# E-Mental Health Service Use among Young Adults

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**Abstract**

**Background:** Young adults, aged 18-24 years, often delay or avoid seeking help for their mental health concerns. The use of the internet to deliver e-mental health support offers a low cost, easy-access option, however the factors which influence online help-seeking remain unclear. **Aim:** To examine patterns and characteristics of e-mental health service use among young adults framed by Andersen's Behavioral Model. **Methods:** One hundred and sixty-one young Australians completed an online survey, which comprised of sociodemographic questions and seven standardised measures: *Attitudes Towards Services, Berkman-Syme Social Network Index*, *General Self-Efficacy Scale, Service Obstacles Scale*, *Depression, Anxiety and Stress Scales* and *Actual* and *General Help-seeking Questionnaires*. **Results:** The majority of young people (65.8%, $n = 106$) reported having accessed online mental health supports. In particular, males and young adults living with family members were more like to access social media for their emotional problems. In comparison, 39.8% ($n = 64$) had accessed professional online services - primarily those who reported feeling socially isolated and in distress. Hierarchical logistical regression identified three predisposing factors: a positive attitude towards services facilitated online help-seeking, whereas higher education and living alone presented as significant barriers. **Conclusion:** E-mental health platforms can bridge the gap between technology and conventional mental health care. Whilst young adults engage in online help-seeking, more needs to be done to integrate this service model within the Australian healthcare system.

## Declaration

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made. I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time

Signature: Date: 02/10/2018

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# Introduction

## 1.1 Overview

In Australia, mental illness among young adults (aged 18-24 years) is prevalent. One in four young people will experience a mental health problem, however less than 50% seek professional help (Australian Bureau of Statistics, 2008). Young people are less likely to source help if they hold negative attitudes towards help-seeking or have had negative past experiences with accessing professional mental health support (Gulliver et al., 2010). Internet-delivered mental health information and support, or *e-mental health*, offers a low cost, easily-accessed service option. However, few studies have examined facilitators and barriers to e-mental health use among young adults. The current project addresses this research gap by investigating current e-mental health usage among young adults relative to conventional face-to-face services, in an attempt to elucidate the factors underlying preferences for online help-seeking. The following chapter provides a context for this study. The need to focus on young adults as a vulnerable cohort will be discussed. Individual and contextual barriers and facilitators to mental health access will then be examined with reference to a widely acknowledged theoretical framework: The Behavioral Model of Health Service Use (Andersen, 1968, 1995).

## 1.2 Mental Health of Young Adults in Australia

The transition to adulthood can be challenging and stressful. During this time, a young person may move out of home, establish new relationships, weigh up career choices and experience independence for the first time (McGorry & Goldstone, 2011; Rickwood et al., 2005). Whilst moderate amounts of stress can be beneficial, individuals become emotionally vulnerable when stress is prolonged and exceeds one's resources, coping mechanisms and supports (Everly &

Lating, 2012). Indeed, Australian data suggest that one in four 16-24-year old's have experienced a mental disorder in the previous 12 months – more predominantly, anxiety disorders (15.4%), followed by substance use (12.7%) and affective disorders (6.3%; Australian Bureau of Statistics, 2008). If left untreated, mental health problems during adolescence can have long-term consequences including poor physical health, unemployment and problematic relationships (Gibb, Fergusson & Horwood, 2010; McGorry & Goldstone, 2011). Having an untreated mental illness also increases the risk of suicide - a leading cause of death for young Australians (Australian Bureau of Statistics, 2016). Appropriate help-seeking and access to effective, evidence-based treatments and interventions early in the course of a mental illness is therefore important to ensure better health outcomes for youth (Rickwood et al., 2007).

### 1.3 Targeted Mental Health Services

Young adults not only have the highest prevalence of mental illness than any other age group but also the worst service access (Australian Bureau of Statistics, 2010). Only 13% of young men and 31% of young women seek professional help for their mental health issues (Slade et al., 2009), despite the availability of government-funded, targeted services. In Australia, one such service is headspace. Established in 2006, headspace provides free, easy-to-access mental health care for those aged 12-25 and, with over 100 centers, is the major provider of early intervention services for youth (McGorry et al., 2007). Nonetheless, there is evidence that young adults would still prefer to seek help from their friends and family, rather than formal supports, when they are experiencing distress (Chin et al., 2015; Rickwood et al. 2005). The suggestion is that targeted service models, such as headspace, still have some ways to go in terms of addressing the stigma attached to mental illness (Hilferty et al., 2015).

### 1.4 E-Mental Health

Advances in mobile technology have seen the rapid growth of e-mental health care, worldwide. E-mental health refers to the delivery of targeted services for prevalent mental health concerns, via the internet or related technologies (Christensen & Petrie, 2013). Such interventions can be developed and utilised on a variety of platforms. This includes smartphone applications, online messaging services and crisis support lines, self-help delivered online through peer support, and even virtual clinics which utilise telecommunications software (e.g. Skype), to offer confidential online counselling and therapy (Department of Health and Ageing, 2012; Farrer et al., 2015). The need for accessible, high quality and integrative e-mental health care is recognised by the E-Mental Health Strategy for Australia (Department of Health and Ageing, 2012), which highlights the role of e-mental health as an additional layer in the healthcare system. Importantly, research has found that when individuals engage primarily with e-mental health interventions, they are more likely to use it as a stepping stone towards face-to-face therapy (Kauer, Mangan & Sanci, 2014; Younes et al., 2015). E-mental health services can, therefore, help to reach a vulnerable population that are reluctant to seek conventional help.

Young people are becoming more aware of how they can utilise technology to improve their wellbeing. Around 40% of this cohort experiencing moderate to very high levels of psychological distress have willingly used the internet to talk to others about their problems (Burns et al., 2016). For young adults in distress, technology offers a low cost, easy-access environment to speak about their problems online (Burns et al., 2010). The feature of confidentiality, in particular, is highly valued among young adults (Best, Manktelow & Taylor, 2014; Burns et al., 2010). The internet also provides a unique opportunity for people to connect

with one another and share experiences (Collin et al., 2011). In this regard, technology offers an opportunity for young adults to overcome stigma and isolation to seek help (Burns et al., 2016).

There is preliminary evidence to suggest that e-mental health care is effective. A meta-analysis of 22 studies found equivalent treatment effects between online and face-to-face cognitive behaviour therapy for a variety of mental health disorders in adults including major depression, generalised anxiety, panic and social phobia (Andrews & Titov, 2010). Participants who accessed online therapy reported significant and positive gains in mood immediately post-intervention. These gains were also maintained in the longer term, once therapy had ceased (Andrews & Titov, 2010).

However, the actual implementation of e-mental health services into the broader primary mental health care system remains fragmented. Consumer engagement with e-mental health is less than optimal. There is a need for studies to specifically focus on young adults' perceived barriers to e-mental help-seeking. This includes investigating acceptability, service preferences and attitudes towards e-mental health. A theoretical framework that considers all of these variables is Andersen's (1968) Behavioral Model.

### 1.5 Andersen's Behavioral Model of Service Use

The Behavioral Model of Health Service Use, designed by sociologist Ronald Andersen (1968), is commonly used to explain the help-seeking behaviours of individuals experiencing mental illness. Andersen (1968) proposed that service access is determined by an individual's *predisposition* to seek help, in addition to *enabling* factors that may impede or encourage help-seeking and one's overall *need* to access care. This multi-level model has since had numerous iterations (e.g. Andersen, 1995; Andersen & Newman, 1973) and remains the most widely

utilised model in studies investigating health care service use (Babitsch, Gohl & Lengerke, 2012). The following section will examine the utility of Andersen's model in the context of youth mental health and subsequent help-seeking.

**1.5.1 Predisposing variables.** Predisposing variables refer to an individual's predisposition to seek help based on personal attributes (Andersen, 1995; Andersen & Newman, 1973). In addition to younger age, being male, having a lower level of education, identifying as an ethnic minority, speaking a language other than English, living alone and having a negative attitude towards services have all been found to predict lower access rates for conventional mental health treatment (Australian Bureau of Statistics, 2008; Babitsch, Gohl & Lengerke, 2012; Li, Denson & Dorstyn, 2016). However, the individual and combined contribution of these aforementioned factors to health service use among young adults, in particular, is conflicting.

***1.5.1.1 Gender.*** Gender differences in service use have been noted among young adults. In a recent systematic review by Li, Denson and Dorstyn (2016), young women were twice as likely as young men to engage with clinical services (e.g. psychiatry, psychology, social work). In comparison, young men seem to perceive more attitudinal barriers to mental health care (Australian Bureau of Statistics, 2008; Rickwood et al., 2007). Qualitative research describes the concept of help-seeking among young males as emasculating (Best et al., 2016). However, this finding has not always been reported across cultures and, in fact, seems more prevalent among Caucasian men (Magaard et al., 2017). Regardless, the discretion offered by e-mental health interventions could potentially result in higher rates of service use, particularly among young men who are worried about being perceived as weak (Best, Manktelow & Taylor, 2014).

***1.5.1.2 Education.*** A significant association between education level and health service use has been established in the general population. Those with higher levels of education are more likely to seek help for their mental health concerns (Babitsch, Gohl & Lengerke, 2012), particularly if they have a tertiary degree (Magaard et al., 2017). In regard to young Australians the evidence is less clear. Parslow et al. (2002) found that young adults who visited a general practitioner were more likely to be educated. However, it is also known that Australian students enrolled in higher education experience psychological distress at rates three times higher than the general population, yet only 34% of those with severe psychological distress will access professional help (Stallman, 2010). Whether the same findings apply to accessing e-mental health services, specifically, remains to be determined.

***1.5.1.3 Ethnicity and language.*** Ethnic disparities in service use have been noted in the mental health literature, regardless of whether the service is provided by conventional (face-to-face) means or online. In their large-scale cross-country study examining 751 Canadian and American adults, Mojtabai and Olfson (2006) found that ethnic minority groups had lower rates of help-seeking in comparison to Caucasian populations. Australian research has revealed similar findings, with Indigenous persons being less likely to engage with general practitioners (Burns, Hickie & Christensen, 2014), and over 60% less likely to have an internet connection that would allow them to access support online (Notley & Foth, 2008). Earlier research has also established that culturally and linguistically diverse (CALD) groups in Australia often reject seeking help from mental health services (McDonald & Steel, 1997). In particular, confidentiality and cultural concerns surrounding the use of translators in healthcare settings, have been identified by young Australian refugees (Colucci et al., 2015). Less is known about

the help-seeking experiences of CALD youth in Australia, including whether or not the internet can facilitate service use among young adults with English as their second language.

***1.5.1.4 Relationship status and living arrangements.*** In the general population, relationship status has repeatedly been linked to health care access, although the direction of this relationship appears to vary across cultures (Babitsch, Gohl & Lengerke, 2012). Young Australian women in a relationship are more likely to seek help from a general practitioner than peers who are not partnered (Parslow et al., 2002). Intimate relationships, considered an important source of support throughout adolescence, have also been found to influence young men to seek help from a psychologist (Cusack et al., 2004). Given that young adults often rely on social supports for advice, it seems reasonable that an individual's living arrangements may impede or facilitate help-seeking (Gulliver et al., 2010). In a study of 398 Turkish university students, those living with families and friends reported more positive attitudes towards help-seeking for a psychological problem, in comparison to peers who lived alone on campus (Koydemir-Ozden & Erel, 2010). Notably, the available research has primarily focused on the experiences and attitudes of high school and tertiary students, which are considered to represent a distinct group of young adults, given the unique pressures they face relevant to their studies (Blanco et al., 2008; Royal College of Psychiatrists, 2011).

***1.5.1.5 Attitude towards services.*** An individual may fully embrace or entirely reject a healthcare service depending on their personal attitudes and beliefs (Andersen, 1968). Research has found that young Australians perceive themselves as more likely to access an online mental health service if facilitated by a trusted, professional source. Interestingly, this attitude does not reflect their actual help-seeking practices, given that young adults are still more likely to seek help from informal supports (i.e. friends) online (Best, Manktelow & Taylor, 2014).

Alternatively, people may place less trust in a healthcare service if they believe that personal problems should be kept private (Babitsch, Gohl & Lengerke, 2012). Perceived stigma, embarrassment and low mental health literacy have also prevented young adults from seeking help (Beatie, Stewart & Walker, 2016; Gulliver et al., 2010). In relation to e-mental health, concerns about data security can negatively impact the credibility, reliability and overall success of an intervention (Bennett, Bennett & Griffiths, 2010).

**1.5.2 Enabling variables.** Enabling variables are frequently examined in the help-seeking literature. These factors include social and community resources which facilitate service use (Andersen, 1995; Andersen & Newman, 1973; Babitsch, Gohl & Lengerke, 2012).

***1.5.2.1 Financial status.*** Financial barriers related to direct healthcare costs or indirect costs (e.g. transportation to appointments) can impede service use and, ultimately, lead to negative health outcomes. "Lack of affordability" has been cited as one of the main reasons why Australian adolescents do not seek help from a doctor, psychologist or psychiatrist for a mental health concern (Sheffield, Fiorenza & Sofronoff, 2004). Interestingly, only three of 12 papers in Magaard et al's systematic review (2017) reported a significant positive association between income and help-seeking behaviour. Similarly, Sawyer, Miller-Lewis and Clark (2007) did not report a significant relationship between the mental health help-seeking behaviours of young Australians and their reported household income. However, this latter study examined younger adolescents (aged 13-17). As such, these findings may not apply to older adolescents, who are more likely to be employed and have control over their finances. Although the use of e-mental health services may transcend the perceived barrier of financial difficulty, by providing free access to a range of online resources, a 'digital divide' – or lack of internet connectivity - remains prevalent in rural and very remote regions of Australia (Notley & Foth, 2008).

***1.5.2.2 Employment status.*** Not only do unemployed individuals experience higher rates of mental illness (Baumeister & Harter, 2007; Brand, 2015; Drydakis, 2015; Tonelle et al., 2017), they also have poorer rates of mental health service use in comparison to age-matched peers who are employed (Ahs, Burell & Westerling, 2012). These results have been replicated in Australian research: young adults who exhibit high levels of psychological distress are also more likely to be unemployed (Roy Morgan, 2015). The stigma of being unemployed, in addition to limited finances, can be a key barrier towards seeking help for mental health problems (Staiger et al., 2017). E-mental services could facilitate help-seeking in young adults by allowing anonymity and, in turn, avoiding stigma-related barriers to service use. However, Younes et al., (2015) found no significant association between employment status and e-mental health service use among a sample of French young adults.

***1.5.2.3 Region of residence.*** A key structural barrier to help-seeking among young Australian adults is rural residence. Quine and colleagues (2003) identified differences between the mental health anxieties of urban and rural adolescents: young people residing in rural locations were more concerned about youth suicide than their urban counterparts. A subsequent report from the National Rural Health Alliance (2009) supports this finding, with males aged 15-24 living in regional, rural or remote areas being almost twice as likely to commit suicide in comparison to peers residing in metropolitan locations. Despite this, rural youth struggle to access mental health services often because of their limited availability and accessibility (Black, Roberts & Li-Leng, 2012; Jackson et al., 2007). Considerable stigma around mental illness has also been reported in smaller communities, possibly stemming from unique "gossip-like" networks which characterise rural social life (Boyd et al., 2007; Jackson et al., 2007). In this context, online interventions may facilitate help-seeking in distressed young adults living in rural Australia, by

providing an opportunity to access professional support, regardless of geographical constraints (Burns, Hickie & Christensen, 2014).

***1.5.2.4 Social support.*** Social support can facilitate mental health service use and prevent the development of mental health issues (Albert et al., 1998; Gulliver et al., 2010). Young people often seek out mental health services based on a recommendation from a family member or friend (Rickwood et al., 2005), or may rely on these informal sources of support to talk about their problems (Gulliver et al., 2010). There are, however, mixed findings in this literature. In their systematic review, Li, Denson and Dorstyn (2016) identified four cross-sectional studies exploring social support. Only one item "warm and trusting relationships", examined by a single study, predicted help-seeking in young adults. This may, however, reflect the broad operationalisation of social support as a construct, which often includes the quality and/or quantity of a young person's social network. Moreover, quantitative studies in this area have not routinely used standardised measures for this construct (Li, Denson & Dorstyn, 2016). Whether social support can also facilitate e-mental service use in Australian youth is unknown, despite suggestion that the internet provides an ideal platform to recommend services and provide support to one another (Burns et al., 2016).

***1.5.2.5 Self-efficacy.*** Self-efficacy, a concept in social-cognitive theory, refers to a person's belief in their ability to attempt challenging or new tasks, and to deal with possible setbacks that may arise (Bandura, 1977). Individuals with high self-efficacy are more likely to persevere, despite setbacks (Bandura & Wessels, 1997). Although self-efficacy has been explored as a critical variable in chronic illness management (Bonsaksen, Lerdal & Fagermoen, 2012) and academic achievement (Williams & Takaku, 2011), less is known about its role in relation to mental health help-seeking. The limited available data suggest that low levels of self-efficacy

may enable help-seeking for a psychological problem (Judd et al., 2006), but also impede it (Andersson et al., 2014; Schmutte et al., 2009). The direct or indirect role of self-efficacy beliefs in online help-seeking behavior remains to be determined.

***1.5.2.6 Service quality and accessibility***. Structural barriers to seeking traditional mental health support are particularly strong. These include lack of transport and access (especially common in rural populations; Rickwood et al., 2005), service cost and competing time commitments (Black, Roberts & Li-Leng, 2012; Gulliver, 2010). Whether or not these issues impact on e-mental health service use, which are often developed to be cost-efficient and accessible, is unknown.

**1.5.3 Need variables.** According to Andersen (1995), need variables can be *perceived* — that is, based on an individual's subjective perception of their health status – or *evaluated*, which means they are collected objectively. *Perceived* need, in particular, has been consistently linked with health service use. As mental illness becomes more severe, an individual's likelihood of help-seeking increases (Andersen & Newman, 1973).

***1.5.3.1 Psychological distress.*** Symptoms of depression, anxiety and stress have been significantly linked to help-seeking behaviour in adolescents. That is, increased psychological distress may increase an individual's willingness to access professional help (Beatie, Stewart & Walker, 2016; Madianos et al., 2011; Rickwood & Braithwaite, 1994; Sheffield, Fiorenza & Sofronoff, 2004; Zwaanswijk et al., 2003). According to Sheffield et al. (2004), young adults may perceive their distress as so problematic to their wellbeing, that their help-seeking transcends predisposing and enabling barriers once encountered. Despite these findings, there is still evidence to suggest that severe depression with suicidal ideation can prevent young people

from accessing professional mental health services, even as their symptoms worsen (Carlton & Deane, 2000; Garland & Zigler, 1994; Gould et al., 2004; Rickwood et al., 2005; Sawyer et al., 2012).

**1.5.4 Help-seeking behaviour.** Help-seeking is a critical coping mechanism used to relieve an individual's state of psychological distress (Rickwood & Braithwaite, 1994). Help-seeking behaviours can vary between individuals and may be more or less prevalent when accounting for sociodemographic factors such as age, gender and culture (Ishikawa, Cardemil & Falmagne, 2010). For the purpose of this study, the type of help sought (for both conventional and e-mental health services), will be classified as *informal*, or *formal*. *Informal* help-seeking is more common among young adults and involves turning to family members and friends for support (Rickwood et al., 2005). In the context of e-mental health, informal help-seeking may involve using social media (i.e. Facebook, Twitter, Snapchat) to reach out online. *Formal* help-seeking involves clinical engagement with a mental health professional (Young, Giles & Plantz, 1982; Setiawan, 2006). This may take the form of a conventional service, like that provided by a general practitioner or psychologist (Cornally & McCarthy, 2011; Rickwood et al., 2005; Rickwood & Thomas, 2012) or, as contextualised in this study, the use of an online professional and confidential mental health service (e.g. eheadspace).

Although formal help-seeking has been associated with better mental health outcomes for those with elevated levels of psychological distress (Greenberg et al., 2001; Martin, 2002), young adults still appear to rely on informal supports (Hickie et al., 2007; Rickwood et al., 2005). However, this level of support may not be sufficient to alleviate their symptoms. Even more worrying is when young adults avoid seeking help from anyone – including their family and

friends. According to Rickwood et al. (2005), this finding is particularly common in those experiencing suicide ideation.

## 1.6 Current Study

Despite being a growing field, more work needs to be done in order to establish the significance of e-mental health in the Australian healthcare system. Indeed, the focus surrounding technology and help-seeking has often involved testing the efficacy of e-mental health interventions, rather than detecting the equity that young people have in accessing these services. There is also an inconsistency between the availability of e-mental services for youth and actual uptake of these services. It follows that structural or attitudinal barriers to e-mental health care are important and require exploration. However, quantitative studies in this area neglect a key theoretical framework, which makes comparison of the literature difficult (Kauer, Mangan & Sanci, 2014). The current study attempts to address this gap in the help-seeking literature as it pertains to young adults.

### 1.6.1 Project aims.

The current study had three aims:

1) Describe the characteristics of e-mental health service use in a cross-sectional community sample of young Australian adults (18-24 years). This includes the sociodemographic and psychological characteristics that differentiate those who access e-mental health.

2) Compare support preferences for e-mental health (i.e. *formal* sources - such as Beyondblue and eHeadspace, vs. *informal* sources- such as social media), with traditional service use (i.e. seeking help from a general practitioner, psychiatrist, psychologist).

3) Examine barriers and facilitators associated with e-mental health service use in this cohort in accordance with a major theoretical framework: Andersen's (1995) Behavioral Model. It was hypothesised that a combination of the following variables would contribute to both e-mental health and traditional service use. Whether different variables would determine either type of service use was unknown, given the developing literature examining e-mental health for young adults in general.

- *predisposing* variables (i.e. gender, education, ethnicity, language, relationship status, living arrangements, attitude towards services),
- factors which may *enable* or *impede* service use (i.e. finances, employment, region of residence, social support, self-efficacy, service quality and accessibility), and
- perceived *need* (i.e. psychological distress).

# Method

## 2.1 Participants

Inclusion criteria for this study required participants to be aged between 18 and 24 (as per the definition of a young adult by the Australian Bureau of Statistics, 2008) and currently living in Australia (as confirmed by geolocation: https://www.iplocation.net/). Of the 235 participants that accessed the online survey, 161 provided responses to at least 90% of items. This final sample primarily comprised of females (71.4%, *n* = 115), who identified as Caucasian (73.9%; *n* = 119), and resided with their family (63.4%, *n* = 102). The majority were also employed (68.5%, *n* = 106) and from an urban population (68.3%, *n* = 110). The mean age was 20.6 (SD = 1.95), which may explain why secondary education was the highest qualification achieved by most (53.4%, *n* = 86). All participants indicated that English was their first language.

## 2.2 Measures

**2.2.1 Predisposing variables.** In addition to the aforementioned socio-demographic data, a 6-item *Attitudes Towards Services* measure was included (Best, Manktelow and Taylor, 2014). Respondents rate various features considered to be important in the delivery of an online mental health service (e.g. '*anonymity', 'professionally trained staff*') from '*not very important'* (0) to *'very important'* (3): higher ratings reflect greater endorsement of a particular service characteristic. The internal consistency of this scale was low in this study (α = .63). Notably, this scale has only recently been developed as a tool to describe feature preference and only been previously tested with adolescent males.

**2.2.2 Enabling variables.** Alongside socioeconomic details (i.e. annual household income, employment status), residential location (urban vs. rural - as defined by postcode area: http://www.doctorconnect.gov.au/internet/otd/publishing.nsf/Content/locator), and preferred language (English/other), three standardised psychological measures were utilised, as listed below.

***2.2.2.1 Berkman-Syme Social Network Index.*** (SNI; Berkman & Syme 1979). The SNI assesses the type, size, closeness, and frequency of contacts in an individual's current social network, categorising responses into four levels of social connectedness from '*socially isolated'* to *'socially integrated'*. A typical item, "*Is there someone available to you whom you can count on to listen to you when you need to talk?"* would be rated in the following categories; *'none', '1 or 2', '3 to 5', '6 to 9', '10 or more', 'unknown'*. Lower scores relate to higher levels of social isolation. In this study, any score below one was considered 'socially isolated', as per the cut-off score adopted by Avendano et al. (2006). The SNI has a previously reported internal reliability of .84 (Sykes et al., 2002). In this study, the Cronbach alpha was .82.

***2.2.2.2 General Self-Efficacy Scale.*** (GSES; Schwarzer and Jerusalem, 1995). This 10-item scale has been validated with high school and university-aged participants (Rimm & Jerusalem, 1999; Luszczynska et al. 2005). Items are rated on a 4-point scale from '*not at all true'* to '*exactly true'* (e.g. *"It is easy for me to stick to my aims and accomplish my goals"*). Higher scores indicate higher levels of perceived self-efficacy, or self-confidence. Consistent with previous psychometric studies, the internal reliability for the GSES was strong in this study ($\alpha = .90$).

***2.2.2.3 Service Obstacles Scale.*** (SOS; Kreutzer, 2000; Kolakowsky-Hayner et al. 2000). Originally designed to assess the perceived quality and accessibility of brain injury services in the community, the SOS was adapted, with permission, for the purpose of this study (i.e. the term '*brain injury'* replaced with '*mental health'*, personal correspondence, 12/4/2018). The SOS uses a 5-point Likert scale to emphasize positive aspects of the service delivery system (e.g. *"lack of money is not a major obstacle"*). Each item is rated from *'strongly disagree'* to *'strongly agree'*. In the current study, the SOS had good internal reliability (α = .78).

**2.2.3 Need variable.**

***2.2.3.1. Depression Anxiety Stress Scales.*** (DASS-21; Lovibond and Lovibond, 2005). This 21-item scale measures symptoms of depression, anxiety, stress experienced in the past week such as "*I was unable to become enthusiastic about anything*" from *0* '*did not apply to me at all'* to *3 'applied to me very much, or most of the time'*. Subscale scores are multiplied by two to allow comparisons with normative data (Lovibond and Lovibond, 2005). Consistent with Mahmoud et al.'s (2010) psychometric evaluation of the DASS-21 among 18-24 year olds, high internal reliability was noted in this study for each subscale (Depression α =.93; Anxiety α =.90; Stress α =.90). The DASS-21 subscales can also be summed to provide an overall index of psychological distress, which similarly produced a good Cronbach alpha in the current study (α =.96).

**2.2.4 Help-seeking behaviour.**

***2.2.4.1 Help-Seeking Questionnaires.*** *Actual* help-seeking (AHSQ; Rickwood & Braithwaite, 1994), or whether individuals actually sought help in the past 4 weeks, and *general* help-seeking (GHSQ; Rickwood & Braithwaite, 1994), or the likelihood of seeking informal

(e.g. friends, family, social media), formal (e.g. GP, Psychologist) or no help for a personal or emotional problem in the immediate future (i.e. the next 4 weeks), were examined. Both questionnaires are available in the public domain and were adapted for the purposes of this study to include "*online professional mental health service*" and "*social media*" as help-seeking options.

**2.3 Recruitment Procedure**

Following ethics approval from the University of Adelaide Human Research Ethics Subcommittee (approval number 18/27), Australian organisations affiliated with young adults were identified using the Google search engine and key terms *'Australia'* and *'mental health services'*. In addition, a search of online youth directories and local youth groups was undertaken. Forty-two organisations were subsequently emailed and asked if they were willing to share the survey link and flier via social media (e.g. Facebook, Twitter, Instagram), e-newsletters and/or member list-servs. Email reminders were sent to those organisations that did not respond after 10 business days, with 18 (38.1%) indicating a willingness to assist with recruitment. The survey flier was also shared on six Facebook groups frequented by young adults (i.e. Girls Advice, Blokes Advice etc.).

The online survey (hosted by SurveyMonkey ©) included a preamble information sheet and consent form, outlining respondents' right to withdraw from the study at any time. Participants were informed that they would go in to the draw to win one of three gift cards valued at $ AUD 50. This required participants to enter their email addresses. This data was separated from the final dataset in order to protect anonymity. Prior to recruitment, the survey was pilot-tested on

10 dummy participants, with survey completion estimated to take 15 minutes maximum to complete a total of 39 questions.

### 2.4 Statistical Analyses

Data were analysed using Statistical Package for the Social Sciences (SPSS, Version 24.0). The data were initially screened to determine suitability for parametric analyses. Listwise case deletion was required for the social support measure (SNI) to remove the category of *"unknown"* responses, which do not contribute to the total scale score (Berkman & Syme 1979). Means, standard deviations and frequency counts for individual measures were examined in order to provide a general description of the sample's psychological and help-seeking characteristics. Correlations (Pearson's *r* for continuous variables, point-biserial correlation for categorical variables) were then calculated to identify support preferences (i.e. *informal* vs *formal*) for help-seeking (both e-mental health and face-to-face). Finally, two hierarchical logistic regressions examined the combination of predisposing, enabling, and need variables in the prediction of e-mental health service use and face-to-face service use, respectively. For both regression models, independent variables were entered in steps, consistent with Andersen's (1995) framework. As each predictor variable requires at least 10 observations (Vittinghoff & McCulloch, 2007), our sample size of 161 was adequate for conducting regression analysis involving 14 independent variables.

# Results

## 3.1 Data Screening

Prior to analysis, data screening was performed to assure normality and homogeneity of variance. The Kolmogorov-Smirnov goodness-of-fit test was first used to evaluate the assumption of a normal distribution for each measure. Typically, a non-significant K-S test value would satisfy this assumption (Field, 2009). In this study, K-S test values were significant for most measures, indicating a deviation from normality. However, the K-S test is sensitive to large samples and can trigger significant results even when there is a slight deviation from normality (Field, 2009). Therefore, it is recommended that skewness and kurtosis values are considered in addition to graphical data (i.e. histograms, Q-Q plots; Field, 2009). Visual inspection of the data through Q-Q plots and histograms confirmed normality, with skewness and kurtosis values appearing to cluster around zero (indicative of a normal distribution). Given that the sample size was sufficiently powered, the assumption of normality was quite robust.

## 3.2 Psychological and Help-Seeking Characteristics

Descriptive statistics for each psychological measure scale are presented in Table 1. This sample of young adults self-reported mixed attitudes (both positive and negative) in relation to e-mental health, but also identified feelings of social isolation (SNI) and low to moderate levels of self-efficacy (GSES). Identified barriers to mental health service use (SOS), in general, included "*lack of money"* (57%, *n* = 92), followed by a lack of *transportation* (32.9%, *n* = 53) and low level of *satisfaction* (27.3%, *n* = 44) with the quality of available services.

Consistent with previous research (Australian Bureau of Statistics, 2008; Rickwood et al., 2013), this sample of young Australian adults reported poor mental health. This included moderate to extremely severe levels of depression, as reported by 70.6% of respondents (*n* = 77*;* cut off score > 13, Lovibond & Lovibond, 2005), with 66.9% reporting similar levels of anxiety (*n* = 75; cut off score >14, Lovibond & Lovibond, 2005) and 71.1% experiencing severe physical, behavioural and emotional symptoms of stress (*n* = 64; cut off score >26, Lovibond & Lovibond, 2005).

*Table 1. Descriptive statistics for standardised psychological measures*

| | Attitudes | Social Support (SNI) | Self-Efficacy (GSES) | Service Obstacles (SOS) | Depression Anxiety Stress (DASS-21) |
|---|---|---|---|---|---|
| Valid | 161 | 141 | 161 | 161 | 161 |
| Missing | 0 | 20 | 0 | 0 | 0 |
| Mean | 3.21 | 1.03 | 26.32 | 3.01 | 57.88 |
| Range | 1-4 | 0-3 | 0-40 | 1-5 | 0-120 |
| Minimum | 2.2 | 0 | 10.0 | 1.0 | 6.0 |
| Maximum | 4.0 | 2.5 | 40.0 | 4.5 | 120.0 |

Table 2 lists the descriptive data for both actual (AHSQ) and general (GHSQ) help-seeking (Rickwood & Braithwaite, 1994). Informal help-seeking was preferred - regardless of whether this was sourced online (i.e. social media) or face-to-face (i.e. friends, partner, family). Although formal online mental health services were the least popular source of help-seeking, young adults did indicate intending to use such services more in the next month. This sample also rated their level of satisfaction as *'high'* or *'very high'* after seeking face-to-face help from a mental health professional (51.6%, *n* = 43/120), in comparison to help seeking from social media (22.8%, *n* = 26/88) or an online mental health service (11.8%, *n* = 15/79).

*Table 2. Frequency of help-seeking sources*

| Help Source* | Actual Help-seeking Questionnaire (AHSQ) *n* (%) | General Help-seeking Questionnaire (GHSQ) *n* (%) |
|---|---|---|
| Friend | 101(62.7) | 115 (71.4) |
| Partner | 83 (51.6) | 86 (53.4) |
| Parent | 72 (44.7) | 95 (59.0) |
| Relative | 36 (22.4) | 45 (28.0) |
| Mental health professional | 27 (16.8) | 40 (24.8) |
| General (medical) practitioner | 27 (16.8) | 30 (18.6) |
| Social media | 18 (11.2) | 16 (9.9) |
| Teacher | 7 (4.3) | 5 (3.1) |
| Phone helpline | 5 (3.1) | 6 (3.7) |
| Online mental health service | 4 (2.5) | 14 (8.7) |
| Would not seek help | 13 (8.1) | 1 (0.6) |

* Participants could select multiple sources for both questionnaires.

### 3.3 Characteristics of E-Mental Health Service Use

Among our sample of young adults, 65.8% (*n* = 106) reported having accessed mental health support via the internet. Of these, 47.8% (*n* = 77) had utilised social media to seek informal help. Facebook was the most common form of informal help-seeking (42.4%, *n* = 68), followed by Snapchat (16.8%, *n* = 27), and Instagram (13%, *n* =21). Only 39.8% (*n* = 64) had accessed a professional online service: Beyondblue (25.5%, *n* = 41), eheadspace (18.6%, *n* = 30) or ReachOut (8.1%, *n* = 13).

Similar to findings by Best, Manktelow and Taylor (2014), respondents rated the following four features as being critical to seeking formal help from an online mental health service:

having a "*trusted source"* of information (96.3%, *n* = 155), access to *"professionally trained staff"* (92%, *n* = 148), *"anonymity"* (87%, *n* = 140) and *"the ability to text/type feelings"* (81.4%, *n* = 131). Features considered as less important included the opportunity to *"chat online with others"* (68.3%, *n* = 110) and access to *"interactive content"* (e.g. games, videos, presentations; 33.5%, *n* = 54).

### 3.3.1 Support preferences for e-mental health.

Table 3 lists the factors associated with both formal (i.e. online professional) and informal (i.e. social media) help-seeking. A negative, albeit weak, relationship was noted between traditional face-to-face help-seeking and the use of professional online services: those who had accessed conventional supports were less likely to access the same type of support online. In addition, those who reported feeling socially isolated and those who endorsed symptoms of psychological distress were more likely to access professional online resources.

Interestingly, informal help-seeking via social media was significantly and positively related to gender, albeit weakly. That is, men were more likely than women to seek informal help online. Young adults living with family members were also more likely to access social media (e.g. Facebook) for support. Finally, having a positive attitude about e-mental health service features led to an increase in social media help-seeking.

## 3.4 Predictors of E-Mental Health and Traditional Service Use

Hierarchical logistic regression was used to examine the individual and combined effects of predisposing, enabling and need variables on e-mental health service use (defined as yes/no use). The model, as a whole, explained between 21% (Cox and Snell R Square) and 29%

*Table 3. Correlation matrix examining online help-seeking relationships*

| | | Formal | Informal |
|---|---|---|---|
| Online professional | *r* | — | |
| | *p* | — | |
| Social media | *r* | 0.112 | — |
| | *p* | 0.159 | — |
| Traditional (face to face) | *r* | **-0.169*** | -0.053 |
| | *p* | 0.032 | 0.503 |
| **Predisposing variables** | | | |
| Gender | *r* | 0.008 | **0.165*** |
| | *p* | 0.920 | 0.036 |
| Education level | *r* | -0.121 | -0.129 |
| | *p* | 0.126 | 0.102 |
| Ethnicity | *r* | 0.049 | -0.026 |
| | *p* | 0.537 | 0.745 |
| Relationship status | *r* | 0.132 | 0.003 |
| | *p* | 0.095 | 0.967 |
| Living situation | *r* | -0.126 | **-0.244**** |
| | *p* | 0.112 | 0.002 |
| Attitudes | *r* | 0.022 | **0.187*** |
| | *p* | 0.786 | 0.017 |
| **Enabling variables** | | | |
| Income level | *r* | 0.025 | 0.121 |
| | *p* | 0.758 | 0.125 |
| Employment status | *r* | -0.057 | 0.008 |
| | *p* | 0.471 | 0.920 |
| Residence | *r* | -0.047 | 0.010 |
| | *p* | 0.553 | 0.895 |
| Social support (SNI) | *r* | **-0.244**** | 0.079 |
| | *p* | 0.004 | 0.351 |
| Self-efficacy (GSES) | *r* | -0.142 | -0.130 |
| | *p* | 0.073 | 0.099 |
| Service obstacles (SOS) | *r* | -0.149 | -0.013 |
| | *p* | 0.060 | 0.867 |
| **Need variable** | | | |
| Psychological distress (DASS-21) | *r* | **0.169*** | 0.085 |
| | *p* | 0.032 | 0.282 |

Bold font denotes significant result: *$p < .05$, **$p < .01$.

(Nagelkerke R Square) of the variance in online help-seeking (Table 4). In Step 1, previous face-to-face mental health support explained only 4.7% of the variance in accessing subsequent online help-seeking. Six predisposing variables were entered in step two. This model was a significant fit of the data ($\chi 2$ (12) = 23.39, $p$ = .025). Adding the six enabling variables in step three did not significantly improve model fit ($\chi 2$ (22) = 31.81, $p$ = .081). Finally, the need variable: psychological distress, was added in step four. This variable did not significantly predict online service use ($\chi 2$ (1) = 1.21, $p$ = .271). In the final model, only three *predisposing* variables significantly inhibited or facilitated online help-seeking: higher levels of education impeded e-mental health service use (OR =.05, CI =.003-.855, $p$ =.038), while, positive attitude was a strong facilitator (OR = 3.87, CI=1.41-10.56, $p$ =.008). Furthermore, young adults living alone were less likely to use e-mental health services than those living with their families (OR =.15, CI= .027-.880, $p$ =.035).

A further hierarchical logistic regression was performed using traditional (face-to-face) help-seeking as the dependent variable (see Table 5). The final model explained between 28% (Cox and Snell R Square) and 40% (Nagelkerke R Square) of the variance. Online help-seeking (defined as yes/no use) achieved significance as a variable in steps one ($\chi 2$ (1) = 4.74, $p$ = .029) and two of the model. However, in the final model there was only one significant predictor: psychological distress ($\chi 2$ (1) = 4.85, $p$ = .028) and this significantly improved model fit ($\chi 2$ (23) = 46.94, $p$ = .002). Young adults experiencing higher levels of depression, anxiety and stress were more likely to seek face-to-face help (CI = 1.01-1.04, $p$ = .032).

*Table 4. Hierarchical logistic regression to predict online help-seeking*

| | Model 1 | | | Model 2 | | | Model 3 | | | Model 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | *B* | *SE B* | *β* | *B* | *SE B* | *β* | *B* | *SE B* | *β* | *B* | *SE(B)* | *β* |
| Face-to-face help-seeking | 0.82 | 0.37 | **2.27*** | 0.90 | 0.41 | **2.47*** | 0.73 | 0.47 | 2.09 | 0.84 | 0.48 | 2.33 |
| **Predisposing** | | | | | | | | | | | | |
| Sex | | | | 0.47 | 0.46 | 1.60 | 0.55 | 0.51 | 1.73 | 0.66 | 0.53 | 1.93 |
| Education | | | | | | | | | | | | |
| 1 | | | | 0.11 | 0.46 | 1.12 | -0.11 | 0.50 | .89 | -0.15 | 0.51 | .85 |
| 2 | | | | -0.38 | 0.58 | .68 | -0.21 | 0.62 | .80 | -0.27 | 0.62 | .76 |
| 3 | | | | -2.23 | 1.26 | .10 | -2.78 | 1.39 | **.06*** | -2.91 | 1.40 | **.05*** |
| Ethnicity | | | | 0.33 | 0.44 | 1.39 | 0.42 | 0.47 | 1.53 | 0.43 | 0.47 | 1.54 |
| Relationship status | | | | 0.20 | 0.46 | 1.22 | 0.37 | 0.50 | 1.44 | 0.36 | 0.51 | 1.44 |
| Living situation | | | | | | | | | | | | |
| 1 | | | | -0.92 | 0.85 | .39 | -0.80 | 0.91 | .44 | -0.75 | 0.92 | .47 |
| 2 | | | | -0.38 | 0.54 | .67 | -0.26 | 0.59 | .76 | -0.27 | 0.59 | .76 |
| 3 | | | | -0.82 | 0.79 | .43 | -0.51 | 0.94 | .59 | -0.58 | 0.94 | .55 |
| 4 | | | | -1.81 | 0.80 | **.16*** | -1.74 | 0.86 | **.17*** | -1.87 | 0.89 | **.15*** |
| Attitude score | | | | 0.95 | 0.44 | **2.59*** | 1.21 | 0.49 | **3.36*** | 1.35 | 0.51 | **3.87**** |
| **Enabling** | | | | | | | | | | | | |
| Annual income | | | | | | | | | | | | |
| 1 | | | | | | | 0.25 | 0.57 | 1.29 | 0.28 | 0.58 | 1.33 |
| 2 | | | | | | | 0.90 | 0.61 | 2.46 | 0.91 | 0.62 | 2.49 |
| 3 | | | | | | | 0.16 | 0.87 | 1.17 | 0.15 | 0.88 | 1.16 |
| 4 | | | | | | | 1.30 | 1.23 | 3.68 | 1.49 | 1.25 | 4.44 |
| 5 | | | | | | | -0.13 | 1.09 | .87 | -0.22 | 1.09 | .80 |
| Employment status | | | | | | | -0.09 | 0.50 | .91 | -0.21 | 0.52 | .80 |
| Residence | | | | | | | 0.62 | 0.46 | 1.86 | 0.67 | 0.46 | 1.95 |
| Social support | | | | | | | -0.38 | 0.45 | .68 | -0.47 | 0.47 | .62 |
| Self-efficacy | | | | | | | -0.04 | 0.04 | .95 | -0.68 | 0.04 | .93 |
| Service obstacles | | | | | | | -0.14 | 0.34 | .86 | -0.19 | 0.35 | .82 |
| **Need** | | | | | | | | | | | | |
| Psychological distress | | | | | | | | | | -0.01 | 0.01 | .99 |
| Model $X^2$ *(df)* | 4.74*(1), p* = .029 | | | 23.39*(12), p* =.025 | | | 31.81*(22), p* =.081 | | | 33.02*(23), p* =.081 | | |
| $R^2$ | .033 - .045 | | | .153 - .210 | | | .202 - .278 | | | .209 - .287 | | |

Bold font denotes significant result; *$p < .05$, **$p < .01$. Variable coding: service access = 0 no, 1 yes; sex = 0 male, 1 female; education = 0 high school or less, 1 TAFE or equivalent, 2 bachelor degree, 3 postgraduate degree; ethnicity = 0 non-Caucasian, 1 Caucasian; relationship status = 0 partnered, 1 not partnered; living situation = 0 family, 1 friends, 2 partner, 3 roommates, 4 alone; income = 0 ≤ $25,000, 1 $ 25,000-50,000, 2 $51,000-100,000, 3 $101,000–150,000, 4 >$151,000; employment status = 0 unemployed, 1 employed; residence = 0 rural, 1 urban; social support = 0 insufficient, 1 sufficient.

*Table 5. Hierarchical logistic regression to predict face-to-face help-seeking*

| | Model 1 | | | Model 2 | | | Model 3 | | | Model 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | *B* | *SE B* | *β* | *B* | *SE B* | *β* | *B* | *SE B* | *β* | *B* | *SE(B)* | *β* |
| Online help-seeking | 0.82 | 0.37 | **2.27*** | 0.92 | 0.42 | **2.51*** | 0.77 | 0.51 | 2.16 | 0.82 | 0.52 | 2.29 |
| **Predisposing** | | | | | | | | | | | | |
| Sex | | | | 0.67 | 0.45 | 1.96 | 0.34 | 0.56 | 1.41 | 0.21 | 0.58 | 1.24 |
| Education | | | | | | | | | | | | |
| 1 | | | | 0.03 | 0.45 | 1.04 | 0.27 | 0.54 | 1.02 | 0.04 | 0.56 | 1.04 |
| 2 | | | | 0.18 | 0.58 | .83 | -0.05 | 0.68 | .95 | -0.03 | 0.71 | .96 |
| 3 | | | | 0.56 | 1.31 | 1.75 | 0.74 | 1.38 | 2.09 | 0.87 | 1.42 | 2.39 |
| Ethnicity | | | | -0.24 | 0.46 | .78 | -0.25 | 0.54 | .77 | -0.30 | 0.55 | .73 |
| Relationship status | | | | 0.60 | 0.45 | 1.82 | 0.49 | 0.52 | 1.64 | 0.48 | 0.54 | 1.61 |
| Living situation | | | | | | | | | | | | |
| 1 | | | | 0.51 | 0.92 | 1.67 | 0.04 | 1.06 | 1.05 | -0.14 | 1.09 | .86 |
| 2 | | | | -0.33 | 0.52 | .71 | 0.09 | 0.61 | 1.10 | 0.10 | 0.64 | 1.11 |
| 3 | | | | 1.38 | 1.14 | 3.99 | 1.07 | 1.34 | 2.93 | 1.17 | 1.34 | 3.23 |
| 4 | | | | 0.24 | 0.81 | 1.27 | -0.28 | 0.93 | .75 | -0.06 | 0.96 | .94 |
| Attitude score | | | | -0.39 | 0.44 | .67 | 0.03 | 0.57 | 1.03 | -0.26 | 0.61 | .76 |
| **Enabling** | | | | | | | | | | | | |
| Annual income | | | | | | | | | | | | |
| 1 | | | | | | | -1.22 | 0.65 | .29 | -1.22 | 0.66 | .29 |
| 2 | | | | | | | -0.93 | 0.67 | .39 | -0.88 | 0.68 | .41 |
| 3 | | | | | | | -1.90 | 0.93 | .14 | -1.85 | 0.96 | .15 |
| 4 | | | | | | | >10 | >10 | >10 | >10 | >10 | >10 |
| 5 | | | | | | | 0.59 | 1.36 | 1.81 | 0.82 | 1.38 | 2.28 |
| Employment status | | | | | | | -0.79 | 0.56 | .45 | -0.54 | 0.58 | .58 |
| Residence | | | | | | | -0.20 | 0.51 | .81 | -0.30 | 0.53 | .73 |
| Social support | | | | | | | -0.54 | 0.50 | .58 | -0.36 | 0.52 | .69 |
| Self-efficacy | | | | | | | -0.93 | 0.05 | .91 | -0.04 | 0.05 | .95 |
| Service obstacles | | | | | | | -0.28 | 0.40 | .74 | -0.09 | 0.41 | .91 |
| **Need** | | | | | | | | | | | | |
| Psychological distress | | | | | | | | | | 0.02 | 0.01 | **1.02*** |
| Model $X^2$ *(df)* | 4.74*(1), p* = .029 | | | 13.24*(12), p* =.352 | | | 42.08*(22), p* =.006 | | | 46.94*(23), p* =.002 | | |
| $R^2$ | .03 - .04 | | | .09 - .12 | | | .25 - .36 | | | .28 - .40 | | |

Bold font denotes significant result; *$p < .05$. Variable coding: service access = 0 no, 1 yes; sex = 0 male, 1 female; education = 0 high school or less, 1 TAFE or equivalent, 2 bachelor degree, 3 postgraduate degree; ethnicity = 0 non-Caucasian, 1 Caucasian; relationship status = 0 partnered, 1 not partnered; living situation = 0 family, 1 friends, 2 partner, 3 roommates, 4 alone; income = 0 ≤ $25,000, 1 $ 25,000-50,000, 2 $51,000-100,000, 3 $101,000–150,000, 4 >$151,000; employment status = 0 unemployed, 1 employed; residence = 0 rural, 1 urban; social support = 0 insufficient, 1 sufficient.

# Discussion

## 4.1 Overview

This study explored the characteristics of e-mental health service use in a community sample of young Australian adults, framed by Andersen's Behavioral Model (1995). The majority (65.8%) sought some form of mental health support online. Interestingly, e-mental health care was associated with face-to-face psychotherapy, albeit weakly. However, only *predisposing* variables: education level, attitude and living situation were significant determinants of overall e-mental health service use. This was in stark contrast to traditional help-seeking, whereby psychological distress - a *need* variable, was the only predictor. The following chapter discusses and evaluates these findings, including their practical and research implications.

## 4.2 Current Findings

**4.2.1 Characteristics of e-mental health service use.** Overall, the young adults in our sample frequently used the internet to seek help – indeed, the reported rate was much higher in this study than that reported in a recent international review of e-mental health service use among young adults (mean 38.4%, range 18%-53%; Kauer, Mangan & Sanci, 2014). This difference may, in part, be due to our inclusion of social media as a help-seeking platform - with almost half of the sample indicating that they would use to reach out to friends, family and strangers if they were experiencing a personal or emotional problem. This finding is interesting, given that social media does not allow the same level of confidentiality associated with other e-mental health platforms – a feature often anticipated to facilitate online help-seeking (Best, Manktelow & Taylor, 2014; Burns et al., 2010). Notably, qualitative research has found that using social media as a platform to disclose feelings can provide the individual a degree of

control over the conversation and their image. As such, it may be easier to openly chat online with a "trusted" friend or family member: considered a key factor in help-seeking among the current sample, as opposed to face-to-face (Best et al., 2016).

Although seeking help for personal-emotional problems on professional websites, such as Beyondblue and eheadspace, was less common in this sample, frequency of access was comparable to that found in other studies (Kauer, Mangan & Sanci, 2014). Professional online mental health services are useful for those wanting to step outside of their social networks, without being exposed to the barriers and privacy concerns associated with seeking help traditionally. Indeed, the current sample rated "*professionally trained staff*" and "*anonymity*" as highly important when considering access to e-mental health services.

**4.2.2 Comparison with traditional service use.** Despite previous findings that e-mental health service use can act as a step in the help-seeking process towards conventional face-to-face care (Younes et al., 2015), there was an inverse relationship between both forms of help-seeking: those who had accessed traditional services were less likely to access the same type of support online. This may reflect a generally positive attitude towards traditional sources of mental health support, with evidence that some young adults' value and prefer face-to-face care (Gould et al., 2002; Horgan & Sweeney, 2010). Besides the informal help sought from friends, which accounted for the highest percentage of both actual (62.7%) and intended help-seeking (71.4%), 1 in 6 (16.8%) young adults had sought help from a mental health professional or medical practitioner. In fact, traditional sources of mental health support were preferred for both actual and intended help-seeking. Interestingly, whilst social media had been used in the past month to seek help (11.2%), participants indicated that they did not intend to use it as much in the future (9.9%). Conversely, online professional services were hardly used (2.5%), although individuals

indicated that they would utilise them at a much higher rate in the near future (8.7%). Further investigation into the link between the actual and intended use of e-mental health services, and overall attitudes towards using them is needed to help explain these discrepancies.

### 4.2.3 Barriers and facilitators associated with e-mental health service use

***4.2.3.1 Predisposing variables.*** Consistent with our hypotheses and the current literature, level of education, attitudes towards services and living situation were all significant predictors of e-mental health service use. Interestingly, the direction of the relationship between level of education and help-seeking in this study was contrary to that found in the literature (Babitsch, Gohl & Lengerke, 2012; Magaard et al., 2017; Parslow et al., 2002), such that higher levels of education resulted in lower utilisation of e-mental health services. Although it is consistent with the findings by Stallman (2010), which reported lower rates of mental health service use among university students. However, studies in this area have primarily investigated traditional face-to-face help-seeking. As previously mentioned, online platforms may help transcend the barriers associated with traditional help-seeking (i.e. lower levels of education), by providing a low-cost, easy access environment (Burns et al., 2016). This unique finding warrants further investigation.

Results also suggest that more positive attitudes towards online features resulted in greater use of e-mental health services. This is in line with previous research, which found that positive health-related attitudes and beliefs about a service positively impacts on access rates (Babitsch, Gohl & Lengerke, 2012). Therefore, if the young adults in our study believed that online service features such as anonymity, online chats and professionally trained staff, were very important to them, they were more likely to access e-mental health services. Of note, the reliability of the attitudes scale utilised in this study was low. There remains a need to develop a comprehensive

tool to measure the attitudes and beliefs that young adults express towards e-mental health service use, both formally and informally. The third significant variable: living situation, confirmed the limited findings already established in the literature (Koydemir-Ozden & Erel, 2010): young adults living alone were less likely to seek help online, compared to those living with their families. Again, however, the available literature is based on traditional help-seeking, rather than e-mental health. As suggested by Gulliver et al. (2010), young adults often rely on social supports (i.e. family) for advice concerning their mental health. As such, family members may encourage formal support and recommend e-mental health services.

The weak, albeit significant correlation between male gender and informal, online help-seeking behaviour is also of interest. Previous research has suggested that men are more likely to favour anonymous methods of help-seeking (Best, Manktelow & Taylor, 2014). However, qualitative research also suggests that young men will disclose their feelings to people they trust (Best et al., 2016). It is therefore possible that social media acts as a buffer to seeking informal support, in a way that gives young men a way to control and detach from the situation if necessary.

***4.2.3.2 Enabling variables.*** Contrary to the available literature, greater income, being employed, urban residence, social support, higher levels of self-efficacy and increased quality and accessibility of services did not significantly facilitate mental health help-seeking, at least for this sample of young adults (Babitsch, Gohl & Lengerke, 2012). However, social support was an important variable. Those who were feeling socially isolated were more likely to access online professional platforms such as Beyondblue or eheadspace. As young people often rely on informal sources of support to talk about their problems (Gulliver et al., 2010), an individual that is feeling socially isolated, yet still desires to seek immediate help, may access formal sources of

support as their first point of contact – particularly if they feel isolated from informal supports, whether face-to-face or on social media. Unexpectedly, region of residence was not a significant factor. The literature suggests that online mental health services can facilitate help-seeking in rural individuals, by transcending the practical and attitudinal barriers unique to their population (Black, Roberts & Li-Leng, 2012; Jackson et al., 2007). However, this finding may also reflect the skewed sample in this study, which comprised largely of young adults living in urban areas.

***4.2.4.3 Need variable.*** Although psychological distress was not significantly associated with overall e-mental health service use in the hierarchical regression model, it did correlate significantly, albeit weakly, with professional online service use. This is in line with previous findings: elevated levels of psychological distress are associated with a greater willingness to access professional help (Beatie, Stewart & Walker, 2016; Madianos et al., 2011; Rickwood & Braithwaite, 1994; Sheffield et al., 2004; Zwaanswijk et al., 2003). Psychological distress also did, however, significantly predict traditional, professional help-seeking. As such, individuals may turn to formal face-to-face and online services to seek help, if they perceive that their need to do so is important (Andersen, 1968). At the same time, individuals may have an increased willingness to transcend predisposing and enabling barriers, in order to fulfill this need (Sheffield et al., 2004).

## 4.3 Clinical Implications

The current findings have several important implications which may be relevant to mental health professionals as well as government organisations. First, the relatively low rate of professional online service use, in the context of high distress experienced by this sample, suggests that current psychoeducational campaigns may be ineffective. Mental health campaigns

targeting older adults in particular have resulted in greater service utilisation (Karlin et al., 2008). Similarly, educating young adults about mental health issues and guiding them towards free, online mental health services may result in more positive attitudes and, ultimately, increased utilisation of these services. Given that this sample of young adults routinely (47.8%) accessed social media to seek help, this platform might serve as an ideal point of reference to disseminate psychoeducational material. Education about e-mental health resources should be extended to include the general population, such that it reaches an individual's family, friends and/or partner. Recommendations and advice from these individuals are important to young adults. Indeed, these sources of informal supports may even act to facilitate help-seeking on their behalf (Barker, 2007; Muir et al., 2009; Rickwood et al., 2007).

It is equally important that mental health professionals and policy makers recognise that young adults, in general, have positive attitudes about using e-mental health services. Mental health professionals should consider integrating technology within their traditional practice in order to better develop and integrate e-mental health into primary care. This includes improving the quality of online information in relation to mental health care. The elevated levels of psychological distress in this sample, and in young adults more generally (Australian Bureau of Statistics, 2008), further reinforces the necessity of having multiple help-seeking pathways. Rather than provide just a gateway to traditional mental health care, e-mental health platforms could be used in conjunction with traditional face-to-face psychotherapy. This is a key target of the E-mental health strategy for Australia (2012): to train mental health professionals to work alongside online services. E-mental health provides an opportunity to not only continue treatment once traditional intervention has ceased but an opportunity to monitor clients remotely (i.e. rural populations).

### 4.4 Strengths and Limitations

This study provides a valuable contribution to the existing help-seeking literature, particularly the field of e-mental health, which is still in its infancy. A major strength of this study was the inclusion of social media use as a help-seeking platform. Social media remains largely unrecognised by the existing e-mental health literature, despite previous research having established the value that young people place on informal support (Rickwood et al., 2005). The focus on young adults' personal experience with using e-mental health services was also a positive feature of this study. The ability to self-assess their level of service satisfaction and perceived need, offered individuals an opportunity to reflect on their help-seeking behaviours and share their personal experience. Indeed, it has been suggested that an individual's subjective perception of their mental health status is a much better predictor of health service use than evaluated need, or the assessment of symptom severity by a third-party figure (Babitsch, Gohl & Lengerke, 2012). At the same time, self-report data is vulnerable to social desirability and recall biases, particularly if the data relates to sensitive information such as mental illness and health service use (Drapeau et al., 2011). Ideally, qualitative research in this area is needed. This would allow for more in-depth analysis when trying to dissect attitudes and preferences towards e-mental health services.

The present study also attempted to overcome limitations of current e-mental health literature, which is characterised by small samples or university student cohorts (Kauer, Mangan & Sanci, 2014), and recruit a representative sample of young Australian adults. This was achieved by utilising different recruitment methods (e.g. fliers, emails, internet) and by adopting an online survey to help capture the experiences of young adults on a larger scale (Burns et al., 2010; Burns, Birrell & Bismark et al., 2016). In saying this, there may have still been a coverage bias,

with youth organisations and advice pages on social media being a primary source of recruitment. Consequently, the young adults in our study were those that had established links with relevant youth services and so may have had more positive attitudes towards help-seeking. The final sample was also biased towards females, Caucasians and those living in urban settings. Notably, these biases are a common limitation in the help-seeking literature (Babitsch, Gohl & Lengerke, 2012; Kauer, Mangan & Sanci, 2014). Future research should seek the views of young people not often explored in these studies: young men, those residing in rural populations and individuals that identify as non-Caucasian (Kauer, Mangan & Sanci, 2014).

A further methodological limitation encountered during the study design and implementation was the operationalisation of our primary outcome, help-seeking behaviour. We defined help-seeking as a categorical (i.e. yes/no) variable in the main analyses. Although participants were able to specify the type of help sought, we did not examine this in any detail (e.g. duration or frequency of use). Such information would have helped put the associated satisfaction ratings into context. In addition, we did not examine a key need variable: psychological difficulties in the preceding 12 months, considered to be an important covariate for young adults' help-seeking behaviour (Younes et al., 2015).

### 4.5 Conclusions

Evidence suggests that e-mental health care is an important form of help-seeking for young adults. Future e-mental health interventions targeting young adults should consider the complex interrelations between factors that may act to impede or facilitate service use and perhaps focus on those subgroups less likely to seek supports: young adults that live alone, have negative attitudes towards e-mental health service use and are enrolled in higher education. Further, large-

scale and longitudinal research is, however, needed to confirm the generalizability of these findings to the broader young adult population, in addition to identifying long-term patterns in e-mental health care. Ultimately, the aim is to better develop and integrate e-mental health into primary care.

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**Appendix A**: *Email to Organisations*

To whom it may concern,

My name is Teghan Leech and this year I am completing a research project on the use of e-mental health services among young adults. This project is being conducted as part of my Psychology Honours year at the University of Adelaide, under the supervision of Dr Diana Dorstyn and Dr Wenjing Li. The project has ethics approval from our University (approval number [redacted].

I am writing to see whether your organisation would be willing to share our survey link with your members on your social media pages (i.e. Facebook, Instagram, Twitter).

Attached is a flier which provides further information. Participants need to be 18-24 years of age. Participation involves completing a brief online questionnaire, with the opportunity for participants to win 1 of 3 $50 gift cards.

Please do not hesitate to contact me at this email address if you have any questions.

I look forward to hearing from you soon,

Teghan Leech.

**Appendix B:** *Study Flier*

## **Appendix C**: *Online Survey*

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### E-Mental Health Service Use among Young Adults

#### Information Sheet

**You are being invited to participate in a project being conducted by the School of Psychology at the University of Adelaide. The aim of this project is to examine barriers and facilitators that young adults may encounter when accessing online mental health services and supports.**

**Why am I being invited to participate?**
Adults aged between 18-24 and currently living in Australia have been approached to participate in this study.

**What does the study involve?**
We are seeking your consent to complete a brief survey, provided on the following page. Please set aside up to 15 minutes to complete this survey. You can stop the survey at any time and return to the survey link.

If you complete the survey you will be given the opportunity to enter into a draw to win 1 of 3 $50 Coles/Myer gift vouchers.

**What are the potential benefits of participation?**
Although you may not directly benefit from this project, we hope that the results from this study will help us identify some of the issues that young adults face when attempting to access online mental health services.

**Are there any risks associated with participation?**
We do not expect any risks from participating if, however, you begin to feel uncomfortable or upset while completing the survey, you should cease working on it. A list of mental health support services and their contact details are attached at the end of the survey.

**Can I withdraw from the project?**
Participation in this project is completely voluntary and you can withdraw from the study at any time. You can simply exit the survey by closing your browser if you no longer wish to participate.

**What will happen to my information?**
This study will not use any identifying information in its findings or any subsequent publications, ensuring your confidentiality. In addition, the data will not be made available to any person other than the researchers. You may provide an email address if you wish to receive a summary of the general findings or if you wish to enter the draw to win a $50 Coles/Myer gift card.

**Who do I contact if I have questions about the project?**
If you have any questions about the research, please contact Dr Diana Dorstyn, email: diana.dorstyn@adelaide.edu.au, phone: +61 8 8313 0649.

**What if I have a complaint or any concerns?**
This study has been approved by the Human Research Ethics Committee at the University of Adelaide (approval numbe[redacted]) and will be conducted according to the NHMRC National Statement on Ethical Conduct in Human Research (2007).

If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then please contact the Principal Investigator Dr Diana Dorstyn (diana.dorstyn@adelaide.edu.au, phone: +61 8 8313 0649). If you wish to speak with an independent person regarding concerns or a complaint, please contact the Human Research Ethics Committee's Secretariat by phone: +61 8 8313 6028, email: hrec@adelaide.edu.au , or post: Level 4, Rundle Mall Plaza, 50 Rundle Mall, ADELAIDE SA 5000.

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## E-Mental Health Service Use among Young Adults

### Consent

**I consent to take part in the research project titled:*E-Mental Health Service Use among Young Adults***

**I acknowledge that I have read the Information Sheet.**

**I have had the project, so far as it affects me, fully explained to my satisfaction by the researcher. My consent is given freely.**

**It has been explained that my involvement may not be of any benefit to me.**

**I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.**

**I understand that I am free to withdraw from the project at any time and that this will not affect me, now or in the future.**

**I am aware that I should retain a copy of this Consent Form, when completed, and the Information Sheet.**

Do you agree to the above terms and conditions?

- ◯ Yes, I agree to the above terms and consent to continue on the research.
- ◯ No, I do not wish to take part in this research project.

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## E-Mental Health Service Use among Young Adults

**Please provide the following details to allow us to develop a general description of participants.**

What is your age in years?

What is your gender?

- ◯ Male
- ◯ Female
- ◯ Other (please specify)

What country were you born in?

Which of the following best represents your ethnic heritage? (peoples' ethnicity describes their feeling of belonging and attachment to a distinct group of a larger population that shares their ancestry, colour, language or religion)

- ◯ African
- ◯ American (includes Canadian, Mexican, Brazilian, etc)
- ◯ Asian
- ◯ Australian
- ◯ European
- ◯ Indigenous Australian
- ◯ Maori or Pacific Islander
- ◯ Middle Eastern
- ◯ Other (please specify)

In what language are you most fluent?

What is the highest level of education that you have completed?

- ◯ High School (up to Year 12)
- ◯ TAFE (Cert I/II/III/IV, Diploma, Advanced Diploma)
- ◯ Bachelor Degree
- ◯ Postgraduate Degree
- ◯ Other (please specify)

What is your employment status?

- ◯ Employed (full-time, part-time, casual)
- ◯ Unemployed
- ◯ Other (please specify e.g. disability pension, full-time student, volunteer)

What is your relationship status?

- ◯ Partnered (e.g. married, in a relationship)
- ◯ Not partnered (e.g. single, separated, divorced, widowed)

What is the annual income of your household?

- ◯ Less than $25,000
- ◯ $25,000 to $50,000
- ◯ $51,000 to $100,000
- ◯ $101,000 to $150,000
- ◯ $151,000 to $200,000
- ◯ More than $200,000

What is your postcode?

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Which of the following options best describes your current living situation?

- ◯ Living with family
- ◯ Living with friends
- ◯ Living with a partner
- ◯ Living with roommates
- ◯ Living alone

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## E-Mental Health Service Use among Young Adults

### Social Supports

**The following questionnaire asks about your social support. Please read the following questions and choose the response that most closely describes your current situation.**

How many close friends do you have, people that you feel at ease with, can talk to about private matters?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

How many of these close friends do you see at least once a month?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

How many relatives do you have, people that you feel at ease with, can talk to about private matters?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

How many of these relatives do you see at least once a month?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

Do you participate in any groups, such as a social or work group, religious-connected group, self-help group, or charity, public service, or community group?

- ◯ No
- ◯ Yes

About how often do you go to religious meetings or services?

- ◯ Never or almost never
- ◯ Once or twice a year
- ◯ Every few months
- ◯ Once or twice a month
- ◯ Once a week
- ◯ More than once a week
- ◯ Unknown

Is there someone available to you whom you can count on to listen to you when you need to talk?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

Is there someone available to give you good advice about a problem?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

Is there someone available to you who shows you love and affection?

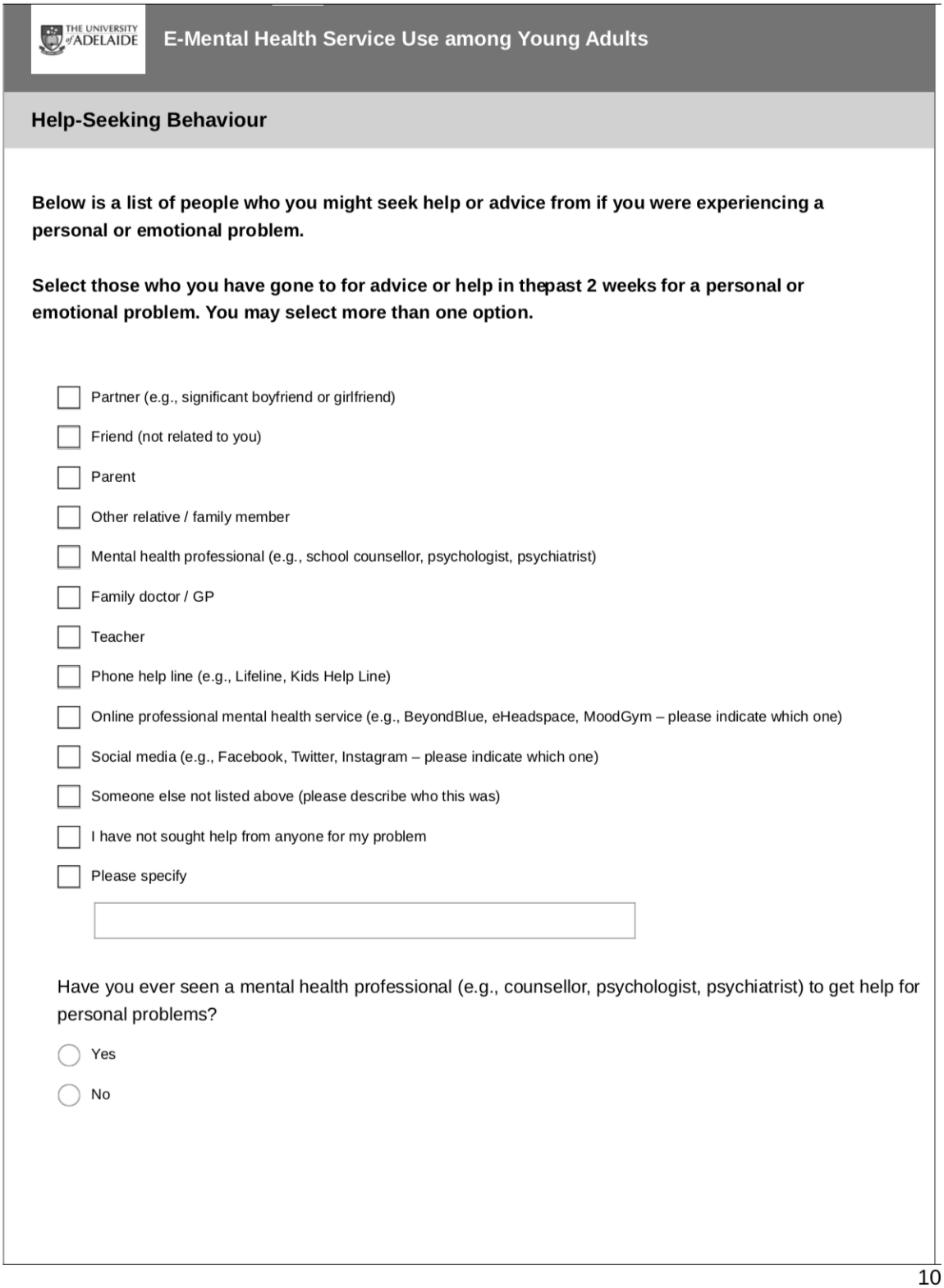
- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

Can you count on anyone to provide you with emotional support (talking over problems or helping you make a difficult decision)?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown

Do you have as much contact as you would like with someone you feel close to, someone in whom you can trust and confide?

- ◯ None
- ◯ 1 or 2
- ◯ 3 to 5
- ◯ 6 to 9
- ◯ 10 or more
- ◯ Unknown



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**E-Mental Health Service Use among Young Adults**

**Help-Seeking Behaviour**

**Below is a list of people who you might seek help or advice from if you were experiencing a personal or emotional problem.**

**Select those who you have gone to for advice or help in thepast 2 weeks for a personal or emotional problem. You may select more than one option.**

- ☐ Partner (e.g., significant boyfriend or girlfriend)
- ☐ Friend (not related to you)
- ☐ Parent
- ☐ Other relative / family member
- ☐ Mental health professional (e.g., school counsellor, psychologist, psychiatrist)
- ☐ Family doctor / GP
- ☐ Teacher
- ☐ Phone help line (e.g., Lifeline, Kids Help Line)
- ☐ Online professional mental health service (e.g., BeyondBlue, eHeadspace, MoodGym – please indicate which one)
- ☐ Social media (e.g., Facebook, Twitter, Instagram – please indicate which one)
- ☐ Someone else not listed above (please describe who this was)
- ☐ I have not sought help from anyone for my problem
- ☐ Please specify

Have you ever seen a mental health professional (e.g., counsellor, psychologist, psychiatrist) to get help for personal problems?

- ○ Yes
- ○ No

10

How helpful was the visit to the mental health professional?

| Extremely Unhelpful | | | | Extremely Helpful |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ○ | ○ | ○ | ○ | ○ |

Have you ever used an ONLINE professional mental health service (e.g., BeyondBlue, eHeadspace, MoodGym) to get help for personal problems?

- ○ Yes
- ○ No

If yes to the previous question, which one?

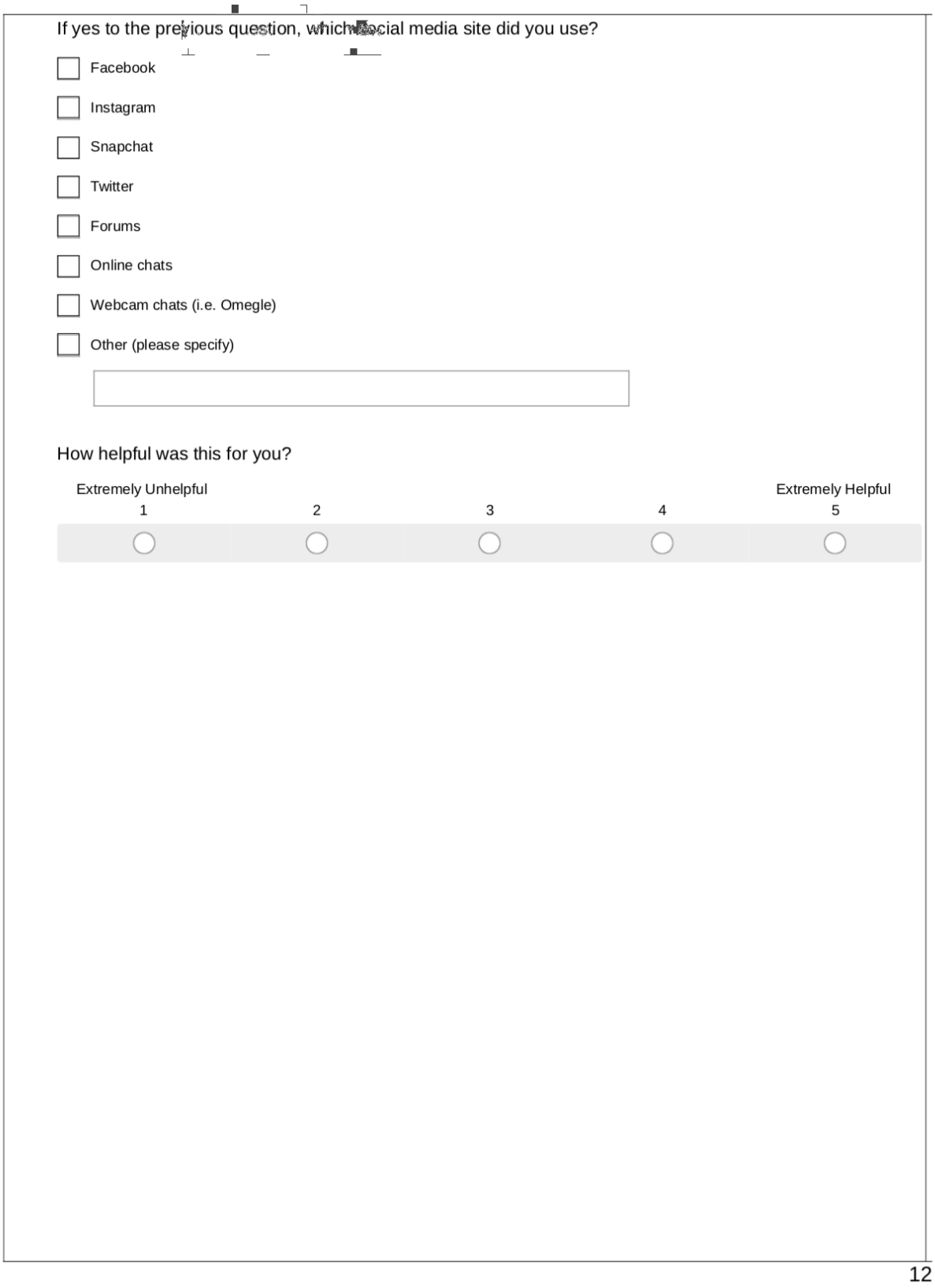
- ☐ BeyondBlue
- ☐ eHeadspace
- ☐ MoodGYM
- ☐ BlackDog Institute
- ☐ ReachOut
- ☐ Mindhealthconnect
- ☐ Other (please specify)

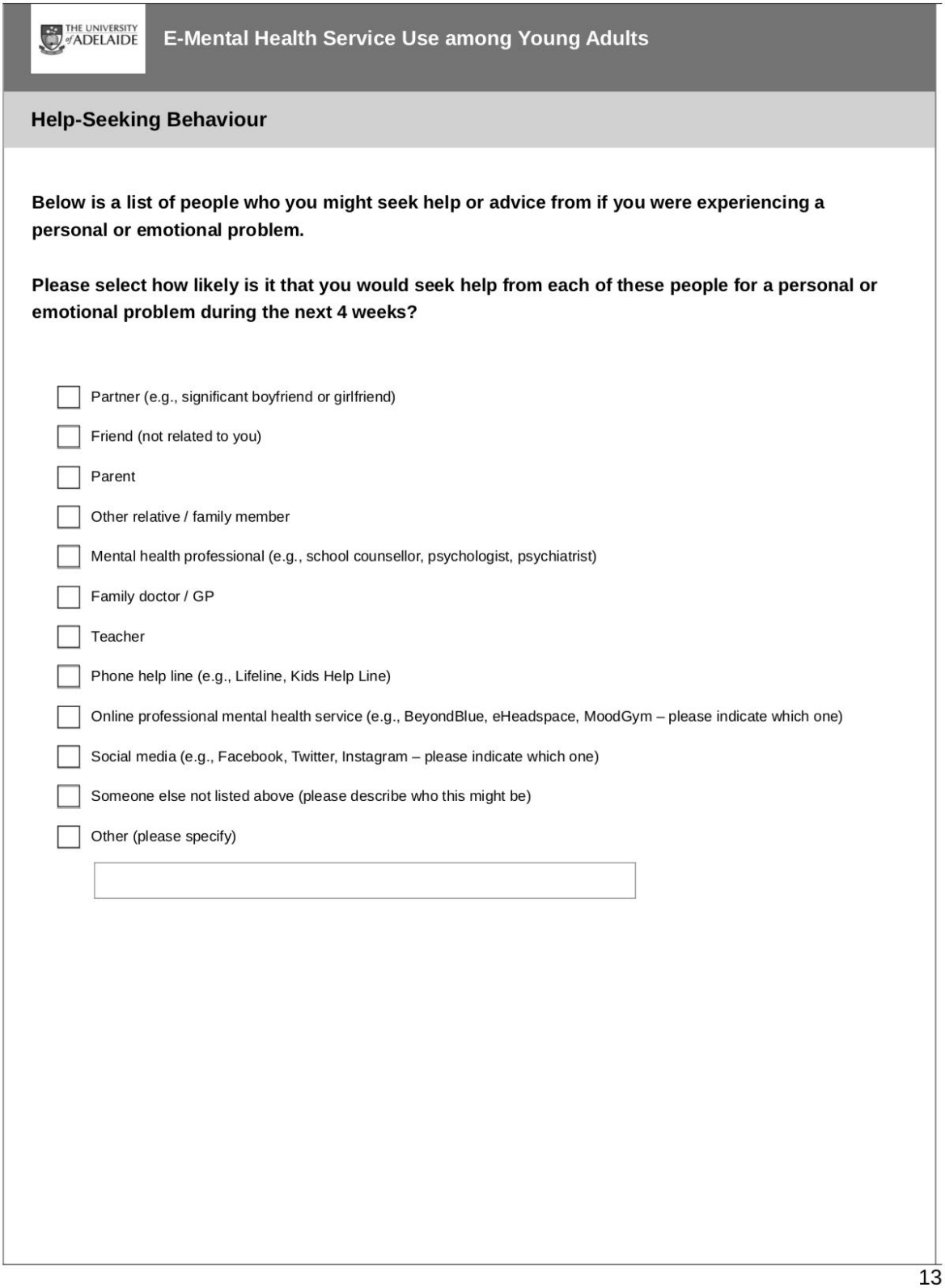
How helpful was this for you?

| Extremely Unhelpful | | | | Extremely Helpful |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| ○ | ○ | ○ | ○ | ○ |

Have you ever used SOCIAL MEDIA (e.g., Facebook, Twitter, Instagram) to get help with a personal problem from friends, family members or strangers?

- ○ Yes
- ○ No


If yes to the previous question, which social media site did you use?
Facebook
Instagram
Snapchat
Twitter
Forums
Online chats
Webcam chats (i.e. Omegle)
Other (please specify)
How helpful was this for you?
Extremely Unhelpful
Extremely Helpful
1
2
3
4
5
12



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E-Mental Health Service Use among Young Adults

**Help-Seeking Behaviour**

**Below is a list of people who you might seek help or advice from if you were experiencing a personal or emotional problem.**

**Please select how likely is it that you would seek help from each of these people for a personal or emotional problem during the next 4 weeks?**

- ☐ Partner (e.g., significant boyfriend or girlfriend)
- ☐ Friend (not related to you)
- ☐ Parent
- ☐ Other relative / family member
- ☐ Mental health professional (e.g., school counsellor, psychologist, psychiatrist)
- ☐ Family doctor / GP
- ☐ Teacher
- ☐ Phone help line (e.g., Lifeline, Kids Help Line)
- ☐ Online professional mental health service (e.g., BeyondBlue, eHeadspace, MoodGym – please indicate which one)
- ☐ Social media (e.g., Facebook, Twitter, Instagram – please indicate which one)
- ☐ Someone else not listed above (please describe who this might be)
- ☐ Other (please specify)

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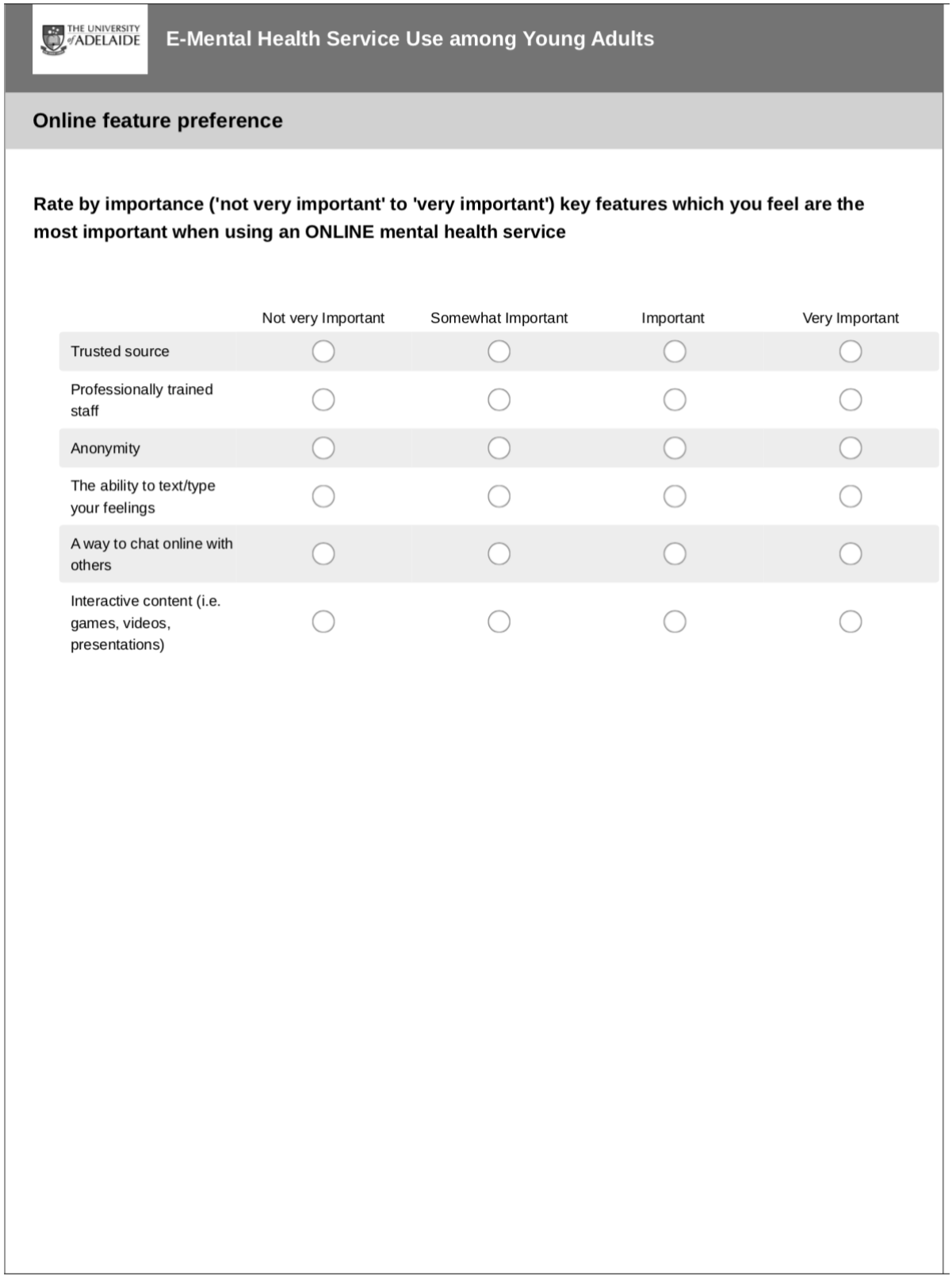
## E-Mental Health Service Use among Young Adults

### Service Obstacles

**The following questions ask you to think about the quality and accessibility of mental health services in your community.**

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| I am satisfied with the amount of professional help and services being provided | ○ | ○ | ○ | ○ | ○ |
| There are good mental health treatment resources in my community | ○ | ○ | ○ | ○ | ○ |
| There are adequate resources in my community | ○ | ○ | ○ | ○ | ○ |
| I am pleased with the general quality of care | ○ | ○ | ○ | ○ | ○ |
| Transportation is not a major obstacle | ○ | ○ | ○ | ○ | ○ |
| Lack of money is not a major obstacle | ○ | ○ | ○ | ○ | ○ |



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**E-Mental Health Service Use among Young Adults**

**Online feature preference**

**Rate by importance ('not very important' to 'very important') key features which you feel are the most important when using an ONLINE mental health service**

| | Not very Important | Somewhat Important | Important | Very Important |
|---|---|---|---|---|
| Trusted source | ◯ | ◯ | ◯ | ◯ |
| Professionally trained staff | ◯ | ◯ | ◯ | ◯ |
| Anonymity | ◯ | ◯ | ◯ | ◯ |
| The ability to text/type your feelings | ◯ | ◯ | ◯ | ◯ |
| A way to chat online with others | ◯ | ◯ | ◯ | ◯ |
| Interactive content (i.e. games, videos, presentations) | ◯ | ◯ | ◯ | ◯ |

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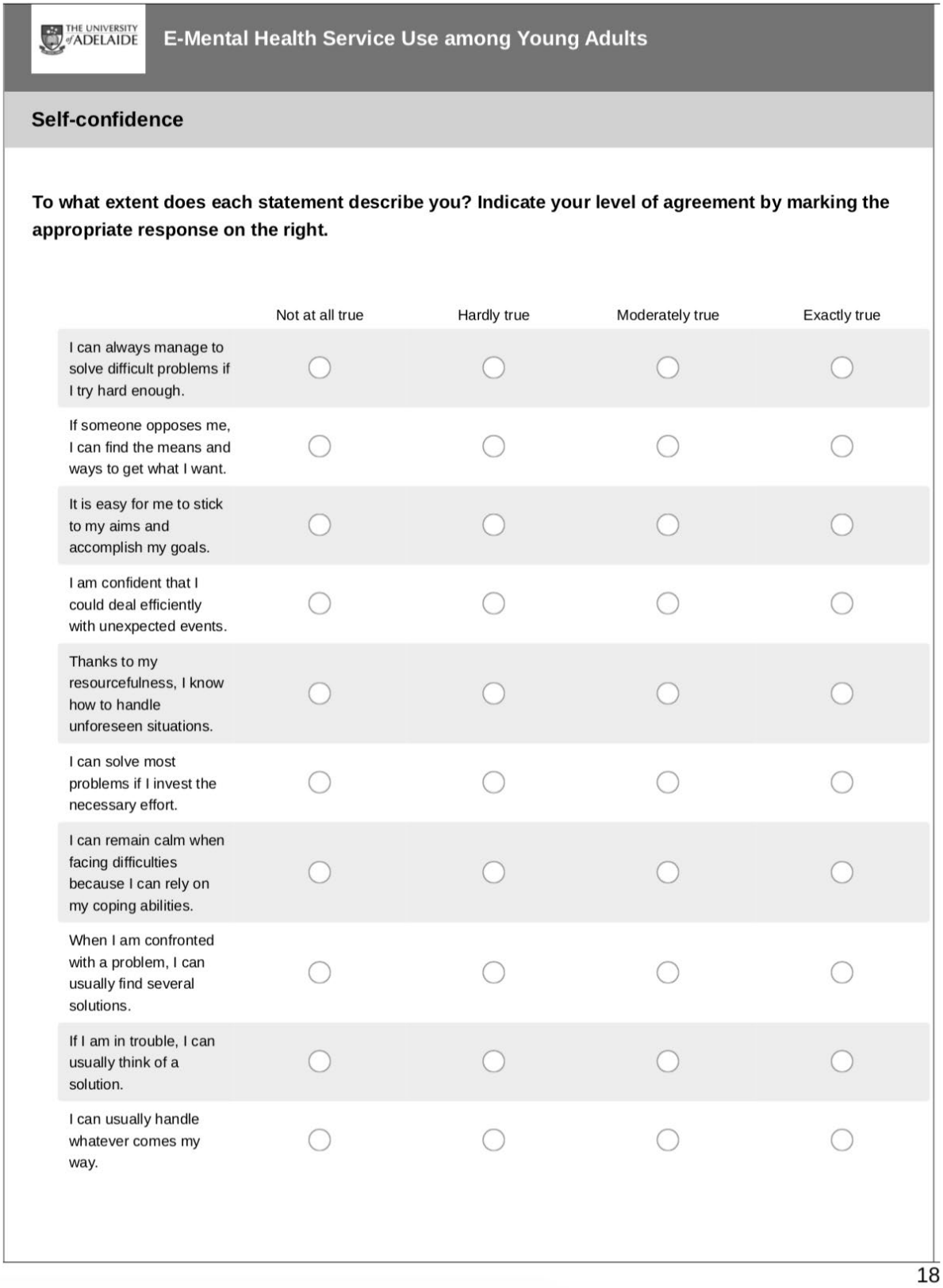
## E-Mental Health Service Use among Young Adults

### Mood

**Please read each statement in the questions below and select the response which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.**

| | Did not apply to me at all | Applied to me to some degree, or some of the time | Applied to me to a considerable degree, or a good part of time | Applied to me very much, or most of the time |
|---|---|---|---|---|
| I found it hard to wind down | ○ | ○ | ○ | ○ |
| I was aware of dryness of my mouth | ○ | ○ | ○ | ○ |
| I couldn't seem to experience any positive feeling at all | ○ | ○ | ○ | ○ |
| I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion) | ○ | ○ | ○ | ○ |
| I found it difficult to work up the initiative to do things | ○ | ○ | ○ | ○ |
| I tended to over-react to situations | ○ | ○ | ○ | ○ |
| I experienced trembling (eg, in the hands) | ○ | ○ | ○ | ○ |
| I felt that I was using a lot of nervous energy | ○ | ○ | ○ | ○ |
| I was worried about situations in which I might panic and make a fool of myself | ○ | ○ | ○ | ○ |
| I felt that I had nothing to look forward to | ○ | ○ | ○ | ○ |
| I found myself getting agitated | ○ | ○ | ○ | ○ |
| I found it difficult to relax | ○ | ○ | ○ | ○ |

| | Did not apply to me at all | Applied to me to some degree, or some of the time | Applied to me to a considerable degree, or a good part of time | Applied to me very much, or most of the time |
|---|---|---|---|---|
| I felt down-hearted and blue | ◯ | ◯ | ◯ | ◯ |
| I was intolerant of anything that kept me from getting on with what I was doing | ◯ | ◯ | ◯ | ◯ |
| I felt I was close to panic | ◯ | ◯ | ◯ | ◯ |
| I was unable to become enthusiastic about anything | ◯ | ◯ | ◯ | ◯ |
| I felt I wasn't worth much as a person | ◯ | ◯ | ◯ | ◯ |
| I felt that I was rather touchy | ◯ | ◯ | ◯ | ◯ |
| I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat) | ◯ | ◯ | ◯ | ◯ |
| I felt scared without any good reason | ◯ | ◯ | ◯ | ◯ |
| I felt that life was meaningless | ◯ | ◯ | ◯ | ◯ |



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**E-Mental Health Service Use among Young Adults**

## Self-confidence

**To what extent does each statement describe you? Indicate your level of agreement by marking the appropriate response on the right.**

| | Not at all true | Hardly true | Moderately true | Exactly true |
|---|---|---|---|---|
| I can always manage to solve difficult problems if I try hard enough. | ○ | ○ | ○ | ○ |
| If someone opposes me, I can find the means and ways to get what I want. | ○ | ○ | ○ | ○ |
| It is easy for me to stick to my aims and accomplish my goals. | ○ | ○ | ○ | ○ |
| I am confident that I could deal efficiently with unexpected events. | ○ | ○ | ○ | ○ |
| Thanks to my resourcefulness, I know how to handle unforeseen situations. | ○ | ○ | ○ | ○ |
| I can solve most problems if I invest the necessary effort. | ○ | ○ | ○ | ○ |
| I can remain calm when facing difficulties because I can rely on my coping abilities. | ○ | ○ | ○ | ○ |
| When I am confronted with a problem, I can usually find several solutions. | ○ | ○ | ○ | ○ |
| If I am in trouble, I can usually think of a solution. | ○ | ○ | ○ | ○ |
| I can usually handle whatever comes my way. | ○ | ○ | ○ | ○ |

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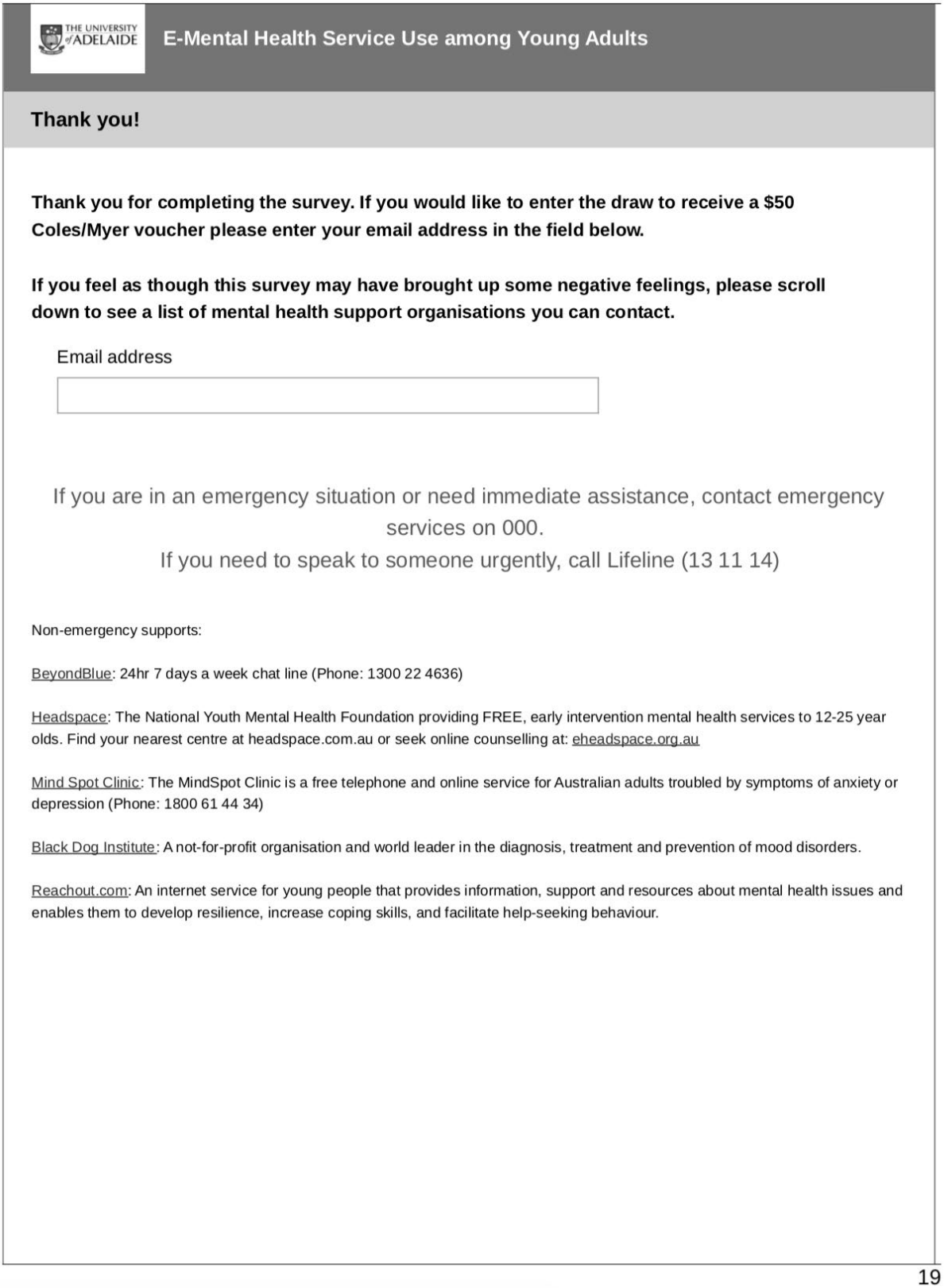

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E-Mental Health Service Use among Young Adults

**Thank you!**

**Thank you for completing the survey. If you would like to enter the draw to receive a $50 Coles/Myer voucher please enter your email address in the field below.**

**If you feel as though this survey may have brought up some negative feelings, please scroll down to see a list of mental health support organisations you can contact.**

Email address

If you are in an emergency situation or need immediate assistance, contact emergency services on 000.

If you need to speak to someone urgently, call Lifeline (13 11 14)

Non-emergency supports:

BeyondBlue: 24hr 7 days a week chat line (Phone: 1300 22 4636)

Headspace: The National Youth Mental Health Foundation providing FREE, early intervention mental health services to 12-25 year olds. Find your nearest centre at headspace.com.au or seek online counselling at: eheadspace.org.au

Mind Spot Clinic: The MindSpot Clinic is a free telephone and online service for Australian adults troubled by symptoms of anxiety or depression (Phone: 1800 61 44 34)

Black Dog Institute: A not-for-profit organisation and world leader in the diagnosis, treatment and prevention of mood disorders.

Reachout.com: An internet service for young people that provides information, support and resources about mental health issues and enables them to develop resilience, increase coping skills, and facilitate help-seeking behaviour.

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