling anxiety or depression, but you know, uh, they keep it to themselves and they don't know how to handle… you know, handle it and it might be difficult to go to a psychologist or therapist as well for them. (Barbara)

> Sometimes I feel the young people they don't want to um, necessarily tell you how they are feeling … Maybe they just don't want to talk with the parents at that stage, you know, maybe they rather want to kind of share it with their friends or so and then yeah, can be almost feeling sometimes like nagging, you know if you wanna, you do want to engage but they don't want to. (Brenda)

> That [her son] doesn't have to verbalize that to people and its more casual, I guess. So, I think that's what he really liked about it, yeah. (Dianne)

Participants indicated that young people often do not want to talk to them or other adults in their family/whānau or that if they did, family/whānau members often did not know how to appropriately respond. There was overall support for the idea that E-therapy can provide a more comfortable and less distressing way for young people to access mental health care when they are resistant to talking with adults in their life.

Mental health as an individual problem versus family/whānau support

The final component to this major theme is that of youth mental health being treated as an individual problem as opposed to being faced as a supportive family/whānau unit. Some participants naturally worked together as a family/whānau to support their young person, but others indicated that their young person's mental health was not taken seriously by everyone in their family/whānau. Family/whānau members need to understand youth mental distress and work to support their young person, the same way most families/whānau would do when caring for youth with a physical illness. Three participants offered their insights on this sub-theme and indicated that they felt family/whānau would be positioned to benefit young people more if they are able to conceptualise mental distress as a family/whānau issue rather than an individual one.

> …The attitude around that was that you send the person, and then they go do their thing, they don't talk about what they learn, they come back to the family. So there's like no kind of … discussing how to cope with it and when things were getting bad again it was like 'well you've been to therapy, you should use those skills' without any kind of idea of what to do. (Sandra)

> Even when a family member has surgery the whole family will come and be like "what do we do if this happens" or "what should we look out for" so we still like safety net with physical health, but with mental health it's kind of like go and sort yourself out … You really need that support from the people around you, you know, that's the way you improve your chances of getting through and getting by. (Sandra)

> Or….in my sister's case, where people just think she's being silly. Something to make them understand that actually she's not just being silly, she's actually going through something. (Vicky)

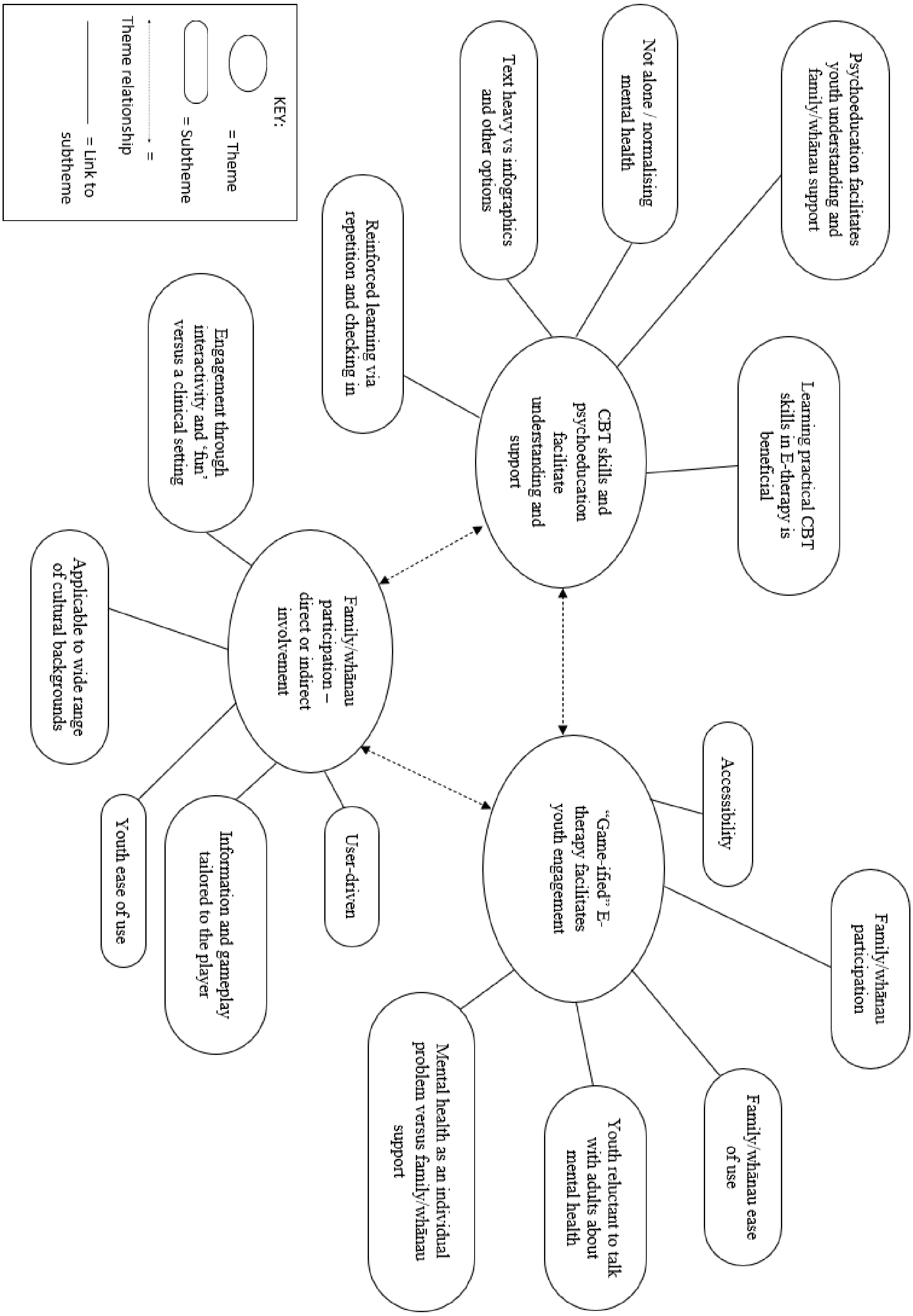
> You want to help, and you need to have tools so that you can help them. Lots of things are kind of common sense, you know, that you might have acquired in your life, but some things you might not know about. (Brenda)

Utilising family/whānau participation to provide family/whānau members with a stronger understanding of mental health may help them to view their young persons' mental distress as something to be supported and worked through collectively, rather than expecting the young person to figure it out on their own in therapy (or even without any mental health support).

In summary, the third major theme relates to ideas of family/whānau participation in youth E-therapy and what that might look like in a practical way. The concept of including family/whānau in youth E-therapy was supported by participants but ideas around how to best incorporate this involvement differed. Both direct and indirect methods of family/whānau participation were highlighted by participants as being potentially useful but there was a minor bias preference towards indirect methods such as a parent component to SPARX or even a separate parent version altogether. Regardless of whether participation is direct or indirect, ease of use and accessibility are important concepts that need to be considered for older and/or less technologically confident people. This can help to ensure family/whānau participation can occur with the least amount of effort required or technology barriers to overcome. Youth often do not want to talk to family/whānau or other adults about their mental distress and through utilising self-help E-therapy they are able to think about and engage with their mental health without having to talk to an adult directly. Additionally, family/whānau often do not treat youth mental distress as a collective family/whānau issue, but rather they see it as an individual problem where their involvement ends after sending the young person to a mental health professional for treatment. Participant responses highlight the need for this to change as many family/whānau members reported seeing these attitudes play out in their own family/whānau. Overall, the current data suggest there is support for family/whānau participation in youth E-therapy but that family/whānau members believe some changes and improvements can be made to better facilitate such participation.

Figure 2

Thematic Map



Chapter Four – Discussion

The current study was conducted to investigate family/whānau perspectives on youth E-therapy and family/whānau participation in youth E-therapy. Semi-structured qualitative interviews were completed via the video calling application "Zoom" with six family/whānau members who have a young person in their family/whānau that is under 25 years old and experiences mental distress. Participants were asked to sign up for the self-help youth E-therapy tool 'SPARX' and use the application as much or as little as they liked over a two-week period before completing an online interview. Participants were provided a one-page sheet of nine questions to guide their attention whilst using SPARX, which were similar to the interview questions. From the study, three main themes were identified: (1) CBT skills and psychoeducation facilitate understanding and support, (2) "Game-ified" E-therapy facilitates youth engagement, and (3) Family/whānau participation – direct or indirect involvement. Each of these themes were comprised of several related sub-themes that were identified from participant responses. The findings of this study provide initial insights into family/whānau perspectives on youth E-therapy and family/whānau participation. Family/whānau members in this study were supportive of SPARX and the concept of incorporating family/whānau participation to give family/whānau the tools and understanding that they need to support their young person through mental distress. Family/whānau participation can be direct or indirect and most participants in the current study indicated a preference for indirect methods over direct ones. These results indicate that further research into the tangible ways that family/whānau participation can be incorporated into youth E-therapy tools would be advantageous for young people and their family/whānau.

CBT skills and psychoeducation facilitate understanding and support

Participant responses in this study indicated support for the psychoeducation and CBT skills components of SPARX. Many participants identified that family/whānau may not have any first-hand experience with mental health and may not understand it very well which can cause them to say things or act in ways that are detrimental and/or invalidating for the young person experiencing mental distress. Through learning broadly about CBT and mental distress, participants found they were able to better understand what their young person was going through and how they could change their own behaviour to better support their young person. Through learning specific and practical CBT skills, family/whānau were able to understand what techniques are helpful and when to use them, alongside being able to better identify when they themselves were engaging in cognitive distortions such as mind-reading and catastrophising. Additionally, participants noted that family/whānau often do not know what to do or say when a young person presents with mental distress, but through learning about CBT and psychoeducation they can be provided a structured theoretical framework that they can refer to and validated tools/skills they can utilise. These findings are in line with previous research that identified parental/familial factors (i.e., parent psychopathology, behaviours, beliefs about mental health, family stressors) as important components that can affect youth mental health treatment outcomes in positive or negative ways (Demaria et al., 2021; Isaia et al., 2018; Kendall & Suveg, 2006; Podell & Kendall, 2011; Spence et al., 2019; Wei & Kendall, 2014). Previous research supports the notion that problematic parental/familial factors need to be addressed when working therapeutically with youth as they can reinforce and maintain youth psychopathology, particularly when targeting anxious and/or obsessive compulsive disorders (Demaria et al., 2021; Kendall & Suveg, 2006; Podell & Kendall, 2011; Wei & Kendall, 2014). Psychoeducation and parent/family training (e.g., reducing parent/family accommodation behaviours that maintain youth anxiety) have been identified in some research as promising ways to target parental/familial factors (Demaria et al., 2021; Reyes-Rodríguez et al., 2019; Wei & Kendall, 2014) but further research is needed to establish efficacy. Whilst learning CBT skills can be beneficial for both parents and youth to manage anxious or depressive behaviours, there also needs to be a focus on parenting factors such as intrusiveness, over-control, rejection, and over-protectiveness (Wei & Kendall, 2014). Participants interviewed in the current study were receptive to family/whānau receiving psychoeducation through participating in self-help youth E-therapy, noting that family/whānau often do not know what to do or how to respond when their young person begins to experience mental distress. They indicated their belief that family/whānau members would be able to better support young people if they themselves are receiving psychoeducation alongside their young person. Participants were supportive of including parent psychoeducation into future E-therapy applications. As previously noted, such psychotherapy components should target parental/familial factors alongside providing more generalised CBT and mental health psychoeducation to be most effective. It would be beneficial to conduct further research exploring how these components could be implemented into E-therapy applications, alongside examining their effectiveness and acceptability with family/whānau and their young people.

Psychoeducation can affect positive change in youth mental health outcomes through teaching young people coping methods and ways of thinking about their own mental distress (Bersani & Delle Chiaie, 2021; Florensa et al., 2019; Kendall & Suveg, 2006). Through learning about mental distress such as anxiety and depression, there is a normalizing effect as young people learn that they are not alone in their experience which can enhance self-esteem, reduce stigmatisation, and facilitate improved coping (Bersani & Delle Chiaie, 2021; Dudley et al., 2007; Lukens & McFarlane, 2004). Previous research has shown that psychoeducational techniques can remove barriers to understanding complex information about mental health, and work to develop strategies and skills for young people to use the information proactively to improve their mental health (Demaria et al., 2021; Florensa et al., 2019; Lukens & McFarlane, 2004). Pairing psychoeducation with practical CBT skills and techniques allows young people to understand and take some control of their mental health and treatment. Participants in the current study were supportive of youth psychoeducation for young people to understand what they are going through and that they are not alone in what they are experiencing. Participants also felt positively about the practical CBT skills taught through SPARX and recognised that learning such techniques allows young people to manage their mental distress using validated methods. The repetition of such skills and concepts were praised by participants as they recognised the reinforcing effect this can have. The normalising aspect of young people learning such skills was praised by half of the participants, recognizing that young people often do feel isolated and alone in their experience of mental health when they do not have knowledge about mental health and techniques that can help them cope.

Although participants were supportive of psychoeducation and CBT skills being learnt through SPARX, five of the six participants identified some issues with the delivery of information. Whilst SPARX utilises a mix of written text, video, and audio, there is a strong focus on text-based information delivery that may be off-putting for some people. Certain methods of information delivery will work for some users but not others and this should be taken into consideration when developing self-help youth E-therapy tools. Options to read, watch, and/or listen to information should be available for all concepts, skills, and techniques taught to the user so as not to force the user to have to engage with information delivery that does not work for them. Participants noted that there was a lot of reading, acronyms, and phrases that may be confusing or hard to engage with for young people experiencing mental distress. These findings are consistent with previous research on youth opinions of self-help youth E-therapy programs that indicate that self-help youth E-therapy programs should not be too lengthy or wordy and focus on teaching through interaction and playing the game rather than reading (Kuosmanen, Fleming, & Barry, 2018b). Similarly, Ellis et al. (2013) report that internet mental health interventions may be more likely to succeed for young men if they provide interactive and tailored content that they can actively engage with rather than passively receiving content. Kuosmanen, Fleming, and Barry (2018a) explored implementation findings from a previous randomised control trial examining the effectiveness of SPARX-R (a revised version of SPARX) for students aged 15-20 in Ireland and reported that many of the participants described disliking that the program had too much talk/writing that took too long and required them to read information they felt they did not need or want to know. These findings indicate that information delivery is an area of E-therapy that requires further development to ensure that all users are able to engage with self-help programs like SPARX.

The researchers of the current study did not find any research comparing different approaches to information delivery within youth self-help E-therapy tools, indicating a need for further investigation to establish the most effective ways of delivering information to users. It may be the case that self-help youth E-therapy programs need to focus on offering alternative ways to deliver the same information to the user, or that specific E-therapy programs need to be developed with specific information delivery in mind – with the understanding that if that form of information delivery does not work for the user, that they would have to try another program based on a different way of delivering information. The former option appears to be more advantageous as users would not have to try another completely different program if they are having trouble with the delivery of information but working to accommodate for this would likely result in longer development times for the creation of E-therapy programs and inflated costs which may not always be feasible.

“Game-ified” E-therapy facilitates youth engagement

Participant responses in the current study indicated support for gamification as an engaging factor for youth, and for the concept of delivering self-help youth E-therapy through a game rather than through text resources or clinical settings. Many participants noted that gaming is popular with young people generally and that incorporating CBT into something they are already interested in is likely to be more appealing to them than alternative methods of providing CBT. Most participants observed that ease of use would likely affect youth engagement as young people are used to applications and computer programs and expect them to be intuitive and easy to use. This relates to information delivery as mentioned above but also encompasses components such as movement controls, instructions on objectives, where to go, and what to do. Most participants also identified that clinical settings could feel uncomfortable or anxiety inducing which may be off-putting for young people seeking help with their mental distress. Such barriers may be overcome by offering psychoeducation and skills through a fun and interactive game like SPARX as opposed to traditional methods. This way young people are still able to access relevant mental health information and skills without having to enter a clinical setting or talk to adults about their mental health, both of which may be distressing for them. The current study provides some evidence that family/whānau members believe that incorporating gamification into self-help youth E-therapy is more engaging for young people than alternatives such as overtly clinical settings or therapeutic applications. Further investigation with a larger number of participants that include both family/whānau members and young people themselves is necessary to establish whether these beliefs are reflective of gamification facilitating youth engagement in E-therapy or not. These findings align with previous research showing that school-aged children may be uncomfortable talking to adults about their problems and instead use avoidance as a coping strategy (Tompson et al., 2017). These findings are also consistent with previous research that recognises young people as ‘digital natives’ (Stasiak et al., 2015) who are used to using sleek and intuitive programs and applications. With such experience, young people are much more likely to disengage if programs, applications, and technology are clunky or hard to use when compared to ones they regularly engage with. These findings also support previous research that gamification in E-therapy may help young people to engage better with E-therapy programs and improve program retention through including a fun and interactive aspect (Christie et al., 2019; Jamaludin et al., 2021). As noted by Cheng (2020), the evidence for the general effectiveness of gamification for health and wellbeing is inconclusive and further research is needed on whether gamification research effects sustain in the long-term. Establishing whether gamification can enhance youth engagement in self-help E-therapies requires further investigation as engagement, dropout, and adherence are all prominent areas of concern for traditional and internet-delivered therapies to improve mental health outcomes and the effectiveness of therapeutic interventions (Isaia et al., 2018; Lee et al., 2019; McCashin et al., 2019; Podell & Kendall, 2011; Reyes-Rodríguez et al., 2019; Spence et al., 2019).

Most participants in the current study gave positive feedback regarding the appeal of SPARX to people from a wide range of cultural backgrounds. Although participants noted that there is a clear New Zealand cultural focus with Māori-style artwork and symbolism used, they praised SPARX for having multilingual greetings at the start of the game, alongside teaching mental health psychoeducation and CBT skills that are universally applicable regardless of the user's cultural background. One participant in the study identified as NZ European/Māori and three others identified as other cultures that were not NZ European such as German and Indian. These participants reported that they did not find the Māori cultural aspects to detract from their use and enjoyment of SPARX. They instead felt that since mental health struggles are a universal experience, even if certain aspects like the artwork were specifically culturally informed, the universal aspects like mental health psychoeducation and CBT skills were still relevant and useful for them. Additionally, some participants noted that gaming is a fairly universal experience that is seen across cultures and thus may provide a way of engaging people from different cultural backgrounds by drawing on something familiar to them. Previous research has identified that cultural factors can have a strong influence on the experience of mental health disorders and the use of mental health services by minority groups (Bolton & Bhugra, 2021; Gopalkrishnan, 2018) and that a one-size-fits-all approach is not sufficient for minority groups like Māori (Shepherd et al., 2015). The current research indicates that a focus on the universal aspects (i.e., that people across cultures [1] experience mental distress, and [2] engage with gaming) may be sufficient to help people from minority cultural groups engage with E-therapy that is not tailored to their specific culture, but further research would be required to establish if this is a wider trend. Additionally in future research, programs like SPARX would need to be compared against E-therapy programs that are more culturally specific to see if people from minority cultural groups achieve better outcomes when programs are designed around their specific cultural values and understandings.

Half of the participants indicated that they felt positively about the user-driven aspect of SPARX, but they also thought that more customization and tailoring to the user's specific distress or issues would be advantageous. Regarding the user-driven aspects of SPARX, participants liked that they were able to choose where to go and what to interact with in whatever order they wanted. Additionally, the ability to engage with and use SPARX when the user feels up to it as opposed to having set appointment times was highlighted as a positive by two participants, particularly for youth dealing with anxiety and avoidance. Half of the participants interviewed identified areas they felt SPARX could improve on such as more customization options and the ability to tailor the content and techniques to the user's specific experience and type of mental distress. The current version of SPARX does include customisation options where the user can choose a gender and some basic visual options to change their avatar, but participants indicated that they thought more customization options were needed. Additionally, whilst SPARX is designed to help with youth depression and anxiety it does not ask the user to specify what they want or need the most help with. A mood quiz is used and asks questions relating to depression and anxiety before outputting a graph to visually represent the user's mood, but users are not asked which specific symptoms or distress they want to work on most. One participant also thought that some techniques or skills work better for some people more than others and that it may be advantageous if users were able to select a small set of techniques to work with or at least be able to indicate when a technique is not helpful so that they can stop being suggested that specific technique.

These findings are consistent with previous research regarding positive effects of tailoring E-therapy interventions to the user's specific experience or distress. Tailoring information to the user (also known as personalisation) has been identified in previous research as a useful and relevant component to gamified E-therapy that should be considered in future research and E-therapy intervention development (Cheng, 2020; Kuosmanen et al., 2018a). Previous research has also identified that internet-delivered interventions may be more likely to succeed for young men if they are tailored to the users' needs and provide opportunities to choose their own way through the intervention (Ellis et al., 2013). Customisation has been highlighted as an area for improvement in previous research regarding SPARX, specifically with LGBTQ+ people who have non-conforming gender identities (i.e., transgender and non-binary people) who indicated that the binary restrictions of the customisation options do not adequately meet their needs (Lucassen et al., 2021). Allowing gender diverse customisation options alongside adopting more ways for users to customise and personalise their avatar may prove advantageous for engagement and treatment outcomes. A recent review exploring the experiences of students in higher education with mental health internet-based interventions across 24 studies show there is a desire from users for more personalisation, and that this desire was also observed in the general population (Oti & Pitt, 2021). In the same study, a lack of personalisation was identified as a factor that contributes to low user engagement with online mental health interventions (Oti & Pitt, 2021), indicating that the incorporation of customising elements and personalised tailoring to the user would be beneficial for future interventions to expand upon further. A recent study exploring medical students' opinions on internet-delivered mental health programs yielded similar results, with students indicating that a lack of personalisation and tailoring to individual needs means that the treatments provided by online therapies are not customised in the way they would be if one saw a professional healthcare provider in person and that this lessens their appeal (Dederichs, Weber, Pischke, Angerer, & Apolinário-Hagen, 2021).

Family/whānau participation – direct or indirect involvement

Five participants in the current study indicated support for the concept of family/whānau involvement in youth E-therapy but differed in their opinions on what form this involvement should take. Two participants suggested direct methods such as answering questions together, prompts that ask the user to have someone else participate in an activity or technique with them, younger family/whānau members using SPARX as well, and activities that a family/whānau member does themselves when the user is prompted. Three participants preferred more indirect methods such as a family/whānau or parent version or component of SPARX, printed resources, and learning summaries for each section of the young person's gameplay. The rationale behind indirect methods mostly related to participants considering that not all young people who want to engage with mental health services also have supportive family/whānau who are available to participate when SPARX is being used. These findings appear to be consistent with previous research into family/whānau involvement in youth mental health treatment (Comer et al., 2017; Demaria et al., 2021; Maric et al., 2018; Reuman et al., 2020), although the researchers of the current study were unable to locate any research directly comparing direct and indirect family/whānau involvement methods. Whilst social support can be provided to young people by their family/whānau through participation, the research regarding family involvement has provided mixed results and employed a wide range of differing theoretical approaches, concept definitions, and research methods (Podell & Kendall, 2011; Reuman et al., 2020; Wei & Kendall, 2014; Yap et al., 2018). Most of the literature that was examined regarding family involvement investigated direct methods such as psychoeducation, attending therapy sessions together, family learning skills, and supporting young people to implement the skills they have learnt in therapy (Comer et al., 2017; Podell & Kendall, 2011; Reuman et al., 2020; Yap et al., 2017; Yap et al., 2018). Additionally, the majority of articles relating to family involvement related to in-person therapy rather than E-therapy which may explain the research bias towards direct methods as youth are often taken to therapy by family/whānau, so they are already present.

In their review on family involvement in CBT for anxiety disorders, Reuman et al. (2020) note that in one of the studies they examined, younger adolescents benefitted more when their parents were not directly involved in their therapy compared to older adolescents. Additionally, Peris et al. (2020) investigated the role of ethnicity as an outcome moderator in family focused treatment for youth with OCD and reported that whilst minority status did not predict outcome, race/ethnicity did moderate treatment response with non-Caucasian youth achieving better outcomes in the enhanced family therapy component of the study. This study utilised a direct method of family/whānau participation with family/whānau in the room with youth and working collaboratively as a collective family/whānau unit which may indicate that direct methods are more effective for non-Caucasian youth than Caucasian youth, but further investigation is required. Both of these studies illustrate that it may not be as simple as identifying whether direct or indirect methods of family/whānau involvement are more effective overall, but that certain populations, ethnic groups, or age groups may benefit more from one over the other. The majority of participants involved in the current study indicated a preference for indirect methods of including family/whānau participation into youth E-therapy, a finding that may be supported by results such as these. Further investigation and research is required to establish if this is indicative of a wider trend or a finding specific to the study sample population.

Yap et al. (2018) examined post-intervention results of a randomised control trial to test their web-based parental psychoeducation program "Partners in Parenting", in which parents logged into the web program to access up to nine modules that provided psychoeducation to support them in identifying areas for improvement and making changes regarding their parenting behaviours. The results of this study indicated that the psychoeducation program for parents provided greater improvements from baseline to post-intervention three months later when compared with an educational factsheet control intervention (Yap et al., 2018). These findings provide some evidence that direct methods of family/whānau involvement that aim to provide family/whānau with psychoeducation may be more beneficial than indirect methods such as providing written information or resources. Where the current research differs from or is inconsistent with the established literature is regarding direct and indirect methods of family/whānau involvement. Much of the existing literature focuses on direct methods of family/whānau participation, likely because they have been focused on traditional in-person therapy where it is logical to work directly with the family/whānau as they are already present with the young person. Further research is required to investigate and compare direct and indirect methods of family/whānau participation to establish which populations benefit most from which method of participation. As noted earlier, the current researchers were unable to locate any literature comparing direct and indirect methods of family/whānau participation to investigate which is more effective. The current research provides some initial data that suggests this concept warrants further investigation, particularly in exploring direct versus indirect methods of family/whānau participation in youth E-therapy and how other variables such as age or culture may moderate or impact whether direct or indirect methods are preferred.

Four participants in the current study indicated they believed family/whānau members who are older than 50 may struggle to use applications like SPARX if they are not familiar with gaming and/or do not regularly use technology like computers. If E-therapy programs like SPARX utilise a family/whānau version or component to assist with youth E-therapy, it is imperative they are able to use and feel comfortable engaging with it as confusing technology can be quite off-putting for people who are not very tech savvy. Additionally, common gaming conventions are often used in such programs (i.e., using the “WASD” keyboard keys to control movement, in-game collectibles being hidden behind objects, etc) which older users may not be familiar with. Providing family/whānau with clear written and visual instructions may need to be implemented in a stronger way than with younger people who often prefer to intuit new programs and learn by interacting. This also applies to more direct methods of family/whānau involvement as even if family/whānau are just interacting with an application for a short time to do an activity with the young person or answer questions, they will need to be able to engage with the program and be confident in doing so. Additionally, one participant noted that family/whānau may want to be able to access resources and previously used techniques that they may have found particularly helpful so some sort of menu where one can easily access techniques and information from previous levels would be useful. Overall, the feedback from participants indicated they thought that some adults older than 50 may struggle with some aspects of SPARX and related programs, thus promoting ease-of-use and keeping things simple would be beneficial. These results are consistent with previous research on internet-delivered CBT programs that have investigated the experience of users regarding dropout, barriers to treatment, and treatment satisfaction. Richards et al. (2016) conducted a qualitative study with participants aged 18 – 63 exploring acceptability, satisfaction, and perceived efficacy of an internet-delivered treatment for depression which found that users wanted the programs to be easier to use and navigate, highlighting the importance of having internet-delivered therapies be user-friendly. Computer experience/literacy has also been highlighted as a potential barrier to the use of internet-delivered therapies (Melville et al., 2010; Ogueji, Amusa, Olofe, & Omotoso, 2022; Xiang, Kayser, Sun, & Himle, 2021), alongside negative attitudes towards computers and reading (Melville et al., 2010). Xiang et al. (2021) conducted a qualitative study that explored homebound older adults’ experience with an internet-delivered depression intervention program and found that two of the core challenges older adults face with internet-delivered therapy are poor usability of the program (i.e., ease of use) and low computer literacy. Previous research has also identified that when engaging with online interventions, older adults report feeling overwhelmed and insecure when they experienced technical issues and engaging with an intervention they felt was too fast paced (Chen et al., 2020). Such results indicate that E-therapy programs need to be easy to use, navigate, and understand if family/whānau are expected to engage with them to assist in youth treatment. Not all family/whānau members will necessarily have high computer literacy and familiarity with online applications and gaming so accommodations must be made to facilitate their engagement.

Accessibility was another important factor identified by participants in this study, with four participants discussing ideas around treatment access, utilising SPARX on their own schedule, listening and reading options, and cost. Participants identified that traditional therapy is costly and requires travel which boost costs even further. For young people, this means having to work around their own schedule and that of their family/whānau as young people generally rely on family/whānau for transport and money to access such services. Through utilising free self-help E-therapy programs like SPARX, young people and their family/whānau can cut out such costs and engage with mental health treatment on their own terms and time schedule. Participants praised these factors alongside being able to access SPARX from the comfort of their own home whilst also being able to access it on the go if they needed to. One participant had difficulties accessing the SPARX mobile application and noted that most people these days have mobile phones but not everyone has access to a computer or laptop so they believed it would be beneficial to focus on streamlining the experience for mobile phones. These results align with previous research that indicates E-therapy options reduce barriers and provide further accessibility for people seeking mental health support and treatment. E-therapies can provide greater access to mental health treatment options whilst reducing factors such as cost, schedule conflicts, and travel (Hof et al., 2009; McCashin et al., 2019; Shepherd et al., 2015; Stasiak et al., 2015). Accessibility is a strength of self-help E-therapies that is recognised in the current study by participants and supported by previous E-therapy research.

Five participants expressed the view that young people often do not want to talk to adults about what they are experiencing and that by utilising self-help E-therapy applications like SPARX, young people can still get help without having to talk to anyone physically. One participant identified this as an avoidance response in her young family member and that applications like SPARX provide an alternative for young people that may be less distressing to them. Another participant noted that her young family member would not engage with a psychologist in session but may be more willing to engage with a self-help 'game'. Additionally, two participants noted that young people may be resistant to talking about their mental health with parents specifically and may prefer to talk about it with their peers. Overall, participants indicated that they believed self-help E-therapy programs like SPARX can provide young people alternative ways to engage with mental health services that may be more acceptable to them over talking with parents, mental health professionals, and other adults. These results are consistent with previous literature which indicates that many young people struggle to talk to adults and professionals about their mental health and to seek treatment or support. Qualitative survey results from participants aged 18-25 living in the United Kingdom report that the main barrier young people experienced in seeking help was a dislike of talking about their emotions, thoughts, and feelings (Salaheddin & Mason, 2016). Additionally in the same study, embarrassment and shame associated with seeking mental health support were highly reported as treatment barriers for young people (Salaheddin & Mason, 2016). Ellis et al. (2013) reported qualitative results which indicated that young men would prefer to use self-help approaches and action-oriented strategies rather than seeking professional help for themselves. They also reported in the same study that young men would be more likely to recommend someone struggling with their mental health to talk with an informal source of help such as a friend or peer rather than a mental health professional (Ellis et al., 2013). These findings indicate that young people do not always want to talk about their mental health with adults even if they want to engage in mental health support. Talking with friends and using self-help options appear to be more popular with young people than engaging with traditional professional services and thus self-help E-therapy options may better meet their needs and provide a preferable option for treating their mental health. Regarding family/whānau participation specifically, indirect methods may be more effective for young people as their family/whānau will be able to understand and support them better without the young person having to directly communicate about their mental health. Further research is needed to assess whether indirect and direct methods of family participation differ significantly in their effectiveness and whether other variables such as age, gender, and ethnicity have an effect on whether someone benefits more from one type of involvement over the other.

Three participants in the current study identified that young people's mental distress is often treated by family/whānau as an individual's problem rather than working on it as a collective family/whānau unit. One experience of this that was discussed in the current study related to young people not being taken seriously or their distress being misunderstood by family/whānau. When family/whānau do not have experience with, and an understanding of, mental health they can be dismissive or unsupportive even if they are assisting their young person to seek treatment. Such attitudes can have a negative impact on the effectiveness of youth mental health treatment (Reyes-Rodríguez et al., 2019; Skilbeck et al., 2020). One participant noted that the anxious young person in their family/whānau is often met with a dismissive attitude that they are being silly rather than treated like they are experiencing legitimate mental distress. Another participant spoke to how when someone is physically ill, family/whānau are likely to wrap around them with support but the same attitude often does not extend to mental health and distress. The same participant also noted that when the young person in their family/whānau experienced mental distress after having gone to therapy, the attitude they were met with by some family/whānau members was that they have been to therapy so they should use those skills. This attitude did not allow for discussing or understanding ways to cope and manage mental distress so they could support the young person together as a family/whānau. Another participant who was a parent noted that as a family/whānau member you may want to help the young person, but one needed to know the correct tools to help them. These results indicate the importance for family/whānau of young people who experience mental distress to receive psychoeducation alongside learning coping and/or management skills to support young people. As previously noted, psychoeducation can provide family/whānau with a deeper understanding of their young person's experience with mental distress, reduce stress and improve coping for family/whānau, boost communication between family and youth, and improve treatment outcomes for the young person themselves (Bevan Jones et al., 2018; Brady et al., 2017; Fristad et al., 2018). These results align with previous research regarding the effects of social support and familial/parental factors on youth mental health outcomes. Rejection, dismissive attitudes, criticism, parental frustration, family dysfunction, withdrawal, and aversiveness have been identified as parental/familial factors that can negatively affect youth psychopathology (Podell & Kendall, 2011; Wei & Kendall, 2014). Young people are likely to feel the negative effects of such factors if they are seeking help and being treated like their distress is not significant or that they are not supported and validated when they choose to seek help. Family/whānau need to understand, validate, and support young people and treat their distress as significant whilst supporting them to seek treatment. This again highlights the importance of family/whānau psychoeducation and family/parent training to decrease the effects of negative familial/parental factors on young people and their mental health (Demaria et al., 2021; Reyes-Rodríguez et al., 2019; Wei & Kendall, 2014). Social support has been identified as an important factor to mental health recovery and family/whānau are often in the best position to provide such support for young people due to the young person's reliance on their family system (Comer et al., 2017; Lee et al., 2019). The results of the current study reflect a need to include family/whānau in youth mental health treatment, at least regarding psychoeducation and targeting familial/parental factors. Such inclusion can be indirect or direct, depending on the preference of young people and their family/whānau. Social support is an important therapeutic factor and family/whānau are not able to adequately provide support when they do not understand mental health and the effect that they have on their young family member.

Overall, the three major themes identified in this study provide an initial picture of what some New Zealand family/whānau members think and feel about youth self-help E-therapy, and the inclusion of family/whānau participation into it. For the first theme, family/whānau members in this study indicated strong support for the psychoeducation and practical CBT skills components of SPARX, alongside praising that the use of repetition and checking in that encourages young people to think about their mental health regularly and works to reinforce their learning. Additionally, learning more about mental health and how many people experience mental distress allows young people to understand that mental distress is a fairly common experience and that they are not alone. This also helps with the self-blame and guilt that are often experienced by people with mental distress like depression and anxiety. Some participants felt that offering more options for information delivery would be advantageous but otherwise were happy with the information provided through SPARX.

This means looking to move away from text heavy explanations and incorporate other forms such as video delivery, audio options, and learning through gameplay. For the second theme, participants felt that self-help E-therapy programs like SPARX are engaging for young people due to the nature of being a fun and interactive game, rather than a serious clinical setting. The gamification aspect of SPARX and similar applications was recognised by participants as allowing young people to engage with the program more easily than being presented with dry information and lots of reading. Participants identified that ease of use contributed to this engagement and felt that if self-help E-therapy applications are easy to use and understand, they are likely going to be more engaging for young people than a clinical setting, which can be scary or uncomfortable for them. Participants were also supportive of the user-driven and customisation aspects of SPARX, but some felt that this could be expanded upon to provide more personalisation and tailoring to the program. Some evidence shows that personalised mental health treatments may be more efficacious than those that are not tailored to the user and thus further personalisation and tailoring of information should be considered in SPARX and future youth self-help applications. Participants also felt that SPARX appealed to a wide range of cultures as the mental health information provided is universally applicable regardless of one’s culture. They noted that whilst SPARX has a visual basis in Māori cultural art, the cultural aspects inherent in SPARX were not alienating to those from other cultures.

The third theme encompasses family/whānau participation in youth E-therapy. Participants felt that overall, it would be advantageous to have family/whānau involved but recognised that not all young people seeking treatment will have supportive family/whānau to engage with them in therapy. Direct and indirect methods of family/whānau participation in youth E-therapy were discussed, with different participants preferring different options. There was a slight bias towards an indirect method preference of family/whānau participation but both methods warrant further investigation. These results show how family/whānau needs are not monolithic and that different ways of incorporating family participation may work better for some families over others. It may also be the case that one type of family/whānau participation is better than the other and so further investigation is required here. Some participants felt that ease of access for family/whānau should be further considered as they felt that the current version of SPARX may be difficult for older people to navigate and use, whilst others found that they themselves had difficulty using or understanding gaming-specific aspects of the SPARX program. This related to things like movement controls but also related to gaming knowledge such as collectibles being hidden behind objects on screen, where to go, and what to do. Participants also noted that self-help E-therapy applications like SPARX provide more accessibility for young people to access mental health treatment by removing barriers associated with cost, travel, and working around family/whānau schedules. Additionally, many participants felt that young people often do not want to open up and talk with adults in their lives about their mental health and distress.

SPARX provides a way for such young people to still get assistance without having to talk with an adult or be in a clinical setting if those situations cause distress. Finally, some participants felt that mental health is often treated as an individual problem and that by including family/whānau participation into self-help E-therapy programs like SPARX, family/whānau can better empathise with and understand their young person's experience. Participants felt that if family/whānau have a better understanding of their young person's mental distress, then they are afforded the opportunity to better support and help them. These 3 major themes give initial insights into what family/whānau in New Zealand value regarding youth E-therapy and the inclusion of family/whānau participation in youth E-therapy which can provide a good foundation for further investigation with this population. The implementation of family/whānau participation should be informed by the perspectives, wants, and needs of family/whānau and of young people themselves.

Strengths

The current study has essential strengths that should be considered when reviewing the results. One strength of the study comes from the use of qualitative interview methods as they are proven to provide information rich, in-depth, and detailed accounts of experiences and perspectives that are not easily reducible to numbers (Anderson, 2010; Nathan, Newman, & Lancaster, 2019). Such methods do not view the information provided by participants as evidence of truth or reality but recognise the benefit of gaining insights into the subjective experiences of a population on a topic that requires deeper understanding due to its complexity or because little is known (Nathan et al., 2019). This has been a strength for the current study as little research has been conducted examining family/whānau perspectives on their own participation in youth E-therapy to explore what they think and feel about the concept. Such perspectives can provide important insights that may be missed by researchers examining data as they may be unique to family/whānau supporting a young person who experiences mental distress and not easily understood without experiencing it first-hand. Through obtaining these first-hand accounts and analysing them, researchers can gain deeper insights into what family/whānau think are the benefits and barriers to family participation which can in turn inform treatments and ensure that when interventions are developed, they work for family/whānau and are reflective of their wants and needs. Additionally, previous research has shown a lot of variability in the effectiveness of family/whānau participation in youth mental health treatment, indicating that further investigation is required to establish the reasons behind such inconsistent results. It may be the case that other variables such as demographic (such as age, socio-economic status, sexuality, etc.) or cultural factors may influence the results of research regarding family/whānau participation in youth E-therapy, or that levels of family cohesion and conflict are relevant but further research would be required to investigate such possibilities. Some previous studies have suggested that non-Caucasian youth may achieve better outcomes in mental health treatments that include family/whānau participation (Peris et al., 2020; Reyes-Rodríguez et al., 2019; Skilbeck et al., 2020) which may be due to communal or collectivist cultural values that are potentially not as commonly held in Caucasian families. Further research comparing Caucasian youth outcomes in family treatment with non-Caucasian youth outcomes in family treatment would be beneficial, particularly if the research investigates other potential moderating variables such as family cohesion, family conflict, age, and socio-economic status to establish if other factors are affecting this finding. Higher family cohesion and lower family conflict/dysfunction have been associated with better clinical outcomes for young people in previous studies (Peris et al., 2012; Tompson et al., 2017). Higher family conflict has been associated with a slower decrease in symptoms for young people with Bipolar disorder and also predicts a poorer youth response to medication relating to decreasing symptoms of depression (Sullivan, Axelson, & Miklowitz, 2012). On the other hand, Wei and Kendall (2014) report that some evidence suggests that family-based interventions may be more beneficial when there is a high level of parent-child conflict and may be more efficacious when utilising targeted parental training. Such inconsistencies illustrate the need to further investigate how variables like family conflict and family cohesion might interact with, or moderate, the effectiveness of family/whānau participation in youth mental health treatment.

The second strength of the current study is the online nature of E-therapy and utilising online interviews. As the research was conducted during the COVID-19 pandemic and a four-month government mandated lockdown, it was advantageous that E-therapy programs like SPARX are available to access online from anywhere. Additionally, utilising the computer program 'Zoom' to conduct interviews online rather than in person was extremely advantageous both for health and for scheduling. Whilst the COVID-19 pandemic and lockdowns caused some delays and difficulties, the issues would have been greatly inflated if interviews had to be conducted in person and if SPARX had to be accessed from a specific location. The flexibility and safety of recruiting online, having participants use SPARX at home, and conducting the interviews online allowed the researchers to adapt and adjust around the difficulties presented by COVID-19 and overcome its challenges. Another strength in the current study is that it attempts to fill a gap in the literature. To the researchers' knowledge, there are no other studies in New Zealand that have investigated family/whānau member's perspectives on youth E-therapy tools. Additionally, the current study investigated family/whānau perspectives on family/whānau participation in youth E-therapy, specifically in the self-help E-therapy application SPARX. The researchers are not aware of any previous literature examining family/whānau perspectives on their own participation in youth E-therapy, particularly in using the SPARX application specifically. A theoretical gap has been identified in the current literature on family/whānau participation in youth E-therapy regarding direct and indirect participation. The researchers of the current study were unable to find any research investigating whether direct or indirect methods of family/whānau participation in youth E-therapy are more advantageous in producing positive treatment outcomes for young people. Some research (Reuman et al., 2020) indicates that age may affect whether direct or indirect methods of family/whānau participation are preferable but these findings were not consistently reported across the literature. Thus, investigating indirect and direct methods of family/whānau participation to establish if one is more effective than the other would be advantageous alongside investigating how other variables such as age may moderate this effect.

Limitations

The current study had some limitations that should be considered when interpreting these results. The first limitation for the current study was that due to the COVID-19 pandemic, recruitment was only able to be completed online and for four months no data collection was able to take place. Physical recruitment methods such as distributing posters and pamphlets in specific locations were unable to be utilised and had to be forgone in favour of online social media posts. This severely hampered the recruitment efforts and resulted in a small sample size of six participants which limits the generalisability of these results. The second limitation is that due to the interpretive nature of thematic analysis it is entirely possible and likely that other researchers analysing the same data may yield different themes and conclusions. The third limitation for this study is the lack of diversity in the participant population regarding sex/gender. Previous research has indicated that mothers are overrepresented in studies of parental/familial involvement in youth mental health treatment and whilst the current study recruited all types of family members, there was an overrepresentation of females with all six participants identifying as such. This may mean that these results are representative of what female family/whānau members think about their participation in youth E-therapy, but not representative of what male family/whānau members think and feel. Additionally, these results may not be representative of gender non-specific/non-conforming people's views as all participants in this study indicated that they identified with a binary gender. Another key limitation that should be observed is that whilst family/whānau perspectives were collected in the current study, these perspectives may not be align with what young people believe will benefit them regarding family/whānau participation in youth E-therapy. Whilst family/whānau perspectives are important to consider regarding family/whānau participation in youth E-therapy, the conclusions drawn from these perspectives may represent what family/whānau think but may not reflect the thoughts, feelings, and beliefs of young people engaged in E-therapy. It would be advantageous to investigate family/whānau perspectives and youth perspectives, either in tandem to directly compare the two, or in separate studies that can be compared against one another. Such research would elucidate whether data from the current study is indicative of how to better include family/whānau in youth E-therapy treatment overall, or if the current data reflects family/whānau perspectives that are unique to them and differ from those of young people.

Future research implications

The current study provides feasibility data on family/whānau perspectives regarding family/whānau participation in youth E-therapy programs which can inform future research. The results of this study indicate that family/whānau are supportive of family/whānau participation in youth E-therapy but also have their own recommendations and ideas on how to implement their inclusion. Further research into these perspectives with larger sample sizes and a wider range of demographics represented such as age, gender, sexuality, and ethnicity would be beneficial to inform the implementation of family/whānau participation into youth E-therapy. Additionally, research comparing indirect and direct methods of family/whānau participation would be advantageous to understand if certain methods are better than others overall, or if certain methods work better for certain families/whānau and/or individuals. There may be demographic differences such as ethnicity and culture that affect whether indirect or direct methods of family/whānau participation would be most effective and thus requires further investigation. Additionally, utilising randomised control trials investigating whether youth mental health outcomes fare better when utilising self-help youth E-therapy alone, with family/whānau directly involved, and with family/whānau indirectly involved would be advantageous to see which conditions produce the best outcomes. Such research would work to establish the most effective conditions in a general sense and from there the effects of other variables on those conditions could be investigated such as demographic differences, traditional family/whānau and non-traditional family/whānau (i.e., LGBT+, divorced, non-married parents, raised by non-parental family/whānau members, etc.). Further exploring family/whānau and youth perspectives in tandem may also provide insights into whether the preferential needs of family/whānau align with those of the young person seeking treatment. It may be that what family/whānau think is the best way to contribute and participate does not align with what young people want and think will be helpful for their treatment. Another key area for further investigation would be to conduct similar studies to this one that investigate family/whānau perspectives on family/whānau participation in youth E-therapy but with a focus on recruiting more male participants and fathers. This would be advantageous as previous research has noted an overrepresentation of mothers in parental/familial involvement in youth mental health and whilst the current study recruited all types of family members, all the participants recruited were female. Thus, targeting male participants (whether fathers or other family/whānau members) appears to be important to ensure that family/whānau perspectives are representative of all family/whānau members and not just those who are female. Another important area for future research to investigate is that of comparing direct methods of family/whānau participation with other direct methods to establish if there is a preferred and most effective direct method of family/whānau participation. Additionally, comparing indirect methods of family/whānau participation with other indirect methods to establish if there is a preferred and most effective indirect method of family/whānau participation would be advantageous as it may be the case that not all participation methods are equally effective. These further research areas may provide useful data to inform the implementation of family/whānau participation in youth E-therapy and ensure that interventions including family/whānau are benefitting young people in the best possible way. Family/whānau may hold key perspectives and ideas relating to their participation in youth E-therapy that were not captured in this study and with further investigation of these perspectives alongside the ways to best incorporate family/whānau into youth E-therapy, researchers may be able to work toward more effective and informed ways of implementing family/whānau involvement into youth self-help E-therapy applications.

Conclusion

This study was conducted to investigate the perspectives, thoughts, and feelings of family/whānau members on the concept of incorporating family/whānau participation in youth E-therapy. Six participants were recruited via direct emails and Facebook page advertising and were asked to use and familiarise themselves with the youth self-help E-therapy program SPARX over a two-week period. Following the two-week period, participants were invited to attend a recorded online semi-structured interview via the video calling application “Zoom” to provide their perspectives, thoughts, and feelings on the youth E-therapy tool generally, and on the concept of family/whānau participation in youth E-therapy specifically. Three major themes were identified: (1) CBT skills and psychoeducation facilitate understanding and support, (2) “Game-ified” E-therapy facilitates youth engagement, and (3) Family/whānau participation – direct or indirect involvement. The data collected from family/whānau member’s regarding youth self-help E-therapy programs indicated support and positive attitudes towards the SPARX application and youth self-help E-therapy programs in general, but with some suggestions for improvement. The components of SPARX relating to teaching CBT skills and mental health psychoeducation were praised by participants, alongside the repetition and reinforcing of these techniques and information to ensure service users can remember them. In alignment with previous research, familial/parental factors such as attitudes towards mental health, family/whānau conflict and stress, level of support, and accommodating behaviours were identified by participants in the current study as important components that can affect youth treatment outcomes. As such, future youth self-help E-therapy programs should work to incorporate interventions that target or at least maintain awareness of parental/familial factors that may affect youth treatment. Gamification was praised by most participants as a fun and interesting way to get young people to engage with mental health services. Some participants appreciated how gamification draws on the common experience of gaming that many young people can relate to.

Participants indicated that they thought further personalisation through the tailoring of information and techniques, alongside offering more character customisation options would be advantageous for young people's engagement and enjoyment of SPARX. Family/whānau were also supportive of the concept of family/whānau participation in youth self-help E-therapy programs but had differing ideas about what form this participation should take, with some participants preferring direct methods and others preferring indirect methods. These results provide initial data indicating that further research is required in this area to answer some key questions about family/whānau participation in youth E-therapy. The first is to establish whether the effectiveness of family/whānau participation in youth E-therapy is moderated by other variables such as age, family conflict/cohesion, race, gender, sexuality, etc. The second is to investigate whether indirect or direct methods of family/whānau participation are more effective overall for youth treatment outcomes. The third is to compare direct methods of family/whānau participation against other direct methods and to compare indirect methods of family/whānau participation with other indirect methods to establish if there is a most effective direct method and a most effective indirect method overall. The fourth is to investigate whether non-traditional families (such as separated families, multi-family households, LGBTQ+ etc.) have differing outcomes and needs related to family/whānau participation. The fifth would be to investigate youth and family/whānau perspectives in tandem to investigate whether their wants and needs align with regards to family/whānau participation in youth E-therapy. Such research would provide greater insights into the inconsistent findings related to including family/whānau participation into youth therapy and E-therapy by establishing related variables that can affect whether family/whānau participation is useful and therapeutically beneficial for young people.

Overall, the results of this study indicate that family/whānau are supportive of including family/whānau participation into self-help youth E-therapy programs but have differing ideas on how best to implement this participation. Participants were supportive of the practical skills and information taught by SPARX, alongside the fun and engaging element of gamification. They were also able to identify that self-help E-therapy can better suit young people who are resistant to talking with adults about their mental distress and that learning about mental health can normalise young people's experience. Some participants felt that the delivery of information should be worked on to provide alternative ways to access the same information. Further customisation and personalisation options were considered advantageous by participants, alongside increasing the user-driven aspects of SPARX. Participants felt SPARX is applicable to people from a wide range of cultural backgrounds and that the Māori artwork and focus did not detract from the experience of those participants who were not from New Zealand. Both youth ease of use and family/whānau ease of use are important considerations as young people will not engage well with unintuitive or clunky applications, whilst family/whānau may need some extra assistance to play SPARX as they may have little or no experience with gaming. Participants noted that mental health is often treated by family/whānau as being an individual problem rather than a collective problem to tackle as a family/whānau and that changing this attitude would enable family/whānau to better support their young person. A novel finding from the study was that some participants supported direct methods of family/whānau participation whilst others supported more indirect methods. These results indicate the need for further investigation with larger and more diverse samples to thoroughly capture the range of family/whānau thoughts, feelings, and perspectives on their participation in youth E-therapy. Additionally, comparing these perspectives with youth perspectives on family/whānau participation in self-help youth E-therapy may help to identify where family/whānau and youth perspectives align and differ.

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Appendices

Appendix A – Participant information Sheet

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

School of Psychology
Private Bag 102-904
North Shore
Auckland 0745

Family/Whānau perspectives on the use of E-therapy tools in the treatment of youth mental health

PARTICIPANT INFORMATION SHEET

Introduction

Hello, my name is Dorian Katavich, and I am a postgraduate student at Massey University completing my Master of Arts in Psychology. For my thesis I am conducting an observational study to investigate family/whānau perspectives on E-therapy tools designed for youth psychological treatment in New Zealand. Supporting and supervising this research is Dr Matthew Shepherd from the School of Psychology at Massey University, alongside Co-supervisor Dr Karolina Stasiak from the Department of Psychological Medicine at the University of Auckland.

We would like to invite you to take part in our research study to assist us in gaining insights and perspectives on the use of E-therapy tools for youth treatment in New Zealand. The project will consist of using and exploring the youth E-therapy tool "Smart, Positive, Active, Realistic, X-Factor thoughts" (SPARX) over a two-week period, followed by an online interview. Participants will be provided a list of questions to consider whilst exploring the application. After the two-week period of time to explore the application, online interviews will be conducted via zoom with participants to collect perspectives and insights on the use of youth E-therapy tools.

Participant Identification and Recruitment

Online invitations were sent out to existing users of SPARX who have indicated that they are 1: family/whānau of a young person under 24 and 2: they are happy to be contacted regarding future studies. Additionally, Facebook adverts were used alongside general social media posts. Potential participants were identified through specific inclusion criteria. The first being that they are the family/whānau of a young person (under 24) who experiences mental distress, the second criterion is that either the family/whānau or the young person is interested in e-therapy. The third criterion is that the participants live in New Zealand. 10 - 20 individuals who meet these criteria and choose to accept the invitation to participate will be included in the study. You will be provided a $40 online gift voucher from a list of available retailers to thank you for your participation. We do not anticipate any risks in the study, but we will be providing resources for mental health support in case anything discussed causes distress.

Project Procedures

If you participate, you will be asked to use and think about the SPARX E-therapy application over a two-week time period before being invited to attend an online interview to talk about perspectives, concerns, ideas, and feelings about the application and its use with young people. This phase of the study is expected to take as little time away from participants' lives as possible. If you choose to participate, you can spend as much or as little time as you please interacting with the application in the two-week period before the interview. The interview will be recorded to ensure no important information is missed. Mental health support helplines and resources will be provided at the end of the interview. No conflicts of interest have been identified.

Data Management

The data obtained in this study will only be used for the purposes of this study as outlined in this information sheet. Once obtained, the data will be kept securely on the Massey University One Drive server in password protected Zip files that only Dorian Katavich and Dr Shepherd will have access to. The data will be held for 10

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years before being destroyed. Identifying information such as consent forms will be kept separate from raw data so as to prevent participant identification. If you would like a copy of the research findings summary, please provide your email address on the consent form or request this via email to Dorian.Katavich.1@uni.massey.ac.nz

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- *decline to answer any particular question*
- *withdraw from the study at any time up until two weeks after the zoom interview date*
- *ask any questions about the study at any time during participation*
- *provide information on the understanding that your name will not be used unless you give permission to the researcher*
- *request and be given access to a summary of the project findings when it is concluded*
- *ask for the recorder to be turned off at any time during the online interview*

Project Contacts

- Dorian Katavich
  Email: Dorian.Katavich.1@uni.massey.ac.nz

- Dr. Matthew Shepherd
  Email: M.Shepherd1@massey.ac.nz
  Phone: (09) 213 6094

If you have any further questions or concerns, please email Dorian.Katavich.1@uni.massey.ac.nz

MUHEC APPLICATIONS
The following statement is compulsory and MUST be included:

Committee Approval Statement

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application NOR 21/81. If you have any concerns about the conduct of this research, please contact A/Prof Fiona Te Momo, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800, x 43347, email humanethicsnorth@massey.ac.nz

Appendix B – Consent form

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Private Bag 102-904
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Auckland 0745

CONSENT FORM FOR DATA COLLECTION AND INTERVIEW PARTICIPATION

Family/whānau perspectives on the use of E-therapy tools in the treatment of youth mental health

Researcher: **Dorian Katavich**

Supervisor: Dr Matthew Shepherd
Co-supervisor: Dr Karolina Stasiak

I have read, or have had read to me in my first language, and I understand the Information Sheet attached as Appendix I. I have had the details of the study explained to me, any questions I had have been answered to my satisfaction, and I understand that I may ask further questions at any time. I have been given sufficient time to consider whether to participate in this study and I understand participation is voluntary and that I may withdraw from the study at any time up until two weeks after the zoom interview is completed.

1. I agree to the interview being sound recorded.
2. I agree to the interview being image recorded.
3. I understand that I can choose to have my recordings returned to me
4. I understand that taking part in this study is my choice
5. I understand that I can withdraw from the study at any time up until two weeks after the zoom interview is completed
6. I understand that whether I participate in this study or not will not affect my (or my family/whānau's) treatment or therapy
7. I understand that any data I provide will be kept for 10 years before being destroyed
8. I agree to participate in this study under the conditions set out in the Information Sheet.

Please indicate if you would like to receive a copy of your interview transcript to review and/or correct any mistakes: Yes / No

○ ○

Please indicate if you would like to receive a copy of the research findings: Yes / No

○ ○

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If you answered YES to either question above, please provide your email address for us to send the findings and/or transcript review:

____
____
____

Declaration by Participant:

I [print full name] ______________________________ hereby consent to take part in this study.

Signature: ____________________ Date: ______________

Please note you may require Adobe Reader to see and sign the signature field.
https://get.adobe.com/reader/

Contact:

Dorian Katavich: Massey University, School of Psychology. Private Bag 102-904, North Shore, Auckland 0745. Email: Dorian.Katavich.1@uni.massey.ac.nz

Dr Matthew Shepherd: Massey University, School of Psychology. Private Bag 102-904, North Shore, Auckland 0745. Email: M.Shepherd1@massey.ac.nz. Ph (09) 213 6094.

Appendix C – Demographic information form

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Demographic information

Age: ______

Gender: Male Female Non-Binary Other: ____________________

Ethnicity: ______________________________
i.e. NZ European, Māori, Pasifika, etc

Do you live in New Zealand?: Yes No

Name: ______________________________

Date: ______________________________

Signature: ______________________________

Appendix D – Transcript release form

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Family/whānau perspectives on the use of E-therapy tools in the treatment of youth mental health

AUTHORITY FOR THE RELEASE OF TRANSCRIPTS

I confirm that I have had the opportunity to read and amend the transcript of the interview(s) conducted with me.

I agree that the edited transcript and extracts from this may be used in reports and publications arising from the research.

Signature: ______________________________ **Date:** ____________

Full Name - printed ____

Please note you may require Adobe Reader to see and sign the signature field.
https://get.adobe.com/reader/

Appendix E – Questions to consider when using SPARX

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Questions to consider when using SPARX

1. Has a young person in your family/whānau used an E-therapy application like SPARX before? i.e., applications, phone/video calls, computer games, mobile phone text services, chatbots.

2. Is SPARX easy to use?

3. Did you find SPARX engaging?

4. Would the young person in your family/whānau engage with and use SPARX? Why/Why not?

5. Do you think SPARX would appeal to young people from a range of cultural backgrounds?

6. Do you believe the young person in your family/whānau would benefit from using this application? Why/why not?

7. Do you believe the inclusion of family/whānau participation into SPARX and similar applications would be beneficial for the young person in your family/whānau? Why/Why not?

8. In what ways do you think family/whānau participation could be incorporated into SPARX and similar applications to help support young people?

9. Are there any other ways in which you believe SPARX and similar applications can be improved in order to support the mental health of young people and/or appeal to them more?

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Appendix F – SPARX sign-up help sheet

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Getting started with SPARX

1. Open a web browser on your computer or phone and navigate to the following link https://www.sparx.org.nz/register

2. Fill out the sign-up information and click the "I'm not a robot" button then click submit

3. Once you have signed up and logged in you can play SPARX at https://www.sparx.org.nz/start-the-game

4. SPARX is best played on a computer but if you are unable to access one you can download the phone application by searching SPARX on the Apple app store or Google Play store. Alternatively you can use the links below on your phone and be redirected to download SPARX.

   APPLE: https://www.sparx.org.nz/download_ios

   ANDROID: https://www.sparx.org.nz/download_android

Appendix G – Interview guide

Interview Guide

1. What types of E-therapy are you familiar with and how do you feel about them? i.e., applications, phone/video calls, computer games, mobile phone text services, chatbots

2. Did you find SPARX easy to use? Do you think the young person in your family/whānau would find SPARX easy to use?

3. Do you believe SPARX would be engaging for young people?

4. In your opinion, would the young person in your family/whānau engage with and use SPARX? Why/Why not?

5. Do you think SPARX would appeal to young people from a range of cultural backgrounds?

6. Do you believe the young person in your family/whānau would benefit from using SPARX? Why/why not?

7. What do you think/ feel about family/whānau participation in youth E-therapy?

8. Do you believe the inclusion of family/whānau participation into SPARX and similar applications would be beneficial for the young person in your family/whānau? Why/Why not?

9. In what ways do you think family/whānau participation could be incorporated into SPARX?

10. Are there any further thoughts, ideas, or feelings that you have about the application itself or anything discussed today? Have we missed anything that you believe is important to acknowledge or discuss regarding SPARX or E-Therapy?