Research Report

Evaluation of an online psychoeducation intervention to promote mental health help seeking attitudes and intentions among young adults: Randomised controlled trial

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ABSTRACT

Background: Research has consistently identified a disparity between the prevalence of mental health concerns among young adults and their rates of formal help seeking. However, a few randomised controlled trials have identified effective interventions for increasing formal help seeking among young adults. The aim of this study was to evaluate the effectiveness of a brief online psychoeducational intervention, targeting depression, anxiety and suicide stigma, for increasing positive attitudes towards help seeking and increasing help seeking intentions among young adults.

Method: The study followed a single-blind parallel group randomized controlled trial design with 67 young adult (18–25 years) Australian participants, assigned to receive online psychoeducation ($n=33$) or online attention-matched control information ($n=34$) over 3 weeks. Participants in the experimental group received information on depression, anxiety, and suicide. The control group received information unrelated to mental health. Primary outcome measures were mental health literacy, mental illness stigma, attitudes toward professional help seeking and intentions to seek help. Secondary outcome variables were symptomology, satisfaction and adherence.

Results: Significant between-group differences were found for the pre- to post-test, including increased anxiety literacy (Cohen's $d=0.65$), decreased depression stigma ($d=0.53$), and increased help seeking attitudes and intentions for the experimental group ($d=0.58$ and $d=0.53$, respectively).

Limitations: Due to the small sample size and homogenous nature of the sample, generalisations should be made with caution.

Conclusions: This study demonstrates the utility and effectiveness of a brief online psychoeducation intervention for promoting help seeking among young adults.

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1. Introduction

Rates of formal help seeking for mental health disorders are low, with only 35% of Australians experiencing a mental health disorder seeking professional help (Burgess et al., 2009). Despite the detrimental and long-term effects of untreated mental health problems and the clear benefits of formal help, help seeking among young adults is at a troublingly low rate. According to the National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics, 2007) approximately 15% of young adults (aged 16–24) have anxiety disorders, and 6% have affective

disorders (such as depression). Moreover, 50% of young adults with these disorders will have co-occurrence of major depression and an anxiety disorder. However, there is evidence to suggest that help seeking among young people is even lower than in the general population (Sawyer et al., 2001). This disparity between prevalence and formal help seeking is known as the “service gap” phenomenon, and has been a long-standing concern, particularly for young adults (Kushner and Sher, 1989; Rickwood et al., 2005).

Reviews by Rickwood et al. (2005) and Gulliver et al., 2010 identified mental health literacy as a key facilitator to formal help seeking among young adults. Jorm (2000) defines mental health literacy as knowledge and beliefs about mental disorders, which aid their recognition, management or prevention. Both poor mental health literacy and the stigma of mental illness have been repeatedly identified as key barriers to help seeking behaviour (Gulliver et al., 2010; Rickwood et al., 2005). While there has been

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extensive theoretical and explorative research on help seeking behaviour, there have been few studies identifying effective interventions for increasing formal help seeking attitudes, intentions, and/or behaviours among young adults (Costin et al., 2009; Kauer et al., 2014). Moreover, the majority of studies and interventions focus on depression (Department of Health and Ageing, 2011), leaving related mental health problems such as anxiety and suicidality neglected.

To our knowledge there has been no research that has designed and assessed the effectiveness of a single intervention based on the promotion of help seeking for depression, anxiety and suicidality. A recent meta-analysis by Kauer et al. (2014) identified nine studies exploring the effectiveness of Internet-based self-help resources for increasing help seeking amongst young people. Three of these studies (two cross sectional, and one quasi-experimental) assessed help seeking outcomes using existing websites that included information on depression, anxiety and suicide. Although all three studies found increases in intentions to seek professional help, none of the studies included random allocation or a control group (Kauer et al., 2014). Of the remaining studies three were randomised controlled trials, all of which focused only on depression and found no significant effects on help seeking behaviours (Kauer et al., 2014).

The current study tested a brief psychoeducational intervention that included information on depression, anxiety and suicide, synthesised from a range of mental health-related websites. Primary outcomes of the study were mental health literacy, stigma, help seeking attitudes, and help seeking intentions. It was predicted that participants in the psychoeducational group would have increased mental health literacy, decreased stigma, and more positive attitudes and intentions to seek help relative to the control

group post-intervention. Given that the intervention was based on psychoeducation with the aim of increasing help seeking, rather than improving symptomology, no change in symptomology was predicted.

2. Method

2.1. Ethics statement

The Australian National University Human Research Ethics Committee approved the ethical aspects of the research (2013/124). All participants completed written informed consent at the beginning of the online pre-test questionnaire.

2.2. Participants and recruitment

Participants were recruited in April–August 2013 using posters placed across the Australian National University (ANU) campus and posts on the social networking site Facebook on pages relevant to ANU students. Participants could either e-mail the researcher about their interest in participating in the study, or proceed directly to the online pre-test questionnaire where they provided written informed consent to participate. There was no monetary remuneration, however, participants who were first year psychology students at the ANU received 1-h course credit for participation. Details of several mental health services were made available to all participants. Participants were eligible if they met the age criteria of 18–25.

Fig. 1. Flow of participants through trial.

2.3. Procedure

Primary and secondary outcome measures were collected at pre-intervention and post-intervention, four weeks later. Demographics were included only at pre-test, while the post-test survey included adherence and satisfaction measures. Both questionnaires were available online through Limesurvey open source survey software hosted on a local secure server within the university. The 67 participants who met the age criteria were randomly allocated to the control or experimental condition based on a randomized block design with a block size of four established before the study commenced. Participants were randomly allocated sequentially, with 33 participants allocated to the psychoeducation group and 34 to the general health and wellbeing group. The flow of participants through the trial is shown in Fig. 1.

2.4. Interventions

Psychoeducation and general health and wellbeing groups received brief (3 week long) online informational programmes. Control condition participants were emailed links to webpages on dental hygiene, common household medications and nutrition facts. The information contained in the webpages was public domain information derived from the Health Watch programme (Batterham et al., 2013b) and links to other informational websites. For the webpages common medications and nutrition facts, a myths and facts format was presented. The dental hygiene webpage covered causes, symptoms, and treatment options for tooth decay. The main consideration for the control condition was that the topics and information had no direct link to mental health.

The experimental condition had slightly more content than the control condition and had optional multiple-choice questions (not monitored or used in analyses), but no links to external content. The topics covered in three weeks were depression, anxiety, and suicide. Each website followed a common format: vignette of typical young person experiencing the mental health problem, description and symptoms, challenging stigmatising views, treatment, and help options (Costin et al., 2009). Vignettes were based on DSM criteria, and information was synthesised from a range of mental health-related websites including BluePages, Youth beyondblue, and the Black Dog Institute.

2.5. Covariates

Demographic questions included; age, gender, education level (high school, year 12, bachelors degree), subject area (open ended to those who attended any level of university) and marital status, and proximity to mental health problems was measured using a modified version of the Level of Contact Report (Holmes et al., 1999).

2.6. Primary outcome measures

2.6.1. Mental health literacy

Depression, anxiety, and suicide literacy were assessed using the 22-item A-Lit, the 22-item D-Lit (Griffiths et al., 2004) and the 12-item Literacy of Suicide Scale (Batterham et al., 2013a). Each of these scales contains facts and myths about depression, anxiety or suicide, with responses given as “yes”, “no” or “don’t know”. Literacy scores on each scale are assessed as the number of correct responses.

2.6.2. Stigma

Depression, anxiety, and suicide stigma were assessed using the 9 item Depression Stigma Scale (DSS; Griffiths et al., 2004) the 10 item Generalised Anxiety Stigma Scale (GASS; Griffiths et al.,

2011), and the 16 item Stigma of Suicide Scale short form (SOSS; Batterham et al., 2013b). The DSS and GASS contain statements reflecting personal attitudes toward people with depression or anxiety, each rated from strongly disagree (0) to strongly agree (4), with scores ranging 0–36 (DSS) and 0–40 (GASS), higher scores indicating greater stigma. The SOSS contains short descriptors of people who die by suicide, with an established three factor structure of stigma, isolation and normalisation (Batterham et al., 2013b). Each subscale is scored based on the mean response to the respective items, from strongly disagree (1) to strongly agree (5).

2.6.3. Help-seeking

Help-seeking attitudes and intentions were assessed by the 10-item Attitudes Toward Seeking Professional Help Short Form scale (Fischer and Farina, 1995), and General Help-Seeking Questionnaire (Wilson et al., 2005). Scores on the ATTSPH-SF range from 0 to 40, with higher scores indicating more positive attitudes to seeking professional help. The GHSQ included ratings for likelihood of seeking help from five sources if the respondent was experiencing symptoms of depression or anxiety: general practitioner (family physician), psychologist or psychiatrist, family or friends, Internet, or nobody. Each of these items was treated as a separate variable, using mean ratings from 1 (“Highly likely”) to 4 (“Highly unlikely”).

2.7. Secondary outcome measures

2.7.1. Symptomology

To assess participants' levels of anxiety and depression, the 7-item Generalised Anxiety Disorder scale (Spitzer et al., 2006) and 9-item Patient Health Questionnaire (Spitzer et al., 1999) were used. The scales ask participants how often they have experienced symptoms of anxiety or depression during the past two weeks using a four-point scale ranging from ‘not at all’ to ‘nearly every day’. Possible scores range from 0 to 27 for PHQ-9, and 0 to 21 for GAD-7, with higher scores indicating more frequent experience of anxiety or depression symptoms.

2.7.2. Satisfaction and adherence

The overall satisfaction with the intervention was asked with a single question “How satisfied were you with the intervention?” rated on a 5-point scale (5=very satisfied, 1=very unsatisfied). Adherence was measured with two questions: “How many e-mails did you read?” and “How many webpages did you read?” each rated on a 4-option measure (0=none, 4=all).

2.8. Sample size

The target sample size was estimated to be 90 (45 per condition) using G*Power software, providing 80% power to find a moderate effect between groups at post-test (Cohen's $d=0.6$), assuming 20% attrition, and conservatively not accounting for repeated measurement.

2.9. Randomisation

Participants were identified by their e-mail address and randomly allocated to the general health and wellbeing or psychoeducation conditions by the primary investigator. A randomised block design with a block size of four was used, with the allocation of participants to conditions established before the study commenced using Microsoft Excel.

2.10. Blinding

The study followed a single-blind parallel group randomized controlled trial design. Participants were not explicitly told which group they were allocated to and the researchers endeavoured to frame the study as a study of wellbeing rather than mental health or help seeking. Researchers had access to the allocation of participant identifiers so that the appropriate web links could be sent to the relevant participants, although the intervention and assessments were self-completed by participants online, without any researcher contact.

2.11. Statistical analysis

All data analyses were performed using SPSS Version 20.0 (IBM Corp., Chicago, IL, USA). Linear mixed model repeated measures analyses were used to investigate formal help seeking attitudes and intentions, mental health literacy, and stigma, so that changes between groups across time (pre- to post-test) could be identified. The independent variables were intervention group (psychoeducation/experimental vs. well-being information/control) and wave (post- vs. pre-test). The interaction of group $\times$ wave is the critical test of whether the intervention was effective in modifying the outcomes of interest. Equivalent analyses were performed for the secondary symptomology measures. Within-person variation was modelled by using an unstructured covariance matrix and degrees of freedom were estimated by using Satterthwaite's approximation. Mixed models yield an intention-to-treat analyses by using all available measurement points for each participant under the assumption that withdrawal data are missing at random. Binary mixed models repeated measures were used to analyse help seeking intentions.

Frequency analysis and *t*-tests were used to investigate satisfaction ratings at post-test between the control and experimental conditions.

3. Results

3.1. Baseline characteristics

Table 1 displays the participant characteristics at pre-test, compared by condition. Chi-square analyses for categorical variables and *t*-tests for continuous variables demonstrated no significant differences between the experimental and control conditions at pre-test for any predictive or outcome variables. Complete data were available for all 67 participants at pre-test, while attrition in both groups (15% from experimental and 18% from control) reduced the sample size to 56 at post-test.

3.2. Mental health literacy

Mixed models repeated measures analyses were estimated for each of the three mental health literacy measures. Table 2 shows the mixed model estimates from the separate models for depression, anxiety, and suicide literacy scores. For anxiety literacy, there was a significant main effect of time, indicating anxiety literacy increased across all participants from pre- to post-test. There was also a significant group $\times$ wave interaction, indicating significantly greater increases of anxiety literacy scores for those in the psychoeducational intervention than those in the control condition, with a moderate effect size between conditions over time ($d=0.65$). There were no significant effects for depression or suicide literacy.

Table 1

Characteristics of respondents in experimental and control conditions at pre-test.

	Control (n=33)	Experimental (n=34)	χ^2/t	<i>p</i>	
	M (SD)/N (%)	M (SD)/N (%)	df		
Age	21.9 (1.9)	21.9 (2.0)	65	0.129	0.898
Gender			1	0.044	0.834
Male	8 (24.2)	9 (26.5)			
Female	25 (75.8)	25 (73.5)			
Ethnicity			2	0.076	0.963
Caucasian	26 (78.8)	26 (76.5)			
Asian	5 (15.2)	6 (17.6)			
Other	2 (6.1)	2 (5.9)			
Education			2	3.107	0.212
No university	3 (9.1)	3 (8.8)			
Bachelors	25 (75.8)	30 (88.2)			
Post-graduate	5 (15.2)	1 (2.9)			
Subject area			1	0.461	0.497
Psychology/social	14 (46.7)	11 (37.9)			
Other	16 (53.3)	18 (62.1)			
Proximity to MH	6.7 (2.5)	6.6 (2.5)	65	−0.228	0.820
Symptom scores					
PHQ-9 depression	7.8 (5.3)	5.8 (4.6)	65	−1.647	0.104
GAD-7 anxiety	5.8 (4.4)	3.9 (3.8)	65	−1.915	0.060
Mental health literacy					
Depression literacy	15.2 (2.6)	15.3 (3.8)	65	0.067	0.947
Anxiety literacy	12.5 (3.5)	12.6 (2.8)	65	0.173	0.863
Suicide literacy	6.4 (2.0)	6.6 (2.2)	65	0.433	0.666
Stigma					
Depression stigma	6.4 (3.8)	7.5 (5.6)	65	0.948	0.347
Anxiety stigma	5.3 (4.4)	6.3 (5.7)	65	0.796	0.429
Suicide stigma	2.8 (0.3)	2.8 (0.4)	65	0.437	0.664
HS attitudes	36.5 (5.8)	35.0 (6.4)	65	−0.969	0.336
HS intentions					
General practitioner	2.3 (0.8)	2.6 (0.8)	3	2.854	0.415
Psych	2.8 (0.9)	2.7 (0.8)	3	4.639	0.200
Friends/family	3.1 (0.8)	3.3 (1.1)	3	1.949	0.583
Internet	2.5 (0.9)	2.6 (1.1)	3	2.214	0.529
Nobody	2.3 (1.7)	2.1 (0.8)	3	1.184	0.757

Note: MH: mental health; PHQ-9: Patient Health Questionnaire; GAD-7: Generalised Anxiety Disorder; HS: help seeking; Psych: psychologist/psychiatrist.

Table 2

Mixed model repeated measures estimates for mental health literacy outcomes.

	Unstandardised estimate	SE	df	<i>t</i>	<i>p</i>
Depression literacy					
Time (post vs. pre)	−0.22	0.51	50.0	−0.423	0.674
Condition (exp. vs. control)	−0.02	0.79	64.0	−0.021	0.984
Time $\times$ condition	1.11	0.73	50.9	1.533	0.131
Anxiety literacy					
Time (post vs. pre)	−1.30	0.52	50.8	−2.523	0.015
Condition (exp. vs. control)	0.06	0.78	64.0	0.071	0.944
Time $\times$ condition	3.00	0.73	50.9	4.116	0.001
Suicide literacy					
Time (post vs. pre)	0.17	0.29	49.2	0.584	0.562
Condition (exp. vs. control)	0.21	0.52	64.0	0.403	0.688
Time $\times$ condition	0.38	0.41	49.6	0.914	0.365

3.3. Stigma

Equivalent analyses were conducted for each stigma scale. The differences between the control and experimental conditions

Table 3
Mixed model outcomes for personal stigma measures by experimental condition.

	Unstandardised estimate	SE	df	t	p
Depression stigma					
Time (post vs. pre)	0.48	0.60	55.7	0.775	0.442
Condition (exp. vs. control)	1.03	1.19	64.0	0.849	0.399
Time × condition	-2.35	0.87	56.2	-2.692	0.009
Anxiety stigma					
Time (post vs. pre)	0.66	0.66	54.0	0.993	0.325
Condition (exp. vs. control)	0.98	1.26	64.0	0.775	0.441
Time × condition	-1.08	0.34	54.5	-1.158	0.252
Suicide stigma					
Time (post vs. pre)	-0.15	0.14	50.6	-1.346	0.184
Condition (exp. vs. control)	0.08	0.29	64.0	0.499	0.619
Time × condition	0.03	0.16	51.1	0.186	0.853

at post-test for anxiety and suicide stigma were non-significant (Table 3). Although both main effects for depression stigma were non-significant, a significant interaction effect was found, with a moderate effect size ($d=0.53$), indicating a significantly greater decrease in depression stigma for the psychoeducation intervention group compared to that of the control group.

3.4. Help-seeking

Mixed model analyses for the Attitudes Towards Seeking Professional Psychological Help short form (ATTSPH-SF; Fischer and Farina, 1995) demonstrated no significant main effect for group or time (Table 4). However, the interaction was significant, with a moderate effect size ($d=0.58$). This indicates that change in attitudes toward help seeking is significantly greater in the psychoeducation condition than in the control condition. Binary mixed models of help seeking intentions (likely/highly likely vs. unlikely/highly unlikely) from each of the five specified sources (Table 4) yielded one significant interaction effect for general practitioner. This effect indicates that those assigned to the psychoeducation intervention had a significantly greater increase in help-seeking intentions towards general practitioners from pre- to post-test, relative to the control condition group, with a moderate effect size (Cohen's $d=0.53$).

3.5. Symptomology

Mixed model analyses of the PHQ-9 and GAD-7 found no significant differences between experimental conditions for depression or anxiety symptoms between groups post-intervention implementation: $t(51)=-0.957$, $p=0.343$, and $t(55)=-0.318$, $p=0.752$, respectively.

3.6. Satisfaction and adherence

There was no significant difference between the two conditions' mean satisfaction scores: $\chi^2(2, N=53)=2.010$, $p=0.366$. Of the experimental condition, 88.5% of participants were satisfied or very satisfied with the intervention, with no participants expressing dissatisfaction. Majority of participants in the control condition were also satisfied or very satisfied (77.8%). The appeal of the intervention was not significantly different across the two conditions [$\chi^2(2, N=53)=2.069$, $p=0.355$] with 58% of the experimental group and 52% of the control group rating the intervention as appealing or very appealing. Neither e-mail adherence nor webpage adherence was significantly different between the two conditions [$\chi^2(3)=3.829$, $p=0.281$, and $\chi^2(3)=1.911$, $p=0.591$,

Table 4
Mixed model repeated measures estimates for help seeking attitudes and intentions outcomes.

	Unstandardised estimate	SE	df	t	p
Help-seeking attitudes					
Time (post vs. pre)	-1.15	0.89	52.0	-1.276	0.207
Condition (exp. vs. control)	-1.65	1.49	64.0	-1.110	0.271
Time × condition	3.46	1.27	52.7	2.727	0.009
Intentions: GP					
Time (post vs. pre)	-0.03	0.086	53.8	-0.362	0.719
Condition (exp. vs. control)	0.09	0.12	64.0	-0.756	0.452
Time × condition	0.27	0.12	54.1	2.199	0.032
Intentions: psychologist ^a					
Time (post vs. pre)	0.15	0.09	58.8	1.718	0.091
Condition (exp. vs. control)	0.04	0.12	64.0	0.427	0.671
Time × condition	0.00	0.13	59.1	0.042	0.967
Intentions: family/friends					
Time (post vs. pre)	0.05	0.08	54.4	0.670	0.506
Condition (exp. vs. control)	0.04	0.09	64.0	0.426	0.672
Time × condition	-0.12	0.11	54.8	-1.072	0.289
Intentions: internet					
Time (post vs. pre)	0.05	0.08	52.8	0.638	0.526
Condition (exp. vs. control)	0.06	0.13	64.0	0.472	0.638
Time × condition	-0.05	0.12	53.1	-0.397	0.693
Intentions: nobody					
Time (post vs. pre)	-0.02	0.08	52.5	-0.277	0.783
Condition (exp. vs. control)	-0.08	0.12	64.0	-0.690	0.493
Time × condition	0.06	0.11	52.8	0.478	0.635

^a Psychologist/psychiatrist.

respectively]. In the experimental condition, 65.4% reported viewing all three webpages, while 70.4% of the control participants reported viewing all three webpages.

4. Discussion

The aim of the current study was to test the effect a psychoeducational intervention against a comparable non-mental health informational intervention on formal help seeking attitudes and intentions among young adults. To our knowledge this is the first randomized controlled trial for help seeking intentions to include multiple relevant mental health topics within the psychoeducational intervention. The key findings of this study were a significant increase in help seeking attitudes and a significant increase in help seeking intentions towards general practitioners for participants allocated to the psychoeducational intervention. This is in line with previous research testing an online depression psychoeducational intervention for help seeking (Costin et al., 2009). Furthermore, partial support was found for the mental health literacy hypothesis, with anxiety literacy increasing significantly among those receiving the psychoeducational intervention. Partial support for the stigma hypothesis was also found, with depression stigma significantly decreasing for those in the experimental group. This finding may reflect slightly lower base rates of stigma toward people with anxiety disorders, with less scope for decreases as a consequence.

Overall, these results suggest that the content and mode of psychoeducation intervention were successful at promoting the evidence-based messages about these mental health concerns and

at challenging stigmatising beliefs. Findings from this study are also generally consistent with previous research (Christensen et al., 2006; Costin et al., 2009; Jorm et al., 2003; Sharp et al., 2006), which has found that psychoeducation is effective for increasing mental health literacy, reducing stigmatising beliefs, and increasing intentions to seek help. Importantly, however, the current study found these significant effects in the experimental condition and not the control condition which differs from past research findings (Costin et al., 2009).

As predicted, there was no significant change in depression or anxiety symptoms due to the psychoeducational intervention. Satisfaction and adherence were high for both the experimental and control conditions, with no between-group differences, suggesting the control condition was plausible and both conditions were acceptable.

Overall these findings raise several possibilities for destigmatisation and awareness-raising programs. Firstly, assessment of reasons why suicide literacy and stigma were not modified in the same way as anxiety and depression may be valuable. Due to reduced adherence in the third week of the intervention, fewer participants viewed the suicide topic, which may have reduced the impact of the messaging. Alternatively, messaging around suicide prevention may require a more intensive approach. Secondly, it may be valuable to explore more directly whether general content compared to tailored content is more appropriate for non-clinical populations. This may have ramifications for community-based campaigns, as they often follow a “universalist” approach, targeting a non-specific group. Related to this is the abundance of depression education relative to anxiety education, which may explain the effects of the intervention on anxiety literacy but not depression literacy. Tailoring of community-based campaigns may benefit from offering a broader range of topics. Incorporating tailored and non-tailored experimental groups into future studies is suggested. Thirdly, in terms of practical and methodological improvements for future programs and research there are several avenues to consider. The effect of active learning to promote engagement with the intervention content would be useful to test. Although the current study provided review questions, it may be beneficial to involve such content in the intervention to a greater extent. Inclusion of more attention intensive tasks such as developing decision-making scenario games, or incorporating videos, such as samples of someone seeking professional help for the first time, may also increase engagement.

In terms of outcome measurement, it is recommended that future studies include more comprehensive help seeking intention items, with focus on intentions for help seeking across multiple specific sources and for specific mental health problems. It may also be beneficial to assess stigma specifically regarding help seeking. Such measures could lead to further insight into when and why individuals seek help from different sources. Finally, although intentions are considered the best predictor of behaviour (e.g. Theory of Planned Behaviour; Ajzen, 1991), there is still a gap between intentions and actual behaviour (Bayer and Peay, 1997). As suggested previously (Costin et al., 2009), future research should include help seeking behaviour measures, particularly by long-term longitudinal measures among large non-clinical samples or by studying help seeking in at-risk or subclinical populations.

4.1. Limitations

The current study has several limitations, which should be considered. Firstly, the sample size was smaller than planned, reducing statistical power to find differences between groups. Secondly, the survey used self-report measures, which may be

vulnerable to reporting biases. Clinical assessment of symptoms may have resulted in different findings, while objective measures of adherence such as web-based recording of time on the intervention may have provided further insights into participant engagement. Thirdly, the help seeking intentions items were very brief with only four response choices, limiting variability of responses and choice of analytical methods. More thorough measures could be utilised, such as those including a broader range of response choices allowing for more precise responding and detection of change over time. As stated above, more in-depth questions about intentions, such as reasons for seeking help could also be considered. There was drop-out between pre- and post-test which further reduced the sample size, although there were fewer dropouts than expected (Calea et al., 2009). However this may have been related to the number of participants in the study receiving course credit for participation. Finally, caution should be exercised when generalising the results of the current study, as the sample was homogenous in terms of gender and education. There was an over-representation of females, participants with higher education, and participants with experience in psychology. Moreover, the current study used a population-based sample, thus generalisations to clinical samples may be inappropriate.

5. Conclusion

Research has consistently found a discrepancy between prevalence of mental disorders for young adults relative to rates of formal help seeking. Some important barriers to formal help seeking have been identified, including low mental health literacy and high stigma of mental illness. The current study's findings support the utility of a brief online psychoeducation intervention for promoting help seeking among young adults. Future research could benefit from including more comprehensive help seeking measures and by further fostering engagement in the intervention content. Further investigation into the effects of tailoring topics and content to the population of interest is also encouraged. This study provides important new evidence for the potential effectiveness of psychoeducation and anti-stigma messages in the promotion of help seeking for mental health problems.

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Conflict of interest

The authors declare no conflict of interest.

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