

University of New England



**Modifying Mental Health Help-Seeking Stigma in Young
Rural Australians: A Mixed Method Approach**

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Abstract

Help-seeking stigma is a major barrier to the utilisation of mental health services. This is especially so for young rural Australians who, despite being particularly susceptible to the onset of mental illness, have the lowest tendency to seek professional help compared to the broader Australian population. While some interventions strive to enhance help-seeking, few studies have examined the efficacy of web-based interventions for improving attitudes towards mental health help-seeking behaviour. This thesis aims to examine the efficacy of these interventions within a young rural population, as rural young people have not been the focus of previous intervention research in this area. Five studies were undertaken to address the aims, commencing with Study One, a systematic review that evaluated the impact web-based anti-stigma intervention strategies have on modifying mental health help-seeking stigma intentions and behaviours in young people (14–25 years). These interventions were found to have strong practical implications that highlighted the need for further exploration guided by theory and improved methodology. Study Two expands this existing evidence base to add to the current body of research through the piloting of alternative early intervention strategies: Internet-Based Cognitive Behavioural Therapy (ICBT) and Cognitive Bias Modification for Help-Seeking (CBM-HS) for decreasing mental health stigma and increasing young rural Australians' intentions to access services. Contrary to predictions, findings were limited regarding outcomes of stigma and intentions. Yet, data trends indicated greater reductions in self-stigma levels for the CBM-HS condition compared to the ICBT and control, suggesting improved implementation may yield stronger effects. Studies Three and Four used qualitative feedback to aid in understanding young Australians' current mental health perceptions and in assessing the acceptability of intervention strategies for adapting future mental health interventions to be both inclusive and effective in their dissemination.

Predicated on these findings, Study Five conducted a superiority analysis on CBM-HS and ICBT, with a control condition across three time points (spanning 6 weeks) for the modification of help-seeking stigma in young, rural Australians to increase intentions to access mental health services within Australia. As predicted, the results provided support for CBM-HS interventions as effective in decreasing mental health help-seeking self-stigma across the three time points compared to the ICBT condition and control. CBM-HS also showed positive trends in decreasing negative normative beliefs, attitudes, and perceived barriers to help-seeking. A significant increase in mean mental health literacy (MHL) scores and intentions to seek help from informal sources (partner, parents, friends, and phone) were found between time points with no discernible differences across conditions. These outcomes offer some practical implications for the effective delivery of online anti-stigma interventions targeting young rural Australians, including improved engagement through the age-stratified tailoring of materials and incorporation of visual and auditory stimulation. To overcome structural inequalities and combat the embedded stigma in young rural peoples' mental health help-seeking, technology-based alternatives that utilise mechanisms of change (i.e., CBM-HS) are needed to guide preventative mental health interventions. This can potentially bridge the gap between intentions and actual help-seeking behaviours and allow for enhanced timely treatment uptake and the promotion of improved clinical outcomes for young rural Australians.

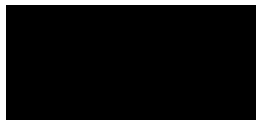
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Preface

This thesis is submitted as a thesis by publication. The following peer-reviewed publications have emanated from the research contained in this thesis.

Publications included in this thesis

1. Williams, L., Bartik, W., & Cosh, S. (2024). Online anti-stigma interventions for mental health help-seeking in young people: A systematic review. *Journal of Affective Disorders Reports*, 18, 100841. <https://doi.org/10.1016/j.jadr.2024.100841>

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2. Williams, L., Bartik, W., & Cosh, S. (2025a). Manuscript ID: JAFD-D-25-01136. Young Adults and Mental Health Help-Seeking: A Pilot Randomised Control Trial of Brief Internet-Based Strategies. *Journal of Affective Disorders*.
3. Williams, L., Bartik, W., & Cosh, S. (2025b). Manuscript ID: 4411931. Young Australians' Mental Health Help-Seeking Knowledge and Experiences: A qualitative study. *Journal of Health and Social Care*.
4. Williams, L., Bartik, W., & Cosh, S. (2025c). Manuscript ID: 251339690. Interventions to Facilitate Mental Health Help-Seeking for Young Rural Australians through Stigma Reduction: A three-arm randomised trial. *Advances in Mental Health*.

Contributions by others to the thesis (names and percentage)

Author's Name	% of contribution
Laura Williams	70%
Assoc/Prof Warren Bartik	20%
Assoc/Prof Suzie Cosh	10%

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Note to Examiners

This thesis is by publication. Following the introductory chapters, the main body of the thesis contains five manuscripts that have been integrated as five separate chapters. All published (or in review) chapters have been reverted to the American Psychological Association 7th edition formatting to support readability and consistency, with the numbering of tables and figures also adapted to reflect their chronological order within the thesis. Repetition has been minimised where possible, with all references consolidated at the end of the thesis.

Table of Contents

Chapter One: Summary of Thesis Research	1
1.1 Overview of Studies.....	1
Chapter 2: Literature Review and Thesis Outline.....	3
2.1 Overview	3
2.2 Young Australians’ Mental Health	4
2.3 Mental Health Services for Young People.....	5
2.4 The Relationship Between Mental Health Help-Seeking and Stigma	8
2.4.1 Help-Seeking.....	8
2.4.2 Mental Health Literacy and Psychoeducation	8
2.4.3 Barriers and Facilitators	9
2.4.4 Self-Stigma and Perceived Public Stigma	12
2.5 Intervention Strategies for Addressing Help-Seeking Stigma.....	13
2.5.1 Current Strategies.....	13
2.5.2 Current Strategies – Limitations	17
2.6 Innovative Strategies.....	18
2.6.1 Theory of Planned Behaviour (TPB)	19
2.6.2 Cognitive Behavioural Therapy (CBT)	20
2.6.3 Internet-Based Cognitive Behavioural Therapy (ICBT).....	22
2.6.4 Cognitive Bias Modification (CBM)	24
2.7 Aims of this Research Project.....	27
2.7.1 Conceptual Overview of the Thesis	29
2.7.2 Thesis Outline	31
2.7.3 Summary of Thesis Chapters	34
2.8 Chapter Conclusion and Progression to Chapter 3	36
Chapter 3: Online Anti-Stigma Interventions for Mental Health Help-Seeking in Young people: a Systematic Review (Study 1)	37
3.1 Abstract	38
3.2 Introduction.....	39
3.2.1 Aims.....	42
3.3 Method	43
3.3.1 Search Strategy	43
3.3.2 Eligibility	43
3.3.3 Data Extraction	45
3.3.4 Quality Assessment.....	45

3.4 Results.....	46
3.4.1 Characteristics of Included Studies.....	47
3.4.2 Intervention Characteristics and Modes of Delivery	47
3.4.3 Psychoeducation/Multimodal Stigma Reduction Interventions.....	48
3.4.4 Study Quality	49
3.5 Primary Outcomes: Stigma	54
3.5.1 Help-Seeking.....	55
3.6 Secondary Outcomes: Demographics	56
3.6.1 Knowledge of Mental Health Literacy	57
3.6.2 Satisfaction with Treatment	57
3.7 Discussion	58
3.7.1 Limitations	64
3.7.2 Conclusion	64
3.7.3 Relevance to Clinical Practice	64
3.8 Chapter Conclusion and Progression to Chapter 4	65
Chapter 4: Young Adults and Mental Health Help-Seeking: A Pilot Randomised Control Trial of Brief Internet-Based Strategies (Study 2).....	
4.1 Abstract.....	70
4.2 Introduction.....	71
4.2.1 Objective	75
4.3 Method	76
4.4 Procedure	77
4.4.1 Measures	79
4.5 Interventions	81
4.6 Statistical Analysis.....	82
4.7 Results.....	83
4.7.1 Preliminary Intervention Analyses	83
4.7.2 Effects of Conditions on Help-Seeking Outcomes	84
4.7.3 Effect of Age and Gender on Help-Seeking Intentions	90
4.8 Discussion	90
4.8.1 Strengths, Limitations and Future Directions	92
4.8.2 Conclusion	94
4.9 Chapter Conclusion and Progression to Chapter 5	94
Chapter 5: Young Australians' Mental Health Help-Seeking Knowledge and Experiences: A Qualitative Study (Study 3)	
5.1 Abstract.....	99

5.2 Introduction.....	100
5.2.1 Aim	102
5.3 Method	103
5.3.1 Participants.....	103
5.3.2 Design	103
5.4 Procedure	104
5.5 Data Analysis	104
5.6 Results.....	105
5.6.1 Demographics	105
5.6.2 Qualitative Themes	106
5.6.3 Theme 1 – Mental Health Awareness	108
5.6.4 Sub-theme 1a – Mental Health Literacy	108
5.6.5 Theme 2 – Mental Health Experience	110
5.6.6 Sub-theme 2a – Need for Accessibility	111
5.6.7 Sub-theme 2b – Safety and Trust.....	111
5.6.8 Theme 3 – Mental Health Values	112
5.6.9 Sub-theme 3a – Family Values	113
5.7 Discussion	114
5.7.1 Limitations	118
5.7.2 Conclusion	119
5.8 Chapter Conclusion and Progression to Chapter 6	119
Chapter 6: Online Intervention Acceptability and Feasibility – Qualitative Feedback (Study 4)	123
6.1 Abstract.....	124
6.2 Introduction.....	125
6.2.1 Aim	128
6.3 Method	128
6.3.1 Participants.....	128
6.3.2 Measures	129
6.4 Procedure	130
6.4.1 Data Analysis	130
6.5 Results.....	131
6.5.1 Qualitative Findings.....	136
6.6 Discussion	139
6.6.1 Experience and Acceptability	139
6.6.2 Feasibility: Engagement and Intentions.....	141
6.6.3 Limitations	142
6.6.4 Conclusion	142

6.7 Chapter Conclusion and Progression to Chapter 7	143
Chapter 7: Interventions to Facilitate Mental Health Help-Seeking for Young Rural Australians Through Stigma Reduction: A Three-Arm Randomised Trial (Study 5).....	146
7.1 Abstract	147
7.2 Introduction.....	148
7.2.1 Objective	152
7.3 Method	153
7.3.1 Ethics Statement.....	153
7.3.2 Participants and Recruitment	153
7.4 Measures	155
7.5 Interventions	157
7.6 Procedure	158
7.7 Statistical Analysis.....	160
7.8 Results.....	160
7.8.1 Preliminary Intervention Analyses	160
7.8.2 Effects of Conditions on Help-Seeking Outcomes	161
7.8.3 Effect of Gender on Help-Seeking Intentions.....	166
7.9 Discussion	168
7.9.1 Limitations and Future Directions	172
7.9.2 Conclusion	173
7.10 Chapter Conclusion.....	173
Chapter 8: Thesis Discussion.....	178
8.1 Aims of the Present Project.....	178
8.2 Summary of Outcomes	180
8.3 Synthesis of Results	184
8.4 Implications and Clinical Application	190
8.5 Limitations of the Research	193
8.6 Strengths of the Research.....	194
8.7 Future Research	195
8.8 Summary of Recommendations	196
8.9 Overall Conclusion	197
Consolidated References.....	199

Appendix A: Study 1: Publication Supplementary Material	235
Supplementary 1: Search Concepts used	235
Supplementary 2: JBI Quality Assessment.....	236
Supplementary 3: Random Controlled Study Checklist: Tufanaru et al. (2020).	237
Supplementary 4: Cross-Sectional Study Checklist: Moola et al. (2020)	238
Supplementary 5: Quasi-Experimental Studies Checklist: Tufanaru et al. (2020)	239
Appendix B: Study 2 & 5: Publication Supplementary Material	240
Supplementary 1: CBM-HS Practice Block	240
Supplementary 2: Table 1 Cognitive bias modification – help-seeking (CBM-HS) stimuli and correct answers (Stanley et al., 2018)	241
Appendix C: Study 3 Publication Supplementary Material.....	243
Supplementary 1: Comprehension questions:.....	243

List of Tables

Table 2.1 Overall Summary of the Studies	33
Table 3.1 Selected Characteristics of Included Studies	50
Table 4.1 Socio-demographic Characteristics of Participants	77
Table 4.2 Analysis of Variance (ANOVA) and Chi-Square tests assessing group differences between conditions on demographic characteristics	83
Table 4.3 Participant Responses by Experimental Condition	86
Table 4.4 Participant Responses on the GHSQ by Experimental Condition	88
Table 5.1 Socio-demographic Characteristics of Participants	105
Table 6.1 Socio-demographic Characteristics of Participants	129
Table 6.2 Themes, Codes and Categories Derived from Semi-Structured Interviews	132
Table 6.3 Themes Derived from Categories	135
Table 7.1 Socio-demographic Characteristics of Participants	155
Table 7.2 Analysis of Variance (ANOVA) and Chi-Square tests assessing group differences between conditions on demographic characteristics	161
Table 7.3 Participant Responses by Experimental Condition	164
Table 7.4 Effect of Gender on Help-Seeking Intentions	168

List of Figures

Figure 2.1 TPB and CBT applied to treatment-seeking behaviour (Stecker et al., 2011) ...	21
Figure 2.2 Conceptual Overview of Thesis	30
Figure 2.3 Summary of Thesis by Chapter	32
Figure 3.1 PRISMA Flowchart	46
Figure 4.1 CONSORT Diagram of Flow of Participants Through Each Stage of Randomised Trial	78
Figure 5.1 Thematic Map of Young Australians past mental health help-seeking experience and current help-seeking perceptions	107
Figure 7.1 CONSORT Diagram of Flow of Participants Through Each Stage of Randomised Trial	159

Abbreviations and Symbols

Abbreviations

AB	Attentional bias
ABS	Australian Bureau of Statistics
AI	Artificial intelligence
AIFS	Australian Institute of Family Studies
AIHW	Australian Institute of Health and Welfare
ANOVA	Analysis of Variance
APA	American Psychological Association
ATSPPH-SF	Attitudes toward seeking professional psychological help short form
BASH-B	Barriers to adolescents seeking help scale
CA	Content analysis
CBM	Cognitive bias modification
CBM-HS	Cognitive bias modification for help-seeking
CBM-I	Cognitive bias modification – interpretation
CBT	Cognitive behavioural therapy
CCI	Centre for Clinical Interventions
CONSORT	Consolidated standards for reporting trials
COVID-19	Coronavirus Disease of 2019 (SARS-CoV-2)
CR	Critical realism
CTs	Controlled trials
DSM-5	Diagnostic and Statistical Manual of Mental Disorders Fifth Edition
DSS	Depression stigma scale
GASS	Generalised anxiety stigma scale
GHSQ	General Help-Seeking Questionnaire
GP	General practitioner
HS	Help-seeking
HSA	Help-seeking attitudes

HSB	Help-seeking behaviours
HIS	Help-seeking intentions
IB	Interpretive bias
ICBT	Internet-based cognitive behavioural therapy
JB	Joanna Briggs Institute
MeSH	Medical subject headings
MCAR	Missing completely at random
MH	Mental health
MHL	Mental health literacy
MHFA	Mental health first aid
MHPKI-10	Mental health promoting knowledge instrument
NRHA	National Rural Health Association
OCD	Obsessive-compulsive disorder
PATSPI	Parental attitudes towards psychological services inventory
PICO	Population, intervention, comparator, and outcome
PRISMA	Preferred reporting items for systematic reviews and meta-analysis
PROSPERO	Prospective register for systematic reviews
PS	Perceived stigma and barriers to care for psychological problems scale
RCTs	Random controlled trials
ROC	ReachOut.com
RPO	Research potential opportunity
RTA	Reflexive thematic analysis
SAMHSA	Substance Abuse and Mental Health Services Administration
SI	Suicide ideation
SOSS-SF	Stigma of suicide scale short form
SPSS	Statistical software
SSDS	Self-stigma for depression scale
SSOSH	Self-stigma of seeking help
TAFE	Technical and Further Education

TPB	Theory of planned behaviour
TRA	Theory of reasoned action
UK	United Kingdom
USA	United States of America
WHO	World Health Organization
YMHFA	Youth mental health first aid

Symbols

N	Frequency
M	Mean
P	Significance level
<i>F</i>	Measure of variation
<i>SD</i>	Standard deviation
<i>SE</i>	Standard error
α	Alpha
%	Percentage
ηp^2	Eta squared, measure of effect size

Chapter One: Summary of Thesis Research

1.1 Overview of Studies

The title of this thesis is *Modifying Mental Health Help-Seeking Stigma in Young Rural Australians: A Mixed Method Approach*. The five studies summarised briefly below comprise five chapters in the thesis and establish a research progression that commences with a systematic review of the extant literature on online help-seeking interventions and culminates in a three-armed randomised trial to assess the effectiveness of Internet-Based Cognitive Behavioural Therapy (ICBT) and Cognitive Bias Modification for Help-Seeking (CBM-HS) on modifying young rural Australians' mental health help-seeking stigma.

Study 1: Systematic Review. This study systematically reviewed the literature and provided an update on the current state of research regarding the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions, and behaviours towards mental health help-seeking. The review focused on help-seeking for common mental health problems – depression, anxiety, emotional distress, self-harm, and suicidal thoughts – and also examined any significant differences between age, sex, and location. Identifying and understanding the feasibility and effectiveness/efficacy of accessible help-seeking promotion strategies is essential for addressing the increase of mental health problems among young rural Australians. This study was published in the Journal of Affective Disorders Report.

Study 2: Intervention Pilot Study. This quantitative study measured the attitudes of young rural Australians aged between 15 and 24 years regarding mental health help-seeking. Additionally, the pilot trialled and compared two different web-based interventions for modifying help-seeking intentions with young people – ICBT and CBM-HS – with a third

control condition. This study has been submitted to the Journal of Affective Disorders and is under review.

Study 3: Interviews Exploring Knowledge and Experience. This qualitative study explored participants' past experiences with formal or informal help-seeking and future help-seeking intentions (i.e., why, who, and how) and followed their engagement with one of two web-based interventions – ICBT and CBM-HS – and a control condition. The research questions explored were: 1) How do young people's understand mental health, and what are their attitudes toward seeking help? 2) How has their experience with past help-seeking shaped their future help-seeking intentions? This study has been submitted to the Journal of Health and Social Care and is under review.

Study 4: Intervention Acceptability: This qualitative study utilises previously unreported data from Study 3. The study explored participants' perceptions of the completed intervention tasks – ICBT and CBM-HS – and a control condition. The qualitative data considered the acceptability and feasibility of the respective interventions, the results of which were used to aid the dissemination and application of the interventions in the three-arm randomised trial.

Study 5: Three-Armed Randomised Trial: This quantitative study was shaped by the results of the preceding studies and aimed to implement two intervention techniques – CBM-HS and ICBT – and a control condition. The study was a three-armed trial to modify young rural Australians' help-seeking stigma and to increase their intentions to access mental health services within Australia. Data was collected at three time points (pre, post, and 6-weeks). This study has been submitted to Advances in Mental Health and accepted for publication.

Chapter 2: Literature Review and Thesis Outline

2.1 Overview

Mental illness is a global problem that must be combated through prevention and treatment (Saxena et al., 2006). Effective treatments exist for most disorders, allowing for a reduction in symptoms and improved long-term outcomes (World Health Organization, [WHO], 2001). In 2021, approximately 13.9% of the global population experienced a mental health disorder, with depression and anxiety being the most prevalent (WHO, 2024).

In Australia, one in five people aged between 16 and 85 years will experience mental illness each year, and up to 42.9% of Australians will face mental illness in their lifetime (Australian Bureau of Statistics [ABS], 2022). Mental disorders constitute 13% of the total disease burden and 23% of the non-fatal disease burden in Australia, placing it as the second leading cause of non-fatal disease burden across all age groups (Australian Institute of Health and Welfare [AIHW], 2023). However, 54% of Australians do not access treatment, with data showing access rates to be significantly lower than those accessing treatment for physical ailments (AIHW, 2022). The low help-seeking rate for mental disorders is despite figures that show high rates of recovery from mental illness when support is accessed. For example, 75% of those admitted to public mental health inpatient services experienced significant improvement with long-term positive outcomes (Black Dog Institute, 2020).

Australians living in rural and remote communities are even less likely to seek mental health treatment compared to their city-dwelling counterparts (National Rural Health Alliance [NRHA], 2021). In 2016–17, Medicare-subsidised mental health services were accessed by people living in rural areas at a rate of three times less than people living in metropolitan areas and very remote areas at a rate of six times less (AIHW, 2018). One explanation for this

issue is apprehension concerning help-seeking and the fear of stigma sometimes associated with mental illness that is evident in rural communities, particularly smaller communities, where people feel their anonymity is less assured (Cheesemond et al., 2019). Additionally, limited service availability, lower educational levels, and resilient attitudes (e.g., ‘rural stoicism’) also appear to impact help-seeking behaviour, readiness to engage services, and compliance with preventative advice (NRHA, 2021). Further barriers to care, such as lower income levels and limited or non-existent public transport, coalesce in increasing a sense of isolation and risk; this is also particularly compounded for individuals living with a disability and those who are unemployed or physically unwell (Cheesemond et al., 2019). Due to these barriers, receiving a timely diagnosis and treatment often occurs too late, if at all, and increases the likelihood of hospitalisation, self-harm, and suicide (Cheesemond et al., 2019). Compared to metropolitan areas, the rate of suicide in rural and regional areas is 40% higher, while the suicide rate in remote areas is almost twice that of major cities (AIHW, 2019).

2.2 Young Australians’ Mental Health

Numerous studies have identified young people as the population with the lowest tendency to seek professional help (e.g., Reavley et al., 2010; Nearchou et al., 2018; Allouche et al., 2021). This is particularly problematic as the onset of mental illness typically occurs from late teens to early twenties, with Australian youth (14–24 years old) identified as the population with the highest prevalence of mental illness (Ivancic et al., 2014).

Approximately 13.9% of Australian children and adolescents have a diagnosable mental disorder, with upwards of 50% of mental health issues present by age 14 and 75% by age 24 (ABS, 2022). Data from Mission Australia’s Youth Survey (2022) revealed that one in five young people (15–19 years old) met criteria for a probable serious psychiatric disorder, with the most common diagnoses being depression, anxiety, and substance use disorders.

Despite this decline in mental health, 65% of young people did not receive mental health intervention during their younger years (ABS, 2022).

The most recent findings from the National Study of Mental Health and Wellbeing (ABS, 2022) reported that within the last 12 months, nearly two out of five, or 39.8% of young Australians (16–24 years) experienced a mental health disorder, which is significantly higher than all other age groups. These findings are also associated with the COVID-19 pandemic, which saw an overall worsening in psychological distress (Li et al., 2021). While most age groups have since returned to pre-pandemic levels of psychological distress, little change in such distress has occurred for young Australians (AIHW, 2022).

The risk of mental health issues is often exacerbated among young people living in rural and remote areas due to factors such as reduced service access, unemployment, loneliness, loss of relationships, and pessimism about future prospects (NRHA, 2017). Additionally, the persistence of traditional values can often influence young people to conform to accepted patterns of behaviours regarding sexuality, masculinity, and stoic mindsets that impact help-seeking (NRHA, 2017). Indeed, the youth mental health service ‘Yourtown’ reported that young people expressed concerns about ‘being judged’, seen as ‘incapable’, or being labelled as an ‘attention seeker’ if they were to access mental health services (Ivancic et al., 2018). These factors, along with past healthcare approaches tailored to the convenience of urban living, have led to the structural inequities and societal norms that influence help-seeking attitudes and behaviours in young rural people (Bourke et al., 2012).

2.3 Mental Health Services for Young People

In Australia, young people with severe or chronic mental health problems can access specialist services such as inpatient psychiatric care and residential treatment centres

(Australian Institute of Family Studies [AIFS], 2018). However, this accounts for only a small proportion of overall service use (3.3%; Kwok et al., 2016), with higher access rates (28% of 12–24-year-olds; AIHW, 2021) seen in the provision of government-provided child and adolescent community mental health services, although these vary for age range between but also within the different states and territories of Australia (AIFS, 2018). Predominantly, young people will access mental health services through general practitioners, psychologists, and psychiatrists (Watkeys et al., 2024). Australian schools are also seen as key service providers through individual counselling sessions and the introduction of mental health and wellbeing programs (NSW Department of Education, 2023).

As well as face-to-face contact, young Australians have a range of digital mental health options, including online low-intensity interventions (e.g., eheadspace), structured self-directed apps (e.g., moodgym), informative websites (e.g., Black Dog Institute), and helplines (e.g., Kids Helpline), which have all reported upward trends in service use (Watkeys et al., 2024; headspace Annual Report, 2023). With consistent technological advances and increased overall demand for services, online resources present a readily available, low-cost alternative that has shown increased appeal with young people (Fischer-Grote et al., 2024).

As previously noted, government-supported mental health services capture approximately 28% of overall service use in young people aged 12–17 (AIHW, 2021). However, it is estimated that 50–60% of young people fall through the gaps (AIHW, 2020) due to excessive wait times (≥ 12 months), failing to meet the threshold of service use, presenting with needs too ‘complex’ for service use, or struggling with the transition from youth to adult services (Black Dog Institute, 2024).

To address these gaps, the Australian Government’s review of mental health programs and services (Department of Health, 2015) sought significant steps toward reforming mental

health services to more effectively address the needs of young people (Malla et al., 2016). While this is yet to be reflected in the current statistics, there has been a definitive shift to community-based early intervention programs (McGorry & Mei, 2018), with the review concluding that to reduce barriers and increase accessibility, community-based programs were necessary to close the mental health service gap (Department of Health, 2015).

Evidence supporting the shift to community-based approaches to young people's mental health can be seen internationally (Savaglio et al., 2022). Some examples of recognised community programs include England's 'Youthspace' for young people (16–25 years; Vyas et al., 2015), Ireland's 'Jigsaw', an early intervention for 12–25-year-olds (O'Keefe et al., 2015), and Canada's 'Foundry' for 16–24-year-olds, modelled on an integrated health approach (Hetrick et al., 2017). Reviews evaluating the effectiveness of these programs have reported improvements across several factors, such as improved mental health symptomology, promoting wellbeing and self-esteem, substance use, behavioural and cognitive outcomes, and social functioning (Garcia-Poole et al., 2019; Settapani et al., 2019). Moreover, a moderate overall effect was found for young people from low socioeconomic areas, including improvement in social skills and a decrease in symptoms of depression and antisocial tendencies (Farahmand et al., 2012).

In Australia, headspace is a leading national community-based mental health service for young people aged 12–25 years. Following the integrated method (Hetrick et al., 2017), which refers to the provision of multidisciplinary care, headspace seeks to promote an inclusive and empowered approach that encourages young people's development (AIHW, 2022). Research supporting the effectiveness of headspace reports significant decreases in psychological distress and increased psychosocial functioning (Bassilios et al., 2017; Rickwood et al., 2015). However, headspace reports that 40% of young people who present to the service cannot benefit from their entry-level care due to the severity or complexity of

their mental health needs (McGorry & Mei, 2018). This appears to indicate continued patterns of delayed service engagement and a lack of understanding towards symptom awareness or other structural or intrinsic barriers that can perpetuate mental health concerns such that the appropriate level of intervention is not available or offered.

2.4 The Relationship Between Mental Health Help-Seeking and Stigma

2.4.1 Help-Seeking

Mental health help-seeking is defined as a health action that involves an individual actively seeking help from others to gain information, treatment, or support for a mental health problem (Xu et al., 2018). Rickwood et al.'s (2005) model of help-seeking conceptualises a dynamic process that involves 1) awareness of a problem, 2) expression of symptoms and the need for support, 3) identification and accessibility to sources of help, and 4) willingness to seek out these sources of help. This model of help-seeking is underpinned by three key processes: attitudes, intentions, and behaviours (see Section 4.1) (Ajzen, 1991). Rickwood and Thomas (2012) categorise sources of help as either informal (e.g., family, friends), formal (e.g., health professionals, youth workers), or self-help (e.g., internet-based). Research consistently identifies young people valuing perceptions of self-reliance when experiencing mental health difficulties, reducing their willingness to seek help (Lynch et al., 2023). When young people do seek help, they are more likely to turn to informal sources such as friends, parents, or intimate partners over formal sources of help (Lynch et al., 2023).

2.4.2 Mental Health Literacy and Psychoeducation

Mental health literacy (MHL) refers to an individual's knowledge and beliefs about mental health that helps them recognise symptoms, understand causes, and maintain good mental health (Marinucci et al., 2023). Psychoeducation, where young people are provided with information about mental health, can also help with symptom recognition and causes of

mental health but is usually delivered by health care professionals as a structured education approach to understanding their diagnoses, aetiology, treatment, and management (Sampaio et al., 2022). Psychoeducation is found to improve clients' levels of MHL (Marinucci et al., 2023).

MHL and psychoeducation often form the foundation of treatment models for young people by increasing understanding of their mental health difficulties, building resilience, and navigating coping strategies (Seidler et al., 2020). MHL is a strong determinant when it comes to help-seeking, with research indicating increased knowledge frequently leads to reduced stigma towards mental health, which can increase help-seeking tendencies in young people (Morgan et al., 2018).

Commonwealth Government funded community programs, like headspace, are focused on improving young people's mental health outcomes through early intervention (McGorry & Mei, 2018) and the effects are seen when implemented with young people experiencing mild to moderate levels of psychological distress. However, overwhelmingly, there are many young people whose symptoms are too chronic or severe to benefit from this model (Seidler et al., 2020). This indicates the dire need for more preventative approaches to equip young people with the understanding and self-awareness necessary to access services in a timely manner (Seidler et al., 2020; McGorry & Mei et al., 2018).

2.4.3 Barriers and Facilitators

Young people can be significantly affected by the presence of mental health issues, and this can result in long-term impacts on their general health and social functioning (Nearchou et al., 2018). Yet epidemiological data for young people reflects low rates of help-seeking, with many not receiving help or delaying help-seeking (Nearchou et al., 2018). Due to the significantly better outcomes associated with early connection to care (Clark, 2006), it

is essential to identify the key variables that prevent or facilitate help-seeking behaviours in young people. Stigma is consistently identified as the dominant barrier to seeking help (Clement et al., 2015; Schnyder et al., 2017), with other prominent barriers including negative beliefs and attitudes regarding mental health professionals and treatment services (Aguirre Velasco et al., 2020). Additionally, higher symptom severity is associated with lower help-seeking intentions and behaviours (Aguirre Velasco et al., 2020). Some possible explanations for this are low levels of mental health literacy, which impact young people's ability to recognise the influence of mental health symptoms such as emotional distress, self-blame, diminished cognitive ability, and limited insight, but these can also occur in-hand with increased rates of social exclusion and isolation (Aguirre Velasco et al., 2020).

Gender has consistently been found to be a significant predictor of both stigma and mental health help-seeking, with both younger and older females often possessing more adaptive attitudes towards mental health problems, higher mental health literacy, and greater intentions to seek help (Aguirre Velasco et al., 2020). Research suggests that such gender differences in help-seeking could indicate that mental health problems pose a particular threat to the identity of males, including adolescent boys, which results in a reduced willingness to seek help (MacLean et al., 2013). This behaviour could be understood from a social constructionist lens, which positions asking for help and emotional expression as feminine traits, with males perceiving self-reliance and a preference to deal with their own difficulties regarding treatment as examples of masculinity (Vickery et al., 2021). Additionally, when males do seek formal help, they endorse 'quick fixes' and are more likely to seek medical treatment over psychotherapy (Vickery et al., 2021). Moreover, Allouche et al. (2021) reported that adolescents who identified as gender-diverse/non-binary reported significantly greater willingness to seek help at school compared to both boys and girls, with these authors postulating that these findings could indicate that those who reject traditional gender norms

are less likely to exhibit restricted emotional expression due to gender role socialisation. However, gender-diverse students were also reported to endorse significant internalising problems in comparison to their gender binary counterparts, which is a trend often observed and likely associated with their heightened experiences of minority stress (Hunter et al., 2021), resulting in their increased need for services (American Psychological Association, 2015; Allouche et al., 2021).

Few studies have examined changes in help-seeking intentions throughout adolescence despite evidence suggesting that such intentions impact the source of help (formal or informal) sought (Nearchou et al., 2018). Likewise, only a few studies have explored how experiences with past help-seeking can shape future intentions to seek help across adolescence (Farrand et al., 2007). For example, Rossow and Wichstrom (2010) examined 14–19-year-olds' past help-seeking behaviours for self-harm within a period of eight years and found older participants were significantly more likely to report seeking professional help than younger participants. In comparison, research has consistently found adolescents prefer to seek help from informal sources (Rickwood et al., 2005; Gulliver et al., 2010), which, while preferable to no action, still presents cause for concern as friends are less equipped to help with serious mental health issues (Smith, 2012; Bartik et al., 2015). In combination, understanding the influence of age and gender on help-seeking attitudes is essential for providing appropriately targeted interventions (Nearchou et al., 2018).

Past positive help-seeking experiences and strong relationships with potential gatekeepers (e.g., GPs, teachers, parents) are the most cited facilitators in accessing care (Aguirre Velasco et al., 2020). These findings indicate that young people are less worried about overcoming structural barriers (transportation, service availability, and costs) in accessing care and are more affected by attitudinal barriers. This suggests that increasing mental health literacy is a clear avenue to potentially improving social support and the

acceptability of accessing help within this population (Sawyer et al., 2012; Aguirre Velasco et al., 2020).

2.4.4 Self-Stigma and Perceived Public Stigma

Corrigan and Watson (2002) describe stigma as comprising three main components: stereotypes (negative beliefs regarding a social group), prejudice (unfavourable feelings towards the group), and discrimination (adverse behaviours towards group members). For example, people may have an unfounded belief that an individual with a mental illness is dangerous (stereotype), which in turn leads to fear (prejudice) and then social exclusion (discrimination). It is important to understand the interplay of these components to gain insight as to why stigma may influence help-seeking intentions for young people with mental health issues.

Research also distinguishes between self-stigma, which refers to one's personal attitudes that serve to stigmatise their help-seeking (e.g., 'seeking help means I'm weak') and perceived public stigma, which refers to one's concerns about how others may negatively perceive their choice to seek help (e.g., 'I would be seen as weak'; Nearchou et al., 2018). Both self-stigma and perceived public stigma are identified as key barriers that adversely impact help-seeking intentions and behaviours (Schnyder et al., 2017). A range of studies have explored instances of public and self-stigma. Yap et al. (2014) conducted an analysis of the factor structure of a stigma scale and found that young people's negative stereotypes towards people with mental health issues had a similar structure for self and perceived stigma. However, participant responses on the stigma scale also indicated a belief that other young people had stronger negative stereotypes (perceived) than their own (self). Other studies have found that demographic variables are predictive of both self and perceived stigma. For example, in adult populations, higher scores for personal stigma were found

among males than females, but not for perceived public stigma (Griffiths et al., 2008). Similarly, Caelear et al. (2011) found stronger rates of self-stigma in adolescent males, although females were reported to score higher on perceived public stigma. Relationships between stigma responses and familiarity with mental health issues were examined by Grant et al. (2016), who found that young people with higher levels of contact with those experiencing anxiety or depression and knowledge of these conditions significantly predicted self-stigma but not perceived public stigma.

The above findings support the importance of assessing both self-stigma and perceived public stigma separately. Schnyder and colleagues' (2017) systematic review indicated a negative association between perceived public and self-stigma with active help-seeking, further highlighting the importance of measuring both constructs separately. Additionally, Eisenberg et al. (2009) identified that for university students (over 18 years), their past help-seeking behaviour was only associated with self-stigma, positioning it as the more prominent barrier to target, with students potentially possessing exaggerated perceptions of public stigma, or showing social desirability bias by opting for responses that are perceived as more socially acceptable (Eisenberg et al., 2009). While many studies have explored the relationship between stigma and help-seeking, this has predominantly been within adult populations (e.g., Barney et al., 2006; Boerema et al., 2016). More research is needed in the adolescent/young adult population (Clement et al., 2015; Gulliver et al., 2010).

2.5 Intervention Strategies for Addressing Help-Seeking Stigma

2.5.1 Current Strategies

Many interventions have been developed to overcome the aforementioned barriers and promote help-seeking among young people. However, relatively few systematic reviews have been conducted to evaluate their efficacy, particularly within non-clinical populations

(Xu et al., 2018). While appearing counter-intuitive, this dearth of research belies the fact that decreasing stigma and improving the MHL of all young people is essential so that if or when they or a peer need help, they are aware of the symptoms and more inclined to pursue formal help. Current intervention strategies can be categorised into three main types: 1) those that target mental health literacy, 2) de-stigmatisation strategies, and 3) motivational enhancement (Xu et al., 2018). Additionally, outreach programs (e.g., Building Bridges to General Practice Program; Wilson et al., 2005) and peer training (O'Reilly et al., 2016; Parikh et al., 2018) are also often employed when targeting younger populations to engage them in help-seeking (Aguirre Velasco et al., 2020).

A systematic review and meta-analysis conducted by Xu et al. (2018) assessed the effectiveness of help-seeking interventions for mental health disorders by examining attitudes, intentions/behaviours, and forms of help-seeking (e.g., formal, informal, or self-help) within populations ranging from 2 (involving parents) to 82 years. Randomised controlled trials (RCTs) and non-randomised controlled trials (CTs) with parallel group design were eligible for inclusion. Xu et al. (2018) found that interventions that promote help-seeking do improve attitudes, intentions, and behaviours for formal help-seeking and reduce personal stigma toward mental illness. Additionally, long-term benefits (6 months), such as positive intentions regarding formal help-seeking behaviours, were identified. For informal help-seeking, no intervention effects were reported (Rickwood & Bradford, 2012). In terms of self-help, interventions appeared to facilitate the process of help-seeking through information programs; however, this was limited, with a need for further exploration of long-term effects (Scott et al., 2015).

Specifically, interventions that incorporated mental health literacy or de-stigmatisation led to short-term improvements regarding formal help-seeking outcomes (Xu et al., 2018). These outcomes are consistent with previous research that identified personal

stigma and lack of knowledge as key barriers to seeking help from professionals (Mojtabai et al., 2011; Bonabi et al., 2016; Schnyder et al., 2017). Interventions that focused on increasing motivation among individuals, particularly those at risk of substance use disorders, had few immediate benefits; however, there was potential for long-term effectiveness, possibly due to the time it takes to incorporate real change into everyday life (Rubak et al., 2005).

Additionally, interventions that targeted friends or relatives of someone with mental illness (e.g., psychoeducation and connecting loved ones to care) provided no significant evidence of improved professional help-seeking among individuals with mental disorders (Xu et al., 2018).

Youth workers and teachers are often considered key gatekeepers in assisting young people with connection to care services (Marinucci et al., 2022). One commonly used course to equip gatekeepers with the skills and knowledge to support young people is Mental Health First Aid (MHFA). This course has been adapted for many roles, settings, and populations, including youth (12–18 years; YMHA) (Australia MHFA, 2025). However, despite YMHA's popularity, multiple reviews (e.g., Morgan et al., 2018; Maslowski et al., 2019; Sanchez et al., 2020) assessing its effectiveness on behavioural outcomes in adults and young people consistently showed limited evidence supporting its capacity to increase the help-seeking behaviours of trainees and recipients (Forthal et al., 2022), apart from Ng et al. (2021), whose systematic review reported significant improvement in trainees' knowledge, confidence, and helping behaviours, with some effects sustained over time (≥ 3 months).

Interventions that target adults or young people experiencing mental health problems often see an increase in formal help-seeking behaviours (Xu et al., 2018). However, minimal effect is noted when implemented within the general population (Xu et al., 2018). This supports Gulliver et al. (2012), who postulated that interventions may be ineffective when targeted at the general population within the short term, as help-seeking behaviours can only

be expected if an individual is directly experiencing symptoms and perceives the need for professional help. Moreover, interventions that target general populations tend to focus on anxiety, depression, and suicide information, producing low effect sizes on measures of intentions and willingness to engage in formal services and indicating a perceived lack of relevance for the information on these topics (Costin et al., 2009).

Longer-term follow-up is needed to evaluate any behavioural change in young people in the general population regarding an increase in willingness to seek help. Three studies that incorporated motivational enhancement for adults at risk of substance use disorder were reported to yield a marginally significant trend in this direction regarding formal help-seeking at 1–5 months and ≥ 6 months following intervention (Xu et al., 2018). Importantly, these reviews demonstrate the need for further research, specifically having higher quality RCTs that incorporate behavioural outcomes tailored to specific populations that can evaluate effectiveness longitudinally (Xu et al., 2018).

Xu et al. (2018) reported limited intervention effects with children and adolescents, as almost 70% of interventions were targeted at improving parental knowledge about mental health awareness rather than directly targeting the children or adolescents themselves. However, a review conducted by Aguirre Velasco et al. (2020) specifically examined the types of interventions implemented to improve adolescents' (10–19 years) mental health help-seeking through formal, informal, and self-help sources. The findings of this review indicate that interventions that promoted help-seeking by improving mental health literacy regarding stigma and depression within non-clinical samples were most effective. For example, King et al.'s (2011) suicide prevention and awareness program found an increase in future help-seeking behaviours post-intervention and was maintained at 3-month follow-up. Moreover, findings from Strunk et al. (2014), Robinson et al. (2010), and Ruble et al. (2013) each found significant increases of help-seeking immediately following interventions,

although Strunk et al. (2014) reported that intervention effects were not sustained at 3-month follow-up.

Studies examining the effectiveness of stigma-reduction-based interventions identified positive effects for adolescents regarding help-seeking intentions and self-stigma. Rickwood et al. (2004) identified a significant effect on help-seeking intentions post-intervention, while both Saporito (2009) and Young et al. (2013) found substantial reductions in self-stigma regarding help-seeking post-intervention. Lastly, significant effects were recorded in all studies that focused on outreach interventions for promoting help-seeking intentions. For example, Deane et al. (2007) recorded an increase in intentions at a 3-month follow-up, while immediate short-term improvements in help-seeking intentions were found by Rughani (2011) and also Wilson (2008), both reporting significant effects in intentions to seek help post intervention. Overall, these findings indicate that future interventions should focus on addressing young people in the general population (i.e., non-clinical) and examine their mental health literacy, stigma, and attitudes towards mental health services, and incorporate their desire for self-reliance to effectively promote mental health help-seeking (Rickwood et al., 2005; Gulliver et al., 2010).

2.5.2 Current Strategies – Limitations

While the evidence base in the help-seeking research with young people is increasing, there are some key limitations in the current body of research that include high heterogeneity of assessment outcomes and varied quality of the studies (Xu et al., 2018; Aguirre Velasco et al., 2020). Specifically, the validity of some of the outcome measures used in studies was unclear as no psychometric data were reported (Xu et al., 2018). Additionally, intervention effects may differ across diagnoses within many adolescent studies (Aguirre Velasco et al., 2020). Lastly, 97% of studies were conducted in high-income countries such as the United

States and Australia and regions in Europe and Asia, potentially impacting their generalisability across the young person population (Xu et al., 2018; Aguirre Velasco et al., 2020). This includes limited research that expressly considers help-seeking with rural young people, which is a concern given the exacerbation of mental health issues for rural and remote young people (Handley et al., 2018).

In lieu of these limitations, there are significant practical implications for delivering interventions that target young people. For example, while psychoeducation regarding symptoms and available services may increase help-seeking, integrating such strategies to change negative attitudes and stigma may require stronger modification, with additions such as cognitive behavioural strategies showing some promise. Furthermore, motivational enhancement was shown to improve readiness to engage in treatment, particularly regarding suicide prevention and substance use (Xu et al., 2018). Large representative samples undertaking high-quality RCTs using validated measures with long-term follow-up assessment are required to address the significant research gaps and improve the efficacy of existing studies. Additionally, future research should focus on improving informal/self-help avenues of help-seeking to ensure young people receive targeted, accurate information that can be easily and discreetly accessed and may lead to more timely contact with appropriate mental health services.

2.6 Innovative Strategies

Many factors influence young people's mental health help-seeking, including perceived barriers/facilitators, MHL, attitudes, and stigma (Aguirre Velasco et al., 2020). Awareness of these factors when addressing the gap between need and actual help-seeking behaviour is essential for understanding and improving clinical outcomes. However, the exploratory approach of past mental health help-seeking research with young people,

particularly in preventative and early intervention spheres, lacks clear theoretical underpinnings (Adams et al., 2022). This limits researchers' ability to understand, explain, and predict young people's intentions when seeking help (Adams et al., 2022). However, there has been a recent increase in theory-driven research with adult mental health help-seeking (Tomczyk et al., 2020; White et al., 2018) and can perhaps guide its translation to younger populations (Adams et al., 2022).

2.6.1 Theory of Planned Behaviour (TPB)

One explanatory model often used to predict health behaviours is the Theory of Planned Behaviour (TPB; Ajzen, 1985, 1991). The TPB is an updated version of Ajzen and Fishbein's Theory of Reasoned Action (TRA; 1975) and has been utilised in predicting a range of health behaviours, including donating blood, smoking cessation, exercise, and healthy eating habits (Bohon et al., 2016). TPB posits that an individual's willingness or intention to enact a behaviour directly influences the likelihood of performing the behaviour. Indeed, intentions indicate the level of motivation and effort to engage in a behaviour. These behavioural intentions are purported to be guided by three key factors: attitudinal beliefs, subjective norms, and an individual's perceived behavioural control (e.g., their belief regarding the ease with which the behaviour can be enacted), which is the key difference between TPB and TRA. Attitudinal beliefs have consistently been identified as the strongest predictor of intentions for help-seeking (Li et al., 2014; Schnyder et al., 2017). Additionally, while subjective norms have had variable consistency in predicting help-seeking in adult populations, they appear particularly important with adolescents, where social evaluation and peer salience are especially high (Clement et al., 2015). Lastly, an individual's belief in their ability to enact a behaviour can directly predict its likelihood of occurring; however, this remains subject to the actual capacity and motivation of the individual (Ajzen, 1991; Long & Maynard, 2014).

Other models of health behaviour change have been applied to mental health help-seeking. However, a recent review by White et al. (2018) found TPB “the only model that potentially addresses all aspects” (p. 68), while other commonly applied models (e.g., Transtheoretical Model of Health Behaviour [Prochaska & DiClemente, 1992], Prototype Willingness Model [Hammer & Vogel, 2013] and Keith-Lucas Model of Help-Seeking [Cohen, 1999]) do not. However, while models such as TPB provide an understanding of the relationship between beliefs and behaviour, they do not reveal how to alter beliefs to effectively change behaviour (Stecker et al., 2011). This is an important consideration for intervention implementation and supports the need for interventions built on a foundation for help-seeking before the need arises. If this need arises, this foundation should allow a prompt response that may potentially prevent acute distress that, paradoxically, delays informal or formal help-seeking (Adams et al., 2022).

2.6.2 Cognitive Behavioural Therapy (CBT)

Cognitive Behavioural Therapy (CBT; Beck, 2005) is a model of behaviour change that contains the same fundamental principles of TPB; both theories suggest that the key mechanism behind behaviour is an individual’s belief system. The efficacy of CBT as a treatment intervention has been identified with a variety of mental health disorders (Calvert & Palmer, 2003; Vittengl et al., 2005) and arises from its ability to change an individual’s maladaptive cognitions, which, in turn, changes behaviours (Beck, 2005). Figure 2.1 illustrates a model of how CBT modifies beliefs, intentions, and behaviours as applied within TPB (Stecker et al., 2011). Through the modification of beliefs, an overall change in attitude towards seeking professional help occurs, which then influences an individual’s intention to enact help-seeking behaviours and possibly change their behaviour.

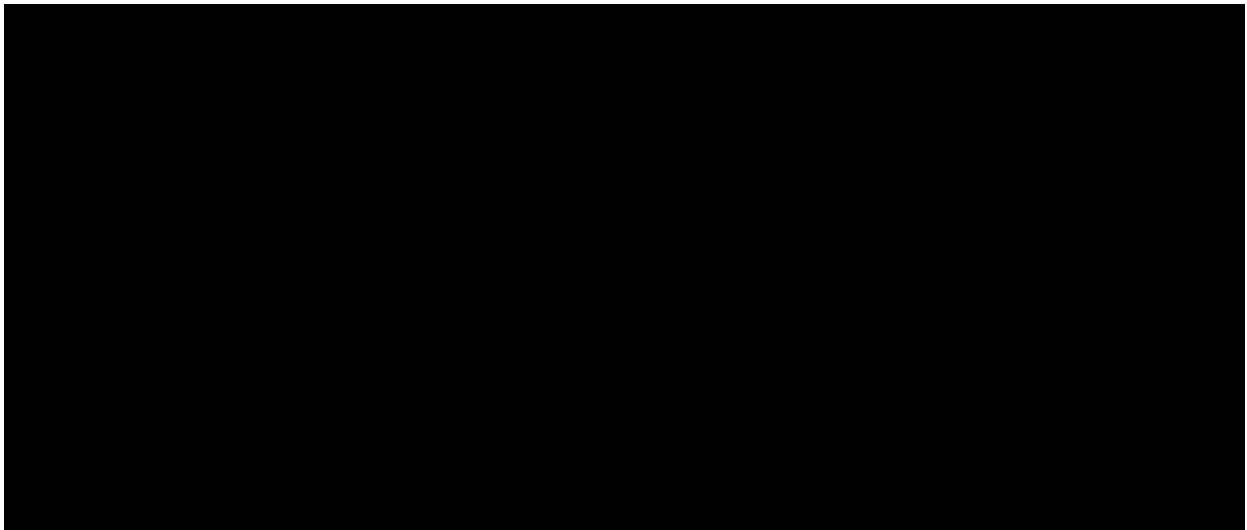


Figure 2.1: TBP and CBT applied to treatment-seeking behaviour (Stecker et al., 2011)

As CBT has been shown to remain efficacious across a range of mediums, such as telephone and telehealth platforms (Simon et al., 2005; Proudfoot et al., 2004; Mohr et al., 2005; Tutty et al., 2005), it is highly suited to application as an online engagement intervention. Additionally, where strategies such as motivational interviewing (Miller & Rollnick, 2013) and psychoeducation may not fully modify cognitions surrounding help-seeking stigma (Stanley et al., 2018), CBT's ability to modify beliefs and change behaviours positions it as a potentially more effective strategy in targeting help-seeking stigma in adolescents who may need current or future connection to care (Stanley et al., 2018).

While there are limited examples of using CBT to modify help-seeking with young people, as an example of this approach, Stecker et al. (2011) used an adult sample of 27 U.S. National Guard soldiers to test a single-session CBT-based intervention aimed at modifying cognitions regarding help-seeking stigma. The findings indicate that from pre-intervention to post-intervention and at one and three-month follow-up, the soldiers reported significantly higher intentions to access mental health treatment. While this study was limited by its lack of scalability, the application is readily disseminable due to the development of internet-delivered CBT (ICBT).

2.6.3 Internet-Based Cognitive Behavioural Therapy (ICBT)

ICBT is often described as a self-help intervention that combines information technology with psychological treatment (Andersson, 2009). Applications of ICBT range from mental health promotion and prevention strategies to evidence-based treatment of disorders such as anxiety and depression with interventions to reduce relapse and management of chronic conditions (Ebert et al., 2018).

Important advantages of ICBT include its accessibility, decreased reliance on geographic proximity to services and, hence, its ability to reduce the possible risk of stigma involved with seeking mental health treatment (Peynenburg et al., 2020). Moreover, the potential in utilising the internet to facilitate mental health help-seeking with young people is becoming increasingly evident (Davies et al., 2014; Ebert et al., 2017). For example, university students report that information accessed on the internet has a significant influence on their own self-care (Escoffery et al., 2005), and they reported favourable preferences towards self-help due to an increased sense of independence and perceptions of self-reliance (Peynenburg et al., 2020).

Considering these advantages, the evidence base regarding ICBT has been rapidly emerging. A review conducted by Hedman et al. (2012) found ICBT to be effective for treating psychiatric (e.g., OCD, panic disorder, generalised anxiety, and social anxiety) and somatic disorders (e.g., irritable bowel syndrome, chronic pain) in an adult population, in-hand with being cost-effective and showing similar effectiveness to therapist-led care (Andersson et al., 2014). ICBT has been utilised with children and adolescents for a variety of mental health problems, including depression, anxiety, specific phobias, and general distress (Farrer et al., 2013). A recent meta-analysis conducted by Harrer et al. (2019) reported small but significant improvements in university students for symptoms of

depression and anxiety compared to controls at the completion of an ICBT program.

Additionally, Ebert et al. (2019) reported ICBT as a favourable alternative for first year university students with a range of mental health disorders (e.g., depression, anxiety, substance use, suicide ideation) and who have attitudinal barriers or might prefer to self-manage.

Compared to the growing evidence base supporting ICBT in the treatment of mental disorders, there is limited evidence regarding its effectiveness in a preventative capacity (Sander et al., 2016). A systematic review conducted by Ebert et al. (2017) identified ten RCTs that investigated the efficacy of internet-based intervention in reducing the incidence of a mental health disorder. This review reported that six RCTs found positive results regarding treatment numbers needed to avoid one additional case, ranging between 9.3 and 41.3. Following this review, similar RCTs have been conducted and support the potential of internet-based strategies within the field of prevention. For example, preventative effects were found in an internet-based eating disorder program for high-risk university students (Taylor et al., 2016). Additionally, Buntrock et al. (2015, 2016) found effective results regarding an internet-based self-help intervention that reduced the risk of subthreshold symptoms of depression developing further within one year by 41%. Although there is a need for further large-scale and rigorous trials to draw more definite conclusions regarding the preventative potential of internet-based interventions, taken together, these findings indicate that ICBT could present an efficacious alternative to traditional CBT, and, importantly, can be delivered on a large and accessible scale (Peynenburg et al., 2020).

While ICBT presents an encouraging evidence base, consideration of other cognitive therapies could prove useful in accounting for the varying cognitive abilities of young people. For example, some individuals may be reluctant or unable to reflect on their own thinking patterns or be unwilling to disclose personal thoughts and feelings, either in person or online

(ICBT) (Bowler et al., 2012). This could be true, particularly for young adolescents who require interventions that do not require explicit introspection, and it would remain cost-effective and easy to disseminate due to the computer-based format (Blackwell, 2020).

2.6.4 Cognitive Bias Modification (CBM)

Another novel alternative for prevention and intervention strategies is cognitive bias modification (CBM; Macleod & Matthews, 2002). This involves intervention techniques that are less reliant on young people possessing adequate cognitive resources (e.g., mental resources such as attention, working memory, and executive function, all used to process information and make decisions) to enact a modified cognitive style. CBM focuses on implicitly retraining negative cognitive biases (such as negativity bias), which may consequently remain more stable in situations where cognitive resources are diminished (Baert et al., 2011; Bowler et al., 2012). The clinical application of CBM methods was initially drawn from experimental studies designed to investigate the cognitive processes underlying psychopathology (MacLeod et al., 2002; Matthews & Mackintosh, 2002).

Typically, CBM interventions involve a brief, web-based task delivery that trains individuals to respond to certain stimuli (words, sentences) positively or neutrally rather than negatively and unhelpfully. As an alternative to the explicit examination of cognitive processes and reflective thinking found in traditional and online CBT practices, CBM paradigms are built on the premise that repeated reinforcement of adaptive cognitions and the reshaping of negative cognitions through computer-based practice can ultimately result in individuals disengaging from threat-related stimuli (Koster et al., 2009). While the underlying principles of CBM can be translated to many forms of cognitive biases (see MacLeod et al., 2012), methods that are studied often include attentional bias (AB), which refers to how selective factors within a person's attention can affect their perceptions, and interpretive bias

(IB), which refers to an individual's tendency to process ambiguous situations or scenarios in a particular way (Macleod & Matthews, 2012).

As with ICBT, literature regarding the application of CBM methods in promoting help-seeking intentions is limited across all populations, with its utility towards reducing help-seeking stigma only recently examined. Stanley and colleagues (2018) found a significant reduction of help-seeking stigma with a sample of 32 undergraduate students aged 18–28 years with a DSM-5 psychiatric disorder but who had previously denied wanting mental health treatment. To conduct the study, Stanley et al. (2018) developed the CBM-Help-Seeking (CBM-HS) stimuli from previous research on help-seeking stigma-related thoughts (Vogel et al., 2006) and existing CBM protocols that had demonstrated efficacy in decreasing symptoms associated with anxiety disorders (Amir et al., 2010) and depression (Holmes et al., 2009). Although this study had many limitations, including a small, unrepresentative sample and no control condition, it presented a scalable brief intervention that had a significant effect on reducing maladaptive help-seeking cognitions.

Within the broader literature, past studies suggest CBM interventions can be efficacious, with reports of medium to strong effect size in both clinical (mood and anxiety literature, Macleod & Matthews, 2012) and non-clinical adult populations. Evidence suggests that implicit association is a causal factor in the preservation of problematic drinking behaviour (e.g., Field et al., 2009; Wiers et al., 2007; Wiers et al., 2013). For example, when using a sentence completion task, Saleminck et al. (2019) found young adult binge drinkers who were randomly allocated to either a control or CBM negative interpretation bias training condition (e.g., scenarios correctly resolved with non-alcohol word fragments) reported lower alcohol-related interpretive bias scores compared to the control condition during training. These effects were sustained at follow-up one week later and indicate that negative CBM training can have a protective effect on drinking behaviour (Saleminck et al., 2019).

Regarding clinical populations, Fodor et al. (2020) provide an updated meta-analysis that examines CBM's clinical efficacy regarding anxiety and depression in adults. Fodor et al.'s (2020) findings indicate that CBM intervention techniques produce small but consistent benefits, specifically the use of interpretative bias for reducing symptoms of anxiety, which invoked superior results when compared to waitlist and 'sham training' controls. However, interventions targeting attentional bias did not produce a significant effect due to the inclusion of post-traumatic stress disorder trials (Fodor et al., 2020). It is noted that the reliability of these findings is likely weakened due to a risk of bias (e.g., exaggerated effect estimations) and heterogeneity across studies; future research specifying more definitive trials using interpretive CBM techniques with larger populations is recommended.

Compared to adult populations, there is limited research regarding the use of CBM interventions with younger people. However, findings from Krebs et al.'s (2018) meta-analysis suggest a significant moderate effect of CBM interpretation bias (CBM-I) on decreasing negative interpretations regarding anxiety and increasing positive interpretations, which is consistent with previous findings in young people (Cristea et al., 2015). Furthermore, preliminary evidence suggests that CBM-I has a significant but small effect on reducing anxiety within youth, with similar effect sizes to those found in adults (Cristea et al., 2015; Hallion & Ruscio, 2011; Menne-Lothmann et al., 2014). Most recently, Sicouri et al. (2024) provided an updated meta-analysis on CBM-I techniques for children and adolescents. They reported that CBM-I had limited effect on mental health outcomes regarding anxiety and depression but reported a significant moderate to large effect on reducing negative interpretations and increasing positive ones. This is consistent with past reviews in young people and adults (Cristea et al., 2015; Krebs et al., 2017; Hallion & Ruscio, 2011) and indicates CBM-I holds clinical utility in its capacity to influence interpretation bias in young people (Sicouri et al., 2024).

Despite the small effects regarding mental health outcomes, it is important to recognise that research on the use of CBM-I interventions for young people is still in the early stages. However, its utility with both clinical and non-clinical populations invites strong recommendations for future research towards advancing theoretical understandings (Blackwell, 2020; Fodor et al., 2020) and its application as an intervention towards improving young Australians' help-seeking intentions and behaviours.

2.7 Aims of this Research Project

The reduced availability of mental health services in rural and remote communities has long been associated with lower service access rates (NRHA, 2021). However, this is compounded by a range of socioeconomic and cultural factors specific to rural communities that affect attitudes toward mental health services (Handley et al., 2018). The risk of mental health issues is exacerbated for rural young people, who, as a population, present with the highest rates of mental illness but possess the lowest tendency to seek professional help (ABS, 2022). Therefore, excepting Study 1, which required broader eligibility (14–25 years), the focus for the remainder of this thesis and the studies reported are on rural young people aged between 15 and 24 years in alignment with Australian Bureau of Statistics reporting conventions (ABS, 2024). The Australian Government seeks to address this service gap through targeted community-based programs that aim to apply an integrated early intervention approach to improve young people's mental health literacy (e.g., headspace). However, the ability of these programs to increase an individual's early connection to care has remained limited (Australian Government Department of Health, 2015). One explanation that could account for this limited improvement is seen in the need for more preventative approaches that can proactively target non-clinical populations and modify biased maladaptive perceptions of mental health and help-seeking. In achieving this, young people

may be better equipped with the understanding and self-awareness necessary to access services in a timely manner and see improved clinical outcomes (Seidler et al., 2022).

The overarching aim of this project is to inform and add to the clinical psychology literature about intervention strategies that address rural young Australians' stigma regarding mental health help-seeking (both self-stigma and perceived public stigma), then compare two brief interventions that show some promise for reducing help-seeking stigma among young rural Australians, thus leading to a greater proportion of individuals seeking help and experiencing clinical improvement. Five specific aims sought to add to the evolving body of research about alternative intervention strategies to improve help-seeking intentions and address the lack of research on interventions tailored to rural young people.

The first aim was to identify and understand the feasibility and effectiveness of accessible online help-seeking promotion strategies for addressing the increase of mental health problems among young people. This aim was addressed by conducting a systematic review (Chapter 3) on the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions, and behaviours towards mental health help-seeking.

The second aim was to assess the feasibility and effectiveness of two intervention strategies, ICBT and CBM-HS, to improve attitudes and intentions towards mental health help-seeking among young rural Australians. This was addressed by conducting a pilot control trial (Chapter 4) with a convenience sample of young rural people who completed an online self-report survey and intervention task.

The third aim was to explore participants' past experiences with formal or informal help-seeking and future help-seeking intentions (i.e., why, who, and how). This was

investigated using qualitative methodology (Chapter 5) and addressed the following research questions:

- 1) How do young people understand mental health, and what are their attitudes toward seeking help?
- 2) How has their experience with past help-seeking shaped their future help-seeking intentions?

The fourth aim was to explore participants' individual perceptions of the acceptability and feasibility of the intervention tasks, which were examined using qualitative methodology (Chapter 6). The study addressed the following research questions:

- 1) What was the experience of young rural people with the brief online intervention task, and how acceptable did they find the task?
- 2) How feasible was the brief online intervention for young rural people in terms of engagement and encouraging their future help-seeking intentions?

The fifth aim, shaped by the results of all the preceding studies, sought to modify young, rural Australians' help-seeking stigma and to increase their intentions to access mental health services within Australia. This was addressed by conducting a superiority analysis through implementing a three-armed randomised trial with the two intervention techniques (CBM-HS & ICBT) and a control, with data collected at three time points: pre-, post- and 6-weeks (Chapter 6).

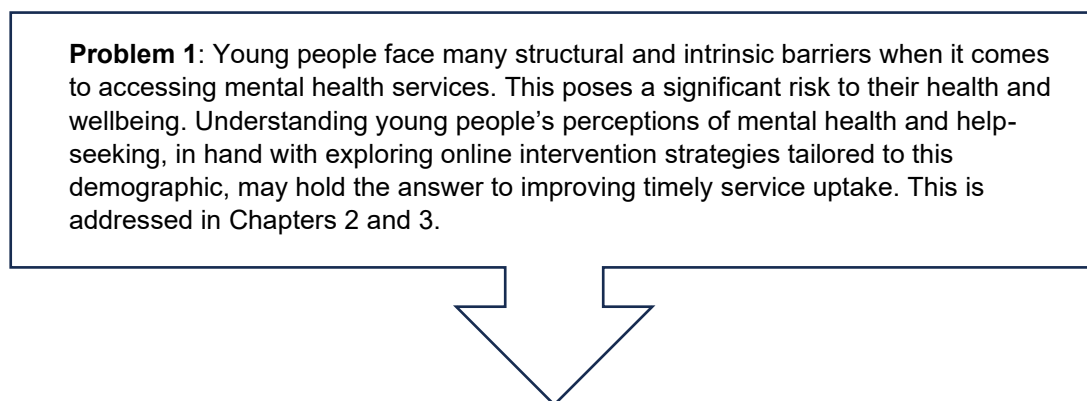
2.7.1 Conceptual Overview of the Thesis

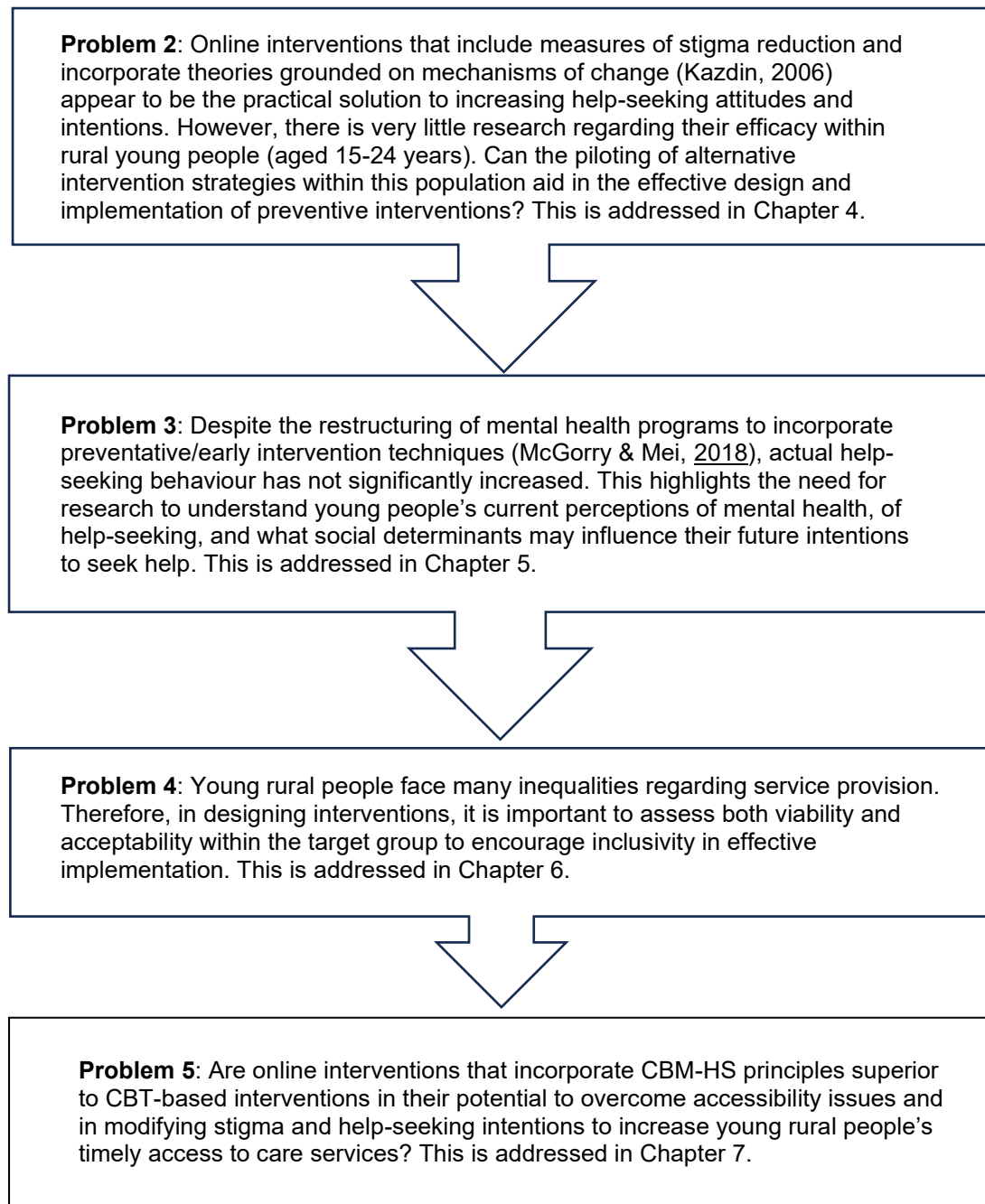
This thesis is guided by a realist methodology, specifically critical realism (CR), first developed by the philosopher Roy Bhasker (1944–2014). CR distinguishes between the 'real' and the 'observable' world, with the world as we know it constructed by our perspective and experiences. CR asserts reality beyond normal human experience and 'operates

independently of our awareness or knowledge of it’ and ‘does not wholly answer to empirical surveying or hermeneutical examination’ (Archer et al., 2016, cited in Zhang, 2023, p.15). This means that unobservable structures cause observable events, and the social world can only be understood if we understand the structures that generate these events (Zhang et al., 2022).

Applied through the lens of CR, this thesis sought to understand how young people view stigma and help-seeking and methods to change such perspectives by addressing the stated research aims through a mixed method design. This design included gathering empirical data through a systematic review and two randomised controlled trials. Additionally, two qualitative studies provided a deeper understanding of the underlying mechanisms influencing young people’s intentions and behaviour, which quantitative data is unlikely to capture alone. Further, mixed methodologies allowed for increased depth of understanding and context, which is essential in designing and implementing effective preventative strategies, particularly in a population where risk levels are high and the current research is limited. A summary of the conceptual overview is outlined in Figure 2.2.

Figure 2.2: Conceptual Overview of Thesis





2.7.2 Thesis Outline

This thesis outline provides an overview of research that was commenced to develop the evidence base for preventative and early intervention research to increase mental health help-seeking within a non-clinical sample of rural young people (15–24 years). A summary of the thesis by chapter and an outline of the thesis studies are provided in Figure 2.3 and Table 2.1, respectively.

Figure 2.3: Summary of Thesis by Chapter

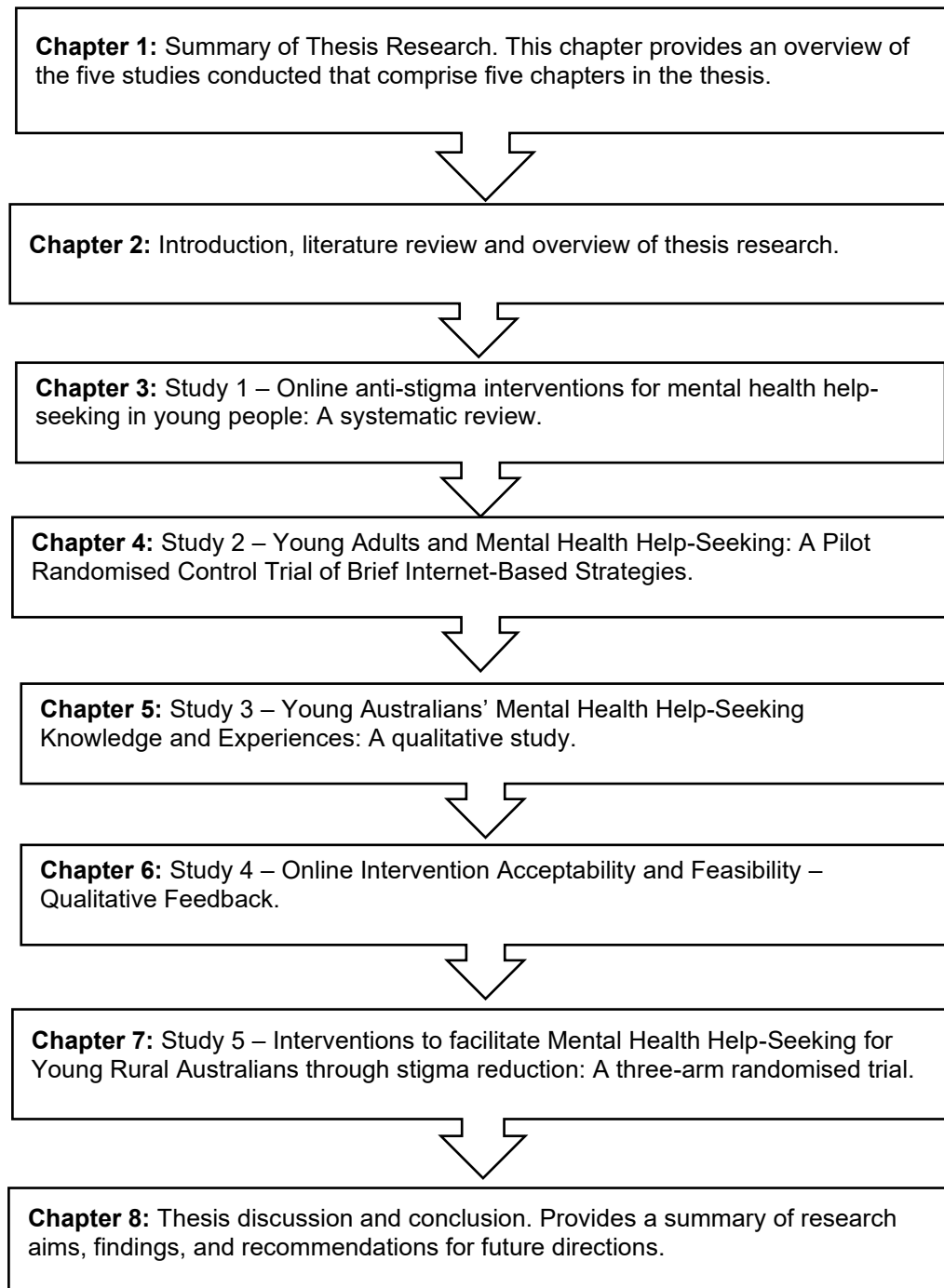


Table 2.1: Overall Summary of the Studies

Study 1: Systematic Review		
<i>Online anti-stigma interventions for mental health help-seeking in young people: A systematic review.</i> The purpose of this study is to provide an update on the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions and behaviours towards mental health help-seeking.		
Study 2: Pilot Intervention Study		
<i>Young Adults and Mental Health Help-Seeking: A Pilot Randomised Control Trial of Brief Internet-Based Strategies.</i> The purpose of this study is to evaluate the effectiveness of two anti-stigma interventions in increasing young people's help-seeking attitudes, intentions and behaviours.		
Study 3: Qualitative Study		
<i>Young Australians' Mental Health Help-Seeking Knowledge and Experiences: A qualitative study.</i> The purpose of this study is to explore participants' past experiences with formal or informal help-seeking and future help-seeking intentions (i.e., why, who, and how).		
Study 4: Intervention Acceptability and Feasibility Study		
<i>Online Intervention Acceptability and Feasibility – Qualitative Feedback.</i> This study aims to aid effective intervention implementation by exploring rural young people's perceptions of the acceptability and feasibility of two brief online intervention tasks.		
Study 5: Three-armed Intervention Study		
<i>Interventions to Facilitate Mental Health Help-Seeking for Young Rural Australians Through Stigma Reduction: A three-arm randomised trial.</i> The purpose of this study is to conduct an intervention superiority analysis and modify young, rural Australians help-seeking stigma and to increase their intentions to access mental health services within Australia. Time 1: Pre-test survey and randomised intervention.		
CBM-HS	ICBT	Active Control
Time 2: Immediate post-test survey		
Time 3: 6-week follow-up intervention and post-test survey		

2.7.3 Summary of Thesis Chapters

Chapter 1: Summary of Thesis Research

This chapter provides an overview of the five studies that comprise five chapters in this thesis and establishes a research progression commencing with a systematic review of the extant literature on online help-seeking interventions and culminating in a three-armed intervention study to assess the effectiveness of ICBT and CBM-HS on modifying young, rural Australians' mental health help-seeking stigma.

Chapter 2: Literature Review and Thesis Outline

This chapter provides an overview of young rural Australians' mental health and the current evidence base regarding issues of help-seeking, mental health literacy, stigma, barriers to accessing care, and current service strategies. The chapter then explores theoretical explanations for limited intervention efficacy and highlights potential alternative intervention strategies.

Chapter 3: Online anti-stigma interventions for mental health help-seeking in young people: A systematic review

This chapter provides an update on the current state of research regarding the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions, and behaviours toward mental health help-seeking. Chapter 3 has been published in the peer-reviewed Journal of Affective Disorders Report.

Chapter 4: Young Adults and Mental Health Help-Seeking: A Pilot Randomised Control Trial of Brief Internet-Based Strategies.

This chapter is a pilot intervention study evaluating the effectiveness of two anti-stigma interventions in increasing young people's help-seeking attitudes, intentions, and

behaviours. Chapter 4 is currently under review with the peer-reviewed Journal of Affective Disorders.

Chapter 5: Young Australians' Mental Health Help-Seeking Knowledge and Experiences: A Qualitative Study

This chapter explores participants' past experiences with formal or informal help-seeking and future help-seeking intentions (i.e., why, who, and how) and follows their engagement with the intervention study. Chapter 5 is currently under review with the peer-reviewed Journal of Health and Social Care.

Chapter 6: Online Intervention Acceptability and Feasibility – Qualitative Feedback

This chapter explores rural young people's perceptions of the acceptability and feasibility of two brief online intervention tasks. Chapter 6 utilises previously unreported qualitative data from Study 3.

Chapter 7: Interventions to Facilitate Mental Health Help-Seeking for Young Rural Australians Through Stigma Reduction: A Three-Arm Randomised Trial

Shaped by the preceding study results, this chapter is an intervention study seeking to modify young, rural Australians' help-seeking stigma and to increase their intentions to access mental health services within Australia. Chapter 7 has been accepted for publication by the peer-reviewed Journal of Advances in Mental Health.

Chapter 8: Thesis Discussion

This chapter summarises the contribution this research has made to the broader literature. The chapter also includes suggestions for the design and implementation of future mental health help-seeking interventions that utilise preventative techniques to effectively target a young rural population and provides several recommendations, formed from the

studies that comprise this thesis, to improve mental health literacy and reduce help-seeking stigma in rural Australian young people.

2.8 Chapter Conclusion and Progression to Chapter 3

This chapter focused on young rural Australians' mental health and the issues of help-seeking, mental health literacy, stigma, and barriers to accessing care. The literature review focused on intervention strategies to address these issues in the general population, finding that anti-stigma interventions are effective in increasing mental health literacy and improving attitudes towards mental health problems. However, to the best of the author's knowledge, no previous review has examined the effectiveness of online anti-stigma interventions in reducing young people's self-stigma and perceived public stigma towards mental health help-seeking. Therefore, Chapter 3 comprises a systematic review of the current state of research regarding the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma and their intentions and behaviours towards mental health help-seeking. The review focuses on common mental health concerns of young people, including depression, anxiety, emotional distress, self-harm, and suicidal thoughts. A secondary outcome is the examination of any differences between age, sex, and location. Identifying and understanding the feasibility of cost-effective and accessible help-seeking promotion strategies is essential for addressing the increase of mental health problems among young rural Australians. This systematic review was published in the Journal of Affective Disorders Report.

Chapter 3: Online Anti-Stigma Interventions for Mental Health Help-Seeking in Young people: a Systematic Review (Study 1)

Williams, L., Bartik, W., & Cosh, S. (2024). Online anti-stigma interventions for mental health help-seeking in young people: A systematic review. *Journal of Affective Disorders Reports*, 18, 100841. <https://doi.org/10.1016/j.jadr.2024.100841>

3.1 Abstract

Background: Young people (14–25 years) have the lowest tendency to seek mental health services, despite being the population with the highest prevalence of mental illness. Past help-seeking literature frequently identifies stigma as a key barrier to accessing services within this age group. As young people use the internet as their predominant source for health information, this systematic review aimed to examine the effectiveness of online anti-stigma interventions on reducing young people’s self-stigma and perceived public stigma towards mental health help-seeking.

Method: A search was conducted on four electronic databases, PsycINFO, PsycARTICLES, CINAHL, and PubMed in February 2023. Eligible studies contained: (i) participants between the ages of 14 and 25 years; (ii) were conducted online and utilised anti-stigma (self-stigma and/or public) intervention methods for mental health help-seeking; (iii) assessed changes in help-seeking attitudes, intentions, or behaviours for common mental health problems of depression, anxiety, emotional distress, self-harm, or suicidal thoughts. Six studies were eligible for this review.

Results: Online anti-stigma interventions were mostly successful in reducing public stigma, and to a lesser degree self-stigma, and in improving young people’s help-seeking intentions with some evidence also suggesting positive trends regarding increases in help-seeking behaviour and improved attitudes.

Limitations: Due to limited eligible studies and the heterogeneity of the research, generalisations should be made with caution.

Conclusions: This review demonstrates the need for higher quality evaluations that utilise health behaviour models and can effectively assess the interplay between relevant variables and allow for the assessment of long-term intervention effects.

Keywords: Mental health, help-seeking, young people, online, stigma, intervention.

3.2 Introduction

Mental illness is a global health burden that impacts young people who have a higher prevalence compared to any other stage of the lifecycle (Solmi et al., 2022). Approximately 20% of young people world-wide currently experience a mental health condition (World Health Organization [WHO], 2018) with suicide the second leading cause of death in this age group (Aguirre Velasco et al., 2020). Evidence suggests that the onset for mental illness typically occurs from mid-teens to early twenties (14–25yrs; Solmi et al., 2022) with the most common diagnoses being depression and anxiety. In Australia, for example, the rate of mental illness in young people contributes to significant clinical, social, and economic burden. Thirty-nine percent of 16–24-year-olds experienced mental illness in 2020–2021 (Australian Bureau of Statistics [ABS], 2022) and this contributes to an annual cost of \$180 billion in terms of prevention, care, and lost productivity (Productivity Commission, 2020).

Mental illness can have an enduring impact on young people’s development, affecting health and social functioning into adulthood (Allouche et al., 2021). Many countries recognise the importance of investing in mental health reforms to improve young people’s access to mental health services to produce better outcomes and reduce the significant burden caused by mental illness (Henderson et al., 2013). However, mental health disorders in young people remain widespread and undertreated with reluctance to seek help frequently identified as a primary reason (Radez et al., 2021).

To improve mental health, help-seeking remains the vital first step. Mental health help-seeking is defined as an “adaptive coping process that is the attempt to obtain external assistance to deal with mental health concerns” (Rickwood & Thomas 2012, p. 180). Rickwood’s et al. (2005) model of help-seeking conceptualises a dynamic process which

involves: (i) awareness of a problem, (ii) expression of symptoms and need for support, (iii) identification and accessibility to sources of help, and (iv) willingness to seek out these sources of help. This model of help-seeking is underpinned by three key processes being attitudes, intentions, and behaviours (Ajzen, 1991). Rickwood and Thomas (2012) categorise sources of help as either informal (e.g., family, friends), formal (e.g., health professionals, youth workers), or self-help (e.g., internet-based).

Common barriers for mental health help-seeking for young people have been thoroughly researched (e.g., Radez et al., 2021; Aguirre Velasco et al., 2020; Gulliver et al., 2010). Findings include negative beliefs and attitudes regarding mental health professionals and services, low levels of mental health literacy, and diminished cognitive ability/limited insight along with increased rates of social exclusion and isolation (Aguirre Velasco et al., 2020). Research supports that stigma regarding mental illness is consistently identified as the dominant barrier to seeking help (Clement et al., 2015; Schnyder et al., 2017).

Corrigan and Watson (2002) describe stigma as comprising three main components: (i) stereotypes (negative beliefs regarding a social group), (ii) prejudice (unfavourable feelings towards the group) and (iii) discrimination (adverse behaviours towards group members). Research also distinguishes between self-stigma and perceived public stigma (Corrigan & Shapiro, 2010) with self-stigma referring to one's personal attitudes that serve to stigmatise their help-seeking (e.g., "seeking help means I'm weak"), and perceived public stigma referring to one's concerns about how other's may negatively perceive their choice to seek help (e.g., "I would be seen as weak") (Corrigan & Shapiro, 2010).

Both self-stigma and perceived public stigma are key barriers that adversely impact help-seeking intentions and behaviours (Schnyder et al., 2017). In an analysis of the factor structure of a stigma scale, Yap's et al. (2014) results indicated that young people had

stronger negative perceived stigma compared to self-stigma. Studies have also found that certain demographic variables are predictive of stigma, with differential results for self and perceived stigma. For example, greater self-stigma was found among males compared to females (Calear et al., 2008), while females scored higher on perceived public stigma (Calear et al., 2008). Familiarity with mental health issues is a further predictor, with Aguirre Velasco et al. (2020) reporting that for young people, higher levels of contact with those experiencing anxiety or depression, and knowledge of these conditions, significantly predicted self-stigma but not perceived public stigma. Such findings of different relationships support the importance of separately assessing both self-stigma and perceived public stigma. Schnyder and colleagues' (2017) systematic review indicated a negative association between both perceived public stigma and self-stigma with active help-seeking behaviour, whereas Eisenberg et al. (2009) found that past help-seeking behaviour among university students was only associated with self-stigma. While many studies have explored the relationship between stigma and help-seeking, this has predominantly focused on adult populations (e.g., Boerema et al., 2016; Waqas et al., 2020) with more research needed in the adolescent/young adult population (Clement et al., 2015; Gulliver et al., 2010).

Effective intervention strategies to promote mental health help-seeking in young people are essential for prevention, early detection, treatment and recovery (Hom et al., 2015). Past reviews focusing on the effectiveness of anti-stigma interventions (Corrigan et al., 2012; Griffiths et al., 2014) noted their effectiveness in improving participant attitudes (e.g., reducing stereotypes), knowledge of mental health conditions, (e.g., improved awareness of symptoms) and ability to reduce stigma via educational in-person approaches. However, over the past 20 years, young people have demonstrated a strong dependence and preference for the internet as their main source of health information (Pretorius et al., 2019). Examples include low intensity self-directed services such as ReachOut, informative

resources (e.g., Black Dog Institute), online therapy (e.g., eheadspace) and structured self-directed apps (e.g., MoodGym). Despite the internet's utility for delivering online interventions, only one prior review (Goh et al., 2021) has examined the effectiveness of anti-stigma interventions within an online modality. That review reported significant reductions in public stigma compared to in-person approaches, however, this was completed with an adult population. No existing reviews have examined the effectiveness of online anti-stigma interventions in younger populations.

Important advantages of online interventions include their accessibility, decreased reliance on geographic proximity to services, and their ability to reduce the possible risk of stigma involved with seeking mental health treatment (Peynenburg et al., 2020). Moreover, the potential in utilising the internet to facilitate mental health help-seeking with young people is becoming increasingly evident (Davies et al., 2014; Ebert et al., 2017). For example, students report that information accessed on the internet has significant influence on their own self-care, as well as preferences for self-help due to an increased sense of independence and perceptions of self-reliance (Peynenburg et al., 2020).

Help-seeking is the integral health action for improving mental health within young people. An empirical assessment of the effects of online interventions for reducing stigma towards mental health conditions with young people could potentially assist in promoting help-seeking as this appeals to young people's preference for self-directed and anonymous participation.

3.2.1 Aims

The reviewed literature supports that anti-stigma interventions are effective in increasing mental health literacy and improving attitudes towards mental health problems. However, to the best of our knowledge, no previous systematic review has examined the

effectiveness of online anti-stigma interventions on reducing young people's self-stigma and perceived public stigma towards mental health help-seeking. The current review aims to address this gap by systematically examining the current state of research regarding the effectiveness of online anti-stigma intervention strategies on modifying young people's stigma, attitudes, intentions, and behaviour towards mental health help-seeking.

3.3 Method

3.3.1 Search Strategy

This review was registered on PROSPERO and is reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021) to ensure methodological rigour of the review (Tam et al. 2019). Four electronic databases, PsycINFO, PsycARTICLES, CINAHL, and PubMed were searched without time restriction until February 2023. The search terms as well as the inclusion and exclusion criteria were developed using the PICO structure and expanded using Medical Subject Heading (MeSH) terms and Boolean operators. Following broad preliminary search concepts, terms were refined to ensure accurate retrieval of relevant studies, with help sought from an experienced librarian. The search included the following keyword combinations: “Help-seeking OR Help Seeking AND Mental Health AND Young People AND Stigma AND Intervention AND Internet OR Online OR Web” (further details described in Appendix A). These key words were selected to target online interventions which promote help-seeking in young people and include stigma as an outcome. Search limits included peer-reviewed articles only and published in English language journals. No limit regarding year of publication was included. Reference lists of relevant studies were also manually screened.

3.3.2 Eligibility

PICO guidelines were used for the systematic review:

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Population: Eligible studies reported results for participants between the ages of 14 to 25 years. Young people were defined as persons aged between 14-25 years as this age range captures lifecycle challenges and experiences which could be reflected in help-seeking behaviours and intentions (Solmi et al., 2022).

Intervention: Online anti-stigma interventions for improving mental health help-seeking behaviours, intentions or attitudes.

Comparator: Studies with an active comparator (other online interventions or face-to-face), no comparator, or a passive comparator were included.

Outcomes: Primary: Help-seeking attitudes, intentions, and behaviours for common mental health problems of depression, anxiety, emotional distress, self-harm, or suicidal thoughts. Secondary outcomes include examining any differences between age, sex, and location (e.g., rural, regional, or urban), increases in mental health literacy and satisfaction with treatment.

For this review, help-seeking was defined as actively seeking help for mental health concerns in a formal (GP or mental health professional), informal (family or friends), or self-help (mental health apps) manner (Divin et al., 2018). Most study designs were considered, including feasibility studies, case-studies, observational studies, and quasi-experimental studies.

Studies that referred to young people over the age of 25 or adolescents under 14 years old were excluded. Where study populations consisted of young people outside of this age range, the paper was included if separate outcome data was provided for 14-25 year olds. Other exclusion criteria were non-primary empirical research such as editorials or commentaries, articles published in languages other than English, or interventions that did not

focus on internet delivered, anti-stigma related help-seeking interventions or not related to the mental health conditions described in inclusion criteria.

Eligibility assessment at titles and abstract phase was conducted by one author. At a second stage, a second independent reviewer screened full texts to assess eligibility.

3.3.3 Data Extraction

Data from the selected studies were extracted using the following strategy: 1st author, year of publication, country, sample size, study design, sample characteristics (age, sex and location) key study inclusion and exclusion criteria, description of intervention, comparison group, primary outcome, outcome measures, results and effect size (if reported).

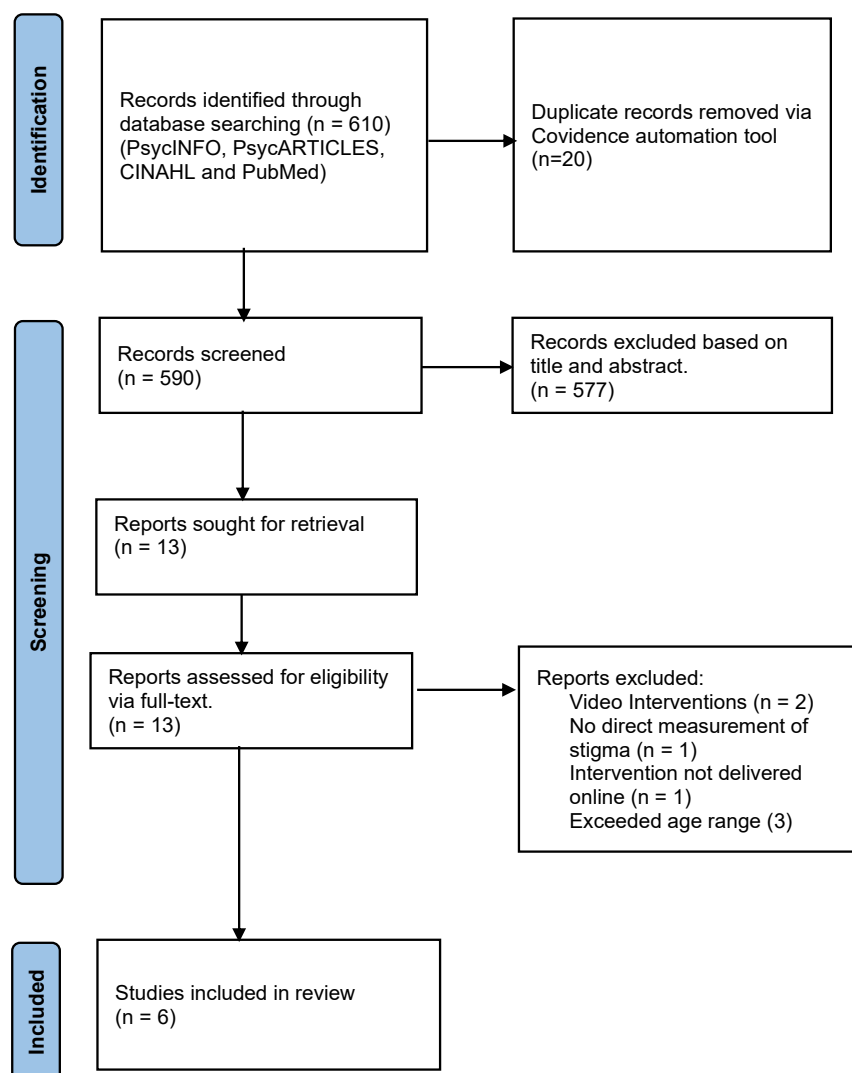
3.3.4 Quality Assessment

The quality assessment of the included articles was conducted by one author using the Joanna Briggs Institute Critical Appraisal Checklists (Joanna Briggs Institute [JBI], 2020), as per design of included studies. This process was verified by a second author. The JBI is a previously validated quality assessment tool that utilises a checklist format to evaluate the quality of each study design (Pluye, 2012), and particularly appropriate in lieu of the variety of included study designs. Checklists used in the current review include the random controlled trials (RCTs; Tufanaru et al., 2020), cross-sectional (Moola et al., 2020), and quasi-experimental (Tufanaru et al., 2020) study checklists (Appendix A). Exclusion based on overall study quality was not applied due to the limited studies available and the review seeking a thorough overview of the effectiveness of online anti-stigma interventions for help-seeking in young people.

3.4 Results

The search retrieved 634 studies from the databases and via manual review of reference lists. Following removal of duplicates and title and abstract review, 13 studies underwent full text review. Following full text review, six articles were included in the review (see Figure 3.1).

Figure 3.1: PRISMA flowchart



3.4.1 Characteristics of Included Studies

Six publications met the inclusion criteria (Total N = 2299). The sample sizes ranged from 32 to 1552: median 166.5, mean 383 (SD= 534). Participant ages ranged from 14 to 25 years: median 19.5, mean 19.38 (SD= 2.34). There was a high proportion of females in the studies, ranging from 47% to 76%: median 68.95%, mean 66.65% (SD= 10.56%). Four were randomised controlled trials (RCTs) (Davies et al., 2018; Howard et al., 2018; Stanley et al., 2018; Taylor-Rodgers et al., 2014), one cross-sectional observational study (Collins et al., 2011), and one quasi-experimental study (Shandley et al., 2010). Due to the small number of eligible studies identified and the heterogeneity of the research, a meta-analysis could not be conducted.

The included studies were published from 2010 to 2018: four were conducted in Australia (Collins et al., 2011; Howard et al., 2018; Shandley et al., 2010 and Taylor-Rodgers et al., 2014), one in the USA (Stanley et al., 2018) and one in the UK (Davies et al., 2018). The studies were conducted in metropolitan settings (n=3) and mixed settings (urban and regional) (n=3). The studies were conducted in secondary schools (n=1), university settings (n=3) and with users of online services (n=2). Within these settings, one study targeted young people with a DSM-5 psychiatric disorder who denied receiving mental health treatment within the past year (Stanley et al., 2018); two studies explored young people with mild to moderate mental health problems (Collins et al., 2011; Shandley et al., 2010); the remaining three studies were inclusive of all young people regardless of mental health status. The study characteristics are presented in Table 3.1.

3.4.2 Intervention Characteristics and Modes of Delivery

Intervention delivery included researcher-led (n= 3) and self-directed, low intensity online mental health support (n= 3). Intervention sessions consisted of one session (n = 2),

three sessions (n = 1) and participant self-paced sessions (n= 3). Duration for whole programs included one session (n = 2), three weeks (n = 2) four weeks (n = 1), and six weeks (n = 1). Session duration varied from 15 minutes to 60 minutes. A range of strategies were employed to deliver stigma reduction interventions including online information sites, self-directed learning modules, chat groups, forums, a web-based mental health educational game, case vignettes and implicit cognitive retraining techniques. No authors mentioned using a health behaviour model in developing interventions. However, a few studies included Cognitive Behaviour Theory (CBT; Beck, 2005) and the Cognitive Bias Modification (CBM; Macleod, 2012) paradigm to develop their interventions (Collins et al., 2011; Shandley et al., 2010; Stanley et al., 2018).

3.4.3 Psychoeducation/Multimodal Stigma Reduction Interventions

Most interventions were multimodal and included psychoeducation which was delivered via a variety of techniques and mostly focused on aetiological models of mental illness and different attributes of psychiatric disorders including epidemiological factors, clinical features, course of illness, and treatment options. Modes of delivery included a web-based mental health educational game based on CBT (Collins et al., 2011; Shandley et al., 2010), online informational programs/factsheets (Collins et al., 2011; Howard et al., 2018; Shandley et al., 2010 and Stanley et al., 2018), a quiz to assess information comprehension (Stanley et al., 2018), self-directed learning modules (Taylor-Rodger et al., 2014) and structured training modules (Davies et al., 2018). Additionally, one study designed a novel intervention based on CBM principles (Macleod, 2012) to implicitly retrain participants to hold positive associations towards mental health help-seeking (Stanley et al., 2018).

3.4.4 Study Quality

Most measures for stigma and help-seeking were inconsistent and relied on self-reporting, with four studies unclear on whether these outcomes were measured in a valid and reliable way (see Appendix A). Regarding the four RCTs, the quality of the studies varied, with most demonstrating evidence of bias in terms of the percentage of positive responses to questions within the JBI checklist. Most commonly, studies were limited in relation to blinding of participants, administrators, and outcome assessors. In two RCTs it is unclear if the groups were similar at baseline. Also, while each RCT included follow-up, attrition rates were high with short follow up periods (≤ 2 months).

The cross-sectional and quasi-experimental study designs also demonstrated mixed quality. The cross-sectional study lacked clear inclusion and exclusion criteria and consideration of potential confounds. For the quasi-experimental study, its open trial methodology impacts the plausible assessment of true study effectiveness and time/maturation effects. Moreover, no control group was included, further affecting causal plausibility (see Appendix A).

Table 3.1 Selected characteristics of included studies.

Author, Country	Sample Characteristics	Study Design	Intervention	Control	Duration	Stigma Outcome measures (self, public)	Help seeking outcome measures: Attitudes, Intentions, Behaviour	Results
Collin et al. (2011); Australia	1552 young people (14–25 years) (76% female), users of ReachOut website	Cross-sectional survey following engagement with ReachOut website	Online services ability to aid HS process via support & engagement	Nil	1 session (20 min total)	Single question for public stigma: “Would you socialise with someone who has a MH issue.”	Single HSI question. e.g., “How likely to participate in particular activities.” Single HSB question. e.g., “When asked if ROC had helped them ask a professional for help.”	<i>Stigma</i> : 85.6% reported “probably” or “definitely” would. <i>HSI</i> : Stronger intention to seek help via informal (friends) (62.4%) and online sources (66.7%) then formal sources (MH services). <i>HSB</i> : 35.2% reported “quite a bit” or “a lot.”
Davies et al. (2018); United Kingdom (UK)	55 UK medical students who participated in MHFA elearning course (mean age: 19.9) (65% female)	RCT (Pilot)	MHFA eLearning course	No access control group	6 weeks self-paced	Personal stigma subscale from the DSS	HSI: Responses coded using a scoring scheme based on the MHFA action plan	<i>Stigma</i> : Stigma significantly reduced in the intervention group, $Z = -2.30$, $P = 0.021$, but not in controls, $Z = -0.748$, $P = 0.45$. <i>HSI</i> : Increased in the intervention group ($Z = 3.07$, $p = .002$), but not in the control ($p = 0.09$).

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Author, Country	Sample Characteristics	Study Design	Intervention	Control	Duration	Stigma Outcome measures (self, public)	Help seeking outcome measures: Attitudes, Intentions, Behaviour	Results
Howard et al. (2018); Australia	327 secondary school students (16-19 years) (47% female)	RCT	Online educational conditions to increase HS for depression: 1) Biological information 2) Psychosocial information	Neutral information condition	1 session (45min total)	SSDS and DSS	HSI: GHSQ	<i>Stigma</i> : No significant results for biological or psychosocial in reducing anticipated self-stigma or personal stigma for depression. <i>HSI</i> : Small increase for depression found for biological information.
Shandley et al. (2010); Australia	266 young people (mean age = 20.5) (66% female)	Single group Quasi-Experimental repeated measures	Online game to increase coping strategies, MHL, HS intentions and reduce stigma	Nil	4 weeks, self-paced with a 2mth follow-up	Two questions for public stigma: "How willing would you be to (i) make friends and (ii) work with someone they knew was depressed."	Single HSI question. E.g., "How likely they would be to seek help from a health professional if they felt sad, down or miserable for more than two weeks."	<i>Stigma</i> : Females were significantly more willing to make friends with a person who is depressed than males at post program and follow-up. No significant differences reported for (ii). <i>HSI</i> : Significant increase pre-post-intervention across participants, although an interaction effect showed this was significantly greater for females.

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Author, Country	Sample Characteristics	Study Design	Intervention	Control	Duration	Stigma Outcome measures (self, public)	Help seeking outcome measures: Attitudes, Intentions, Behaviour	Results
Stanley et al. (2018); United States (US)	32 undergraduate students with mental health disorder(s) who denied past treatment (mean age = 21 years) (71.9% female)	RCT (pilot)	Online CBM-HS	Psychoeducation	Three intervention sessions delivered in one week intervals (45 mins total), included a two-month follow-up	SSOSH, PS	HSI: Adapted Readiness to Change Scale. HSB: Adapted SAMHSA's National Survey on Drug Use and Health.	<i>Stigma</i> : Across groups, significant reduction in HS self-stigma ($F[2,214,66.418] = 5.057, p = 0.007, \eta^2 = 0.144$) and perceived public stigma ($F[3,90] = 6.614, p < 0.001, \eta^2 = 0.181$) from baseline to 2mth follow-up. <i>HSI</i> : No significant differences across time points. <i>HSB</i> : At 2mth follow-up, 25% of participants initiated MH treatment (29.4% CBM-HS, 20.0% psychoeducation).

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Taylor-Rodgers et al. (2014); Australia	67 young people (mean age = 21.9) (74% female)	RCT	Online psychoeducation for depression, anxiety and suicide stigma	Online attention matched control information (e.g., dental hygiene, nutrition)	3 weeks self-paced.	DSS, GASS, SOSS-SF.	HSA and HSI: ATSPPH-SF and GHSQ	<i>Stigma</i> : Significant between group differences for decreased depression stigma in intervention group (d=0.53). <i>HSA/HSI</i> : Significant increased HSA and HSI for intervention group (d=0.58 and d=0.53, respectively).

Nil: zero, *HS*: Help seeking, *MH*: mental health, *RCT*: randomised controlled trial, *MHFA*: mental health first aid, *HSI*: help seeking intention, *HSB*: help seeking behaviour, *HSA*: help seeking attitude, *DSS*: Depression Stigma Scale; *SSDS*: Self-Stigma for Depression Scale, *GHSQ*: General Help-Seeking Questionnaire, *MHL*: mental health literacy, *CBM-HS*: cognitive bias modification-help seeking, *SSOSH*: Self-Stigma of Seeking Help, *PS*: Perceived Stigma and Barriers to Care for Psychological Problems Scale, *SAMHSA*: Substance Abuse and Mental Health Services Administration, *GASS*: Generalised Anxiety Stigma Scale, *SOSS-SF*: Stigma of Suicide Scale short form, *ATSPPH-SF*: Attitudes Toward Seeking Professional Psychological Help short form.

3.5 Primary Outcomes: Stigma

All studies focused on reducing young people's stigma towards mental health help-seeking, however, only five studies included stigma as a primary outcome, including four RCTs (Davies et al., 2018; Howard et al., 2018; Stanley et al., 2018; Taylor-Rodgers et al., 2014) and one cross-sectional study (Collins et al., 2011). Only two studies differentiated between changes in self-stigma and perceived public stigma (Howard et al., 2018; Stanley et al., 2018). Three RCTs including structured training modules, self-directed psychoeducation and implicit bias retraining techniques reported significant stigma reduction within the experimental conditions (Davies et al., 2018; Taylor-Rodgers et al., 2014 and Stanley et al., 2018). Specifically, Stanley et al, (2018) found a significant reduction in both the psychoeducation and CBM conditions for help-seeking self-stigma and perceived public stigma at two-month follow-up. This indicated a large effect with 18.8% of participants achieving significant change, and two-thirds belonging to the CBM condition. One RCT using a single session (45 minute) psychoeducation intervention reported no significant effect, however an overall decrease in anticipated self-stigma and perceived public stigma post intervention occurred in both the experimental and control conditions (Howard et al., 2018).

Regarding the Reach Out Central studies, Collins et al, (2011) found that while 84% of users reported possessing more understanding about mental health issues, fewer (particularly if reporting high levels of distress) felt the program had helped them “worry less about what people think about the problems associated with mental health issues.” Additionally, users also reported that they “probably” or “definitely” would (85.6%) befriend or socialise with someone who had a mental health, substance, or alcohol use problem. The quasi-experimental study examined stigma as a secondary outcome (Shandley et al., 2010) and reported only finding a significant difference between males and females post program,

with females being more willing to make friends with a person who was depressed.

Collectively, these findings suggest that online interventions can produce significant stigma reductions compared to control conditions, with small ($d=0.25$; Davies et al., 2018), moderate ($d=0.53$; Taylor-Rodgers et al., 2014) and large effect sizes reported ($d=0.80$; Stanley et al., 2018).

3.5.1 Help-Seeking

Intervention effects on the following help-seeking outcomes were examined: attitudes, intentions, and behaviours. Despite each study including at least one of these variables, none reported on all three outcomes. Help-seeking intentions were assessed in all six studies, while help-seeking attitude and help-seeking behaviour were only assessed in two separate studies respectively. Additionally, help-seeking was a primary outcome in only four studies, three of which were RCTs (Davies et al., 2018; Stanley et al., 2018; Taylor-Rodgers et al., 2014) and one was cross-sectional (Collins et al., 2011), and a secondary outcome of two studies (Shandley et al., 2010; Howard et al., 2018).

In measuring changes in attitude, Taylor-Rodgers et al, (2014) evaluated a brief online psychoeducational intervention for increasing positive attitudes towards help-seeking for depression, anxiety, and suicide stigma. A significant between group interaction was reported indicating a positive shift in attitudes towards help-seeking within the experimental condition relative to the active control condition.

Stanley et al., (2018) reported positive trends and durability of effects regarding help-seeking behaviour at two-month follow-up (25% of participants had initiated mental health treatment), however this change was not significant.

Three RCTs, all of which utilised psychoeducation based interventions reported significant increases in help-seeking intentions for accessing formal services (Davies et al.,

2018; Taylor-Rogers et al., 2014). Howard et al. (2018) found an overall increase in help-seeking intentions at post-test in all three conditions and a small, but significant between group difference for the biological information regarding mental health condition relative to the control and psychosocial information condition. Stanley et al. (2018) reported no significant differences regarding intention between conditions. With Collin's et al. (2011) cross-sectional study, only a minority of users reported the online service facilitating an increase in their help-seeking intentions (35.2%) with a strong preference remaining for informal sources. Shandley's et al. (2010) quasi-experimental study found a significant increase in willingness to seek help, however, this change was recorded via a 10 point Likert scale, with the post-test means suggesting overall low to medium scores. Together, these findings indicate a significant increase in help-seeking intentions with some evidence also suggesting positive trends regarding increases in help-seeking behaviour (Stanley et al., 2018) and improved attitudes (Taylor-Rogers et al., 2014).

3.6 Secondary Outcomes: Demographics

Demographic information concerning age, years at school and location were not all individually captured in each reviewed study, but where included, no significant differences were reported for each of these outcomes. Additionally, most studies did not report any significant gender differences except for the quasi-experimental study (Shandley et al., 2010) which found, (i) females had significant higher levels of psychological distress post-intervention as measured on the Kessler Psychological Distress Scale (K10; Kessler et al., 2002), (ii) significant gender difference regarding stigma reduction, with females being more willing to make friends with a person who is depressed, and (iii) that males were more likely to seek out informal sources, whereas females were more open to a combined intervention approach (both formal and informal).

3.6.1 Knowledge of Mental Health Literacy

Four studies reported findings on mental health literacy as an outcome, with two RCTs finding significant increases (Davis et al., 2018; Taylor-Rodgers et al., 2014). Davies et al., (2018) reported a significant increase across the general mental health literacy (MHL) content assessed via a true or false quiz pre and post intervention. However, Taylor-Rogers et al., (2014), reported only finding a significant increase in MHL for the anxiety and depression literature and not suicide.

Although MHL was not directly assessed in Howard et al, (2018) the relationship between reduced stigma and an intervention focused on increasing MHL was not found to mediate increased help-seeking intentions. Collins et al, (2011) cross-sectional study reported a positive increase in MHL, with 84% of participants self-reporting a greater understanding of mental health issues. However, the quasi-experimental study (Shandley et al., 2010) did not report any changes in MHL, with baseline results already high, although a significant difference between genders at each time point was found. Studies which showed significant improvement in participants MHL also demonstrated the highest levels of intervention drop-out. Overall, most studies found young people's recognition and effective management of mental health issues was strongly influenced by their levels of MHL in-hand with decreased levels of stigma.

3.6.2 Satisfaction with Treatment

Four studies included measures for assessing young people's experience and satisfaction with the online interventions. Studies enquired about motivation for participating (Davies et al., 2018), providing ratings on how helpful the service was (Collins et al., 2011), how easy it was to use (Davies et al., 2018; Shandley et al., 2010), whether they would use it again (Collins et al., 2011; Shandley et al., 2010), whether they would recommend it to others

(Davies et al, 2018; Shandley et al., 2010), and how satisfied were they with the intervention (Taylor-Rodgers et al., 2014). No standard measure was used to assess this outcome making responses difficult to compare. Each study used between two and six questions designed by the authors, with satisfaction shown to be generally high for each intervention with no between group differences recorded.

3.7 Discussion

This paper systematically reviewed the evidence for the efficacy of online anti-stigma interventions for promoting positive help-seeking attitudes, intentions, and behaviours with young people. Results revealed that online anti-stigma interventions were mostly successful in reducing public stigma, and to a lesser degree self-stigma, and in improving young people's help-seeking attitudes and intentions. All studies reported decreased stigma levels and a positive increase in help-seeking outcomes including intentions, attitudes, behaviour, MHL post intervention, as well as intervention satisfaction. These findings of reductions across outcomes are also consistent with previous research in both adult and adolescent populations that found stigma and help-seeking outcomes were strongly interrelated (Goh et al., 2021; Waqas et al., 2020).

Psychoeducation delivered in the form of factsheets and self-paced learning modules were a key component of online intervention programs for young people. Where used, this was predominantly part of a multimodal approach that also included case vignettes, quizzes, tailored feedback and/or interactive activities. Existing literature recommends the use of interventions with multiple components (Johnson et al., 2021). Results showed that all interventions, including multimodal and education only, were successful in reducing public stigma, and to a lesser degree self-stigma, and significantly improved young people's help-seeking intentions, with some evidence also suggesting positive trends regarding increases in

help-seeking behaviour (Stanley et al., 2018) and improved attitudes (Taylor-Rogers et al., 2014). The effectiveness of individual components was not clearly reported in all reviewed studies; however, some did utilise a single component and also demonstrated improved outcomes. For example, help-seeking attitudes were significantly increased following provision of literacy on depression via a case vignette (Taylor-Rodgers et al., 2014), with help-seeking intentions shown to increase following information on the biological causes of depression (Howard et al., 2018). Thus, while recommended, multimodal interventions may not be required for producing changes in outcomes. Of note, a significant reduction for self-stigma and perceived public stigma at two-month follow-up occurred in both a psychoeducational and a novel implicit bias retaining comparative intervention analysis (Stanley et al., 2018). Two-thirds of participants reporting significant clinical change belonged to the novel condition, potentially indicating that interventions which incorporate innovative techniques may present a more effective means for modifying cognitions surrounding help-seeking stigma than education alone (Hom et al., 2015).

The reviewed studies showing the utility of online interventions for stigma reduction emphasise the value of online delivery, which can promote participant engagement with such resources (Collins et al., 2011) and allows potentially easier access to professional services to promote help-seeking. Even though stigma and low levels of mental health literacy present barriers to help-seeking (Aguirre et al., 2020), to maximise effectiveness, interventions may benefit from incorporating innovative strategies within multimodal designs which are delivered within an intensive and tailor-made format to translate help-seeking intentions into help-seeking behaviours (Tomczyk et al., 2018).

None of the reviewed studies explicitly utilised a health behaviour model, despite current and past literature espousing the importance of their inclusion within intervention development (Rickwood et al., 2005; Pretorius et al., 2019; Johnson et al., 2021). For

example, research regularly utilises health models such as The Theory of Planned Behaviour (TPB; Ajzen, 1991) as it is often able to explain a significant amount of variance in help-seeking intentions (Allouche et al., 2021), however its utility remains limited unless more behavioural outcome measures are included. In considering this, both Cognitive Behavioural Therapy (CBT; Beck, 2005) and Cognitive Bias Modification (CBM; Macleod, 2012) paradigms were utilised within intervention development (Collins et al., 2011; Shandley et al., 2010 and Stanley et al., 2018). CBT is an efficacious treatment for a variety of mental health disorders (Ebert et al., 2017). CBT's key mechanism behind behaviour change is an individual's belief system with this key tenet also shared with TPB. When offered as part of an online medium, there is evidence that CBT can help individuals identify and change maladaptive cognitions, which in turn, can influence behaviour (Mohr et al., 2005; Tutty et al., 2005). For example, ROC embedded CBT principles within their online video game to help young people recognise and develop skills for coping with life stressors that can precipitate mental health problems. Additionally, the study by Stanley et al. (2018) adapted the principles of CBT to retrain participants' implicit maladaptive cognitions towards mental illness and help-seeking behaviours by positively reinforcing associations regarding their perceptions of self and what it means to seek help. Known as Cognitive Bias Modification (CBM; Macleod, 2012), this study suggests that it is possible to build into scalable brief interventions a capacity to decrease stigma that can increase connections to care that is durable across time.

There is some evidence that online interventions for help-seeking can result in positive improvements to people's attitudes, stigma levels, and intentions to seek help within the general population (Collins et al., 2011; Davies et al., 2018; Howard et al., 2018; Shandley et al., 2010; Stanley et al., 2018; Taylor-Rodgers et al., 2014). However, the research is more limited about evaluation of the effectiveness of online anti-stigma

interventions that increase young people's help seeking attitudes, intentions, and behaviours. Given that online interventions can reduce both public and perceived self-stigma and result in increased help-seeking outcomes that are potentially sustained over time (Stanley et al., 2018; Shandley et al., 2010), this suggests that any future models of online interventions to reduce stigma in young people should be premised on a help-seeking model (e.g., Rickwood et al., 2005) and incorporate paradigms such as CBT or CBM. This can potentially result in interventions that engage such required mechanisms of change with the capacity to overcome common help-seeking barriers such as geographic proximity and preferences for informal services (Radez et al., 2021; Aguirre Velasco et al., 2020) without compromising intervention quality or effectiveness.

Young people were the focus of this review given the high prevalence of mental health problems in this population coupled with low rates of help-seeking (Allouche et al., 2021). Differences between younger and older adolescents have been noted within past research with older adolescents tending to have fewer help-seeking fears and younger adolescents a greater awareness about formal sources of help and higher intentions to seek help (Nearchou et al., 2018). However, none of the included studies specifically compared younger and older adolescents.

Shandley et al. (2010) found gender to be a significant predictor of outcomes for online interventions, stigma and help-seeking which is consistent with prior research (Aguirre Velasco et al., 2020). Females were found to be more likely to experience a decrease in stigma post-program, alongside being more open to receiving both formal and informal help. Males, however, experienced smaller decreases in stigma post-program and tended to seek out informal help. Males were underrepresented in the various samples across the included studies, however, the above results align with suggestions that having or disclosing a mental illness to others can pose a significant threat to the identity of young males (Shandley et al.,

2010). As such, they are less likely to seek formal help and instead express a preference for informal support and self-reliance (Shandley et al., 2010; Allouche et al., 2021). This does present an opportunity to more specifically target young males with online self-help interventions as they may find anonymity with such interventions less confronting. Online interventions may also allow young males to proceed at a pace that is comfortable for them, with the goal of such online interventions being to ultimately promote and increase the connection of young males to appropriate formal care services.

For online interventions to be successful, there must be user satisfaction (Peynenburg et al., 2020). The evidence supports that when people have a positive experience using such services, they are more inclined to recommend them to friends because they are easy to use, less stigmatising, and more accessible than traditional modes of delivery (Collins et al., 2011; Shandley et al., 2010; Davies et al., 2018 and Taylor-Rodgers et al., 2014). Satisfaction was shown to be generally high for each intervention with no between group differences recorded. For young people and young males in particular, such endorsement by peers would be a major selling point because it can break down the stigma of accessing such interventions.

This current review has identified a small body of evidence regarding the potential for online anti-stigma interventions to improve help-seeking rates with young people. However, there remains the need for more rigorous evaluation of online anti-stigma interventions. To date, all studies were conducted in Western English speaking developed countries, utilised convenience sampling, and often possessed small sample sizes, with demographic information concerning age, years at school and location not all individually captured, which may affect the generalisability of the findings. Where captured, specific sample characteristics may also be under or overrepresented due to self-selection bias stemming from participant recruitment strategies (e.g., targeting schools, universities, and existing ROC users). Thus, larger, and more representative samples may benefit future research within the

adolescent population. There also needs to be attention to methodology given the varied study quality identified in such studies thus far. For example, longer follow-up is required to provide understanding of sustainability and durability of any changes, with only two studies having follow-up longer than immediately post-intervention. Additionally, there is limited reliance on validated measures that can be used to measure stigma (public and self) and help-seeking outcomes such as attitudes, intentions, and behaviour. User satisfaction also needs to be considered as part of such measures. Stigma reduction and help-seeking have not always been the primary focus of studies. Instead, the focus has been on promoting self-help via discussion forums and structured eLearning modules (e.g., Collins et al., 2011; Shandley et al., 2010; Davies et al., 2018). Despite the paucity of high quality research specific to the reviews aims, the assessment of individual outcome variables associated with help-seeking, e.g., attitudes, intentions, and behaviours is important as many studies acknowledged that improved intentions did not always translate to help-seeking behaviours. Therefore, interventions focusing on stigma reduction and help-seeking are needed to support and assist young people with connection to formal care.

Future research in this area may benefit from studies that explicitly utilise help-seeking models or paradigms within the intervention design, which might also include tailored elements targeting stigma (public and self), help-seeking attitudes, intentions, and behaviours as seen in Stanley's et al, (2018) study. However, such studies also need to reliably capture young people (under 18 years of age), and also include relevant demographics such as their gender, education level, location, level of distress and nature of concern. The propensity for mental health issues in young males (Allouche et al., 2021) suggest this group should be a specific focus of research.

3.7.1 Limitations

This systematic review provides insight into the utility of help-seeking interventions but there are limitations. First, a meta-analysis could not be conducted due to the small number of eligible studies identified and the heterogeneity of the research (e.g., within study designs, intervention delivery and study quality). Second, only peer-reviewed studies were included, thus publication bias might impact results. Third, only articles published in English were included, and all included studies were from Western English speaking developed nations, thus results may be culture-bound. Lastly, this review had a narrow focus on specific mental health problems being anxiety, depression, emotional distress, suicidal thoughts, and self-harm. Other prevalent mental health issues within this age group should be considered such as disordered eating and substance misuse (WHO, 2021). Despite these limitations, this review provides a foundation of empirical support for the utility of online anti-stigma interventions in increasing mental health help-seeking in young people.

3.7.2 Conclusion

The review highlighted that online interventions are routinely successful in reducing public stigma, and to a lesser degree self-stigma, and in improving young people's help-seeking intentions, attitudes and behaviours. However, there is a need for higher quality evaluations that assess the complex interplay between relevant variables and conducted with a more diverse sample representative of the target population over a longer time period to assess the durability of intervention effects. In sum, this review provides an important foundation for the development and testing of future online anti-stigma interventions.

3.7.3 Relevance to Clinical Practice

Despite the small body of research, there are strong practical implications for the effective delivery of online anti-stigma interventions that target young people, including

widespread availability, cost-effectiveness and user preference. Strategies which engage mechanisms of change such as CBT and CBM principles for stigma reduction have indicated promising trends towards modifying young people's maladaptive attitudes towards help seeking (e.g., Collins et al., 2011; Shandley et al., 2010 and Stanley et al., 2018). With continued exploration, these paradigms could play a significant role in bridging the gap between intention and actual help-seeking actions within this population.

3.8 Chapter Conclusion and Progression to Chapter 4

This chapter comprises a systematic review of the available peer-reviewed literature to assess the effectiveness of online anti-stigma interventions in young people. The review provides strong practical implications for the effective delivery of online anti-stigma interventions that target young people, including widespread availability, cost-effectiveness, and user preference. Furthermore, strategies that engage mechanisms of change, such as CBT and CBM principles for stigma reduction, have indicated promising trends towards modifying young people's maladaptive attitudes towards help seeking (e.g., Collins et al., 2011; Shandley et al., 2010; and Stanley et al., 2018). Predicated on these findings, the review provides an important foundation for the development and testing of future online anti-stigma interventions.

Because this systematic review was originally conducted in February 2023, an updated review of the literature was undertaken for this thesis for the period from February 2023 to the end of January 2025. The results of this update identified no new intervention studies that met the eligibility criteria.

In Chapter 4, a randomised controlled pilot study was conducted and reported to assess the feasibility and effectiveness of two intervention strategies, ICBT and CBM-HS, to improve attitudes and intentions towards mental health help-seeking among young rural

Australians. This paper was submitted to the Journal of Affective Disorders and is under review.

Higher Degree Research Thesis by Publication

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STATEMENT OF AUTHORS' CONTRIBUTION

We, the Research Master/PhD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated in the *Statement of Originality*.

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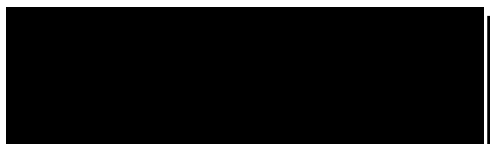
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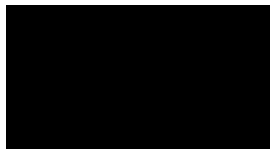
STATEMENT OF ORIGINALITY

We, the Research Master/PhD candidate and the candidate's Principal Supervisor,
certify that the following text, figures and diagrams are the candidate's original work.

Type of work	Page number/s
All work is the candidate's original work – except for assistance described in the Statement of Author Contribution	N/A

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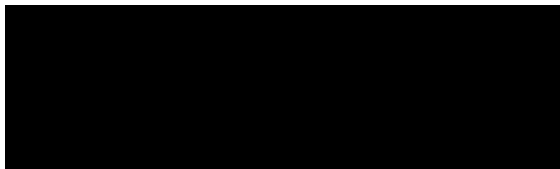
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Chapter 4: Young Adults and Mental Health Help-Seeking: A Pilot Randomised Control Trial of Brief Internet-Based Strategies (Study 2)

Williams, L., Bartik, W., & Cosh, S. (2024). Williams, Laura., Bartik, Warren., Cosh, Suzie. (2025a). Young Adults and Mental Health Help-Seeking: A Pilot Randomised Control Trial of Brief Internet-Based Strategies. Submitted to *Journal of Affective Disorders*.

4.1 Abstract

Objective: This study aimed to assess the feasibility and effectiveness of two intervention strategies: Internet-Based Cognitive Behavioural Therapy (ICBT) and Cognitive Bias Modification for Help-Seeking (CBM-HS) to improve attitudes and intentions towards mental health help-seeking within young rural Australians.

Design: A three-armed randomised pilot trial, with participants randomly allocated into either of the intervention conditions or the control condition. Data were collected pre and post intervention online via self-report questionnaires.

Setting: Rural communities within Australia.

Participants: Young rural Australians (N= 53; aged between 15-24 years).

Interventions: 1) CBM-HS condition designed to modify participants' maladaptive cognitions related to help-seeking stigma by correcting appraisals regarding beliefs about using mental health services. 2) ICBT condition targeted mental health literacy via psychoeducation on depression and anxiety; and 3) a control condition consisting of an unrelated filler task to approximate cognitive workload.

Main outcome measures: Mental health literacy, self-stigma, perceived public stigma, attitudes and intentions to seek help.

Results: Neither intervention were effective in increasing mental health help-seeking intentions, pre and immediately post intervention, compared to the control condition. Outcomes did not vary significantly for age or gender.

Conclusions: There are strong practical implications for the effective delivery of online anti-stigma interventions that target young people, including widespread availability, cost-effectiveness and user preference. Future research is needed with the success of these paradigms potentially playing a significant role in bridging the gap between intention and actual help-seeking actions within this population.

Key Words: Rural Health, service utilisation, Cognitive Behavioural Therapy, Cognitive Bias Modification, Online, young people, psychological distress

4.2 Introduction

Approximately 39% of 16–24 year old Australians experienced a mental health condition in the past year, with the most common diagnoses being depression and anxiety (Australian Institute of Health and Welfare [AIHW], 2024). The onset for mental illness typically occurs from late teens to early twenties (15-24 years old) with Australian youth having the highest prevalence of mental illness compared to the broader Australian population (Australian Bureau of Statistics [ABS], 2022). Despite this pattern of onset, young Australian's are consistently identified as the population group with the lowest tendency to seek professional help for mental health (Allouche et al., 2021).

Mental health help-seeking is defined as a health action which involves an individual actively seeking help from others in order to gain information, treatment, or support for a mental health problem (Xu et al., 2018). The three key processes which underpin help-seeking include, attitudes, intentions, and behaviours (Ajzen, 1991). Sources of help-seeking are commonly categorised as either informal (e.g., family, friends), formal (e.g., health professionals, youth workers), or self- help (e.g., internet-based) (Rickwood and Thomas, 2012).

Risk of mental health issues is often exacerbated for young people living in rural and remote areas due to the limited availability of mental health services (Handly et al., 2018). However, this is compounded by a range of socioeconomic and cultural factors specific to rural communities that affect attitudes toward mental health services (Handly et al., 2018). For example, high rates of unemployment, the prevalence of alcohol and drugs and the persistence of traditional values, which often seeks to influence young people to conform to

accepted patterns of behaviours regarding sexuality, masculinity and stoic mindsets (National Rural Health Alliance, 2017). Indeed, the youth mental health service ‘Yourtown,’ reported that young people expressed concerns about “being judged,” seen as “incapable” or being labelled as an “attention seeker” if they were to access mental health services (Ivancic et al., 2018).

Consistent with these findings, a recent systematic review of 54 studies revealed that help-seeking stigma and negative beliefs/attitudes towards help services and professionals were the dominant barriers to professional help seeking (Aguirre Velasco et al., 2020). Specifically, self-stigma, which refers to one’s personal negative attitudes around mental health and help-seeking, (e.g., “seeking help means I’m weak”) is shown to be a significant barrier to service access (Clement et al., 2015). Studies have also found certain demographic variables are predictive of stigma, with greater self-stigma found among males compared to females (Allouche et al., 2021), and younger individuals (< 17 years) being significantly less likely to engage formal services (Rossow & Wichstrom et al. 2010). Despite the lowered help-seeking in young adults, the relationship between stigma and help-seeking has predominantly been researched within adult populations (Xu et al., 2018), with calls for more research in adolescent and young adult populations (Clement et al., 2015).

In order to overcome barriers and enhance help-seeking behaviours within young people, past interventions have predominantly utilised psychoeducation to increase awareness of mental health conditions and treatment options (Xu et al., 2018). Intervention studies have generally found an increase in positive attitudes towards seeking help post-intervention, particularly when factors such as self-reliance were promoted (Peynenburg et al., 2020). However, past research is limited due to varied quality, including high heterogeneity of assessment outcomes and the generalisability of results. Moreover, the ability of these interventions to increase young people’s connection to care remains limited, with sustained

effects appearing minimal at post-intervention follow-up (Clement et al., 2015) and in rates of young people accessing services (ABS, 2022). Therefore, while psychoeducation may increase positive attitudes towards mental health and help-seeking, it has fallen short in increasing actual help-seeking actions within young people. This suggests the need for further research into intervention strategies that can promote a targeted and sustained modification of stigma to address these limitations.

Traditionally, health models such as the Theory of Planned Behaviour (TPB, Ajzen, 1991) are used to provide an understanding of the relationship between beliefs and behaviours, with these principles enduring import reflected in therapies such as cognitive behavioural therapy (CBT, Beck, 2005). However, where models such as TBP are limited in revealing how to alter beliefs to effectively change behaviour (Stecker et al., 2011), the efficacy of CBT as a treatment intervention has been widely evidenced for a variety of mental health disorders (Nakao et al., 2021) with its ability to change individuals' maladaptive cognitions, which in turn, changes behaviours (Beck, 2005).

While online CBT structured resources have an encouraging evidence base for mental health treatment and management of chronic conditions (Ebert et al. 2018), evidence regarding its effectiveness within a preventative capacity remains limited (Sander et al., 2016). Further, given the varying cognitive abilities of young people, a CBT approach may not always prove the most useful approach. For example, some individuals may be reluctant or unable to reflect on their own thinking patterns or be unwilling to disclose personal thoughts and feelings either in person or online (Bowler et al., 2012) and this could be particularly true for young adolescents. Additionally, beyond cognitive ability, motivation/readiness to change is a key component of effective CBT implementation, and where there is no past or current mental health concerns, the capacity for effective processing and engagement is significantly diminished (Sander et al., 2016).

An alternative novel approach is cognitive bias modification (CBM). This involves intervention techniques which are less reliant on cognitive resources to enact a modified cognitive style and so may be a better suited to young people. CBM focuses on implicitly retraining negative cognitive biases which may consequently remain more stable in situations where cognitive resources are diminished (Baert et al., 2011; Bowler et al., 2012). The clinical application of CBM methods was initially drawn from experimental studies designed to investigate the cognitive processes underlying psychopathology (MacLeod et al., 2002). As an alternative to the explicit examination of cognitive processes and reflective thinking found in traditional and online CBT practices, CBM paradigms are built on the premise that repeated reinforcement of adaptive cognitions and the reshaping of negative cognitions through computer-based practice can ultimately result in individuals disengaging from threat-related stimuli (Koster et al., 2009).

Typically, CBM interventions involve a brief, web-based delivery of tasks which train individuals to respond to certain stimuli (words, sentences) in a manner which is positive or neutral, rather than negative and unhelpful. Indeed, a previous trial of CBM techniques found a significant reduction of help-seeking stigma within a sample of 32 undergraduate students with a DSM-5 psychiatric disorder who had previously denied wanting mental health treatment. Although this study had limitations, including a small unrepresentative sample and no control condition, it presented a scalable brief intervention which had a significant effect on reducing maladaptive help-seeking cognitions (Stanley et al., 2018). While research applying CBM techniques for help-seeking in young people is limited, it can potentially overcome past intervention issues with this population in terms of delivery (online) and requiring minimal cognitive demand. Moreover, it is a cost-effective intervention that can be presented as a standalone resource and be accessible to various community organisations, schools, and tertiary institutions. And although there is preliminary evidence suggesting a

small, but significant effect on reducing anxiety within youth (Krebs et al., 2018), research applying CBM as an intervention technique remains in its early stages. Yet, its utility with both clinical and non-clinical populations invites strong recommendations for future research towards advancing theoretical understandings (Blackwell 2020; Fodor et al., 2020) as well as its application as an intervention towards improving young Australians help-seeking intentions and behaviours.

4.2.1 Objective

The current research aims to address past limitations while also seeking to extend the literature by examining the efficacy of both CBT and CBM-based interventions, with the inclusion of an inactive control condition, within a non-clinical sample of rural young people. The study aimed to compare two different web-based interventions - 1) Internet-Based Cognitive Behavioural Therapy (ICBT), and 2) Cognitive Bias Modification for Help-Seeking (CBM-HS) techniques with a control, for the modification of help-seeking intentions with young people.

Consistent with the reviewed research, the following hypotheses were proposed:

H1. For individuals allocated to the intervention conditions, there will be reductions in help-seeking stigma (self-stigma and perceived public stigma), as well as greater intentions to access mental health services from pre to immediately post-intervention.

H2. A reduction in help-seeking stigma, as well as increased behavioural intentions post intervention will be stronger for participants allocated to the CBM-HS condition compared to participants allocated to the ICBT condition or control.

H3. Regarding age and gender, older female participants (18-24 years) will report significantly greater willingness to seek help from formal mental health services compared to males pre and post interventions.

4.3 Method

4.3.1 Ethics Statement. Ethics approval was obtained from the University of New England's (UNE) Human Research Ethics Committee (HE21-230). All participants were provided with information sheets and consent forms before proceeding with online pre-test questionnaire.

4.3.2 Participants and Recruitment. Fifty-three participants aged between 15 to 24 years ($M_{age}=19.69$, $SD_{age}=2.00$) were recruited via flyers disseminated through relevant community groups/organisations (such as sporting clubs and youth outreach) and from the University's Research Potential Opportunity (RPO) program (1st year psychology students). Exclusion criteria included participants outside the age bracket, not providing a postcode for a rural or regional place of residence within Australia and being non-English speaking. Participants were offered a \$20 supermarket gift card for their participation. The majority of the participants were in the 18-24 years age bracket (90.6%), identified as female (66%), and were born in Australia (90.6%). The socio-demographic characteristics of the respondents are depicted in Table 4.1.

Table 4.1 Socio-demographic Characteristics of Participants

		N	%
Highest level of Education	≤9 years of schooling	1	1.9%
	Year 10 Certificate	2	3.8%
	Year 12 Certificate	37	69.8%
	TAFE course	7	13.2%
	University Degree	6	11.3%
Currently Studying	Yes	49	92.5%
	No	4	7.5%
	Full time	38	71.7%
	Part time	11	20.8%
	Missing	4	7.5%
Area of Study	Bachelor's or higher	40	75.5%
	Diploma	2	3.8%
	Certificate III	1	1.9%
	Yr. 12	3	5.7%
	Yr. 11	1	1.9%
	Yr. 10	1	1.9%
	Other	1	1.9%
	Missing	4	7.5%
Annual Household Income	Less than 20,000	14	26.4%
	20,000-39,999	4	7.5%
	40,000-79,999	9	17%
	80,000-179,999	10	18.9%
	180,000 and over	3	5.7%
	Not sure	13	24.5%
Receiving(d) Present or Past Mental Health Support	Yes	33	62.35%
	No	20	37.7%
Source of help Received	Formal (e.g., psychologist or counsellor)	29	54.7%
	Informal (e.g., family/friends)	1	1.9%
	Self-Help (e.g., online/apps)	3	5.7%

Note. *N*=53

4.4 Procedure

Participation involved completing an online self-report questionnaire battery via Qualtrics software, which was conducted pre and immediately post intervention.

Demographics and psychological distress were recorded at pre-test only, with remaining

measures collected at both time points. All measures within questionnaires were randomised and counterbalanced across participants to reduce priming and order effects. The 53 participants who met study inclusion criteria were stratified by age (15-18; 19-21; 22-24 years) and randomised via Qualtrics software to one of three conditions. Twenty participants were allocated to the CBM-HS condition, 17 to the ICBT condition, and 16 to the Control condition. Each intervention lasted approximately 10 minutes each. The participant flowchart is shown in the CONSORT diagram, Figure 4.1.

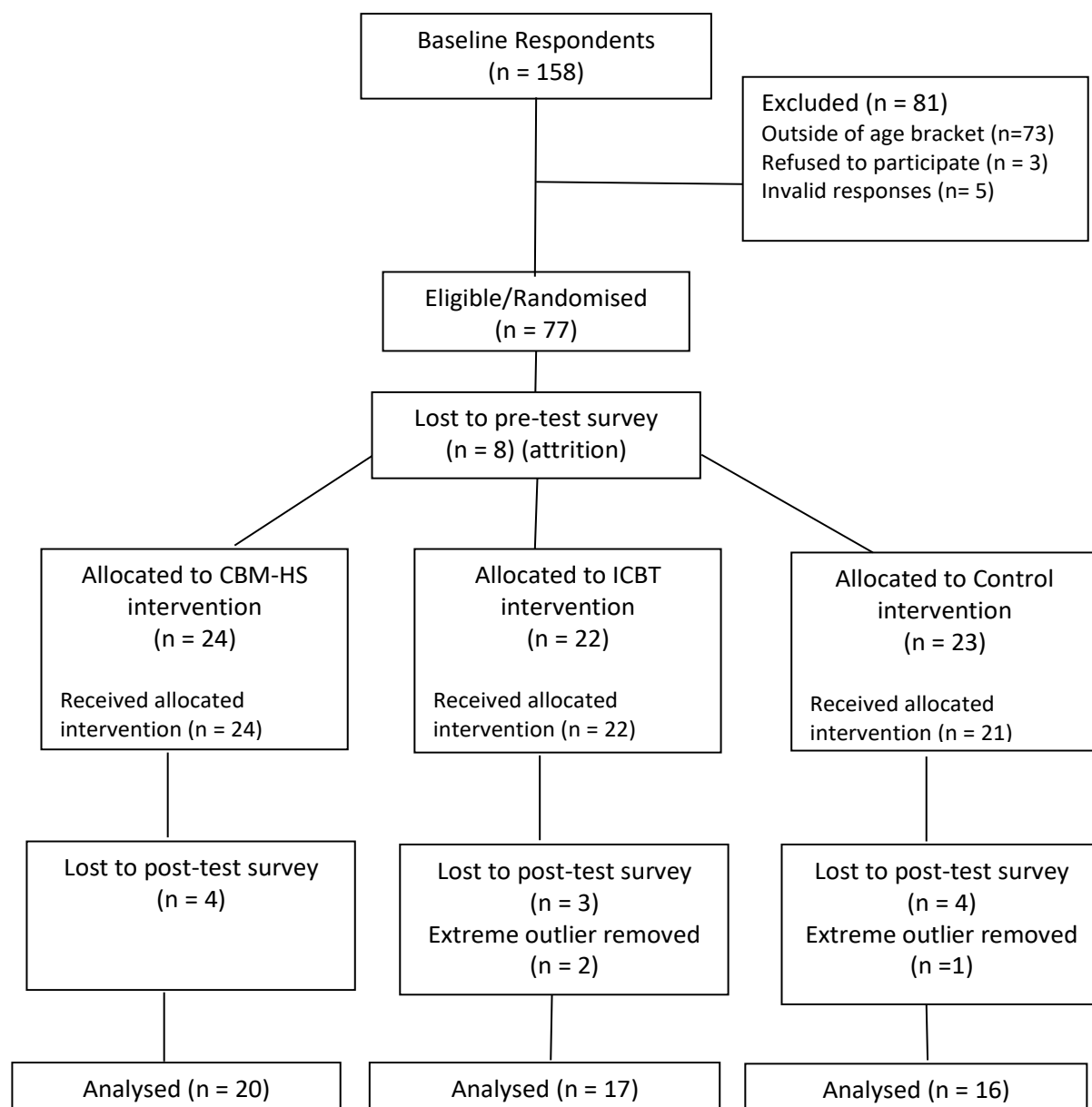


Figure 4.1: CONSORT diagram of flow of participants through each stage of randomised trial

4.4.1 Measures

Demographic Information. Participants provided their age, gender, ethnicity, current post code, highest level of educational attainment, socioeconomic status and present or past mental health treatment status at pre-intervention only.

Level of Distress. This was assessed using the Kessler Psychological Distress Scale (K10, Kessler et al., 2002). The K10 is a self-report assessment consisting of 10 items which aim to assess participants' general level of distress regarding anxiety and depressive symptoms experienced within the past four weeks. Participants respond on a 5-point Likert scale (1= none of the time to 5= all of the time), with higher summed scores revealing higher levels of psychological distress. The K10 has shown excellent internal consistency ($\alpha=0.70$ to 0.91) and criterion validity for predicting serious mental health issues such as anxiety and depression in adults and young people.

Mental Health Literacy. This was assessed using the Mental Health Promoting Knowledge Instrument (MHPKI-10, Bjornsen et al., 2017). The MHPKI-10 is a single factor scale consisting of 10 items which aim to assess young peoples' knowledge of mental health promotion. Participants rate various positive mental health actions on a 5-point Likert scale (1= definitely unhelpful to 5= definitely helpful). This scale has shown acceptable test-retest reliability ($\alpha = 0.74$) and good construct validity in young people (Bjornsen et al., 2017).

Self-Stigma. This was assessed with the Self-Stigma of Seeking Help Scale (SSOSH, Vogel et al., 2006). The SSOSH is a 10-item self-report scale which requires participants to rate the degree to which they agree with statements regarding help-seeking self-stigma. Participants rate on a 5-point Likert scale (1= Strongly Disagree to 5=Strongly Agree). The

SSOSH has shown excellent internal consistency ($\alpha=0.86$ to 0.91), test-retest reliability (0.72), and criterion, construct, and predictive validity in young people (Vogel et al., 2006).

Perceived Public Stigma. Participants perceived stigma was assessed using the Perceived Stigma and Barriers for Psychological Problems Scale (PS, Britt et al., 2008). The PS is an 11 item self-report scale which assesses the degree to which perceived public stigma and structural barriers affect an individual's choice to seek help. Participants rate on a 5-point Likert scale (1 = Strongly Disagree to 5= Strongly Agree). The PS has shown excellent internal consistency ($\alpha=0.86$), test-retest reliability (0.89 to 0.94), and criterion, construct, and predictive validity in young people (Pederson & Paves, 2014).

Help seeking Intentions. Intentions to enact help-seeking behaviours was assessed using the General Help Seeking Questionnaire (GHSQ, Wilson et al., 2005). The GHSQ is a 20 item scale which examines participants intent to receive help from a variety of sources if facing 1) Personal or emotional problems, and 2) Suicide ideation. Participants rate on a 7-point Likert scale (1= very unlikely to 7= very likely). The test-retest reliability for this scale is high ($\alpha = 0.92$), with the internal consistency coefficients reported as adequate, ranging from $\alpha= 0.72$ to 0.99 (Wilson et al., 2005). This scale is used by summing up scores for each item. It is frequently used to measure behavioural intent for mental health help-seeking among young people and whether there is a preference for formal or informal management (Divin et al., 2018).

Help seeking Normative Beliefs and Attitudes. Participants' beliefs and attitudes about mental health help-seeking were assessed using items from two subscales of the Parental Attitudes Towards Psychological Services Inventory (PATSPI; Turner, 2012). Normative beliefs were assessed using the stigma subscale, which uses eight items that have been slightly adapted by Allouche et al. (2021) to relate to young people; for example, 'I

would not want others (friends, family, teachers, etc.) to know if I had a psychological or behaviour problem.’ Participants rate their response on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). The test-retest reliability, discriminant validity, and internal consistency ($\alpha = 0.72$ to 0.92) have all been found to be adequate (Allouche et al., 2021).

Participants’ attitudes about mental health help-seeking were assessed using the Attitudes subscale, which uses eight items that have been slightly adapted by Allouche et al. (2021) to relate to young people. For example, ‘To avoid thinking about my problems, doing other activities is a good solution.’ Participants rate their response on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). The test-retest reliability, discriminant validity, and internal consistency ($\alpha = 0.72$ to 0.92) have all been found to be adequate (Allouche et al., 2021).

Barriers to Help-Seeking. Participants control beliefs were measured using a brief version of the Barriers to Adolescents Seeking Help-Scale (BASH-B, Wilson et al., 2002)). The BASH-B is an 11 item self-report scale which assesses barriers to seeking professional help. Participants rate on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). This scale has been repeatedly validated in past samples of young people (Wilson & Deane, 2010) and has a strong internal consistency coefficient of $\alpha = 0.83$.

4.5 Interventions

1. Internet-based Cognitive Behavioural Therapy (ICBT): Internet-based Cognitive Behavioural Therapy (ICBT): Participants allocated to this condition reviewed CBT-based materials designed to enhance their mental health literacy and reduce mental health stigma. These readings focused on anxiety and depression and were drawn from the public domain (e.g., Centre for Clinical Interventions [CCI]) <https://www.cci.health.wa.gov.au/>). The examples of anxiety and depression were used to build the foundation for understanding how

thoughts, emotions and behaviours influence mental health conditions. Given the self-directed study procedures, participants were required to correctly respond to questions on a brief quiz to verify adequate comprehension of the material before proceeding to post-intervention measures. The ICBT condition promoted reflection and provided a rationale for the CBT model and techniques.

2. *Cognitive Bias Modification for Help Seeking Stigma (CBM-HS)*: The CBM-HS is a brief computer-based task designed to modify participants maladaptive cognitions related to help-seeking stigma. Participants allocated to the CBM-HS condition were presented with a series of statements regarding beliefs about using mental health services, e.g., “Seeking help means I am a failure” (see Appendix A). Participants were then required to select either “true” or “false” in response to the statement. Correct responses are positively reinforced (“Correct”) while incorrect responses (showing stigma) are followed by corrective feedback, (“Incorrect- Try Again”) to ensure the sentences are interpreted as intended. The CBM-HS stimuli was developed and piloted by Stanley et al. (2018), utilising previous research on help-seeking stigma related thoughts (Vogel et al., 2006).

3. *Control*: Participants allocated to this condition completed a filler task of the same approximate cognitive workload as conditions 1 and 2. The control condition comprised neutral distractor scenarios, which included an equal number of positive and negative resolution distractors. Participants were presented with scenarios and asked to complete missing letters; for example, ‘You are at the cinema with a friend. You are starving as you have not yet eaten lunch. Your friend goes to buy a treat. “Here’s one for you,” and he hands you a large ... p_pcorn [popcorn].’ Feedback was provided to ensure sentences were interpreted as intended (e.g., ‘Correct’ or ‘Incorrect – Try Again’).

4.6 Statistical Analysis

Preliminary intervention analyses were first undertaken assessing any pre-existing group differences between participants, including a one-way ANOVA and series of chi-square frequency tests of demographic variables and baseline psychological distress. A mixed ANOVA with a within (time) and between (conditions) interaction was used to assess the effect of the conditions on self-stigma of seeking help, perceived stigma, and barriers to care for psychological problems and future intentions to seek help, addressing H1, H2 and H3.

Analyses were conducted using the Statistical Package for the Social Sciences (SPSS), version 25. Assumptions were checked for all analyses and at both time points (i.e., pre and immediately post survey). Outliers were present as assessed by box plot, thus three participants with extreme outliers were removed following the identification of invalid data entry errors. The removal of the outliers improved the normal distribution of data as assessed by Shapiro-Wilk's test of normality ($p > .05$). Other assumptions were met. There was homogeneity of variances ($p > .05$) and covariances ($p > .001$), as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. Analysis revealed less than 5% of missing data on six items within the pre and post survey responses, except one item (10) within the GHSQ missing 7.5% of responses pre-intervention and 5.7% of responses post intervention. Little's MCAR test was not significant, $\chi^2 (.00) = 1151, p, 1.0$ indicating that data were missing completely at random.

4.7 Results

The baseline survey had 158 participants, however, 105 were removed due to not meeting inclusion criteria, attrition, or invalid responses resulting in a final sample of 53 participants (20 CBM-HS, 17 ICBT, 16 Control).

4.7.1 Preliminary Intervention Analyses

To assess if any pre-existing group differences existed between the participants in the CBM-HS, ICBT and control conditions, a one-way ANOVA and series of chi-square frequency tests were conducted. The results of the ANOVA showed that there were no significant differences in age between conditions, $F(2, 50) = 0.626$, $p = .539$, $\eta^2 = .024$ or level of distress (K10), $F(2, 50) = 0.721$, $p = .491$, $\eta^2 = .028$. The chi-square results are depicted in Table 4.2 and show no significant differences between conditions on demographic characteristics.

Table 4.2. Analysis of Variance (ANOVA) and Chi-square tests assessing group differences between conditions on demographic characteristics.

Demographic Variables	df	χ^2	p
Gender	4	1.18	.658
Country Born	2	2.67	.274
Post code	60	62.52	.710
Currently Studying	2	1.91	.399
Level of education	8	9.56	.166
Socioeconomic Status	10	9.08	.606
Present or past mental health treatment	2	1.57	.470
Treatment sought	4	1.53	.972

Note: $N = 53$, df= degrees of freedom, $*p < .05$.

4.7.2 Effects of Conditions on Help-Seeking Outcomes

Table 4.3 presents descriptive statistics on participants' baseline and post-intervention Mental Health literacy, Self-Stigma, Public Stigma, Beliefs and Attitudes towards help-seeking and perceived barriers to help seeking as a function of experimental conditions. A 2 (time: baseline and immediate post-intervention) x 3 (condition) mixed ANOVA showed that there was no significant interaction between the conditions and time across all measures, inconsistent with hypotheses one and two. The main effect of time showed a significant

reduction in mean self-stigma scores at the different time points, $F(1,50) = 8.283$, $p = .006$, partial $\eta^2 = .142$. However, the main effect of group showed that there was no significant difference in any help-seeking measures between intervention groups.

Binary mixed models of help-seeking intentions from each of the seven specified (formal and informal) sources (Table 4.4) produced three significant results within the category of “personal or emotional problems,” for the main effect of time on mean intention scores for friends, parents and nobody. However, the main effect of group showed that there were no significant differences within the item measures for intervention groups. For “suicide ideation,” there was a significant interaction across time and condition for intentions to seek help from an intimate partner. This effect indicates that those allocated to the ICBT intervention had a significant decrease in help-seeking intentions towards their partner from pre to post test, relative to the other conditions, with a large effect size ($\eta^2 = .126$).

Table 4.3. Participants' Responses by Experimental Condition.

Baseline Variables	Cronbach's Alpha α	Condition (N)	M	SD	Post Intervention Variables	Condition (N)	M	SD	P Time* Condition
Level of Distress (K10)	0.89	Total (53)	28.75	7.76					
	0.88	CBM-HS (20)	28.80	7.47	Mental Health Literacy	CBM-HS (20)	31.3	9.59	0.25
		ICBT (17)	35.64	7.76		ICBT (17)	35.4	8.23	
Mental Health Literacy		Control (16)	35.37	7.38		Control (16)	34.4	8.41	
		Total (53)	32.98	8.09		Total (53)	33.6	8.85	0.12
	0.84	CBM-HS (20)	30.35	2.96	Self-Stigma	CBM-HS (20)	27.5	2.93	
		ICBT (17)	29.53	4.72		ICBT (17)	28.9	4.02	
Self-Stigma		Control (16)	30.18	3.08		Control (16)	29.3	3.62	
		Total (53)	30.03	3.59		Total (53)	28.5	3.53	0.13
	0.76	CBM-HS (20)	29.50	7.76	Public Stigma	CBM-HS (20)	27.0	7.64	
		ICBT (17)	29.47	6.44		ICBT (17)	29.9	5.34	
Public Stigma		Control (16)	29.06	8.58		Control (16)	27.6	9.04	
		Total (53)	29.35	7.48		Total (53)	28.1	7.44	0.34
	0.92	CBM-HS (20)	23.45	7.83	Normative Beliefs	CBM-HS (20)	21.4	7.59	
		ICBT (17)	23.35	7.53		ICBT (17)	23.0	7.41	
Normative Beliefs		Control (16)	21.06	9.16		Control (16)	20.3	8.50	
		Total (53)	22.69	8.07		Total (53)	21.6	7.74	0.17

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Baseline Variables	Cronbach's Alpha α	Condition (N)	M	SD	Post Intervention Variables	Condition (N)	SD	P Time* Condition
Attitudes	0.82	CBM-HS (20)	20.40	4.86	Attitudes	CBM-HS (20)	21.25	5.57
		ICBT (17)	19.94	6.76		ICBT (17)	21.53	7.12
		Control (16)	19.43	6.81		Control (16)	18.62	7.12
		Total (53)	19.96	6.01		Total (53)	20.54	6.57
Barriers	0.81	CBM-HS (20)	34.95	7.37	Barriers	CBM-HS (20)	32.40	5.78
		ICBT (17)	30.76	6.53		ICBT (17)	29.71	5.65
		Control (16)	30.93	8.71		Control (16)	30.93	7.85
		Total (53)	32.39	7.67		Total (53)	31.03	6.42

Note. M=Mean, SD= Standard Deviation, *p <.05, N= Sample, CBM-HS= Cognitive Bias Modification for Help Seeking, ICBT = Internet-Based Cognitive Behavioural Therapy.

Table 4.4. Participants' Responses on the GHSQ by Experimental Condition.

HS Intentions Baseline (Personal/ Emotional problems)	Condition (N)	Pre		Post		P Time* Condition	HS Intentions Baseline (Suicide Ideation)	Pre		Post		P Time* Condition
		M	SD	M	SD			M	SD	M	SD	
General practitioner	CBM-HS	3.10	1.58	3.35	1.53	0.58		2.95	1.73	2.85	1.72	0.84
	ICBT	4.18	1.81	3.94	1.85			4.18	2.27	4.06	2.13	
	Control	3.88	1.66	3.63	2.02			3.56	2.22	3.69	2.33	
	Total	3.68	1.71	3.62	1.77			3.53	2.09	3.49	2.08	
Mental Health Professional (e.g., Psychologist)	CBM-HS	4.55	1.66	4.90	1.71	0.47		4.40	2.16	4.00	2.36	0.98
	ICBT	4.29	2.02	4.12	1.86			4.88	2.23	4.53	2.18	
	Control	4.87	1.58	4.75	1.80			4.69	2.24	4.25	2.32	
	Total	4.57	1.74	4.60	1.79			4.64	2.17	4.25	2.26	
Intimate Partner	CBM-HS	4.75	2.02	4.85	2.08	0.08		3.85	2.00	4.20	2.19	0.03*
	ICBT	5.65	1.96	4.94	2.31			5.12	2.23	4.47	2.42	
	Control	4.56	2.34	4.69	2.02			4.44	1.78	4.50	1.96	
	Total	4.98	2.12	4.83	2.11			4.43	2.05	4.38	2.16	
Parent	CBM-HS	3.80	2.24	3.50	2.04	0.88		3.05	2.11	3.10	1.94	0.41
	ICBT	4.35	2.14	4.00	1.76			4.12	2.26	3.82	2.24	
	Control	4.38	1.67	4.19	1.90			3.69	2.30	3.88	2.41	
	Total	4.15	2.03	3.87	1.90			3.58	2.22	3.57	2.18	
Friend	CBM-HS	3.90	1.77	3.80	1.67	0.38		3.60	1.95	3.25	1.94	0.08
	ICBT	4.41	1.91	4.06	1.95			4.00	2.17	3.82	2.09	
	Control	4.62	1.25	4.13	1.41			4.19	1.75	4.56	1.82	
	Total	4.28	1.68	3.98	1.67			3.91	1.95	3.83	1.99	
Phone (Helpline)	CBM-HS	2.20	1.50	2.80	1.82	0.92		3.30	2.29	2.95	2.03	0.79
	ICBT	3.06	1.98	3.47	2.15			3.71	2.41	3.65	2.31	
	Control	2.56	1.82	2.94	2.08			3.38	2.57	3.37	2.30	
	Total	2.58	1.77	3.06	1.99			3.45	2.38	3.30	2.18	

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

HS Intentions Baseline (Personal/ Emotional problems)	Condition (N)	Pre		Post		P Time*Con dition	HS Intentions Baseline (Suicide Ideation)	Pre		Post		P Time* Condition
		M	SD	M	SD			M	SD	M	SD	
Nobody	CBM-HS	4.50	1.87	4.25	1.94	0.50		4.75	1.88	4.05	2.11	0.93
	ICBT	3.53	2.12	2.76	2.01			3.35	2.29	2.88	2.02	
	Control	3.00	1.86	2.69	1.95			3.88	2.44	3.38	2.09	
	Total	3.74	2.02	3.30	2.07			4.04	2.23	3.47	2.09	

Note. GHSQ; General Help-Seeking Questionnaire, M=Mean, SD= Standard Deviation, *p <.05, N= Sample, CBM-HS= Cognitive Bias Modification for Help Seeking, ICBT = Internet-Based Cognitive Behavioural Therapy.

4.7.3 Effect of Age and Gender on Help-Seeking Intentions

In the category of personal and emotional problems, a repeated measures ANOVA showed a significant interaction between time and age on help-seeking intentions for mental health professional $F(1,49) = 5.053, p = .029$, partial $\eta^2 = .093$ and phone/helpline $F(1, 49) = 4.424, p = .041$, partial $\eta^2 = .083$. Pairwise comparisons of time, age and gender showed a significant increase in intention scores for females aged 15-17 years for friend ($p = .010$) and mental health professionals ($p = .028$). Pairwise comparisons also showed females aged 18-24 years had a significant increase in intentions scores for friends ($p = .021$) and for phone/helpline ($p = .006$). Males aged 18-24 years showed a significant decrease across time points in intentions to talk to no one ($p = .031$).

In the category of suicide ideation, a repeated measures ANOVA showed no significant interactions for age or gender. Pairwise comparisons of time, age and gender showed a significant increase in intention scores for females aged 15-17 years for mental health professional ($p = .042$). Combined, these results indicate some differences in age and gender for help-seeking intentions, providing partial support of hypothesis three.

4.8 Discussion

This study investigated the effects of two interventions, CBM-HS and ICBT, to increase young rural Australian's intentions to engage in mental health help-seeking behaviour via increasing mental health literacy and modifying their maladaptive cognitions related to mental health help-seeking stigma. Contrary to past findings, the results indicated that the interventions were not efficacious in increasing help-seeking intentions between pre and post-tasks compared to a control condition, and there were no significant differences due to gender over time.

The findings of no significant interaction between time and condition on help-seeking intentions contrasts with other studies that support CBM-HS over ICBT, and a control condition. This is due to it being less reliant on participants possessing adequate cognitions/readiness to enact a modified cognitive style due to its implicit retraining techniques (Baert et al., 2011; Bowler et al., 2012). Further, help-seeking intention scores for CBM-HS showed no significant increase compared to the other two conditions immediately post-task. Again, these results contrast with prior research that does support CBM with clinical and non-clinical behaviours in adults (Macleod & Matthews, 2012) and reviews reporting small but significant effects in youth anxiety (Krebs et al., 2018).

It may be that participant motivation and/or design methodology resulted in no effect'. Other CBM studies with 'unmotivated' samples found no effect with unmotivated problem drinkers (Gladwin, Wiers & Wiers, 2018) and community smokers (Kerst & Waters, 2013). This current study utilised online delivery of interventions, where previously this has been undertaken in a controlled environment (e.g., university laboratories) or a more clinically motivated sample. It may be possible that the discretionary online delivery in-hand with the sample characteristics (e.g., homogeneity) has potentially led to low levels of engagement and motivation, which displaces the essential components to effective CBM application. The issue of motivation and engagement is significant as young people are more actively engaged in the online world, so framing interventions delivered in such an environment should have more appeal.

Past research which examined 14-19-year old's past help-seeking behaviours for self-harm within a period of eight years found older participants were significantly more likely to report seeking professional help than younger participants who reported a preference for informal sources of help (e.g., friends) (Rossow and Wichstrom, 2010). Gender has also been a consistent predictor of stigma and mental health help-seeking, with females often

possessing more adaptive attitudes towards mental health problems, with higher mental health literacy and thus greater intentions to seek help (Aguirre Velasco et al., 2020).

Contrary to these findings, limited differences were found for age and gender, with the results also indicating a preference for both informal and formal sources of help, specifically that of intimate partners, friends, and mental health professionals through helplines or within an in-person context (e.g., psychologist, counsellor).

In examining the demographics, the homogenous nature of the sample could explain this limited interaction. The majority of participants were in the 18-24 years age bracket (90%) and identified as female (66%) currently enrolled in an undergraduate psychology course. Additionally, in examining baseline levels of distress measured by the K10, and in assessing previous engagement with help-seeking services, 52.9% of the sample reported mild to moderate levels of psychological distress. Additionally, 59.49% of the sample disclosed past engagement with formal services. This indicates pre-existing low level stigma and already more help-seeking tendencies in the sample such that any intervention offered may not materially change their willingness to seek help as it is already evident.

4.8.1 Strengths, Limitations and Future Directions

The study has several strengths. First, this study addressed the gap in clinical literature by testing the effectiveness of two theoretically based instruments in targeting mental health help-seeking cognitions in young people. Despite the limited findings', the theoretical implications of these interventions do remain relevant to the help-seeking literature. Secondly, given limitations of traditional psycho-educative practices, these interventions have the potential to provide low cost and easy to implement alternatives particularly for rural and regional communities. They can also appeal to the younger demographic as a novel learning experience which incorporates self-directed principles

(Wilkins, 2011). Thirdly, the web-based delivery of the study demonstrated an accessible and innovative way of translating theory into practice. Their piloting provided some confirmation that the materials were functioning as intended with the intended target population (i.e., young Australians). The inclusion of a control group also provided an avenue for exploring any discernible differences between conditions and within both time points.

There are some limitations acknowledged. The first was design implementation. Prior clinical and non-clinical studies have induced change in participants with interpretive bias through the delivery of a single session of CBM training with this achieved in controlled environments. The current study's experimental manipulations were delivered through an online platform (Qualtrics) such that participants completed at their own discretion and this potentially affected levels of engagement and motivation that are important components of CBM application. Additionally, a single CBM training session was perhaps insufficient to induce change in help-seeking intentions. Future considerations should include multiple interpretation bias training sessions to induce generalised effects (e.g., Lang et al., 2012).

Traditional mental health awareness training uses conventional 'classroom' techniques (Xu et al., 2018). The current study sought to induce change through a series of statements regarding beliefs around using mental health services as these have shown effects in past help-seeking literature. However, survey length, repetitive nature of questions, reliance on text may not have sufficiently engaged the participants. Future directions should consider interpretive techniques that incorporate more visually stimulating stimuli perhaps delivered through an automated voice or using artificial intelligence (AI). This could remove reliance for unmotivated participants with reading as a factor and still maintain crucial elements of the intervention strategy. Additionally, the incorporation of increased visual stimulation may also prompt stronger action contemplation with enacting of action determined by perceptions of efficacy (e.g., Ruiter, Abraham, & Kok, 2001).

Lastly, the sample was largely female psychology undergraduate students. Despite robust literature to support undergraduates possessing internalised attitudinal barriers to accessing mental health care (Clement et al., 2015), the study was not able to directly recruit participants more representative of the target population in terms of help-seeking stigma. Future studies should aim for a more diverse sample and larger randomised trials with sufficient power to detect differences. Lastly, the results rely on self-reported data which could be subject to demand characteristics. Therefore, future research could include open-ended response questions at the conclusion of the assessment phase to test for participants' awareness of the task purpose.

4.8.2 Conclusion

This research supports the tailoring of strategies to young people, which in turn places an emphasis on individual efficacy as seen in preference for online modes of self-directed help-seeking (Peynenburg et al., 2020). Such interventions delivered via accessible online platforms, needs to be explored further to improve mental health help-seeking as an alternative to current health promotion strategies. Future research should revise and extend upon the current findings to reveal any sustained effects of CBM on young Australians' cognitive biases and to enable future engagement with mental health services.

4.9 Chapter Conclusion and Progression to Chapter 5

Chapter 4 outlines a pilot randomised control trial conducted to assess the feasibility and effectiveness of two intervention strategies, ICBT and CBM-HS, with a third control condition. The objective of the study was to improve attitudes and intentions towards mental health help-seeking among young rural Australians. The findings were limited and contrary to past research supporting the utility of CBM-HS and ICBT as intervention techniques within help-seeking literature (Stanley et al., 2018; Xu et al., 2018). Notably, the results

indicate a significant reduction in mean self-stigma scores at the different time points for the main effect of time. While this effect was not discerned between intervention groups, examination of the data trends indicates a larger reduction in self-stigma for participants allocated to the CBM-HS condition than the ICBT and control. This suggests that replication within larger trials could feasibly see a significant decrease in participants' self-stigma levels, which may also aid in young rural Australians' intentions to access mental health services. Additionally, the effective implementation of an online anti-stigma intervention has many practical implications for rural young people in terms of being an accessible, cost-effective alternative that, through its ease of use, should apply to the help-seeking preferences commonly found in young people (Bear et al., 2024).

The effective implementation of online interventions with a young non-clinical demographic presents many challenges, such as encouraging motivation and engagement. This highlights the importance of having an updated understanding of young people's perceptions of mental health and help-seeking and what factors may influence their future intentions to seek help. Therefore, Chapter 5 comprises a qualitative study that utilised semi-structured interviews undertaken as part of the pilot intervention to explore rural young people's knowledge of mental health, their experience with formal and informal help-seeking (if any), and how this has shaped their future help-seeking intentions (i.e., why, who, and how). This paper has been submitted to the Journal of Health and Social Care and is under review.

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STATEMENT OF AUTHORS' CONTRIBUTION

We, the Research Master/PhD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated in the *Statement of Originality*.

	Author's Name (please print clearly)	% of contribution
Candidate	Laura Williams	70%
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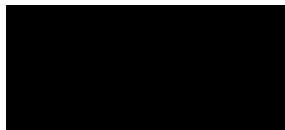
STATEMENT OF ORIGINALITY

We, the Research Master/PhD candidate and the candidate's Principal Supervisor,
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Type of work	Page number/s
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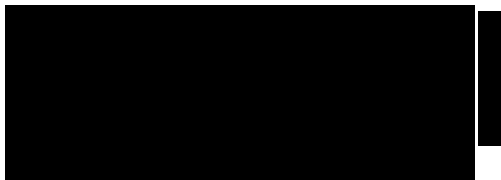
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Chapter 5: Young Australians' Mental Health Help- Seeking Knowledge and Experiences: A Qualitative Study (Study 3)

Williams, Laura, Bartik, Warren, Cosh, Suzie. (2025b). Young Australians' mental health help-seeking knowledge and experiences: A qualitative study. *Submitted to the Journal of Health and Social Care.*

5.1 Abstract

Introduction: Rural young people in Australia have the highest rates of mental illness and the lowest rates of help-seeking compared to the broader population. Given that many young people do not receive help or delay help-seeking makes it critical to promote mental health awareness and improve young people's engagement with services.

Objective: To explore young rural people's knowledge of mental health and past experience with formal or informal help-seeking and future help-seeking intentions.

Design: A qualitative methodology with reflexive thematic analysis was used to analyse participant interviews and identify key themes.

Findings: Eight participants aged between 18-24 years located in rural Australia were interviewed following the completion of an online survey and intervention task. The major themes included mental health awareness, mental health experience and mental health values. Each major theme comprised sub-theme(s), including mental health literacy, need for accessibility, safety and trust, and family values.

Discussion: The results show that rural young people reported limited engagement/knowledge of mental health literacy prior to higher education or direct service use. Young people are willing to seek help from formal services, but face key barriers, including, cost and service availability, with some reporting concerns regarding confidentiality and therapist connection. Values such as self-reliance and reported familial gatekeeping towards help-seeking present an added challenge in promoting early access to services.

Conclusion: This study highlights the importance of reducing stigma by the promotion of mental health through early intervention, education and increased service access within rural areas.

Relevance to Clinical Practice: These results can potentially guide the design and implementation of future mental health help-seeking interventions that effectively engage rural young people.

Public Contribution: Young people shared their experiences on the topic of mental health and help-seeking through the completion of a semi-structured interview. This yielded meaningful themes and aided research focus.

Keywords: Rural health, young people, mental health, service utilisation, stigma-reduction

5.2 Introduction

In Australia, approximately 39% of young people (16-24 years) experience mental distress each year with the most common diagnoses being depression and anxiety (Australian Institute of Health and Welfare [AIHW], 2024). Additionally, the early onset of mental illness in young people can have an enduring impact on development, general health, social functioning and productivity into adulthood (Allouche et al., 2021). The risk of experiencing mental distress is often exacerbated for young people living in rural and remote areas (National Rural Health Alliance, 2021) due to limited service availability and a range of socioeconomic and cultural factors that sees rates of self-harm and suicide increase with remoteness (Handly et al., 2018). Despite this risk, young people are the population group less likely to seek professional mental health help (Allouche et al., 2021).

Help-seeking is a vital first step to improve mental health and defined as an “adaptive coping process that is the attempt to obtain external assistance to deal with mental health

concerns” (Rickwood & Thomas 2012, p. 180). Rickwood and Thomas (2012) categorise sources of help as either informal (e.g., family, friends), formal (e.g., health professionals, youth workers), or self-help (e.g., internet-based). However research (e.g., Radez et al., 2021; Aguirre Velasco et al., 2020; Gulliver et al., 2010) consistently identifies common barriers young people face in enacting this process including negative beliefs and attitudes regarding mental health professionals and services, low levels of mental health literacy, and diminished cognitive ability/limited insight along with increased rates of social exclusion and isolation. Additionally, stigma about mental illness is consistently identified as a dominant barrier to seeking help (Clement et al., 2015; Schnyder et al., 2017).

Gender is a significant predictor of both stigma and mental health help-seeking with females often possessing more adaptive attitudes towards mental health problems, higher mental health literacy, and greater intentions to seek help (Aguirre Velasco et al., 2020). Research suggests that gender differences for help-seeking could indicate mental health problems pose a particular threat to identity for adolescent boys, which results in a reduced willingness to seek help (MacLean et al., 2013). In rural and remote areas, this unwillingness to seek help appears particularly ingrained through the promotion of traditional values around masculinity and stoicism (NRHA, 2021).

Despite these barriers, few studies have examined changes in help-seeking intentions throughout the progression of adolescence (Nearchou et al., 2018) even though evidence suggests that intentions impact the type of help sought (i.e., formal or informal) (Nearchou et al., 2018). Similarly, only a few studies have explored how experiences with past help-seeking can shape future intentions to seek help in adolescence (Farrand et al., 2007). In combination, understanding the influence of age, gender and rurality on help-seeking attitudes is essential for understanding future intentions to seek help and to provide appropriately targeted interventions.

For some young people, past positive help-seeking experiences and strong relationships with potential gatekeepers (general practitioners, teachers, parents etc.) are facilitators in accessing care (Aguirre Velasco et al., 2020) and suggests less worry about structural barriers like transportation, service availability, and cost. However, attitudinal barriers remain and increasing mental health literacy and reducing stigma might be clear avenues to improve social support and the acceptability of accessing help within the population of young people who do not currently seek help (Sawyer et al., 2012; Aguirre Velasco et al., 2020).

Interventions aimed at improving mental health help-seeking, primarily through psychoeducation, have generally increased awareness and fostered more positive attitudes (Johnson et al., 2022; Waqas et al., 2020). Despite these promising results, rates of mental distress remain high among young people, and they continue to have low rates of service access (AIHW, 2024). While psychoeducation can improve attitudes, it has not significantly increased actual help-seeking behaviour. This highlights the need for research to understand young people's current perceptions of mental health, of help-seeking, and what social determinants may influence their future intentions to seek help.

5.2.1 Aim

The aim of this study was to explore young people's knowledge of mental health, their experience with formal and/or informal help-seeking (if any), and how this has shaped their future help-seeking intentions (i.e., why, who and how). Given the exploratory nature of this study, the following research questions were proposed:

- 1) How do young people understand mental health, and what are their attitudes toward seeking help?

- 2) How has their experience with past help-seeking shaped their future help-seeking intentions?

5.3 Method

5.3.1 *Participants*

Rural young people who completed a pilot intervention study (Williams et al., 2025b in press) for increasing mental health help-seeking attitudes, intentions and behaviours were eligible to participate. The age group 15 to 24 years was included given this age range captures lifecycle challenges and experiences which could be reflected in help-seeking behaviours and intentions (Solmi et al., 2022). All participants who expressed interest in undertaking the interview study and met eligibility criteria were included in the study. Exclusion criteria included participants outside the age bracket, not providing a postcode for a rural or regional place of residence within Australia, and being non-English speaking.

5.3.2 *Design*

A semi-structured interview was conducted by phone to explore eight participants knowledge of mental health, and past experiences with formal or informal (if any) help-seeking, future help-seeking intentions (i.e., why, who and how) and feelings towards mental health help-seeking. Questions included, “Can you describe any experiences you have had with help-seeking?” and “Why do you think some people experience mental health issues and others don’t?” Additional questions included, “Would you consider seeking help in the future if experiencing difficulties? (why/why not).” The interview questions are listed in Appendix C.

5.4 Procedure

Ethics approval was obtained from the University of New England's (UNE) Human Research Ethics Committee (HE21-230). Participants were recruited using purposive sampling. Following their completion of an online survey/intervention (part of the pilot intervention study), they expressed their interest in also completing an interview by selecting an 'opt-in' response. Initial recruitment utilised flyers and targeted approaches to relevant community groups/organisations and from the University's Research Potential Opportunity (RPO) program (first year psychology students). All participants were provided with participant information sheets and consent forms before proceeding with the semi-structured interview. The interviews were conducted by phone between May 2022 and September 2022. Recorded verbal consent was provided at the commencement of the interview with participants given the option to withdraw from the interview at any time. Interviews ranged between 20 and 30 minutes and were audio recorded and transcribed verbatim. Participants provided a pseudonym and each received a \$30 shopping voucher for their involvement.

5.5 Data Analysis

Reflexive thematic analysis (RTA) (Braun & Clarke, 2019) was used to analyse the data. As a qualitative research method, RTA provided an accessible and flexible process to identify the target populations' understanding of mental health and past help-seeking and future help-seeking intentions. Transcripts were reviewed continually throughout the analysis process with familiarisation with initial notes, then repeated re-reading of transcripts and coding and initial theme generation. This was done as an iterative process with themes and sub-themes shared and discussed between the research team to ensure rigour and to highlight researcher reflexivity with regards to any biases. Reflexivity of the researcher was informed by their own rural background and experiences plus their interest in youth mental health

issues and mental health literacy and how that might apply and support the practical delivery of relevant and accessible services.

5.6 Results

5.6.1 Demographics

Eight participants completed the interview, and their ages ranged from 18 to 24 years (Mage=20.25, SDage=1.65). Socio-demographic characteristics of the participants are shown in Table 5.1.

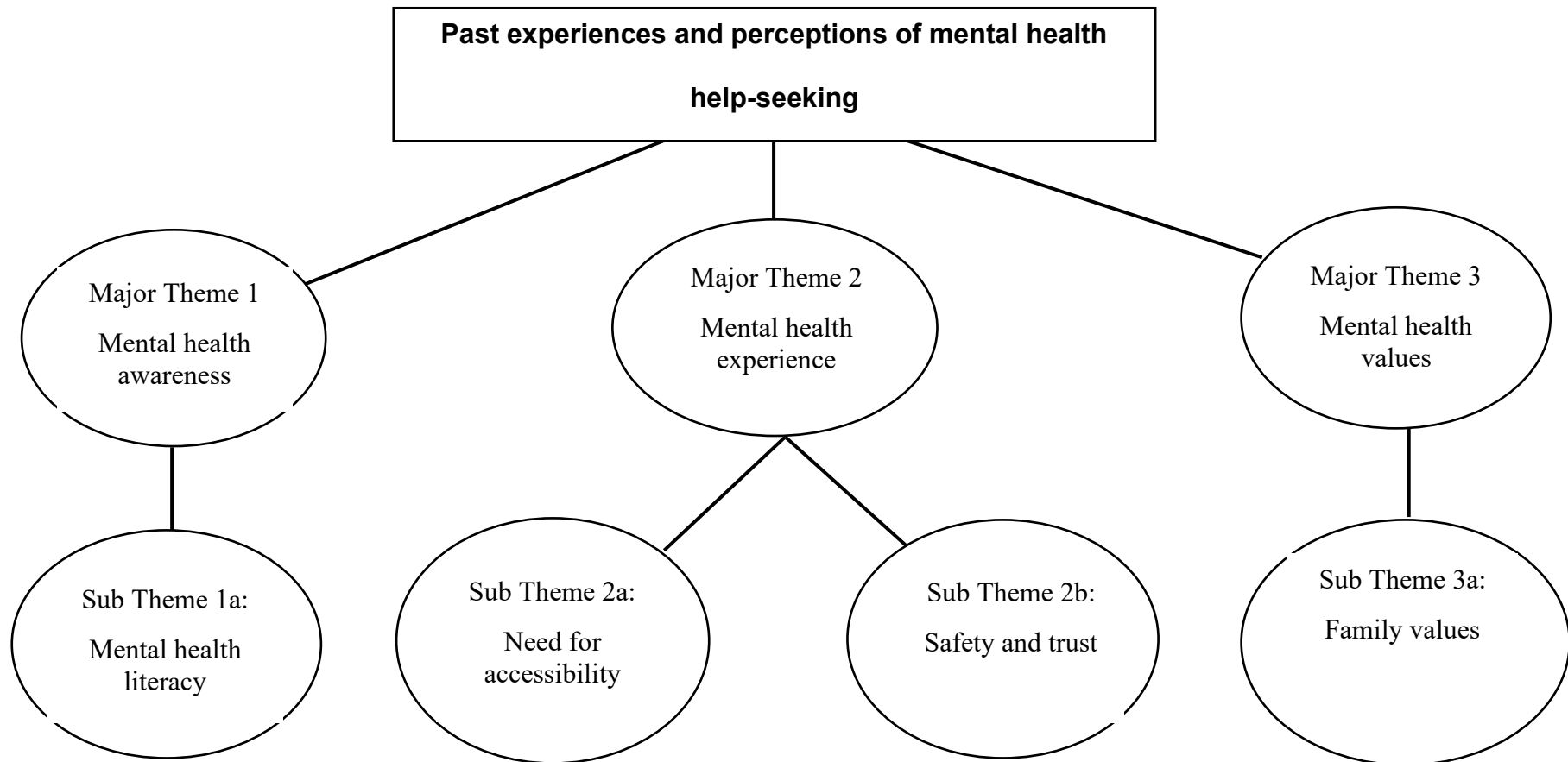
Table 5.1 Socio-demographic Characteristics of Participants

Pseudonym	Age (years)	Gender	Cultural Background	Highest area of study	History of help-seeking
Marley	19	Non-binary	Australian	Year 12 school certificate	Yes
Melanie	18	Female	Australian	Year 12 school certificate	No
Caitlin	19	Female	Australian	1st Year bachelor degree	No
Theresa	20	Female	Australian	1st Year bachelor degree	Yes
Andrea	19	Female	Australian	1st Year bachelor degree	No
Tristan	20	Male	New Zealand/ Australian	1st Year bachelor degree	Yes
Brad	24	Male	Australian	bachelor degree	No
Chiara	22	Female	Indigenous	bachelor degree	Yes

5.6.2 Qualitative Themes

RTA resulted in the identification of three major themes with four associated sub-themes that are shown in the Thematic Map (Figure 5.1). The first theme was mental health awareness, and this comprised the participants own understanding and awareness of mental health and help seeking. The associated sub-theme of mental health literacy was how the participants identified and explained their own mental health struggles. The second theme was mental health experience and this comprised the participant's own help-seeking experiences. Two sub-themes were identified - the first was the need for accessibility and how this posed a barrier, and the second was safety and trust, without which, was a common barrier to help-seeking. The third theme was the mental health values for participants about mental health and help-seeking. The associated sub-theme of family values highlighted the role that participants families played in shaping their views about mental health. These themes and sub-themes are further described below with representative quotes.

Figure 5.1. Thematic Map of Young Australians' past mental health help-seeking experiences and current help-seeking perceptions



5.6.3 Theme 1 – Mental Health Awareness

This theme described the participants' understanding and awareness of mental health and what seeking help looked like for them. Specifically, most participants spoke about the need for help-seeking but were also mindful that stigma was an important issue that became a barrier. Brad stated that an awareness of mental health meant it was necessary to

“...understand young people's help seeking behaviour and the stigma that may come with it.”

Many participants also expressed familiarity with the terms used (e.g., symptoms, barriers, stigma) when talking about mental health and why this familiarity might lead to seeking help.

For example, Tristan said, *“the first step to seeking help is recognising you have a problem and then doing something about it.”* Most participants were able to differentiate between

different forms of help-seeking such as Theresa, who said, *“Formal would be psychologists and counsellors, informal would-be friends and family and self-help would be doing your own research, helping yourself.”* Participants also identified benefits from engaging in this type of research. Andrea said, *“I think it's really beneficial, as obviously, it can provide insight for people who might think they need help but aren't seeking help.”*

5.6.4 Sub-theme 1a – Mental Health Literacy

This sub-theme comprised participants' identification of their common mental health struggles, such as anxiety and depression, and how they might, or might not, cope with these.

For example, Chiara stated, *“I guess people seek help when they're experiencing things like, depression or other mental health issues, like really bad anxiety and things like that”*. Most participants talked about difficulty coping and, importantly, external encouragement as key reasons people might seek help. Andrea explained, *“some people might not realise until someone else points something out, so they could be encouraged by other people they know to seek help.”* Many participants used descriptors which alluded to being ‘overwhelmed’ and

‘unmanageable’ as catalysts to seeking help. For example, Tristan said, “...*when it gets to that point where, you know, I’m feeling really stuck, really low, and I just can’t do what I wanna [sic] do. Yeah. Just not getting out and, living my life.*” Marley reinforced this point by saying “*It just gets too much for someone to handle on their own.*”

A few young people described the complex interplay of genetic, environmental, personal and social influences that can contribute to mental health issues. For example, Andrea said:

Well, it can be biological, but it also comes down to the way the environment helps people, like, manifest them. But also, trauma can cause it...or, like just situations they’ve been in. Some, other things like, your peers or the media...It’s quite complex. Just all different factors.

Other participants described individual differences in terms of resilience and coping strategies and how they affect a person’s capacity to handle stress and mental health challenges. For example, Caitlin stated, “...*some people are a bit more resilient or have the capacity to overcome things a bit easier than others for whatever reason.*” Some participants drew from personal experience, such as Marley, who stated:

It can be brought on by, like, surrounding problems, like going to school can cause anxiety or, like, family issues. Other people I feel like they don’t get it. Like, everyone has a little bit of something. So, like, other people, I feel like, have learned to deal with it so they don’t get it as bad.

All participants reported that their knowledge stemmed from their current area of study at university, or due to their own history of service use, whereas they had been less familiar with mental health previously.

5.6.5 Theme 2 – Mental Health Experience

This theme comprised participants' experiences with help-seeking. Four participants reported past help-seeking through formal means (psychologist/ school counsellors) due to significant mental health issues that included self-harm, depression and anxiety. For example, Marley said, *"I started seeking help because I was getting really bad into self-harm, and I got almost addicted to it. And it got to the point where my family was even concerned for me."* Theresa also reported, *"I was having some difficulty managing, depression, anxiety. And, yeah, I just thought it'd be really helpful to go see someone, maybe get a formal diagnosis."*

Gaining useful strategies and receiving a formal diagnosis were reported as benefits by participants. For example, Caitlin said, *"I found it very helpful. They had a lot of good strategies, and it led to me receiving a diagnosis and getting medication."* Some participants also reflected how formal services were a better option compared to talking to friends, with Marley saying:

The counsellor that I'm with now, they're really good at giving, like, different strategies and coping mechanisms and all of that kind of stuff... Rather than, like, if I were to go to a friend, I feel like they're only there to listen and I don't wanna [sic] feel like a burden.

Some participants reported using informal support as a precursor to seeking formal help. For example, Theresa said, *"I did a bit of my own research, and I did talk to some friends about it. And, yeah, they encouraged me to go try and see a psychologist."* However, some participants reported using informal or self-help by talking to friends and family but this did not result in them engaging in professional help. For example, Melanie reflected, *"If I am struggling, I have friends and family I can talk to, I guess I have been fortunate to not face a period in my life where that extra step was necessary (formal services)."* Additionally,

some participants reported never having sought help due to a lack of perceived need or preference for self-reliance, with Brad stating, *“I don’t think it would have met my threshold for seeking help. I think it felt like I could have done it on my own.”* Melanie reinforced this point by saying *“Realistically (if needing help) it would begin with self-help then informal, with formal help only being accessed if truly necessary as I am quite a self-reliant person.”*

5.6.6 Sub-theme 2a – Need for Accessibility

This sub-theme identified issues with accessibility that posed a common barrier to seeking help. Some participants considered seeking help but preferred starting with less formal options due to concerns about service cost and wait times. For example, Andrea said, *“I sometimes feel like I go through periods where I’m like, I probably could benefit from it, but there were no appointments available, or I worry about the cost and so I end up just talking to friends.”* Theresa reported similar challenges: *“From personal experience, there’s not much accessible care out there (in rural town) and long wait lists. So just, you know, relying on friends, but hoping if people talk about it, there might be changes.”*

5.6.7 Sub-theme 2b – Safety and Trust

This sub-theme identified safety and trust as common barriers to seeking help and also maintaining help with formal sources. Some participants reported that the lack of a safe and trusted connection with their therapist could undermine therapy. For example, Tristian said, *“I had some difficulty opening up and forming a good relationship with the therapist, so stopped going.”* Others described a preference to seek help anonymously, such as through phone consultations, rather than face-to-face interactions with Chiara stating, *“I don’t know if I would want someone looking at me when talking about my issues, I would rather do it over the phone, at least until I’m comfortable with them.”* Confidentiality was also described as

having high importance, which if breached, resulted in a lack of trust and a ruptured relationship. This was explained by Marley, who said:

In the past, a couple of the school counsellors that I saw, they went back and relayed that information to my mum which caused a lot of negative impact for me. So I stopped seeing school counsellors altogether because I don't want that information getting back to my mother. Yeah. So issues around confidentiality, breaking trust for me.

5.6.8 Theme 3 – Mental Health Values

This theme captured the participants attitudes to, and values about, mental health and help-seeking. All participants expressed a positive attitude toward mental health and seeking treatment where seeking help was viewed as proactive. Brad stated: *“I think it's important to protect your mental health and to seek treatment if you need it.”* Participants also reported seeing help-seeking as a sign of strength rather than a weakness. For example, Therasa stated, *“I do think it's quite a big step...it's quite brave for people to do that. So, really, people should be quite proud of themselves.”* Some participants also reflected on not always being aware of, or valuing their mental health, describing it as something that became clearer with age and experience. For example, Caitlin reflected, *“when I was younger, it was something that I wasn't thinking about so much. But, you know, now studying it, it's something I am much more aware of.”* Chiara also reported, *“We may have talked about it in school, but I don't remember, I probably didn't pay much attention as I didn't think it applied to me at the time.”* Other participants also reflected on how their views have evolved over the years. For example, Brad stated:

At school I didn't really think about mental health, it just wasn't talked about, but also didn't seem to be a problem for anyone either, but now that seems unlikely, and it was just like, a hidden struggle for some.

5.6.9 Sub-theme 3a – Family Values

This sub-theme comprised participants' reflections on how their own family shaped their opinions and values about mental health and help-seeking. Most participants described the experience of their family attitudes towards mental health as mixed. For example, Theresa said their family members were supportive and open stating, *"I'd say most of them would be encouraging if, you know, me or any of my brothers or sisters needed to seek treatment. Mum would probably be open to it. Dad, definitely not."* Others held views that highlighted how stigma impacted their family's openness about and willingness to seek help for mental health issues, with Chiara stating:

Really, it's not something that was spoken about a whole lot growing up, and, you know, I can see certain family members that would have benefited and would still benefit from seeing someone professionally. But there is actually still stigma there, and I don't think that's something that they would go ahead and do.

Some participants described a level of 'gatekeeping' and how dominant views in their family shaped discussion on the subject of mental health. Marley reflected *"My family it's kind of an open and shut topic. Sometimes it's a really positive thing, and we all talk about our experiences. Other times, it's a really closed off subject, and no one talks ever."*

Similarly, Melania reported:

It's like that long history of a pattern of a certain behaviour that just becomes the norm. So to an extent, they may not even be all that aware of

the problem. So, yeah, it is quite mixed in that sense that, I guess, they would support it if someone else were to see someone that they themselves are unlikely to.

Finally, some participants reflected on the differences between generational attitudes, with Tristan stating, *“I think my parents are pretty old school, and they deal with their own problems. I think us kids are a bit more positive and a bit more open minded about it.”*

5.7 Discussion

This study sought to explore rural young people’s past experiences with formal or informal (if any) help-seeking and their future help-seeking intentions (i.e., why, who and how). Two research questions were posed:

- 1) How do young people understand mental health, and what are their attitudes toward seeking help?
- 2) How has experience with past help-seeking shaped their future help-seeking intentions?

The use of RTA resulted in the identification of three major themes with four associated sub-themes comprising: mental health awareness with a sub-theme of mental health literacy; mental health experience with sub-themes of need for accessibility, and safety and trust; and mental health values with a sub-theme of family values.

A lack of symptom awareness or understanding of mental health is often cited as a primary factor for delayed mental health service utilisation (Kasturi et al., 2023). Of note, most young people in this study could adequately identify the aetiology around mental health such as genetic and environmental factors. Despite this, they also reported delaying help-seeking based on perceived symptom severity, citing a threshold of feeling ‘overwhelmed’ or

at the point that their problems were ‘unmanageable’ before they might seek assistance. This perception suggests a common fallacy shared among many young people (and perhaps the population in general) when it comes to seeking help, that is, seeking help is only necessary when one experiences high levels of distress (Mental Health First Aid, [MHFA] 2024).

Waiting until this threshold is met can impact an individual’s capacity to engage with services effectively and thus adopt timely mental health strategies, which in turn can frame future help-seeking intentions (MHFA, 2024). Many of the participants clearly expressed this view and this misconception highlights the need for increased education around understanding mental health but, specifically, promoting earlier access to care for young people. This promotion is important given the critical benefits of early intervention (MHFA, 2024).

In this study, the participants’ level of mental health literacy appears consistent with the homogeneity of the sample. All participants were either enrolled as a first year psychology student, or they possessed a history of service use, and this foundational and/or experiential knowledge appeared to inform their responses. Moreover, the sample was predominantly female and gender is a strong predictor for help-seeking with females often possessing higher levels of mental health literacy and more adaptive attitudes (Aguirre Velasco et al., 2020). Thus, for this study sample, there was likely a pre-existing motivation or explanation for their greater literacy and understanding of mental health and hence this supported a higher likelihood of help-seeking.

Of note, the participants reported having limited education around mental health prior to university studies or personal need. Most participants recalled a general absence of mental health discussions during their schooling years, in both educative and social contexts. Over the past decade there has been a variety of state and national programs promoting emotional intelligence and mental health in schools (Laurens et al., 2021). However, variability

regarding the uptake and effectiveness of these programs has been an ongoing issue (Laurens et al., 2021). The COVID-19 pandemic brought a renewed emphasis on the importance of promoting mental health, resulting in nation-wide reforms for the inclusion of structured mental health and wellbeing education within the Australian school curriculum (Department of Education, 2023). This nation-wide mandated focus on early intervention in schools is a vital first step towards reducing the gap between awareness, knowledge, and help-seeking action.

In the current study, those participants with past mental health help-seeking experience followed a similar initial approach to help-seeking, which first involved self-directed research and informal support (friends or family) prior to accessing formal services. For those participants, familial concerns for their wellbeing and diagnosis seeking was reported as key motivators to taking the next step. Formal services (such as psychologists) were reported as helpful with future intentions to engage services if needed. These types of facilitators are consistent with prior research regarding the role of positive social determinants in guiding help-seeking (Kasturi et al., 2023).

Structural barriers such as cost and wait times in accessing help services remain major issues within rural and remote communities (NRHA, 2021). Participants identified times when formal services would have been useful for them and they were motivated to seek help, however, due to long wait periods they were unable to access services when needed and instead relied on informal support that consisted predominantly of friends or spouses. Past research has consistently found adolescents prefer to seek help from informal sources (Rickwood et al., 2005; Gulliver et al., 2010), which while preferable to no action, still presents cause for concern as friends are less equipped to help with serious mental health issues (Bartik et al, 2015). While most participants reported finding informal support helpful, those who had previously accessed formal services identified some key differences, that

included feeling like a ‘burden’ to their friends, being unable to engage/identify strategies effectively or have an objective listener. This finding further demonstrates how perceptions of formal help-seeking are directly influenced by past experience with these individuals possessing insight into the distinction between professional standards of support and evidence-based-care compared to relying solely on friends or family, and how this choice can improve their clinical outcomes.

Following accessibility, safety and trust in the form of confidentiality and connection was a key theme identified from those who had previously accessed formal services. Specifically, breaches of confidentiality in the form of reporting back to family members led to a lack of trust and service disengagement. While family inclusive practice is often beneficial to work with and support young people’s mental health, it is essential that their consent and agency are carefully navigated (Del Re et al., 2021). Young people also described difficulty in forming trust and connection with their therapist, which led to them withdrawing from such formal services. Rural communities have limited services and often long wait periods (Australian Institute of Family Studies [AIFS], 2024). Therefore, the capacity for therapists to effectively engage their clients is essential given such services are a scarce resource and that research consistently identifies the therapeutic relationship as fundamental to positive treatment outcomes (Hess, 2019). This makes it more incumbent on therapists to build such relationships and perhaps consider novel methods to foster cultural and collaborative engagement with young people.

Young people with no formal history of help-seeking tended to report not experiencing a period in their life that met a perceived ‘threshold’ for seeking help. These young people reported valuing independence and self-reliance with an intention to handle their own problems where possible with such a pattern commonly observed in the research (e.g., Ishikawa et al., 2023). The young people in the current study promoted positive

attitudes towards seeking help, however, appeared particularly challenged when examining their own personal help-seeking beliefs. The contrast between their personal standards and espousal of positive help-seeking attitudes could be the combination of ingrained rural stoicism (Handly et al., 2018) and lack of exposure to mental health promotion during adolescence. While these young people recognised the importance of help-seeking, this internalised bias or stigma, appears to remain an ongoing challenge within this population.

Lastly, familial values have been identified as a key barrier to accessing mental health services (Dupont-Reys et al., 2024). Participants in the current study reflected on the impact their family values had in shaping their own attitudes towards mental health and what it meant to seek help throughout their adolescence. Participants predominantly identified older family members as having outdated views that made discussing mental health or seeking treatment challenging. This resulted in a reluctance for young people to acknowledge or address their own mental health issues and effectively resulted in parental gatekeeping where such conversations were not held. However, most young people described a more nuanced familial situation that saw fluctuating patterns of support. This ambivalence towards mental health and help-seeking indicates a population whose values and intentions are shaped through their own experience and family influence, which raises the question of how interventions can be effectively tailored to engage them? Despite efforts to prioritise mental health, its value is still emerging from an ingrained pattern of behaviour that requires early intervention, education and consistent messaging to overcome the associated stigma.

5.7.1 Limitations

A major limitation was the participant sample being primarily female psychology undergraduate students. Despite robust literature to support undergraduates possessing internalised attitudinal barriers to accessing mental health care (Clement et al., 2015), the

study was not able to directly recruit participants more representative of the target youth population. As such, this lack of diversity may have resulted in bias in terms of age, gender, education level and lived experience (including stigma) that affects the generalisability of the data.

5.7.2 Conclusion

The results of this study show rural young people are willing to seek help from formal services but face key barriers that include cost and service availability and if they do access such services, there remain concerns regarding confidentiality and therapist connection. Despite this willingness to seek help, young people reflected on valuing self-reliance and a preference for ‘dealing with their own problems’ in the first instance and this was largely congruent with their expressed familial attitudes to mental health. Young people reported being challenged in examining their biases, which highlights the importance of reducing stigma through the continued promotion of mental health education, increased early intervention, and service access within rural and regional areas.

5.8 Chapter Conclusion and Progression to Chapter 6

This chapter comprised a qualitative study exploring young people’s knowledge of mental health, their experience with formal and informal help-seeking (if any), and how this has shaped their future help-seeking intentions (i.e., why, who, and how). The study used reflexive thematic analysis to identify three major themes: mental health awareness, mental health experience, and mental health values. Each major theme comprised sub-theme(s), including mental health literacy, the need for accessibility, safety and trust, and family values. Exploration of these themes showed a reiteration of common barriers and facilitators to help-seeking, as seen in past literature (Handley et al., 2018; Cheesmond et al., 2019). However, this paper also contributes a nuanced discussion on the influence of family values

and parental gatekeeping when it comes to accessing mental health services in adolescence. The findings indicate that despite efforts to prioritise mental health, its value is still emerging from an ingrained pattern of behaviour that requires early intervention, education, and consistent messaging to overcome the associated stigma. These findings provide a meaningful exploration of factors that drive rural young people's help-seeking experiences and intentions. Additionally, the findings can potentially guide the design of future mental health help-seeking interventions that effectively engage rural young people. Predicated on this chapter's aim of improving intervention design, further research is needed to assess the viability of the piloted intervention materials to ensure their acceptability and inclusiveness among rural young people. Therefore, Chapter 6 uses qualitative content analysis to explore rural young people's perceptions of the acceptability and feasibility of two online intervention tasks that seek to modify help-seeking stigma and increase intentions to access mental health services. While the qualitative feedback of Chapter 6 provides important depth to the overall research project, its specificity in understanding the piloted materials excludes it from journal submission.

Higher Degree Research Thesis by Publication**University of New England****STATEMENT OF AUTHORS' CONTRIBUTION**

We, the Research Master/PhD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated in the *Statement of Originality*.

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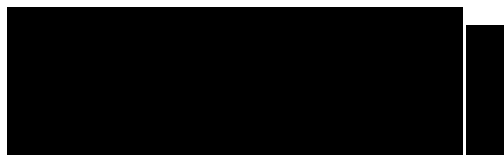
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Date



Principal Supervisor

31/03/2025

Date

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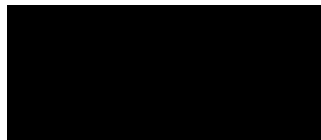
STATEMENT OF ORIGINALITY

We, the Research Master/PhD candidate and the candidate's Principal Supervisor,
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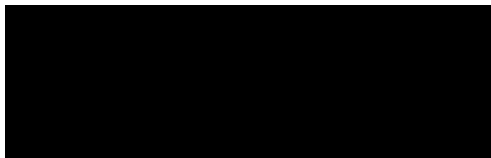
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Chapter 6: Online Intervention Acceptability and Feasibility – Qualitative Feedback (Study 4)

Williams, Laura, Bartik, Warren, Cosh, Suzie. (2025). Online Intervention Acceptability and Feasibility – Qualitative Feedback.

6.1 Abstract

Introduction: Increasing young people's engagement with mental health services is an ongoing challenge within rural communities. Past interventions have sought to address this issue with limited success. Research that seeks to understand factors that facilitate or impede effective engagement is necessary to bridge the gap within Australian mental health services.

Objective: To explore young rural people's perceptions of the acceptability and feasibility of brief online interventions.

Method: Eight young people aged between 18 and 24 in rural Australia were interviewed after completing an online survey and a brief intervention task. Qualitative content analysis was used to analyse participant responses to open-ended questions and assess perceptions of the acceptability and feasibility of the interventions.

Results: The results show that rural young people reported predominantly positive feedback on the intervention's accessible format and novel presentation of tasks that prompted engagement and self-reflection. Content analysis appears to endorse the design of the CBM-HS intervention above that of the ICBT condition. Recommendations for improvement include a reduction in text and adding more visual stimuli. These findings support past research on young people's preferences regarding online intervention delivery.

Conclusion: Brief online interventions appear to be an acceptable and feasible modality for mental health promotion. Understanding young people's preferences for mental health promotion and the acceptability of interventions remains a vital first step in targeted approaches to increasing help-seeking.

Keywords: rural health, young people, mental health, online interventions, acceptability, feasibility.

6.2 Introduction

A major challenge for mental health services is addressing the inequities seen in service utilisation and attempting to bridge the gap by providing services that are both accessible and acceptable for the intended population. In Australia, over 39% of young people (14–24 years) experience the onset of a mental health disorder each year, with anxiety and depression being the most common diagnoses (Australian Bureau of Statistics [ABS], 2022). Moreover, 30.9% of all deaths in 15–17-year-olds and 32.4% of all deaths in 18–24-year-olds were by suicide in 2022 (ABS, 2022). Given the frequency of onset and the heightened risks that follow, particular attention must be paid to this demographic. Preventative techniques that promote early mental health intervention have the greatest impact on young people's ongoing development and wellbeing (Colizzi et al., 2020). Additionally, these forms of interventions are effective (Zhou et al., 2021) and necessary to reduce the clinical, social, and economic burden of mental illness in Australia, which costs \$180 billion in lost productivity and care annually (Productivity Commission, 2022).

The risk of mental health issues is increased for young people in rural and remote communities who experience disparities in mental health provision, including limited service availability and low treatment engagement (Handley et al., 2018). These disparities are exacerbated by a range of barriers that are common to rural and remote communities, including geographic disadvantage, the persistence of negative attitudes and stigma towards mental health and professional help-seeking, a preference for self-reliance or informal supports (e.g., confiding in friends), and confidentiality concerns (Handley et al., 2018). Combined, these disparities and barriers lead to increased risk and poor clinical outcomes (Bear et al., 2024).

To overcome the current challenges rural populations face, research has increasingly moved towards online modes of mental health intervention delivery (Ebert et al., 2017). With expanding infrastructure supporting high-speed internet across rural and regional Australia (Department of Health, 2020), online interventions can provide mental health resources and interventions in an accessible, cost-effective, and potentially tailored manner (Bear et al., 2024). There is a wide range of online interventions, including informative resources (e.g., Black Dog Institute), online therapy (e.g., eheadspace), online screening tools, and structured self-directed apps (e.g., MoodGym), all of which are rapidly growing in their utilisation by young people (Bear et al., 2024). Young people are more digitally connected and reliant on the internet when seeking health-related information (Fischer-Grote et al., 2024). Given this, online interventions can address service accessibility issues and appear particularly suited to this population (Fischer-Grote et al., 2024). The findings also suggest that young people possess positive attitudes towards online interventions for mental health support, particularly when they are easy to use and require minimal cognitive input (Farrer et al., 2015; Waqas et al., 2020). Young people also report that information accessed on the internet has a significant influence on their own self-care, as well as preferences for self-help due to an increased sense of independence and perceptions of self-reliance, which potentially addresses other reported barriers such as perceived stigma in seeking treatment (Peynenburg et al., 2020).

The effectiveness of online interventions has been noted for a range of mental health disorders and in child and youth populations (Ebert et al., 2015). Within the help-seeking literature, recent reviews (Zhou et al., 2021; Williams et al., 2024) on the effectiveness of online interventions for young people found web-based self-directed platforms the most frequent method used and mostly effective in modifying maladaptive attitudes and increasing intentions to access help. Notably, the reviews found that interventions underpinned by

mechanisms of change, such as cognitive behavioural and cognitive bias principles, had more significant effects (Zhou et al., 2021; Williams et al., 2024). However, while these online interventions were reported as convenient and helpful in reducing stigma, the reviews also found that study retention rates varied widely (1–100%, Zhou et al., 2021). This aligns with past findings related to online self-directed interventions (Fleming et al., 2018), which suggested a variable response regarding uptake and engagement. Therefore, future studies assessing the efficacy of self-directed interventions must understand what factors increase participant engagement for effective implementation.

It is widely recognised that interventions are only viable if accepted and effectively implemented with the intended population (Sawrikar et al., 2022). Currently, most online interventions lack the empirical support found in effective ‘real world’ implementation (Lehtimäki et al., 2021), particularly when targeting young rural Australians. The acceptability (e.g., an individual’s perception of the usefulness of the service, willingness to engage, or factors that impede or encourage completion) and feasibility (e.g., perceptions of the viability of intervention aims) are considered important determinants for marginalised young people’s intentions to engage with online mental health interventions (Bear et al., 2022). Therefore, this chapter seeks to extend the help-seeking literature by exploring young rural Australians’ perceptions of the acceptability and feasibility of online mental health interventions. This will contribute to the future efficacy of such materials and aid in adapting mental health interventions to be both inclusive and effective in their dissemination and application.

6.2.1 Aim

This chapter explores rural young people's perceptions of the acceptability and feasibility of two brief online intervention tasks that seek to modify help-seeking stigma and increase intentions to access mental health services.

Given the exploratory nature of this study, the following research questions were proposed:

- 1) What was the experience of young rural people with the brief online intervention task, and how acceptable did they find the task?
- 2) How feasible was the brief online intervention for young rural people in terms of engagement and encouraging their future help-seeking intentions?

6.3 Method

6.3.1 Participants

Rural young people aged 15 to 24 years who completed a pilot intervention study (Williams et al., 2024 in press) for modifying help-seeking stigma and increasing intentions to access mental health services were eligible to participate. Those young people who expressed interest in undertaking the interview and met eligibility criteria were included in the study. Exclusion criteria included participants outside the age bracket, failure to provide a postcode for a rural or regional place of residence within Australia, and being non-English speaking. The socio-demographic characteristics of the respondents and the completed intervention are shown in Table 6.1.

Table 6.1: Socio-demographic Characteristics of Participants

Pseudonym	Age (years)	Gender	Cultural Background	Highest area of study	History of help-seeking	Completed Condition
Marley	19	Non-binary	Australian	Year 12 School Certificate	Yes	ICBT
Melanie	18	Female	Australian	Year 12 School Certificate	No	CBM-HS
Caitlin	19	Female	Australian	1 st year bachelor degree	No	Control
Theresa	20	Female	Australian	1 st year bachelor degree	Yes	ICBT
Andrea	19	Female	Australian	1 st year bachelor degree	No	ICBT
Tristan	20	Male	New Zealand/ Australian	1 st year bachelor degree	Yes	Control
Brad	24	Male	Australian	Bachelor degree	No	CBM-HS
Chiara	22	Female	Indigenous	Bachelor degree	Yes	CBM-HS

Note. ICBT= Internet-Based Cognitive Behavioural Therapy, CBM-HS= Cognitive Bias Modification for Help-Seeking

6.3.2 Measures

Relevant demographic information was drawn from the initial pilot study, with pseudonyms allocated for participant anonymity. During the pilot study, participants completed pre and post measures focusing on mental health literacy, self-stigma, perceived public stigma, attitudes, and intentions to seek mental health help.

Interventions. Participants were randomly allocated to one of three interventions: 1) Internet-Based Cognitive Behavioural Therapy (ICBT), 2) Cognitive Bias Modification for Help-Seeking (CBM-HS), and 3) Control. Each intervention lasted approximately 10 minutes.

Semi-Structured Interview. Six open-ended questions were asked to assess participants' perceptions of acceptability and feasibility, and participants were encouraged to elaborate upon their intervention and survey experiences. To best capture participant feedback, questions were developed to be short, clear, open, and non-leading (Braun et al., 2020). The questions were: (1) 'How would you describe your experience of the task you completed?' (2) 'Was there anything you did not like or found frustrating about the task?' (3) 'Was there anything you particularly liked about the task?' (4) 'If you could change anything about the task, what would that be?' (5) 'How would you feel if you had to complete the same task again?' and (6) 'What were your key take-aways after completing the task?'

6.4 Procedure

Ethics approval was obtained from the University of New England Human Research Ethics Committee (HE21-230). Purposive sampling was used to recruit participants following their completion of the survey and intervention with an 'opt-in' response (see the full recruitment procedure in Williams et al., 2024). Willing respondents were emailed participant information sheets and consent forms before engaging in the semi-structured interview. The interviews were conducted via phone between May 2022 and September 2022. Verbal consent was recorded before the interview commenced, and participants were informed that they could withdraw at any time. All interviews were audio recorded and transcribed verbatim, with interview times ranging between 20 and 30 minutes. Each participant was given a pseudonym and provided with a \$30 gift card.

6.4.1 Data Analysis

A qualitative content analysis approach following the Erlingsson and Brysiewicz (2017) method was used to explore the open-ended questions to identify patterns and understand the participants' experiences of brief online interventions. Transcripts were

reviewed iteratively throughout the analysis process, with familiarisation leading to condensing meaning units, formulating codes, and developing categories and themes. This process was shared and discussed between the research team to ensure rigour and highlight researcher reflexivity with regard to any biases and patterns identified across the dataset (Erlingsson & Brysiewicz, 2017). Researcher reflexivity was informed by their own rural background and experiences, together with their interest in youth mental health issues and mental health literacy and how these might apply and support the practical delivery of relevant and accessible services for young people.

6.5 Results

Out of 53 young people who undertook the online pilot intervention, N = 8 rural young people aged between 18 and 24 (M_{age} = 20.25, SD_{age} = 1.65) completed the semi-structured interview (response rate = 15% of participants). Participant responses regarding intervention acceptability and feasibility were analysed according to each participant's allocated task (e.g., ICBT, CBM-HS, Control). These were then grouped as units, codes, and categories (see Table 6.2). Common themes were identified from the grouped categories (see Table 6.3). However, there were individual variations in how the participants responded based on their personal reflections, the challenge of the task, and the key message they perceived in completing the task.

Table 6.2. Themes, Codes and Categories Derived from Semi-Structured Interview

Meaning-bearing Unit	Codes (+/-)	Categories
CBM-HS:		
Describe your experience/or what you liked		
It was something different.	Novel (+)	Novel experience.
It was pretty straightforward.	Clear (+)	Delivery approval.
The questions were a bit thought-provoking.	MH Reflection (+)	Provoked reflection.
Reflected my own perceptions of mental health help-seeking.	MH Reflection (+)	Confirmation of materials.
It was good; got me examining my own beliefs.	MH Reflection (+)	Reflections on beliefs.
I found it beneficial, required some self-reflection.	MH Reflection (+)	Reflections on beliefs.
I enjoyed the task overall.	Enjoyable (+)	Content/delivery approval.
I felt it was a positive experience.	Positive (+)	Content/delivery approval.
I resonated with the message about mental health stigma.	Relevant (+)	Confirmation of materials.
I found the task valuable in helping me think about who I can talk to about mental health issues in my life.	Helpful (+)	Identifying facilitators.
Appreciated the thought-provoking nature of the task.	MH Reflection (+)	Content/delivery approval.
What you did not like/would change		
Confronted with question that made me reflect on my own barriers to seeking help.	MH Reflection (+)	Reflection on personal barriers.
I found the self-reflection aspect of the task to be challenging, at times.	Challenging (+)	Challenged by biases.
I found the survey could be a bit repetitive, but not overly frustrating.	Repetitive (-)	Decreased engagement.
The survey was a bit tedious and repetitive, made me want to rush through it.	Repetitive (-)	Decreased engagement.
Key take-aways		
The importance of reducing mental health stigma.	Relevant (+)	Recognises relevance of MH.
Making positive associations.	Awareness (+)	Awareness of task aims.
Thinking about who I can talk to regarding mental health concerns.	Intentions (+)	MH facilitators.
Question who I consider reliable in terms of relationships and support systems if I need help.	Intentions (+)	MH facilitators.
Helping people to access mental health who may need that extra push, especially in rural areas.	Awareness (+)	Awareness of purpose and need.
Despite being supportive of others seeking help, it can be much harder to take that step yourself.	Insight (+)	Insight into personal barriers.
Would you re-do the task?		
I am passionate about the subject and wouldn't mind repeating the task – it was engaging and insightful.	Positive/engaged (+)	Positive task endorsement.

I would be fine doing the task again, although survey took a little while to complete.	Positive/negative caveat (+/-)	Positive endorsement.
I wouldn't mind repeating the task, but the survey length made it less enjoyable.	Positive/negative caveat (+/-)	Positive endorsement.
ICBT:		
Describe your experience/or what you liked		
It was fine, always good to have a refresher.	Useful (+)	Perceived usefulness.
Ties in with my studies.	Relevant (+)	Relevant to studies.
Gets you thinking about your own beliefs.	Reflective (+)	Reflections on beliefs.
I am a lazy person; it had a lot of reading.	Overwhelmed (-)	Issues with delivery.
I liked how it was structured.	Clear (+)	Approved delivery.
I appreciated the message behind the task.	Relevant (+)	Relevant message.
I found the information presented useful.	Useful (+)	Educative.
I enjoyed learning more about mental health.	Enjoyable (+)	Educative.
I appreciated how the task tied into my current studies.	Relevant (+)	Relevance to studies.
I found the reflection process valuable.	Reflective (+)	Valuing reflective practice.
It led to insight into my personal views around seeking help.	Insightful (+)	Insight into personal values.
What you did not like/would change		
I don't like to read too much; I lose interest.	Overwhelmed (-)	Issues with delivery.
I found the task a bit long, and some of the survey questions felt repetitive.	Repetitiveness (-)	Issues with delivery.
I didn't have any problems with the task.	Positive (+)	No issues.
Learnt new information about mental health.	Informative (+)	Educative.
Key take-aways		
The task emphasised why it's important to promote mental health, especially in rural communities where services are often lacking.	Awareness (+)	MH promotion.
Realised I had some stigma and personal beliefs about mental health help-seeking that I hadn't recognised before.	Awareness (+)	Insight into personal biases.
Would you re-do the task?		
I would be fine with repeating the task, but not too fond of all the reading involved.	Positive/negative caveat (+/-)	Issues with delivery
I am happy to repeat the task, I support the message and found it beneficial.	Positive/beneficial (+)	Positive endorsement.
I feel that repeating the task would be interesting, particularly to see if my mindset or responses change over time.	Positive/change (+)	Positive endorsement.

Control:
Describe your experience/or what you did or did not like

I was probably a little confused.

It was a bit random.

It was fine.

I liked how simple the task was.

I liked how it was something different to the survey questions.

I felt that some parts of the task felt like a sidestep from the main topic.

I found the task quite straightforward and easy to complete.

Made me reflect on barriers to seeking help and how I might act in difficult situations.

Key take-aways

The importance of seeking help and the value of mental health awareness.

How I might approach getting help in the future.

How it's essential to encourage people to talk about their mental health.

Would you re-do the task?

I would feel completely fine repeating the task.

I wouldn't mind repeating the task, it's important to keep the conversation going.

Confused (-)

Confused (-)

Neutral (+/-)

Enjoyable (+)

Positive (+)

Irrelevant (-)

Clear (+)

MH Reflection (+)

Insight (+)

Intentions (+)

Awareness (+)

Positive (+)

Positive/important (+)

Issue with content.

Issue with content.

Neutral feelings.

Content approval.

Content approval.

Issues with content.

Content/delivery approval.

Reflection on barriers and future intentions.

Education and promotion.

Future HS intentions.

MH promotion.

Positive endorsement.

Positive endorsement and MH promotion.

Note. N = 8, MH = Mental health, HS = Help-seeking, CBM-HS = Cognitive Bias Modification for Help Seeking, ICBT = Internet-Based Cognitive Behavioural Therapy, (+) = positive appraisal, (-) = negative appraisal, (+/-) positive and negative appraisal.

Table 6.3. Themes derived from categories

Categories	Combined Themes
Novel experience (1)	Reflections on mental health perceptions and barriers.
Provoked reflection (1)	
Reflections on beliefs (3)	
Identifying facilitators (3)	
Reflection on personal barriers (2)	
Insight into personal barriers (2)	
Challenged by biases (1)	
Valuing reflective practice (1)	
Insight into personal values (1)	
Confirmation of materials (2)	
Content/delivery approval (3)	Positive perceptions on task value and message.
Content approval (3)	
Delivery approval (2)	
Recognises relevance of MH (1)	
MH promotion (4)	
MH facilitators (3)	
Future HS intentions (2)	
Relevant message (1)	
Relevant to studies (2)	
Perceived usefulness (1)	
Awareness of task aims (1)	Frustration with length and repetitiveness.
Awareness of purpose and need (1)	
Educative (5)	
Issues with delivery (4)	
Issues with content (2)	
Issues with content and delivery (1)	
Decreased engagement (2)	
Positive endorsement (8)	
	Willingness to revisit and re-engage with the tasks.

Note. (N) = frequency, MH= mental health, HS= help-seeking.

6.5.1 Qualitative Findings

Theme 1. Reflections on mental health perceptions and barriers

When asked to describe their experience of the interventions, participants in the CBM-HS and ICBT conditions expressed how their tasks challenged them to reflect on their own perceptions of mental health. Andrea (ICBT) said:

I didn't realise what my answers would be until, like, I was faced with them because, I want to go into psychology. And then I was answering these questions, and I was like, oh my goodness. I didn't know I had these views; it is very interesting.

Similarly, Chiara (CBM-HS) reported gaining insight into their biases regarding mental health and help-seeking behaviour, stating:

Gets you thinking about, you know, mental health. It kinda [sic] challenges you to be like, if I was experiencing difficulties myself, what would I do? Because, you know, some of the barriers I never really thought about before. So, yeah, I think it's important to keep the conversation going.

Additionally, participants expressed how their tasks prompted reflection on future help-seeking intentions, with Brad (CBM-HS) stating, 'It got me thinking about where I can go and who I can talk to.' Reflections on how past help-seeking experiences have influenced their future intentions were also expressed, with Tristan (control) saying, 'I guess it made me really think about what my past experiences have been like and what I would want in the future.'

Some participants identified the particular importance of promoting mental health within rural and regional communities, with Brad (CBM-HS) saying, 'I think there will always be challenges to accessing help, so it's necessary to keep the conversation going,

raising awareness and helping people to access mental health who may need that extra push, especially in rural areas.’

One participant drew from personal experience when discussing the importance of having readily accessible services in rural areas, with Theresa (ICBT) saying:

I feel like, from personal experience, there's not as much accessible care out there and definitely longer wait lists. So you know, hopefully, if people keep talking about it, there might be some changes in the future and one less challenge to getting help.

Theme 2. Positive perceptions of task value and message

Participants reported on the value of completing the intervention tasks, with the ICBT participants finding it educational and beneficial for increasing an understanding of mental health issues. Andrea (ICBT) found that the material ‘ties in with my studies’, and Theresa (ICBT) stated, ‘I just found it interesting, the information helpful, and you know, I really like the message behind it all.’

For the CBM-HS condition, the informal yet structured nature of the task prompted positive appraisals as it made the task feel engaging and accessible. Chiara (CBM-HS) commented on the task’s novelty: ‘The task was something different, but straightforward,’ and reflected on being challenged by the biases explored. Melanie (CBM-HS) said, ‘The questions were thought-provoking because I think they do reflect a bit of what I’ve said about my own biases towards seeking help.’

Furthermore, participants discussed the importance of normalising help-seeking and encouraging access to formal services, with Caitlin (Control) stating:

Anything to do with encouraging, you know, people to be aware of mental health and accessing services and different things, I think, is super

important. So just promoting that through research and just seeing where people are at, I think is very beneficial.

Theme 3. Frustration with length and repetitiveness

A common frustration across all groups was the overall length and repetitive nature of the survey measures, with Brad (CBM-HS) saying, ‘The survey was just a little long and a bit repetitive. I don’t have the best attention span, so it gets hard to stay focused.’ Additionally, a desire for less reading and more visual aids as a means of enhancing the intervention experience was expressed as a preference, with Marley (ICBT) saying, ‘I’m just a lazy person. I don’t like to read too much. I lose interest.’ Participants in the control task expressed confusion over the ‘random’ nature of their task following survey questions focused on mental health and help-seeking, with Caitlin saying, ‘I guess I was probably a little confused. It was a bit random, but fine.’

4. Willingness to revisit and re-engage with tasks

All eight participants endorsed a willingness to complete their tasks again, with responses such as ‘completely fine’ (Caitlin) and ‘wouldn’t worry me’ (Tristan) from the control participants. Some expressed curiosity about how their responses may change over time, with Andrea (ICBT) saying:

I feel like it would be interesting to see if my answers would still be the same. I don’t remember exactly what I answered to everything. I wanna [sic] compare and know if my mindset changed in, like, the span of a few days.

Additionally, participants reported being willing to complete the intervention again as they believe in promoting engagement with mental health services. Chiara (CBM-HS) said: ‘I’m passionate about the subject, so I don’t mind completing it again.’ Others reported being

willing to complete the task again as they found the content straightforward and relevant.

Melanie (CBM-HS) said: ‘I like the simplicity of a true/false response; it was clear and to the point, and I think some people need that. So yeah, I wouldn’t have an issue completing the same task again.’

6.6 Discussion

This study explored rural young people’s perceptions of the acceptability and feasibility of two brief online intervention tasks (ICBT and CBM-HS) that seek to modify help-seeking stigma and increase intentions to access mental health services. Two research questions were posed:

- 1) What was the experience of young rural people with the brief online intervention task, and how acceptable did they find the task?
- 2) How feasible was the brief online intervention for young rural people in terms of engagement and encouraging their future help-seeking intentions?

6.6.1 *Experience and Acceptability*

The online intervention tasks were reported as being a predominantly positive experience that prompted self-reflection and insight into participants’ own attitudes, barriers, and biases towards mental health and seeking help. This response encapsulates key factors that can influence young people’s motivation to engage services due to increased recognition of latent biases and exposure to normalising the help-seeking experience (Bear et al., 2022). Additionally, emphasis on the importance of promoting mental health awareness and the need for accessible support services in rural communities was voiced by all eight participants and identified as the overarching message of the research. This comprehension of the intervention aims provides some support that the intervention materials were understood and positively received (>60% appraisals coded positive). It further demonstrates that despite increasing

mental health awareness among young people, its continual promotion throughout adolescence is necessary to combat the embedded biases young people carry regarding self and public perception (Cheesmond et al., 2019; Handly et al., 2018).

Comparison of Tasks – ICBT and CBM-HS

While both intervention tasks were endorsed as possessing value, challenges were also acknowledged. Participants in the ICBT condition reported being overwhelmed with the amount of reading required and stated a preference for a more condensed format with the inclusion of visual aids. This is in line with Stanley et al. (2019), whose findings suggest that while psychoeducation can increase positive attitudes towards mental health in the short term, its capacity to effectively engage young people and modify cognitions remains limited. This is due to requiring higher cognitive input regarding focus and comprehension, which is particularly difficult when targeting non-clinical populations as the educative materials may not hold direct relevance. In comparison, CBM-HS was endorsed as ‘straightforward’ and ‘something different’, which appears consistent with past findings on user preference, with young people preferring easy-to-use, accessible modes of intervention delivery with minimal cognitive demand (Aguirre Velasco et al., 2020; Waqas et al., 2020). Additionally, the survey length and repeat of questions undertaken before and after each intervention and the control were frustrating for all participants. This is important feedback that speaks to issues of effective design implementation within this population as it can impede overall perceptions of intervention acceptability. These results provide further support for the continued exploration of more innovative (CBM-HS) means of preventative engagement within this population.

All participants indicated that they would be willing to complete their allocated task again, with some endorsing the relevance of the tasks and others expressing an interest in how their responses may change. While frustrations pertaining to the survey are noted, this willingness to re-engage further supports the acceptability of the piloted intervention

materials. Additionally, it indicates that, despite the sample characteristics of being predominantly female students enrolled within an undergraduate course, issues of homogeneity may be partially overcome given the consistency of responses with past literature (e.g., Davies et al., 2014; Ebert et al., 2018) and that participants were motivated to engage in a deeper level of self-reflection that may not have been otherwise captured.

6.6.2 Feasibility: Engagement and Intentions

Engaging young people in mental health interventions is an ongoing challenge, particularly when it comes to effectively implementing preventative measures (National Rural Health Alliance, 2021). The current study supports both the acceptability and the feasibility of two brief online interventions that seek to address this service gap, with young people reporting a predominantly positive experience from both intervention groups. Specifically, those allocated to the CBM-HS group enjoyed the innovative format and straightforward nature of the task. Similarly, those in the ICBT group reported finding the content valuable, with all group participants appreciating an opportunity for self-reflection in terms of reinforcing or challenging their views on mental health. The capacity of the interventions to facilitate some examination of perceived barriers and biases is promising, with some participants reflecting on how recognising their perceptions of these might shape their future help-seeking intentions. This all suggests a high level of engagement and that the materials may function as intended in terms of increasing levels of mental health literacy and self-examination of stigma/biases. Thus, these interventions appear feasible in their modality (online), with rural young people recognising the appeal of these alternative means of mental health promotion.

6.6.3 Limitations

While this feedback provides some insight into the efficacy of such interventions, a key limitation is acknowledged. Due to eligibility constraints, the study could not recruit a larger, more representative sample, with participants being primarily female undergraduate psychology students aged between 18 and 22 years. Despite past literature supporting the existence of internalised attitudinal barriers towards mental health and help-seeking in undergraduates (Clement et al., 2015), this lack of diversity may have resulted in bias and, hence, the generalisability of the data. It would be useful for future research to compare intervention experiences from a larger, more diverse sample in terms of age, gender, and lived experience (including stigma).

6.6.4 Conclusion

Assessing the acceptability of the interventions allows for a deeper understanding of the forces within this target population, which may facilitate or impede the feasibility of effective implementation (Ayala & Elder, 2011). The results of the study reveal that young people provided predominantly positive feedback on their allocated intervention tasks. They described the online delivery as engaging and the content as thought-provoking, examining latent biases and how they have influenced their help-seeking intentions. Coded frequencies appeared to endorse the design of CBM-HS above that of the ICBT condition due to the innovative and straightforward nature of the task. Recommendations for improvement centred on reducing the text within the ICBT condition and including more visual stimulus. These findings provide support from the target population for the replication of research through a larger, repeated measures design in assessing the potential for sustained effects over time. The continued exploration of alternative strategies to increase young people's

engagement with mental health services is vital to support future help-seeking and bridge the service gap within rural communities.

6.7 Chapter Conclusion and Progression to Chapter 7

Chapter 6 is a qualitative study exploring rural young people's perceptions of the acceptability and feasibility of two brief online intervention tasks that seek to modify help-seeking stigma and increase intentions to access mental health services. This study used content analysis to understand patterns and identify four major themes related to rural young people's perceptions of the piloted interventions' acceptability and feasibility. The themes included: 1) Reflections on mental health perceptions and barriers, 2) Positive perceptions on task value and message, 3) Frustration with length and repetitiveness, and 4) Willingness to revisit and re-engage with tasks. The findings indicate a predominantly positive experience of the interventions, with feedback consistent with past literature on user preference within this population, namely, a preference for easy-to-use, accessible intervention delivery modes with minimal cognitive demand. Through reflexive comparison of the intervention groups, this feedback appears to endorse the design of the CBM-HS intervention above that of the ICBT or control. Of note, young people's recognition of latent biases may also suggest that despite increasing mental health awareness, its promotion throughout adolescence is necessary to combat the embedded biases young people carry regarding self and public perception. This suggests future consideration toward designing interventions tailored to young people's differing developmental and transitional stages. In terms of cognitive development, early adolescents remain very 'black and white' in their thinking and often possess a high level of egocentrism. This leads to increased levels of self-consciousness around their appearance and perceived judgement from peers. They also begin to strive for more independence and push boundaries (Allen, 2024).

For young people in middle adolescence (14–17 years), physical changes remain ongoing, with the addition of increased interest in romantic and sexual relationships (Allen, 2024). This age period often includes the questioning of sexuality, which can increase their risk of psychological distress if they do not possess adequate support networks in the form of family and friends. Middle adolescents are more inclined to spend time with friends over family and will increasingly try to assert their independence, potentially causing strain on the family unit. Additionally, self-esteem issues may arise, making them more fixated on appearances and likely to succumb to peer pressure. In terms of cognitive development, the frontal lobe is still developing, meaning they are less equipped for complex decision-making and impulse control. While they have an increased ability to think abstractly, their capacity to act in the moment and not be driven by emotion is still maturing (Allen, 2024).

Lastly, young people entering adulthood (18–24 years) are more likely to have increased self-awareness and be better equipped to control impulses and assess risks and rewards more accurately (APA, 2024). They are generally more future-orientated (transitioning into post-school study/training or employment) and possess more stable relationships. A closer relationship with family might be re-established due to the changing dynamic and as they mature and identify their own values (Allen, 2024).

These differences in young people's physical, social, and cognitive spheres of development support the need for interventions designed with this understanding and how to best capture them through the key stages of transition. For the current research, this may suggest increasing participant engagement through the tailoring of questions to specific age groups and with a gradual increase in the level of introspection to promote perceptions of relevance and motivation. Considering all preceding studies, Chapter 7 comprises a superiority analysis of two web-based interventions, ICBT and CBM-HS techniques, with a control within a three-armed longitudinal methodology to reduce help-seeking stigma and

modify young people's intentions to access services. This paper (Chapter 7) has been submitted to *Advances in Mental Health* and accepted for publication.

Chapter 7: Interventions to Facilitate Mental Health Help-Seeking for Young Rural Australians Through Stigma Reduction: A Three-Arm Randomised Trial (Study 5)

Williams, L., Bartik, W., & Cosh, S. (2025c). Interventions to facilitate Mental Health Help-Seeking for Young Rural Australians through stigma reduction: A three-arm randomised trial. Accepted for publication in *Advances in Mental Health*.

7.1 Abstract

Objective: This study aimed to assess the effectiveness of two intervention strategies, Internet-Based Cognitive Behavioural Therapy (ICBT) and Cognitive Bias Modification for Help-Seeking (CBM-HS), in modifying young, rural Australians' mental health help-seeking stigma to increase intentions to access mental health care within Australia.

Design: A three-armed randomised trial, with participants randomly allocated into one of the two interventions or the control condition. Data were collected pre-, post-, and at six weeks follow-up via self-report questionnaires.

Setting: Rural communities within Australia.

Participants: Young rural Australians (N = 42; aged between 15 and 24 years).

Interventions: 1) ICBT condition targeted mental health literacy via psychoeducation on depression and anxiety; 2) CBM-HS condition designed to modify participants' maladaptive cognitions related to help-seeking stigma by correcting appraisals regarding beliefs about using mental health services; and 3) control condition consisting of an unrelated filler task to approximate cognitive workload.

Main outcome measures: Mental health help-seeking self-stigma, perceived public stigma, attitudes and intentions to seek mental health help.

Results: The results provided some support for the CBM-HS intervention as effective in decreasing self-stigma, across the three time points compared to the other conditions. No significant effects were observed in the ICBT intervention. A significant increase in mean mental health literacy scores was also found between time points across all conditions.

Conclusions: These findings suggest that online anti-stigma interventions could feasibly be used to reduce help-seeking stigma among young rural Australians, which may help to increase proportions of individuals seeking help for their mental health concerns.

Keywords: Rural Health, Help-seeking, Cognitive Behavioural Therapy, Cognitive Bias Modification, Online interventions, young people, youth, young adults.

7.2 Introduction

Young people between the ages of 15 and 24 years have the greatest risk of developing a mental health disorder (Australian Institute of Health and Welfare [AIHW], 2024). In Australia, anxiety and depression are the most common disorders, with one in four young people diagnosed annually (AIHW, 2024). This early onset of mental illness in adolescence is of major concern, and if both early intervention services and/or more stepped or targeted care are not provided or available, then quality of life and productivity are impacted into adulthood (Kasturi et al., 2023). During this developmental period, young people experience significant biological, social, and environmental changes, which all increase their vulnerability to mental health issues (Kasturi et al., 2023). Mental health issues in this age range are of critical importance to better support, given that suicide is the leading cause of death in this age group (AIHW, 2024)

Mental health help-seeking is a protective coping strategy that can substantially improve the long-term mental health outcomes of young people (Kasturi et al., 2023). Mental health help-seeking is defined as a health action that involves an individual actively seeking help from formal (e.g., health professionals, youth workers), informal (e.g., family, friends), or self-help (e.g., internet-based) sources to gain information, treatment, or support for a mental health problem (Rickwood & Thomas, 2012). In rural and remote communities, mental health help-seeking is often limited by the lack of availability of mental health services and

factors such as cost and wait times (Handley et al., 2018). Such barriers to help-seeking are also often compounded by sociocultural values such as independence, stoicism, community ties and defined gender roles that shape the identity of rural people and affect attitudes toward mental health and seeking help (Cheesmond et al., 2019). These values appear more entrenched within males, who may seek to preserve ‘masculine expectations’ in terms of self-reliance, control and autonomy (Vickery et al., 2021); thereby, women are seen as possessing more adaptive attitudes towards mental health and increased willingness to engage formal help-seeking services (Allouche et al., 2021). However, regardless of gender, negative attitudes and stigma towards mental health remain the foremost barriers to young people accessing help (Aguirre Velasco et al., 2020). With mental health, two forms of stigma are commonly described. The first is self-stigma, which is an internalised negative attitude towards help-seeking; for example, “seeking help means I’m weak”. The second is perceived public stigma, which is the concern that other people will negatively perceive their choice to seek help; for example, “I would be seen as weak” (Nearchou et al., 2018).

Young people are more digitally connected than ever and increasingly reliant on the internet for seeking health-related information (Fischer-Grote et al., 2024). Therefore, online interventions appear to be the natural progression for expanding accessible and cost-effective service uptake. The efficacy of online intervention delivery has been seen for a variety of mental health disorders in both adult and adolescent populations (Dworschak et al., 2022; Ebert et al., 2018). Additionally, the appeal of online interventions can be seen in young people’s preference for informal modes of delivery, particularly when not currently experiencing mental health difficulties (Williams et al., 2024). When it comes to the content of online interventions, psychoeducation has been utilised as the predominant intervention technique to reduce stigma and overcome attitudinal barriers towards mental health and seeking help (Xu et al., 2018). However, while attitudes generally improve in the short term

with psychoeducation, it has shown limited long-term effects (≥ 4 weeks) (Xu et al., 2018). Therefore, past help-seeking reviews (Zhou et al., 2021; Williams et al., 2024) suggest alternative interventions that utilise mechanisms of change (Kazdin, 2006), such as Cognitive Behavioural Therapy (CBT) and Cognitive Bias Modification (CBM) principles for stigma reduction. These interventions have shown promising trends towards modifying young people's maladaptive attitudes towards help-seeking (e.g., Collins et al., 2011; Shandley et al., 2010; Stanley et al., 2018).

CBT has the capacity to change maladaptive cognitions to effect changes in behaviour (Beck, 2005). As a treatment intervention, CBT has demonstrated efficacy with a wide range of mental health disorders (Calvert & Palmer, 2003; Vittengl et al., 2005) and in its translation as an online mental health resource (internet-based CBT [ICBT]; Ebert et al., 2018). However, evidence supporting CBT's preventative utility is more limited (Sander et al., 2016). Further, cognitive ability and motivation to change are vital to the effective implementation of CBT, and in the absence of current mental health difficulties (e.g., non-clinical populations), the capacity for effective engagement and processing is significantly diminished (Ryan et al., 2011).

Online cognitive bias modification for help-seeking (CBM-HS) has been trialled as an alternative intervention strategy that could potentially overcome the above past challenges (Williams et al., 2025a; Stanley et al., 2018). CBM paradigms are built on the premise that repeated reinforcement of adaptive cognitions and the reshaping of negative cognitions through computer-based practice can ultimately result in individuals disengaging from threat-related stimuli (Koster et al., 2009). Additionally, the CBM techniques are less reliant on young people possessing the relevant cognitive resources required to enact behaviour change, with CBM focusing on implicitly retraining negative biases that may, consequently, remain

more stable in situations where cognitive resources are diminished (Baert et al., 2011; Bowler et al., 2012).

Despite the promise of CBM, previous trials of CBM-HS have produced mixed findings. Stanley et al. (2018) found a significant reduction of help-seeking stigma at a two-month follow-up within a sample of 32 undergraduate students with a diagnosed psychiatric disorder who had previously denied wanting mental health treatment. A study by Williams et al. (2025a) with a non-clinical sample of 53 rural young people found limited effects on stigma, albeit with some trends indicating decreased self-stigma following the intervention. Both studies were limited by small, unrepresentative samples, with Williams et al. (2025a) also having limited follow-up for assessing sustained effects. Additionally, Stanley et al. (2018) had no control condition, and there were limitations with the measures used, such that they did not assess participant distress, and the influence of help-seeking attributions (e.g., current levels of mental health literacy) on help-seeking intentions beyond stigma. The inclusion of such variables, which are essential in understanding factors that may increase or impede young people's intention to seek help, is important for the appraisal of intervention design and implementation.

Despite these limitations, Stanley et al. (2018) and Williams et al. (2025a) have suggested that the utility of CBM-HS is an accessible preventative intervention strategy to potentially reduce negative attitudes and stigma toward mental health help-seeking. These studies indicate a benefit for further exploration, but with improved methodology in terms of a) further examination with a non-clinical sample to proactively target biased maladaptive perceptions of mental health and help-seeking and encourage timely access to care services, b) more clinically comprehensive assessment measures, and c) longer follow up.

However, in terms of addressing more intrinsic barriers, CBM-HS is particularly positioned to effectively target young people and restructure ambivalent and normative attitudes that promote maladaptive levels of self-reliance and the premise of formal help-seeking as a last resort (Williams et al., 2025b). The preliminary evidence regarding the efficacy of CBM-HS, in hand with its utility in both clinical and non-clinical populations (Blackwell, 2020; Fodor et al., 2020), supports the value of further research to explore the application of CBM-HS as an intervention that may potentially bridge the gap between young Australian's help-seeking intentions and behaviours. Predicated on these past CBM findings and evidence to suggest reduced preventative utility from CBT, it is believed additional trials of CBM-HS and ICBT may reveal CBM-HS to be the superior intervention strategy in reducing young rural people's mental health stigma and in increasing intentions to access services.

Further, while evidence supporting the application of online interventions is currently limited with young people and in the help-seeking literature, online interventions have the potential to address the current challenges faced by rural young people in terms of overcoming anonymity concerns and accessibility issues through their online delivery. Therefore, the current study assesses stigma reduction interventions delivered in an online format to modify young, rural Australians help-seeking stigma and to increase their intentions to access mental health services.

7.2.1 Objective

The current study aimed to extend help-seeking research by conducting a superiority analysis on two web-based interventions: 1) Internet-Based Cognitive Behavioural Therapy (ICBT) and 2) Cognitive Bias Modification for Help-Seeking (CBM-HS) with a control

condition across three time points (spanning six weeks) for the modification of help-seeking stigma and hence intentions within a non-clinical sample of rural Australian young people.

Consistent with the reviewed research, the following hypotheses were proposed:

H1. The online intervention conditions of ICBT and CBM-HS will each reduce help-seeking stigma (self-stigma and perceived public stigma) and increase future intentions to access mental health care services at each of the defined time points (pre/post/six weeks post-intervention) compared to the control condition.

H2. A reduction in help-seeking stigma and increased help-seeking intentions, at 6 weeks post-intervention, will be greater for participants allocated to the CBM-HS condition compared to the ICBT condition or control.

Additionally, an exploratory analysis will be used to assess for any differences in age or gender on help-seeking intentions across time points.

7.3 Method

7.3.1 Ethics Statement

Ethics approval was obtained from the University of New England's (UNE) Human Research Ethics Committee (HE23-096). All participants were provided with information sheets and consent forms before proceeding with an online pre-test questionnaire.

7.3.2 Participants and Recruitment

Using G*Power3 (Faul et al., 2007) for a repeated measures ANOVA with a medium effect size ($f^2 = .25$), a critical α of .05 and a power level of .80, it was estimated that a minimum of 36 participants were required. Forty-two participants aged between 15 to 24 years ($M_{\text{age}}=20.81$, $SD_{\text{age}}=2.72$) were recruited via flyers disseminated through community groups/organisations (such as sporting clubs and youth outreach) in rural Australian areas or

from the University's Research Participation Opportunity (RPO) program (first year psychology students). Exclusion criteria included being aged outside of the 15–24 year age bracket, residing in a postcode that is not a rural or regional area within Australia as defined by the Modified Monash Model (Australian Government Department of Health and Ageing, 2025), and being non-English speaking. Participants were offered the chance to win one of three \$75 gift vouchers for their participation at each of the data collection time points. The majority of the participants were in the 18-24 years age bracket (92.8%), identified as female (78.6%), and were born in Australia (92.9%). The socio-demographic characteristics of the respondents are depicted in Table 7.1.

Table 7.1 Socio-demographic Characteristics of Participants

		N	%
Highest level of Education	≤9 years of schooling	1	2.4%
	Year 10 Certificate		
	Year 12 Certificate	4	9.5%
	TAFE course/ vocational	23	54.8%
	Other Trade/ Qualification	6	14.3%
		2	4.8%
	University Degree	6	14.3%
Currently Studying	Yes	39	92.9%
	No	3	7.1%
	Full time	18	42.9%
	Part time	21	50.0%
Level of Current Study	Bachelor's or higher	31	73.8%
	Diploma	1	2.4%
	Certificate III	1	2.4%
	Yr. 12	0	0%
	Yr. 11	2	4.8%
	Other	4	9.5%
Annual Household Income	Less than 20,000	3	7.1%
	20,000–39,999	6	14.3%
	40,000–79,999	8	19.0%
	80,000–179,999	13	31.0%
	180,000 and over	4	9.5%
	Not sure	8	19.0%
Receiving(d) Present or Past Mental Health Support	Yes	27	64.3%
	No	15	35.7%
Source of Help Received	Formal (e.g., psychologist or counsellor)	26	61.9%
	Informal (e.g., family/friends)	0	0.0%
	Self-Help (e.g., online/apps)	1	2.4%

Note. $N=42$

7.4 Measures

Level of Distress. This was assessed using the Kessler Psychological Distress Scale (K10; Kessler et al., 2002). The K10 is a self-report assessment consisting of 10 items that aim to assess participants' general levels of distress regarding anxiety and depressive symptoms experienced within the past four weeks. Participants respond on a 5-point Likert scale (1 = none of the time to 5 = all of the time), with higher summed scores indicating higher levels of psychological distress. The K10 has shown excellent internal consistency ($\alpha=0.70$ to 0.91) and criterion validity for predicting serious mental health issues such as anxiety and depression in adults and young people.

Mental Health Literacy. This was assessed using the Mental Health Promoting Knowledge Instrument (MHPKI-10; Bjornsen et al., 2017). The MHPKI-10 is a single-factor scale of 10 items that aims to assess young people's knowledge of mental health promotion. Participants rate various positive mental health actions on a 5-point Likert scale (1 = definitely unhelpful to 5 = definitely helpful). This scale has shown acceptable test-retest reliability ($\alpha = 0.74$) and good construct validity in young people (Bjornsen et al., 2017).

Self-Stigma. This was assessed with the Self-Stigma of Seeking Help Scale (SSOSH; Vogel et al., 2006). The SSOSH is a 10-item self-report scale that requires participants to rate the degree to which they agree with statements regarding help-seeking self-stigma. Participants rate on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The SSOSH has shown excellent internal consistency ($\alpha=0.86$ to 0.91), test-retest reliability (0.72), and criterion, construct, and predictive validity in young people (Vogel et al., 2006).

Perceived Public Stigma. Participants' perceived stigma was assessed using the Perceived Stigma and Barriers for Psychological Problems Scale (PS; Britt et al., 2008). The

PS is an 11-item self-report scale that assesses the degree to which perceived public stigma and structural barriers affect an individual's choice to seek help. Participants rate on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The PS has shown excellent internal consistency ($\alpha=0.86$), test-retest reliability (0.89 to 0.94), and criterion, construct, and predictive validity in young people (Pederson & Paves, 2014).

Help-seeking Intentions. Intentions to enact help-seeking behaviours were assessed using the General Help Seeking Questionnaire (GHSQ; Wilson et al., 2005). The GHSQ is a 20-item scale that examines participants' intent to receive help from a variety of sources if facing personal or emotional problems and suicide ideation. Participants rate on a 7-point Likert scale (1 = very unlikely to 7 = very likely). The test-retest reliability for this scale is high ($\alpha = 0.92$), with the internal consistency coefficients reported as adequate, ranging from $\alpha= 0.72$ to 0.99 (Wilson et al., 2005). This scale is used by summing up scores for each item. It is frequently used to measure behavioural intent for mental health help-seeking among young people and whether there is a preference for formal or informal management (Divin et al., 2018).

Help-seeking Normative Beliefs and Attitudes. Participants' beliefs and attitudes about mental health help-seeking were assessed using items from two subscales of the Parental Attitudes Towards Psychological Services Inventory (PATSPI; Turner, 2012). Normative beliefs were assessed using the stigma subscale, which uses eight items that have been slightly adapted by Allouche et al. (2021) to relate to young people; for example, 'I would not want others (friends, family, teachers, etc.) to know if I had a psychological or behaviour problem.' Participants rate on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). The test-retest reliability, discriminant validity, and internal consistency ($\alpha= 0.72$ to 0.92) have all been found to be adequate (Allouche et al., 2021). Participants' attitudes about mental health help-seeking were assessed using the Attitudes subscale, which

uses eight items that have been slightly adapted by Allouche et al. (2021) to relate to young people. For example, ‘To avoid thinking about my problems, doing other activities is a good solution.’ Participants rate on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). The test-retest reliability, discriminant validity, and internal consistency ($\alpha = 0.72$ to 0.92) have all been found to be adequate (Allouche et al., 2021).

Barriers to Help-Seeking. Participants’ perceptions of factors that will help or impede their behaviour (i.e., control beliefs) were measured using a brief version of the Barriers to Adolescents Seeking Help Scale (BASH-B; Kuhl et al., 1997; Wilson et al., 2002). The BASH-B is an 11-item self-report scale that assesses barriers to seeking professional help. Participants rate on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree), with higher total scores indicating greater barrier significance. This scale has been repeatedly validated in past samples of young people (Wilson & Deane, 2010) and has a strong internal consistency coefficient of $\alpha = 0.83$.

7.5 Interventions

Internet-Based Cognitive Behavioural Therapy (ICBT): Participants allocated to this condition reviewed CBT-based materials designed to enhance their mental health literacy and reduce mental health stigma. These materials focused on anxiety and depression and were drawn from the public domain (e.g., Centre for Clinical Interventions [CCI], <https://www.cci.health.wa.gov.au/>). The examples of anxiety and depression were used to build the foundation for understanding how thoughts, emotions and behaviours influence mental health conditions. Given the self-directed study procedures, participants were required to correctly respond to questions on a brief quiz to verify adequate comprehension of the material before proceeding to post-intervention measures. The ICBT condition promoted reflection and ultimately provided a rationale for the CBT model and techniques.

2. Cognitive Bias Modification for Help-Seeking Stigma (CBM-HS): The CBM-HS is a brief computer-based task designed to modify participants' maladaptive cognitions related to help-seeking stigma. Participants allocated to the CBM-HS condition were presented with a series of statements regarding beliefs about using mental health services; for example, 'Seeking help means I am a failure' (see Appendix A). Participants were then required to select either 'True' or 'False' in response to the statement. Correct responses are positively reinforced ('Correct'), while incorrect responses (showing stigma) are followed by corrective feedback ('Incorrect – Try Again') to ensure the sentences are interpreted as intended. The CBM-HS stimuli were developed and piloted by Stanley et al. (2018), utilising previous research on help-seeking stigma-related thoughts (Vogel et al., 2006).

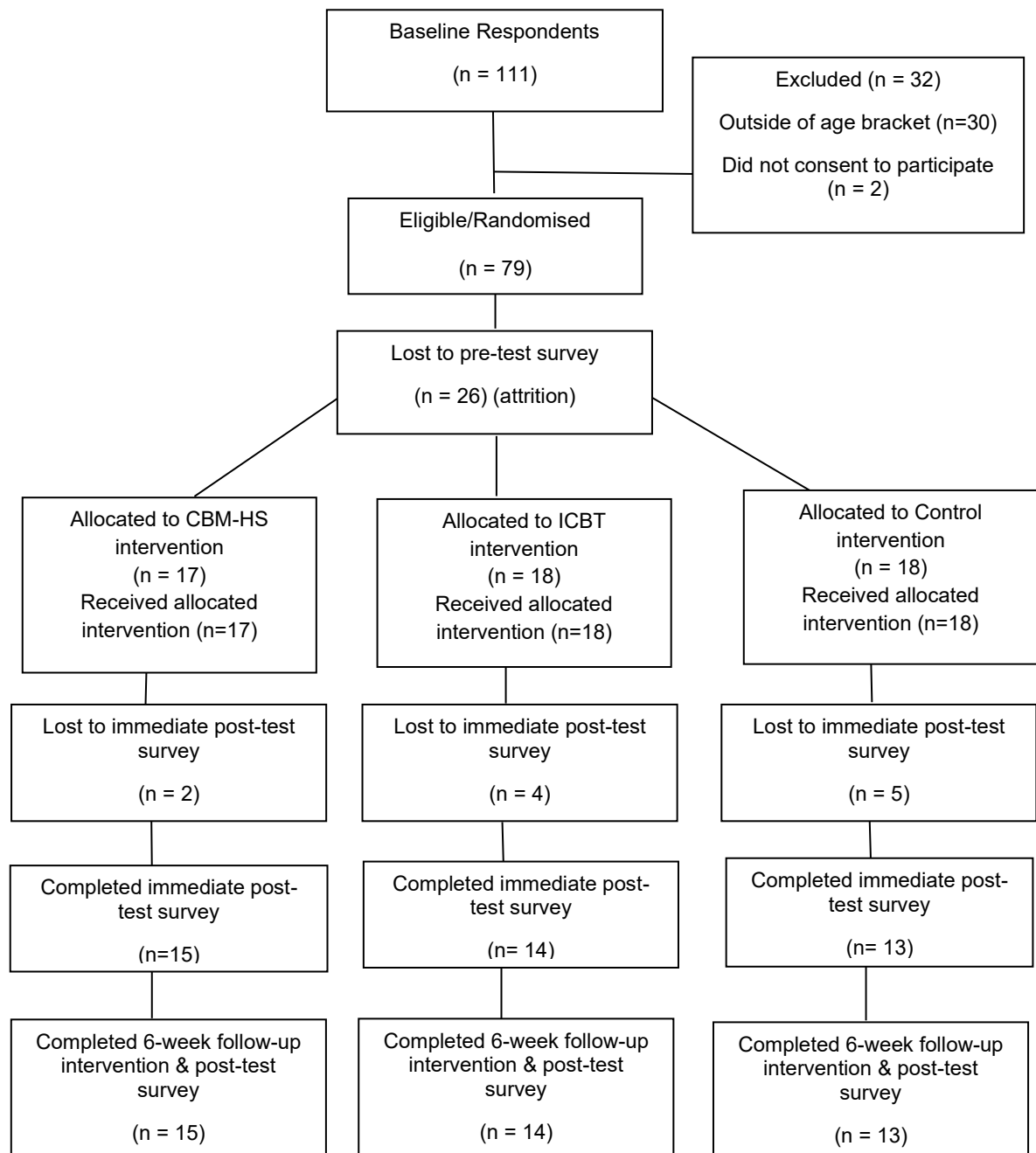
3. Control: Participants allocated to this condition completed a filler task of the same approximate cognitive workload as conditions 1 and 2. The control condition comprised neutral distractor scenarios, which included an equal number of positive and negative resolution distractors. Participants were presented with scenarios and asked to complete missing letters; for example, 'You are at the cinema with a friend. You are starving as you have not yet eaten lunch. Your friend goes to buy a treat. "Here's one for you," and he hands you a large ... p_pcorn [popcorn].' Feedback was provided to ensure sentences were interpreted as intended (e.g., 'Correct' or 'Incorrect – Try Again').

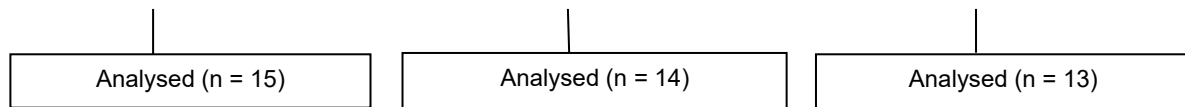
7.6 Procedure

Participation involved completing an online questionnaire battery via Qualtrics software conducted pre- and immediately post-intervention and at 6 weeks follow-up. Demographic information was recorded at the pre-test only, with psychological distress recorded at the pre-test and 6 weeks follow-up. The remaining measures listed above were collected at each time point. All measures within the questionnaire were randomised and

counterbalanced across participants to reduce priming and order effects. The baseline survey had 111 participants; 32 were excluded as they did not meet the inclusion criteria, and a further 37 were lost to attrition, resulting in a final sample of 42 participants. The 42 participants who met study inclusion criteria were stratified by age (15–18; 19–21; 22–24 years) and randomised via Qualtrics software to one of three conditions. Seventeen participants were allocated to the CBM-HS condition, 18 to the ICBT condition, and 18 to the Control condition. Each intervention lasted approximately 10 minutes. The participant flowchart is shown in the CONSORT diagram, Figure 7.1.

Figure 7.1. CONSORT Diagram of Participant Flow Through Stages of Randomised Trial





7.7 Statistical Analysis

Analyses were conducted using the Statistical Package for the Social Sciences (SPSS), version 25. Assumptions were met for all analyses and at each time point (i.e., pre, immediately post, and six weeks). Preliminary intervention analyses were first undertaken to assess any pre-existing group differences between participants, using a one-way ANOVA and a series of chi-square frequency tests of demographic variables and baseline psychological distress. A mixed ANOVA with a within (time) and between (conditions) interaction was used to assess the effect of the conditions on self-stigma of seeking help, perceived public stigma, barriers to accessing care for psychological problems, and future intentions to seek help, addressing H1 and H2. A repeated measures ANOVA with a within (time) and between (gender) interaction was used to assess any differences in gender across time points, addressing the exploratory analysis.

7.8 Results

7.8.1 Preliminary Intervention Analyses

There were no significant differences in age between conditions, $F(2, 41) = 2.385$, $p = .105$, $\eta^2 = .109$ or level of distress (K10), $F(2, 39) = 0.613$, $p = .547$, $\eta^2 = .030$. The chi-square results are depicted in Table 7.2 and show no significant differences across conditions on categorical demographic characteristics.

Table 7.2. Analysis of Variance (ANOVA) and Chi-square tests assessing group differences between conditions on demographic characteristics.

Demographic Variables	Df	χ^2	p
Gender	6	4.68	.584
Country born	2	0.01	.994
Postcode	56	58.8	.373
Currently studying	8	4.90	.768
Level of education	2	2.23	.327
Socioeconomic status	10	4.15	.940
Present or past mental health treatment	2	2.70	.258
Treatment sought (formal vs self-help)	2	3.63	.162

Note: N= 42, df= degrees of freedom, * $p < .05$.

7.8.2 Effects of Conditions on Help-Seeking Outcomes

Table 7.3 presents descriptive statistics on participants' baseline, immediate post-intervention and six weeks follow-up for levels of distress (K10), mental health literacy (MHPKI-10), self-stigma (SSOSH), public stigma (PS), help-seeking intentions (GHSQ), beliefs and attitudes towards help-seeking (PATSPI), and perceived barriers to help-seeking (BASH-B), all as a function of experimental conditions. A 3 (time: baseline, immediate post-intervention and 6-week follow-up) x 3 (condition) mixed ANOVA showed that there was a significant interaction between the conditions and across three time points for self-stigma, $F(4, 76) = 2.713$, $p = .036$, $\eta^2 = .125$. Pairwise comparisons for time and condition show the significant decrease in self-stigma occurring in the CBM-HS condition between baseline and 6-week follow-up ($p = >0.001$), showing partial support for H1 and H2. There was a main effect of time, showing a significant increase in mean mental health literacy (MHL) scores at the different time points, $F(2, 76) = 3.840$, $p = .026$, $\eta^2 = .092$. Pairwise comparison showed that significant interaction occurred between baseline and 6-week follow-up ($p = .003$); however, the main effect of the group showed that there was no significant difference in MHL scores between intervention groups, although there was a trend for increased MHL

across all conditions at each time point. While not significant, the data trends saw a decrease in participants' negative normative beliefs, attitudes, and perceived barriers to help-seeking with CBM-HS compared to ICBT and the control. Participants' mean level of distress as measured by the K10 at baseline and 6-week follow-up remained in the range of '25–29 likely to have a mental health disorder' (Andrews & Slade, 2001).

A mixed model ANOVA of help-seeking intentions over time from each of the seven specified (formal, informal, and semi-formal) sources (i.e., general practitioner, mental health professional, intimate partner, parent, friend, phone/helpline, and nobody, seen in Table 7.4) showed four significant results within the 'personal or emotional problems' scenario. There was a main effect of time, which saw an increase in mean intention scores for intimate partner and parents (informal sources), phone/helpline (semi-formal source), and a decrease for the option 'nobody' (i.e., not seeking help). However, the main effect of the group showed that there were no significant differences across intervention groups. For the 'suicide ideation' scenario, there was a main effect of time on mean intention scores for the informal source, friend, and 'nobody'. There was also a significant interaction across time and condition for intentions to seek help from 'nobody', indicating that those allocated to the ICBT intervention had a significant decrease in intentions to talk to nobody (i.e., more likely to seek help) from pre-intervention to six weeks follow-up, relative to the other conditions and with a large effect size ($\eta p^2 = .200$).

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Table 7.3: Participant responses by experimental condition

Outcomes	Condition (N)	Baseline M	Baseline SD	Post Intervention M	Post Intervention SD	6-week follow- up M	6-week follow-up SD	P T*C	P T*
Level of distress (K10)	Total (42)	26.29	9.31	-	-	26.93	9.63	0.54	-
MH literacy	CBM-HS (15)	33.13	7.69	33.60	9.59	35.13	9.52	0.81	.003
	ICBT (14)	35.85	5.39	38.69	5.64	39.08	7.84		
	Control (13)	34.79	7.23	33.00	12.07	37.93	7.23		
Self stigma	Total (42)	34.52	6.83	34.98	9.66	37.29	8.27		
	CBM-HS (15)	30.27	4.02	26.13	3.92	23.73	3.49	>.001*	.004*
	ICBT (14)	29.77	3.63	28.38	7.48	30.54	3.99		
Public stigma	Control (13)	29.21	5.33	27.21	6.93	27.00	7.07		
	Total (42)	29.76	4.31	27.19	6.14	26.93	5.70		
	CBM-HS (15)	26.67	6.94	25.20	6.92	27.07	10.82	0.84	0.34
Normative beliefs	ICBT (14)	28.23	8.95	29.08	9.43	30.69	6.44		
	Control (13)	26.57	8.75	26.00	7.72	27.93	9.61		
	Total (42)	27.12	8.04	26.67	8.00	28.48	9.15		
Attitudes	CBM-HS (15)	20.67	7.98	18.67	8.06	16.87	6.50	0.09	0.09
	ICBT (14)	22.00	8.07	22.08	8.52	22.46	8.24		
	Control (13)	20.57	8.81	19.71	9.17	19.71	8.20		
Barriers	Total (42)	21.05	8.11	20.07	8.50	19.55	7.80		
	CBM-HS (15)	18.93	7.11	18.27	7.14	16.20	5.48	0.21	0.14
	ICBT (14)	21.00	7.58	21.31	8.00	21.00	6.74		
GHSQ: HS Intentions (personal/emotional problems)	Control (13)	20.07	6.83	20.50	8.00	19.71	9.06		
	Total (42)	19.95	7.04	19.95	7.63	18.86	7.34		
	CBM-HS (15)	30.33	8.41	29.20	8.66	28.00	7.91	0.88	0.15
General practitioner	ICBT (14)	30.85	9.99	29.62	9.57	29.54	7.50		
	Control (13)	32.86	8.19	29.21	7.57	31.71	11.35		
	Total (42)	31.33	8.71	29.33	8.40	29.71	9.00		
Mental health professional	CBM-HS (15)	4.00	1.89	4.27	1.79	4.00	1.89	0.66	0.61
	ICBT (14)	3.71	1.97	4.21	1.80	4.21	1.36		
	Control (13)	4.08	1.49	4.08	1.93	4.00	2.23		
	Total (42)	3.93	1.77	4.19	1.79	4.07	1.81		
	CBM-HS (15)	5.00	1.51	5.00	1.55	5.33	1.29	0.85	0.60
	ICBT (14)	4.43	2.06	4.57	1.86	4.64	1.98		
	Control (13)	4.46	1.50	4.85	1.62	4.38	1.50		
	Total (42)	4.64	1.69	4.81	1.65	4.81	1.62		

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Outcomes	Condition (N)	Baseline M	Baseline SD	Post Intervention M	Post Intervention SD	6-week follow- up M	6-week follow-up SD	P T*C	P T*
Intimate partner	CBM-HS (15)	5.07	2.05	4.60	2.23	4.87	2.16	0.46	0.01*
	ICBT (14)	6.00	1.24	5.50	1.74	5.14	1.29		
	Control (13)	5.92	1.03	5.85	0.987	5.31	1.54		
	Total (42)	5.64	1.55	5.29	1.79	5.10	1.69		
Parent	CBM-HS (15)	4.00	2.00	4.33	2.09	3.53	2.03	0.81	0.02*
	ICBT (14)	4.07	1.90	3.79	2.00	3.14	2.10		
	Control (13)	5.23	1.64	4.69	2.17	4.38	2.21		
	Total (42)	4.40	1.90	4.26	2.07	3.67	2.12		
Friend	CBM-HS (15)	5.27	1.10	5.20	1.26	5.27	1.71	0.59	0.46
	ICBT (14)	4.79	1.71	4.29	1.68	4.79	1.57		
	Control (13)	4.85	1.06	4.77	1.64	4.46	1.66		
	Total (42)	4.98	1.31	4.76	1.54	4.86	1.64		
Phone (Helpline)	CBM-HS (15)	3.40	1.76	3.67	2.19	4.47	2.16	0.87	.004*
	ICBT (14)	2.71	2.01	3.50	2.06	3.43	1.98		
	Control (13)	3.31	1.97	3.77	2.12	4.15	1.62		
	Total (42)	3.14	1.89	3.64	2.08	4.02	1.95		
Nobody	CBM-HS (15)	3.40	2.23	2.53	1.99	2.20	1.69	0.61	.002*
	ICBT (14)	3.71	2.09	3.07	1.85	2.57	1.34		
	Control (13)	3.54	1.94	3.00	2.16	3.00	2.04		
	Total (42)	3.55	2.05	2.86	1.97	2.57	1.69		
GHSQ: HS Intentions (suicide ideation)									
General practitioner	CBM-HS (15)	4.27	1.75	4.20	1.93	4.07	1.98	0.93	0.79
	ICBT (14)	4.43	2.06	4.14	1.99	4.43	1.28		
	Control (13)	3.92	2.17	4.23	2.08	3.92	2.25		
	Total (42)	4.21	1.95	4.19	1.95	4.14	1.84		
Mental health professional	CBM-HS (15)	5.07	1.75	5.27	1.48	5.20	1.42	0.33	0.48
	ICBT (14)	4.64	2.37	4.29	2.19	4.71	1.97		
	Control (13)	5.54	1.19	5.38	1.32	4.77	1.58		
	Total (42)	5.07	1.84	4.98	1.74	4.90	1.65		
Intimate partner	CBM-HS (15)	4.13	2.38	4.40	2.19	4.87	1.99	0.18	0.64
	ICBT (14)	5.07	1.97	5.00	2.14	5.07	1.20		
	Control (13)	5.69	1.37	5.69	1.25	5.31	1.49		
	Total (42)	4.93	2.04	5.00	1.96	5.07	1.58		
Parent	CBM-HS (15)	2.87	2.06	3.53	2.16	3.40	1.84	0.51	0.64
	ICBT (14)	3.21	2.04	2.93	1.81	3.29	2.05		
	Control (13)	4.31	2.01	4.23	2.24	4.08	2.13		
	Total (42)	3.43	2.08	3.55	2.09	3.57	1.99		

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Outcomes	Condition (N)	Baseline M	Baseline SD	Post Intervention M	Post Intervention SD	6-week follow- up M	6-week follow-up SD	P T* ^C	P T* [*]
Friend	CBM-HS (15)	4.00	1.92	4.27	1.62	5.27	1.71	0.09	0.04*
	ICBT (14)	3.93	2.01	3.64	1.86	4.79	1.57		
	Control (13)	4.77	1.92	5.00	1.73	4.46	1.66		
	Total (42)	4.21	1.94	4.29	1.78	4.86	1.64		
Phone (Helpline)	CBM-HS (15)	4.80	1.69	4.53	2.20	4.53	2.35	0.21	0.49
	ICBT (14)	3.86	2.31	3.21	2.08	3.29	1.97		
	Control (13)	4.23	2.27	4.31	2.21	4.62	1.71		
	Total (42)	4.31	2.08	4.02	2.19	4.14	2.09		
Nobody	CBM-HS (15)	3.07	2.01	2.40	1.92	2.13	1.68	.01*	.008*
	ICBT (14)	4.14	1.99	3.21	2.15	2.36	1.21		
	Control (13)	2.92	2.10	3.38	2.43	3.31	2.21		
	Total (42)	3.38	2.06	2.98	2.15	2.57	1.76		

Note. M=Mean, SD= Standard Deviation, *p <.05, N= Sample, MH= Mental Health, CBM-HS= Cognitive Bias Modification for Help Seeking, ICBT = Internet-Based Cognitive Behavioural Therapy, GHSQ; General Help-Seeking Questionnaire, HS= Help-Seeking.

7.8.3 *Effect of Gender on Help-Seeking Intentions*

Table 7.4 presents the effect of gender on help-seeking intentions. The inclusion of age as a factor was removed because 93% of participants were in the 18–24 age group. In the scenario of personal and emotional problems, a repeated measures ANOVA showed no significant interactions between time and gender for help-seeking intentions. For the scenario of suicide ideation, there was a significant interaction between time and gender for help-seeking intentions for the formal source; general practitioner, $F(2, 72) = 3.577, p = .004, \eta^2 = .230$, although pairwise comparisons were not significant. While no significant main effects were found for intentions to seek help from the informal source of parent, pairwise comparison showed a significant increase in intentions to seek help from a parent between post-intervention and six weeks follow-up ($p = .04$) for males.

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

Table 7.4. Effect of Gender on Help-seeking Intentions

HS Intentions (Personal/Emotional problems)	Gender	Pre		Post		6wks		P (T&G)	HS for SI	Pre		Post		6wks		P (T&G)
		M	SE	M	SE	M	SE			M	SE	M	SE	M	SE	
General Practitioner	F	3.53	0.65	3.84	0.65	3.81	0.69	0.06		4.09	0.73	3.78	0.72	4.06	0.70	.004*
	M	4.16	0.96	4.75	0.97	3.50	1.03			5.08	1.08	4.58	1.07	3.58	1.04	
MH Professional	F	5.33	0.61	5.23	0.58	5.82	0.58	0.92		5.95	0.68	5.85	0.62	5.83	0.58	0.98
	M	3.41	0.90	3.25	0.85	3.91	0.86			4.91	1.00	4.58	0.92	4.08	0.86	
Intimate Partner	F	5.16	0.56	4.72	0.67	5.75	0.63	0.50		5.04	0.73	5.54	0.69	5.71	0.59	0.08
	M	5.16	0.83	4.91	0.99	4.91	0.94			3.83	1.08	3.91	1.03	5.00	0.87	
Parent	F	4.32	0.69	4.25	0.76	3.79	0.80	0.96		3.75	0.77	3.82	0.78	3.74	0.74	0.42
	M	3.91	1.03	3.75	1.13	4.50	1.18			2.16	1.14	2.25	1.15	4.41	1.10	
Friend	F	4.01	0.48	3.90	0.57	3.95	0.61	0.80		3.79	0.71	3.58	0.65	4.29	0.60	0.39
	M	5.16	0.71	5.50	0.84	5.00	0.91			4.25	1.05	4.25	0.96	5.08	0.89	
Phone (Helpline)	F	3.61	0.68	3.93	0.72	4.75	0.73	0.48		4.84	0.77	4.75	0.81	5.06	0.78	0.46
	M	3.00	1.01	3.41	1.06	3.50	1.08			4.66	1.14	3.33	1.20	3.50	1.15	
Nobody	F	3.77	0.74	2.60	0.70	2.05	0.64	0.84		2.71	0.74	2.20	0.77	1.99	0.65	0.87
	M	5.25	1.10	5.25	1.04	3.00	0.95			5.33	1.09	5.33	1.14	3.33	0.96	

Note. GHSQ; General Help-Seeking Questionnaire, HS= help-seeking, Gender: F/M= female, male, M= Mean, SE= Standard Error, P (T&G) =

*p < .05 (time and gender), SI= suicide ideation.

7.9 Discussion

This study investigated the effects of two interventions, CBM-HS and ICBT, for increasing young rural Australians' intentions to engage in mental health help-seeking via modifying their maladaptive cognitions related to mental health help-seeking stigma. It was hypothesised that CBM-HS would outperform the other conditions (ICBT and control) in terms of producing a stronger reduction in stigma levels and increased help-seeking intentions. The results show partial support for this hypothesis, with individuals in the CBM-HS condition significantly reducing help-seeking self-stigma between pre-intervention to 6-week follow-up with a large effect size. The sustained reduction at the 6-week follow-up also indicates some durability in intervention effects. Accordingly, the CBM-HS appears to have some efficacy in reducing help-seeking stigma. Additionally, examining the data trends, CBM-HS also saw a decrease in participants' negative normative beliefs, attitudes, and perceived barriers to help-seeking. This trend was superior to the ICBT intervention and the control condition.

Combined, these results support the efficacy of CBM-HS interventions within help-seeking literature and as an encouraging alternative for reducing help-seeking stigma among rural young people. The current study's results are comparable to those of Stanley et al. (2018), who reported a significant decrease in self-stigma scores for help-seeking ($p = .007$) between baseline and 2-month follow-up. Additionally, Stanley et al. (2018) found a clinically significant change in 18.8% of their participants, of whom two-thirds were in the CBM-HS condition. The present study extends the evidence base for CBM-HS by incorporating an active control, examination with a non-clinical sample, and the utilisation of more clinically comprehensive assessment measures. The measures chosen for the current study help increase the utility of CBM-HS by assessing and understanding factors (i.e., stigma, distress, etc.) that may increase or impede young people's intention to seek help. As

such, they are important for any appraisal of intervention design and, thus, its implementation.

The current findings are consistent with other research (Macleod, 2012) on the therapeutic impact of CBM procedures in reducing harmful anxious and depressive cognitions in adult populations. The replication of such findings supports its translation to a younger non-clinical population and further supports CBM-HS's capacity to decrease stigma by directly restructuring self-stigma cognitions. This result shows that CBM-HS strategies may be used to target negative bias toward service engagement and promote implicit associations, which, when it comes to supporting future help-seeking, can overcome a potentially compromised regulatory system that can impede decision-making and encourage automatic processing that sees intentions become help-seeking action (Gladwin et al., 2017). This makes CBM particularly versatile in its application.

The ICBT condition had one significant result regarding help-seeking intentions, with a decrease in young people's intentions to talk to 'nobody' if experiencing suicidal thoughts. CBM-HS also showed a downward trend in this category, which suggests that, overall, online interventions produced more effect on young people's help-seeking intentions compared to the control. The limited effect of the ICBT condition across most measures is unexpected and contrary to past intervention reviews, which found significant, albeit short-term, effects for online CBT-based materials in improving young people's attitudes towards help-seeking (Zhou et al., 2021). One explanation for ICBT's limited effect might be seen in the participant demographics, with factors such as age, non-clinical status (i.e., absence of current mental health difficulties), or familiarity with the content playing a role. These factors likely had an impact on all conditions, but ICBT more so due to having a greater reliance on text in its application. Therefore, participants' motivation to read and comprehend the materials may have been reduced if the material was not considered currently relevant to

them. On the other hand, where participants perceived themselves as already possessing a level of MHL, there may be little motivation for change due to current help-seeking or for a deeper reflection on potential latent biases, meaning ICBT's capacity to facilitate a noticeable change was limited (see Williams et al., 2025b). In comparison, the novel expediency of the CBM-HS appears to partially overcome reading, comprehension, and motivation challenges. As such, CBM-HS can appeal to a demographic that values an interactive learning experience that provides immediate feedback and that serves to boost engagement and reinforce confidence and understanding (Ajogbeje, 2023).

Of note, a significant increase in mean mental health literacy (MHL) scores, and also intentions to seek help from informal sources (partner, parents, friends, and phone), were found between time points, with no discernible differences across conditions. This change in help-seeking intentions is consistent with past findings (Lynch et al., 2023) that demonstrate young people's preference for informal help-seeking sources. It may also indicate that, as with psychoeducation (Mittal et al., 2012), participants' views of mental health symptoms, aetiology, and treatment options may have made help-seeking a more acceptable and normative undertaking. Therefore, it is possible that certain commonalities across the interventions and control led to the increase of MHL detected across all conditions. For instance, MHL may have increased simply due to participants accessing the survey and engaging with information and materials relevant to mental health. While past preventative research reports limited durability for sole MHL-based interventions (Xu et al., 2018), there is some evidence suggesting clinical utility in terms of increasing young people's awareness of mental health problems and improving their perceived acceptability of seeking help from informal sources.

Although age and gender were to be considered with regard to help-seeking intentions across time points, the characteristics of the sample did not allow for exploratory analysis

regarding age, given that the majority (93%) were 18 years and older. Thus, only gender was considered for this analysis.

Some differences were found regarding gender between time points. Notably, males showed a significant increase in intentions to seek help from both a formal (general practitioner) and informal source (parent) if experiencing suicide ideation. While this analysis was exploratory, these results contrast previous gender findings regarding help-seeking practices. First, females usually outperform males in intention scores due to generally having higher levels of MHL and possessing more positive attitudes towards receiving psychological help (Allouche et al., 2021). Second, past reviews consistently show that males have a strong preference for self-reliance or informal sources of help (Shandley et al., 2010). The results may be due to females already possessing high levels of help-seeking intentions. Alternatively, the category of suicide ideation could meet a perceived threshold of risk and need, positioning it as more acceptable for males to seek help (Williams et al., 2025b). Additionally, males endorsed the formal source of general practitioner (GP) as being more acceptable in comparison to other formal sources (e.g., psychologist), which appears consistent with findings that show males are more likely to seek help if somatising their mental health symptoms (Vickery et al., 2021).

As a final point, participant levels of distress as measured by the K10 indicated a sample mean likelihood of a moderate mental disorder at baseline and six weeks post-test. Notwithstanding the standard deviation of the distress scores, this suggests the sample possessed some sub-clinical risk for a mental health disorder, with 64.3% of participants reporting past help-seeking and 61.9% engaged formal services. These characteristics may be indicative of existing help-seeking intentions but also speak to the continued presence of self-stigma and, thus, the intervention's capacity to still reduce self-stigma within young people currently experiencing sub-clinical levels of psychological distress in addition to the target

non-clinical population. This finding is also a point of difference between the Stanley et al. (2018) study sample.

7.9.1 Limitations and Future Directions

While these findings present some support for CBM-HS as an online intervention within preventative research, limitations in design implementation, sample size, and homogeneity are acknowledged. Firstly, the survey length and repetitive nature of the questions and reliance on text may have led to participant disengagement and the resultant attrition between time points. It is noted that longitudinal-type research is highly susceptible to attrition, particularly in younger populations, and can range from 25% to 70% (Farris et al., 2021), impacting the validity and reliability of findings. However, following an initial drop-out during the pre-intervention survey, retention remained high between time points and at the 6-week follow-up. Of note, both the ICBT and control incurred more dropouts compared to the CBM-HS, which could suggest that these conditions were less acceptable to participants (i.e., 9 of 11 dropouts were in the ICBT and control between post-survey and at the 6-week follow-up). Second, despite efforts to recruit a more representative population in terms of help-seeking stigma, the sample was largely female (78.6%) undergraduate students (73.8%) and within the 18–24 age range (92.85%). Overall, the lack of diversity may have affected the generalisability of the data. Despite this, the significant reduction in self-stigma shows its continued presence, which is consistent with past findings for the target population (Aguirre Velasco et al., 2020).

Future research should include visually stimulating materials to offset the reading demands of just text with the delivery of such interventions. This could improve information retention, remove reliance on unmotivated participants where higher levels of cognitive input might have been a factor, and still maintain crucial elements of the intervention strategy.

Additionally, more diverse samples stratified for age, together with larger randomised trials with sufficient power to detect differences such as age and gender, are required. Following such trials, online CBM-HS interventions have the potential to be presented as a standalone resource and offered by a range of youth health agencies such as headspace, Beyond Blue, and Reach Out Australia (Health Direct Australia, 2025), and also within schools, TAFE, and universities as it does not require clinician delivery (King et al., 2015). This form of intervention could also serve to reduce attrition in treatment as a prelude to service engagement by increasing motivation and ‘buy-in’ to the therapeutic process (e.g., Hom & Joiner, 2017).

7.9.2 Conclusion

This study utilised a randomised controlled trial to assess the effects of two interventions (CBM-HS and ICBT) on modifying young rural Australians’ mental health help-seeking stigma to increase intentions to access mental health care within Australia. Preliminary evidence supports the superiority of online anti-stigma interventions, which utilise CBM-HS techniques over ICBT as a potential preventative online technique for decreasing self-stigma levels in young rural Australians. Following replication in larger trials with a more diverse sample, CBM-HS presents an easy-to-implement, online, self-directed intervention that requires low cognitive demand and is a novel alternative to traditional psycho-educative practices that can be directly tailored to the needs of young, non-clinical populations within rural and regional communities.

7.10 Chapter Conclusion

This chapter comprises a superiority analysis of two web-based interventions, ICBT and CBM-HS and a control condition across three time points (spanning six weeks). The interventions aimed to modify young rural Australians’ help-seeking stigma and to increase

their intentions to access mental health services within Australia. As predicted, CBM-HS significantly reduced young people's self-stigma levels compared to the ICBT condition and control. CBM-HS also showed positive trends in decreasing negative normative beliefs, attitudes, and perceived barriers to help-seeking. This trend was superior to the ICBT intervention and the control condition. Of note is a significant increase in mean MHL scores, and also intentions to seek help from informal sources (partner, parents, friends, and phone) were found between time points, with no discernible differences across conditions. These results indicate that CBM-HS strategies have shown a positive effect in their translation to a young rural population in their capacity to target negative bias toward service engagement and promote implicit associations. This implicit restructuring of young people's maladaptive thought processes appears to hold particular utility for preventative and early intervention research. For example, targeting non-clinical populations seeks to support future help-seeking by overcoming a potentially compromised regulatory system that can impede decision-making and encourage automatic processing that sees intentions become help-seeking action (Gladwin et al., 2017). Notably, with over 61.9% of the sample reporting past help-seeking behaviours, CBM-HS still saw a reduction in self-stigma, alluding to its continued presence within the sample despite reported help-seeking tendencies, showing the pervasive nature of self-stigma and CBM-HS's capacity to reduce its influence.

The results also suggest many practical implications that address some of the structural barriers rural and remote young people face. Specifically, CBM-HS's capacity to be implemented as an online, scalable, cost-effective intervention that can be presented as a standalone resource and be accessible to various community organisations, schools, and tertiary institutions. Additionally, it could also serve to increase motivation and 'buy-in' prior to therapy to support increased retention following service engagement. Predicated on the

findings of all preceding studies, this chapter presents a relevant contribution towards online anti-stigma strategies for increasing mental health service uptake in young rural Australians.

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STATEMENT OF AUTHORS' CONTRIBUTION

We, the Research Master/PhD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated in the *Statement of Originality*.

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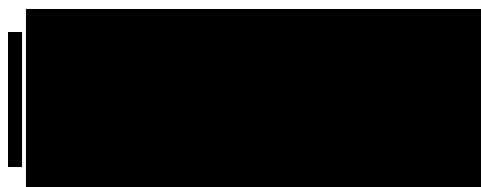
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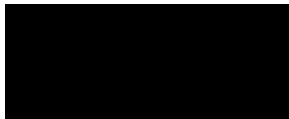
STATEMENT OF ORIGINALITY

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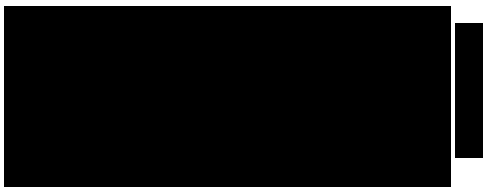
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Chapter 8: Thesis Discussion

Young Australians are overrepresented in mental health statistics in both incident rates and lack of service engagement (Solmi et al., 2022). The reduced availability of mental health services within rural and remote communities has long been associated with lower service access rates. This is compounded by a range of socioeconomic and cultural factors specific to rural communities, including low levels of mental health literacy, negative attitudes, and stigma towards mental health, all of which lead to low help-seeking tendencies in young people (Handley et al., 2019). While some service providers are seeking to address these concerns through targeted community-based programs that aim to apply an integrated early intervention approach to improve young people's mental health literacy (e.g., headspace), the ability of these programs to increase an individual's connection to care has remained limited (Australian Government Department of Health, 2019). There is currently a dearth of research addressing the needs of rural young people and the interplay of factors that influence attitudes and motivations around mental health and seeking help. The aims of the current projects are predicated on addressing these challenges, with a mixed method design informing the trial and implementation of a viable online anti-stigma intervention that seeks to increase young rural people's help-seeking and, ultimately, their access to care.

8.1 Aims of the Present Project

The overarching aim of this project is to inform and add to the clinical psychology literature about intervention strategies that address rural young Australians' stigma regarding mental health help-seeking (both self-stigma and perceived public stigma) and then compare two brief interventions that show some promise for reducing help-seeking stigma among young rural Australians, thus leading to a greater proportion of individuals seeking help and experiencing clinical improvement. Four specific aims sought to add to the evolving body of

research about alternative intervention strategies to improve help-seeking intentions and address the lack of research on interventions tailored to rural young people.

The first aim was to identify and understand the feasibility and effectiveness of accessible online help-seeking promotion strategies for addressing the increase in mental health problems among young people. This aim was addressed by conducting a systematic review (Chapter 3) on the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions, and behaviours towards mental health help-seeking.

The second aim was to assess the feasibility and effectiveness of two intervention strategies, ICBT CBM-HS, to improve attitudes and intentions towards mental health help-seeking among young rural Australians. This was addressed by conducting a pilot control trial (Chapter 4) with a convenience sample of young rural people who completed an online self-report survey and intervention task.

The third aim was to explore participants' past experiences with formal or informal help-seeking and future help-seeking intentions (i.e., why, who, and how), with this explored using qualitative methodology (Chapter 5). This addressed the following research questions:

- 1) How do young people understand mental health, and what are their attitudes toward seeking help?
- 2) How has their experience with past help-seeking shaped their future help-seeking intentions?

The fourth aim was to explore participants' individual perceptions of the acceptability and feasibility of the intervention tasks, which were analysed using qualitative methodology (Chapter 6). This addressed the following research questions:

- 3) What was the experience of young rural people with the brief online intervention task, and how acceptable did they find the task?
- 4) How feasible was the brief online intervention for young rural people in terms of engagement and encouraging their future help-seeking intentions?

The fifth aim, shaped by the results of all the preceding studies, sought to modify young rural Australians' help-seeking stigma and to increase their intentions to access mental health services within Australia. This was addressed by conducting a superiority analysis through implementing a three-armed trial with the two intervention techniques (CBM-HS and ICBT) and a control, with data collected at three time points – pre-, post-, and 6 weeks (Chapter 7).

8.2 Summary of Outcomes

Study 1 was a systematic review that evaluated the impact of web-based anti-stigma intervention strategies on modifying mental health help-seeking stigma, intentions, and behaviours in young people (14–25 years). This review provided an update on the current state of research regarding the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions, and behaviours towards mental health help-seeking. Six studies were included in the analysis. Due to the limited number of studies and high heterogeneity in research quality, sample size, and demographics, a meta-analysis was not conducted as it would not produce meaningful data. The study found online anti-stigma interventions were mostly successful in reducing public stigma and, to a lesser degree, self-stigma, and these online interventions resulted in some improvement in young people's help-seeking intentions, with some evidence also suggesting positive trends regarding increases in help-seeking behaviour and improved attitudes. Given that online interventions can reduce both public and perceived self-stigma and result in increased help-seeking outcomes that are

potentially sustained over time (Stanley et al., 2018; Shandley et al., 2010), this suggests that any future models of online interventions to reduce stigma in young people should be premised on a help-seeking model (e.g., Rickwood et al., 2005) and incorporate paradigms such as CBT or CBM. This can potentially result in interventions that engage required mechanisms of change with the capacity to overcome common help-seeking barriers such as geographic proximity and young people's preference for informal services (Radez et al., 2021; Aguirre Velasco et al., 2020) without compromising intervention quality or effectiveness.

Study 2 used a three-armed randomised control pilot trial to assess the feasibility and effectiveness of two intervention strategies, ICBT and CBM-HS, to improve attitudes and intentions towards mental health help-seeking among young rural Australians. The study comprised 53 participants between 15 and 24 years old who participated in an online self-report questionnaire battery and the intervention. The results produced limited findings for increasing help-seeking intentions between pre- and post-tasks for both interventions and the control. It was predicted that, due to CBM-HS being less reliant on participants possessing adequate cognitions/readiness to enact a modified cognitive style because of its implicit retraining techniques (Baert et al., 2011; Bowler et al., 2012), a significant increase in behavioural intentions and decrease in negative attitudes towards mental health and help-seeking would have occurred. However, while data trends indicate the CBM-HS condition saw a decrease in self-stigma levels when compared to the ICBT and control, it is suggested that its potential was diluted due to limitations in its implementation, with both interventions requiring the inclusion of further trials to more effectively assess their efficacy as preventative intervention techniques.

Study 3 used a qualitative methodology, Reflexive Thematic Analysis (Braun & Clarke, 2020), to explore young rural people's knowledge of mental health and past

experience with formal or informal help-seeking and future help-seeking intentions. This addressed the following research questions:

- 1) How do young people understand mental health, and what are their attitudes toward seeking help?
- 2) How has their experience with past help-seeking shaped their future help-seeking intentions?

The study included eight participants aged between 18 and 24 who participated in semi-structured interviews. The major themes included mental health awareness, mental health experience, and mental health values. Each major theme comprised sub-themes, including mental health literacy, the need for accessibility, safety and trust, and family values. The result of this study suggests that rural young people are willing to seek help from formal services but face key barriers that include cost and service availability. If they access services, there remain concerns for these young people regarding confidentiality and therapist connection. Despite this willingness to seek help, young people reflected on and voiced valuing self-reliance and a preference for ‘dealing with their own problems’ in the first instance. This was largely congruent with their expressed familial attitudes to mental health, which saw fluctuating patterns of support or ambivalence. Such ambivalence towards mental health and help-seeking indicates this sample population has values and intentions that are shaped through their own experience and the influence of family and raises the question of how interventions can be effectively tailored to engage them. Despite efforts to prioritise mental health with this population, awareness and help-seeking clash with ingrained patterns of behaviour that are familial based and, as such, require early intervention, education, and consistent messaging, but delivered in a different way to get the message across and overcome the associated stigma.

Study 4 is a narrative chapter that engaged qualitative methodology to explore young rural people's perceptions of the acceptability and feasibility of brief online anti-stigma interventions. Using the same participants and procedure from Study 3, this paper sought to ensure the efficacy of the piloted materials and aid in adapting mental health interventions to be both inclusive and effective in their dissemination. Content analysis, developed in line with Erlingsson and Brysiewicz (2017), was used to examine participant responses to six open-ended questions about the allocated intervention they undertook. The data was analysed and then grouped to answer two research questions:

- 3) What was the experience of young rural people with the brief online intervention task, and how acceptable did they find the task?
- 4) How feasible was the brief online intervention for young rural people in terms of engagement and encouraging their future help-seeking intentions?

The results supported that these rural young people reported predominantly positive feedback on the intervention's accessible format and the novel presentation of tasks, which prompted engagement and self-reflection. The analysis appears to endorse the design of the CBM-HS intervention above that of the ICBT condition, with recommendations for improvement, including a reduction in text and the inclusion of more visual stimuli. These findings support past research on young people's preferences regarding online intervention delivery.

Study 5 sought to modify young, rural Australians' help-seeking stigma and to increase their intentions to access mental health services within Australia. This was addressed by conducting a superiority analysis through implementing a three-armed trial with the two intervention techniques (CBM-HS and ICBT) and a control, with data collected at three time points: pre-, post-, and 6 weeks. As predicted, participants in the CBM-HS group saw a

significant decrease in their help-seeking self-stigma scores across the three time points, with a large effect size. Trends in the data also supported that the CBM-HS condition resulted in a steady decrease in participants' negative normative beliefs, attitudes, and perceived barriers to help-seeking compared to the ICBT intervention and the control. A significant increase in mean mental health literacy scores was also found between time points, with no discernible difference between conditions. In terms of gender, males saw a significant increase in their intentions to seek help from both formal (general practitioner) and informal (parent) sources if experiencing suicide ideation. Combined, these results support the efficacy of CBM-HS interventions within help-seeking literature and are an encouraging alternative for reducing help-seeking stigma among rural young people. Moreover, CBM-HS is an easy-to-implement, online, and self-directed intervention that requires low cognitive demand and presents as a novel alternative to traditional psycho-educative practices. Such findings support the idea that CBM-HS can be directly tailored to the needs of young, non-clinical populations within rural and regional communities.

8.3 Synthesis of Results

Study 1 showed that online anti-stigma interventions are mostly effective in reducing stigma and increasing young people's attitudes and intentions towards help-seeking, particularly when strategies incorporate help-seeking models (e.g., Rickwood et al., 2012) and engage mechanisms of change such as CBT and CBM principles (e.g., Collins et al., 2011; Shandley et al., 2010 and Stanley et al., 2018).

Contrary to these findings, Study 2 found no significant effects for either intervention (CBM-HS and ICBT) or control on the key outcomes of stigma (self and public) or intentions. The limited effect of the CBM-HS intervention was of note as it was predicted to have an increased effect over ICBT due to being less reliant on participants possessing

adequate cognitions/readiness to enact a modified cognitive style because of its implicit retraining techniques (Baert et al., 2011; Bowler et al., 2012). However, two important arguments should be considered when examining the theoretical basis of dual process models, which classify cognition into two processes: automatic, intuitive processing and conscious, reflective processing (Neys, 2018; Evans & Stanovich, 2013). The first is that effective motivation is necessary to adequately evaluate CBM. In this study, the data screening suggested that participant responses potentially indicated that, at the level of reflective processing, motivation to change and associated strategies and goals were not adequately addressed. Motivational interviewing (MI) techniques, originally developed within the context of addiction treatment (Miller & Rollnick, 2013), are now widely applied and crucial to many intervention strategies. MI helps establish long-term perspectives and goals. Examples of the effective combination of motivational techniques within CBM interventions are evident in a series of random control trials targeting participant biases regarding alcohol dependence (Eberl et al., 2013; Schoenmakers et al., 2010). In those studies, both regular treatment and training were administered, which enhanced motivation to change, with the participants developing an improved long-term perspective. Support for motivation as a necessary antecedent to induce effective change has been demonstrated with CBM and unmotivated problem drinkers (Wiers et al., 2015) and community smokers (Kerst & Waters, 2013). However, an online study on smoking partially overcame issues of participant motivation by only including participants who fulfilled the requirement of making an actual quit attempt, finding sustained effects in abstinence six months later in previously heavy smokers in the training condition compared to control (Elfeddali et al., 2016). The substantial differences regarding behaviour and likely motivation between a sample with alcohol dependence and participants in Study 2 support that more tailored techniques must be a consideration for help-seeking with younger people. It is argued that an effective means of

achieving greater motivation within the Study 2 sample is necessary and could potentially be elicited through stronger emotional engagement for those without pre-existing positive help-seeking levels. This could be achieved by enhancing levels of reflective processing, such as having participants engage in a brief mental imagery exercise prior to the intervention to increase their capacity to relate to the experience (Lothmann et al., 2011) or by utilising imagery and audio to encourage a more immersive experience by activating multiple sensory modalities (Rodero & Romero, 2021).

The second argument is the assumption that if the theoretical foundation for CBM is correct, then induced change is mediated by changes in bias. Where no change is apparent, it is the execution of the intervention that failed to change the targeted bias and not necessarily evidence against CBM per se (Gladwin et al., 2018). In other words, the methods utilised in Study 2 did not modify a cognitive bias due to participant characteristics (such as already high baseline help-seeking intentions with females) and lack of a controlled environment (e.g., presence of unaccounted variables that may have distracted from the task). This notion can be seen in results across multiple studies with clinically relevant effects showing a change in cognitive bias, while studies failing to meet this criterion do not (Clark et al., 2014; Macleod & Clark, 2015). This pattern demonstrates consistency with the theory that cognitive biases have a causal role in outcomes and appears to best explain the discrepancy in findings between Studies 1 and 2.

Findings from Studies 3 and 4 provide further clarity on the interplay of barriers rural young people face in accessing services, including limited mental health literacy, issues of cost, service availability, and concerns regarding confidentiality and therapist connection (Williams et al., 2025b). Additionally, nuanced discussions revealed more intrinsic barriers centred on the influence of family values that appeared to override those of the young person. Specifically, the concept of the ‘ambivalent’ parent became a commonality whereby parents

were deemed to thwart help-seeking by prescribing to their own beliefs and perceptions of need. Described as having fluctuating levels of support, their ambivalence towards mental health became a means of gatekeeping access to services during participants' adolescence. Moreover, the familial influence was highlighted in its ability to perpetuate values such as self-reliance and the association that formal intervention is reserved for high thresholds of symptom severity. Given the internalised nature of such barriers, it suggests that re-wiring biased associations to more positive and adaptive cognitions through interpretive CBM techniques holds particular relevance when seeking to increase young people's timely access to care.

Study 4 produced important feedback regarding factors that increase or impede the inclusivity and effectiveness of targeted interventions. In line with past research (Ebert et al., 2015; Zhou et al., 2021), the online delivery of self-directed interventions was well received for both the ICBT and CBM-HS tasks. Participants reported predominantly positive feedback on the intervention's accessible format and novel presentation of tasks, which prompted engagement and self-reflection. Content analysis appeared to endorse the design of the CBM-HS intervention above that of the ICBT condition, with participants recommending that ICBT be improved by reducing text and including more visual stimuli. Such feedback is consistent with young people's preference for easy-to-use, accessible modes of intervention delivery with minimal cognitive demand (Aguirre Velasco et al., 2020; Waqas et al., 2020). All participants reported a willingness to repeat their allocated tasks, with some endorsing the importance of such interventions and others expressing an interest in how their responses may change, indicating a level of intervention engagement.

Finally, the findings of Study 5 saw the CBM-HS intervention as effective in decreasing mental health help-seeking self-stigma across the three time points compared to the other conditions. The effects were most significant between baseline and 6 weeks post-

intervention, indicating some durability in intervention effects. This suggests some support for the efficacy of CBM-HS interventions within help-seeking literature and for the incorporation of the health behaviour model (e.g., TPB) and Rickwood's model of help-seeking (2012) to predict young people's intentions to engage in mental health help-seeking behaviours at baseline and across time points. A significant increase in mean mental health literacy (MHL) scores and intentions to seek help from informal sources (partner, parents, friends, and phone) was also found between time points, with no discernible differences across conditions. This change in help-seeking intentions is consistent with past findings (Lynch et al., 2023) that demonstrate young people's preference for informal help-seeking sources. It may also indicate that, as with psychoeducation (Mittal et al., 2012), participants' views of mental health symptoms, aetiology, and treatment options may have made help-seeking a more acceptable and normative undertaking.

Notably, males showed a significant increase in intentions to seek help from both a formal (general practitioner) and informal source (parent) if experiencing suicide ideation compared to females. These results may indicate that the females already possessed high levels of help-seeking intentions. Alternatively, the category of suicide ideation could meet a perceived threshold of risk and need, positioning it as more acceptable for males to seek help (Williams et al., 2025b). Additionally, males endorsed the formal source of general practitioner (GP) as being more acceptable in comparison to other formal sources (e.g., psychologist), which appears consistent with findings that show males are more likely to seek help if somatising their mental health symptoms (Vickery et al., 2021). Except for the significance of decreasing intentions to talk to 'nobody' in the suicide ideation category, the overall limited effects of the ICBT condition were unexpected and likely due to sample characteristics such as age, non-clinical status, or familiarity with the content playing a role.

These factors likely had an impact on all conditions, but ICBT more so due to having a greater reliance on text. Thus, participants' reading and comprehension of materials may have been impacted if they did not find the material personally relevant, leading to low motivation for engagement. On the other hand, where participants perceive themselves as already possessing MHL, there may be little motivation for change due to current high levels of help-seeking or for a deeper reflection on potential latent biases (see Williams et al., 2025b). The CBM-HS condition may have partially overcome this challenge due to the novel nature of the intervention that held more appeal to a study sample demographic that values an interactive learning experience and immediate feedback, as Akogbeje (2023) found.

Together, the research findings of this project suggest:

- 1) Young people's values for prioritising mental health emerge from an ingrained pattern of behaviour that requires early intervention, education, and consistent messaging to overcome.
- 2) Brief online interventions that are self-directed, easy to use, and require minimal cognitive demand can be an acceptable and viable option in engaging rural young people.
- 3) There are strong practical implications for the effective delivery of online anti-stigma interventions that target young people, including widespread availability, cost-effectiveness and user preference.
- 4) Online anti-stigma interventions that utilise CBM principles could be used to reduce help-seeking stigma among young rural Australians and lead to greater proportions of individuals embracing a timely approach to seeking help for their mental health concerns.

- 5) Dual process models that include automatic, intuitive processing and conscious, reflective processing (Neys, 2018; Evans & Stanovich, 2013) are an important consideration in assessing the effective implementation of CBM paradigms.
- 6) ‘Real world’ trials are essential to understanding young people’s preferences for mental health interventions and promoting engagement and inclusivity.
- 7) There is a need for higher quality evaluations that utilise health behaviour models and can effectively assess the interplay between relevant variables and allow for the assessment of long-term intervention effects.

8.4 Implications and Clinical Application

Despite the small body of research literature, Study 1 found strong practical implications for the effective delivery of online anti-stigma interventions that target young people, including widespread availability, cost-effectiveness, and user preference. Strategies that engage mechanisms of change, such as CBT and CBM principles for stigma reduction, have indicated promising trends for modifying young people’s maladaptive attitudes toward help-seeking (e.g., Collins et al., 2011; Shandley et al., 2010; Stanley et al., 2018). With continued exploration, these paradigms could play a significant role in bridging the gap between intention and actual help-seeking actions within this population. Study 1 provides an important foundation for developing and testing future online anti-stigma interventions.

Predicated on the systematic review findings, Study 2 piloted materials for implementing an online anti-stigma intervention to increase young rural Australians’ mental health help-seeking. Although the interventions were found to have limited effect on key outcomes (e.g., stigma, attitudes, and intentions), the research was a robust attempt to translate help-seeking theory into practice within a non-clinical rural population. Despite Study 2’s limited findings, positive trends in reducing self-stigma were evident, which

supported further trials that utilise CBM as an intervention to address symptoms/behaviours associated with biased information processing patterns to increase mental health help-seeking. Moreover, Study 2 provides a good example of how to promote and tailor such strategies for young people. This includes encouraging self-efficacy, a trait valued in young people and reflected in their preference for online modes of self-directed help-seeking (Peynenburg et al., 2020). Such interventions delivered via accessible online platforms should be explored further to improve mental health help-seeking as an alternative to current health promotion strategies.

Studies 3 and 4 provide an important supplement to the research literature by contributing a nuanced discussion on the influence of family values and parental gatekeeping with young people and their accessing mental health services. Identifying key themes that drive rural young people's help-seeking experiences, intentions, and engagement, these studies highlighted how their values and intentions are shaped through their own experience and family influence, resulting in ambivalent attitudes towards mental health and help-seeking. This raises the important question of how interventions can be effectively tailored to engage young people who are subject to such ambivalence. One approach is to assess the acceptability of interventions targeting this population to allow for a deeper understanding of the forces that may facilitate or impede the feasibility of effective implementation (Bear et al., 2024). For example, content analysis suggested young people favour CBM-HS materials because of their novel format and immediate feedback. ICBT was also endorsed as acceptable; however, participants preferred less text and the inclusion of more visual stimuli. The implication is that young people prefer a novel experience that boosts participant engagement through immediate feedback while simultaneously requiring limited cognitive output. As previously suggested, future designs should more explicitly incorporate MI techniques to enhance motivation by reinforcing a level of reflective processing through an

imagery or audio exercise to encourage a more immersive experience and, thus, motivation to engage (Miller & Rollnick, 2023; Rodero & Romero, 2021)

The results from Study 5 provide further support for the novel application of CBM training, which is also reflected in prior research supporting its application to clinical and non-clinical presentations (Macleod & Matthews, 2012; White & Dittmer, 2018). This research extended the use of the interpretation bias CBM paradigm from the mood and drinking literature to help-seeking cognitions. Further, it applied the health behaviour model (e.g., TPB) and Rickwood's help-seeking model (2012) to predict young people's intentions to engage in mental health help-seeking behaviours at baseline and across time points. The significant results of the intervention for self-stigma are in line with positive findings of prior research, with future recommendations serving to increase the overall utility of CBM strategies as a relevant and innovative model for increasing young people's mental health help-seeking. The implications of this research support previous findings in CBM literature regarding effective health behaviour strategies, which emphasise self-efficacy through self-directed principles of learning that are tailored to assisting young people in practical tasks and problems (Corp et al., 2023). In delivering these interventions in an accessible online platform, young people's reflective and implicit associations (as seen in dual process models) for mental health and help-seeking could be effectively targeted within a brief and cost-effective design, which could be an accessible alternative in rural areas with limited service access. Online CBM-HS interventions could be presented as a standalone resource or an adjunct to other interventions and be offered by a range of youth health agencies such as headspace, Beyond Blue, and Reach Out Australia (Health Direct Australia, 2025). Additionally, as CBM-HS does not require clinician delivery, it could be disseminated across schools, TAFE, universities, community groups (e.g., mentoring programs such as 'Boys to the Bush'), youth centres (Police Citizen Youth Clubs), and during the registration of young

people in sporting clubs (King et al., 2015). This form of intervention could also serve to reduce attrition in treatment as a prelude to service engagement by increasing motivation and ‘buy-in’ to the therapeutic process (e.g., Hom & Joiner, 2017).

8.5 Limitations of the Research

For Study 1, a meta-analysis was not conducted due to the small number of eligible studies identified and the heterogeneity of the research (e.g., within study designs, intervention delivery, and study quality). Additionally, only peer-reviewed studies and those published in English were included. Therefore, publication and cultural bias could have impacted the results. The review was also narrow in focus regarding specific mental health problems (e.g., anxiety, depression, emotional distress, suicidal thoughts, and self-harm). Future consideration should take account of other prevalent issues such as disordered eating and substance use.

Studies 2 to 5 had samples mainly comprised of female psychology undergraduate students. As such, the lack of diversity may have resulted in bias in terms of age, gender, and lived experience (including stigma) that affects the generalisability of the data. Moreover, the experimental manipulations of the intervention studies (2 and 5) were delivered through an online platform (Qualtrics) such that participants completed them at their own time discretion, and this potentially affected their levels of engagement and motivation, which are important components of both ICBT and CBM application. Additionally, the limited number of training sessions appeared insufficient to induce change in help-seeking intentions. This could potentially be overcome by implementing multiple training sessions spaced over a longer period to induce generalised effects.

8.6 Strengths of the Research

This thesis focused on key issues related to mental health help-seeking among rural young people and has provided a significant contribution to the emerging evidence base. The relevance of this research highlights several inequities in Australia's mental health care system with respect to rural young people and the need for further research in this area. Study 1 provided a much-needed update on the current state of research regarding the effectiveness of online anti-stigma intervention strategies in modifying young people's stigma, intentions, and behaviours towards mental health help-seeking. Predicated on the systematic review's findings, Study 2 utilised a robust experimental design using random allocation and an active control to test the effectiveness of two theoretically based instruments in targeting mental health help-seeking cognitions in young rural people. While the findings were not significant, data trends did indicate a decrease in self-stigma levels for participants in the CBM-HS condition. The theoretical implications of these interventions remain relevant to the help-seeking literature, with the web-based delivery utilised by the study demonstrating an accessible and innovative way of translating theory into practice. This was an important strength of Study 2. Additionally, the use of reflexive thematic analysis (Braun & Clarke, 2020) in Study 3 allowed for a more nuanced understanding of young people's experiences with mental health and past help-seeking, adding a level of depth and clarity to informing findings. Similarly, Study 4 used a qualitative methodology (content analysis) to produce important participant feedback regarding intervention acceptability and feasibility, together with recommendations for tailoring such strategies. This result promoted inclusivity in intervention design and can aid future dissemination of materials. For Study 5, a key strength of the research was its capacity to effectively implement an experimental design with promising support as an intervention technique targeting mental health help-seeking self-stigma in rural young people. Study 5 also had an acceptable sample size, notwithstanding

levels of attrition that commonly plague research with young people (Farris et al., 2021). With barriers such as access and anonymity presenting unique challenges to rural young people (Handley et al., 2018), the practicalities of online interventions must be considered as a way forward in improving mental health help-seeking.

CBM-HS presents an easy-to-implement, online, self-directed intervention that requires low cognitive demand. It is a novel alternative to traditional psycho-educative practices, and it can be directly tailored to the needs of young, non-clinical populations within rural and regional communities. The use of a mixed method approach for this research is a clear strength as it allowed for a comprehensive achievement of the study aims by utilising robust, standardised measures to enhance the reliability and validity of the findings and reflexivity in supplementing these findings with nuance and clarity.

8.7 Future Research

The results of Study 1 show there is a significant gap in mental health literature regarding preventative online interventions for rural young people. Future research in this area may benefit from studies that explicitly utilise help-seeking models or paradigms within the intervention design, including tailored elements targeting stigma (public and self), help-seeking attitudes, intentions, and behaviours. However, such studies also need to reliably capture young people (under 18 years of age) and also include relevant demographics such as their gender, education level, location, level of distress, and nature of concern. Moreover, due to specific developmental issues occurring within the 15–24 age group, future research should consider increased specificity to address these differences through the stratification of age groups (e.g., 15–17, 18–21 and 22–24). Additionally, the propensity for mental health issues in young rural males (Allouche et al., 2021; NRHA, 2021) suggest this group should also be a specific focus of research.

For future online interventions, consideration should be given to interpretive techniques that incorporate more visually stimulating material, perhaps delivered through an automated voice or using artificial intelligence (AI). This could address issues for unmotivated participants where reading skills might be a factor and still maintain crucial elements of the intervention strategy. Additionally, increased visual and auditory stimulation may prompt stronger action contemplation due to enhanced reflective processing following a more immersive experience and activating multiple sensory modalities (Rodero & Romero, 2021).

For effective and inclusive implementation, future studies should aim for a more diverse, age-stratified sample and larger randomised trials with sufficient power to detect differences. To increase understanding of participant needs and ensure engagement, future research should also include open-ended response questions at the conclusion of the assessment phase to test for participants' awareness of the task purpose and perceptions of relevancy.

8.8 Summary of Recommendations

The following recommendations are based on the research findings of this project.

- 1) To overcome embedded help-seeking biases within rural young people, Commonwealth Government agencies must normalise mental health and help-seeking through the promotion of mental health awareness campaigns and increased focus on student wellbeing and mental health literacy in schools, TAFE, and universities.
- 2) To connect rural young people with mental health services in a timely manner, focus is needed on extending the emerging evidence base of preventative and early intervention spheres of research.

- 3) Effective technology-based alternatives must be designed and offered to improve rural young people's access to mental health services.
- 4) Further research should be undertaken to extend the clinical literature on the effectiveness of online mental health resources in reducing stigma and increasing help-seeking intentions in rural young people.
- 5) Online interventions should be tailored to the diverse needs of rural young people to increase their engagement and ensure inclusive and culturally competent strategies are offered.
- 6) Design and implement high-quality interventions based on theoretical frameworks to assess the interplay of relevant variables and integrate strategies that utilise paradigms that engage mechanisms of change (e.g., CBT and CBM).
- 7) With the support of additional research for confirmation of sustained intervention effects, online CBM-HS interventions should be presented as a standalone resource or an adjunct to other interventions and be offered by a range of youth health agencies (e.g., headspace), schools, TAFE, universities, community groups, and sporting teams.
- 8) CBM-HS could serve to reduce attrition in treatment as a prelude to service engagement by increasing motivation and 'buy-in' to the therapeutic process.

While the above recommendations have been developed from this thesis, focusing on rural young people, many would ultimately benefit the mental health help-seeking and care for all young people.

8.9 Overall Conclusion

This thesis outlines the existing problems and gaps in the evidence base around rural young people (15–24) and the factors that influence their mental health help-seeking

attitudes, intentions, and behaviours. These problems and gaps were addressed by describing and evaluating the efficacy of current early intervention strategies and why further research is needed. This was achieved through a systematic review that evaluated the impact that web-based anti-stigma intervention strategies have on modifying mental health help-seeking stigma intentions and behaviours in young people (15–24). The strong practical implications for online anti-stigma interventions highlight the need for further exploration guided by theory and improved methodology. The thesis then expands on the existing evidence base to add to the current body of research through the piloting and superiority analysis of alternative early intervention strategies (CBM-HS and ICBT) for decreasing mental health stigma and increasing young rural Australians' intentions to access services. Furthermore, qualitative feedback aided in understanding young Australians' current mental health perceptions and in assessing the acceptability of intervention strategies for adapting future mental health interventions to be both inclusive and effective in their dissemination.

Overall, this thesis and its study evidence suggest that CBM-HS should attract future research to extend upon the current research findings and potentially reveal any sustained positive effects that CBM-HS has on young people's cognitive biases towards mental health and help-seeking. It is hoped that the current research can be used to guide preventative mental health interventions that will potentially bridge the gap between intentions and actual help-seeking behaviours to enhance timely treatment uptake and promote improved clinical outcomes for young rural Australians.

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Appendix A: Study 1: Publication Supplementary

Material

Supplementary 1: Search Concepts used

1. Help-seeking* OR “Help Seeking” OR “Seek Treatment” OR “Self Help” OR “Help Seeking Behaviour” OR “Help Seeking Techniques”

AND

2. “Mental Health” OR “Mental Illness” OR Depression* OR Anxiety* OR Suicide* OR Self-harm* OR “Emotional Distress” OR “Mental Disorder”

AND

3. “Young People” OR “Young Adults” OR Adolescents* OR Youth* OR Teenagers*

AND

4. Stigma* OR “Self Stigma” OR “Public Stigma” OR Shame* OR Denial* OR Avoidance*

AND

5. Internet* OR Online* OR Web-based* OR e-health* OR “Information Technology”

AND

6. Intervention* OR “Self Help” OR Support* OR Therapy* OR Program* OR Counselling* OR Psychoeducation* OR “Mental Health Support”

Supplementary 2: JBI Quality Assessment

Random Controlled Studies (RCTs)	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10	Q.11	Q.12	Q.13
Davies et al. 2018	Yes	No	Yes	No	No	Yes	No	Yes	Yes	Yes	Unclear	Yes	Yes
Howard et al. 2018	Yes	Yes	Unclear	Yes	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stanley et al. 2018	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Unclear
Taylor-Rodgers et al. 2014	Yes	Yes	Unclear	Yes	No	No	Yes	Yes	Yes	Yes	Unclear	Yes	Yes
Cross-sectional Study	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8					
Collins et al. 2011	Unclear	Yes	Yes	Yes	No	No	Unclear	Yes					
Quasi-Experimental Study	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9				
Shandley et al. 2010	Yes	Yes	Unclear	No	Yes	Yes	Yes	Unclear	Yes				

**Supplementary 3: Random Controlled Study Checklist: Tufanaru et al.
(2020)**

1. Was true randomisation used for assignment of participants to treatment groups?
2. Was allocation to treatment groups concealed?
3. Were treatment groups similar at the baseline?
4. Were participants blind to treatment assignment?
5. Were those delivering treatment blind to treatment assignment?
6. Were outcomes assessors blind to treatment assignment?
7. Were treatment groups treated identically other than the intervention of interest?
8. Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?
9. Were participants analysed in the groups to which they were randomised?
10. Were outcomes measured in the same way for treatment groups?
11. Were outcomes measured in a reliable way?
12. Was appropriate statistical analysis used?
13. Was the trial design appropriate, and any deviations from the standard RCT design (individual randomisation, parallel groups) accounted for in the conduct and analysis of the trial?

Supplementary 4: Cross-Sectional Study Checklist: Moola et al. (2020)

1. Were the criteria for inclusion in the sample clearly defined?
2. Were the study subjects and the setting described in detail?
3. Was the exposure measured in a valid and reliable way?
4. Were objective, standard criteria used for measurement of the condition?
5. Were confounding factors identified?
6. Were strategies to deal with confounding factors stated?
7. Were the outcomes measured in a valid and reliable way?
8. Was appropriate statistical analysis used?

Supplementary 5: Quasi-Experimental Studies Checklist: Tufanaru et al.

(2020)

1. Is it clear in the study what is the ‘cause’ and what is the ‘effect’ (i.e., there is no confusion about which variable comes first)?
2. Were the participants included in any comparisons similar?
3. Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?
4. Was there a control group?
5. Were there multiple measurements of the outcome both pre and post the intervention/exposure?
6. Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?
7. Were the outcomes of participants included in any comparisons measured in the same way?
8. Were outcomes measured in a reliable way?
9. Was appropriate statistical analysis used?

Appendix B: Study 2 & 5: Publication Supplementary Material

Supplementary 1: CBM-HS Practice Block

There are 65 seconds in a minute [False]

The capital of Australia is Sydney [False]

The longest river in the world is the Nile [True]

The moon is wider than Australia [False]

$4 \times 2 = 8$ [True]

There are 365 days in 1 year [True]

Supplementary 2: Table 1 Cognitive bias modification- help-seeking (CBM-HS) stimuli and correct answers (Stanley et al., 2018)

Stimuli	Correct answers
I am the only one who needs help	False
Seeking help means I am a failure	False
Seeking help means I am exaggerating my problems	False
Seeking help means I am not strong enough	False
Seeking help means I am to blame for my problems	False
Seeking help means I have failed at dealing with my problems	False
Stimuli	Correct answers
Seeking help means I have no willpower	False
Seeking help means I am weak	False
I am a bad person if I seek help	False
Seeking help means I am not resourceful	False
Therapy is not effective	False
Therapy is not helpful	False
I should be able to solve all of my problems on my own	False
I am not the only one who needs help	True
Seeking help means I am resourceful	True
Seeking help means I am investing in my health	True
Seeking help means I want to get better	True
Seeking help means I am responsible	True
Seeking help means I am dealing with my problems	True
Seeking help means I have willpower	True
Seeking help means I am strong	True

RURAL YOUNG PEOPLE AND MENTAL HEALTH HELP-SEEKING

I am not a bad person if I seek help	True
Seeking help means that I am resourceful	True
Therapy can be effective	True
Stimuli	Correct answers
Therapy can be helpful	True
I may not be able to solve all of my problems on my own	True

Note. Participants were provided corrective feedback for correct (“That’s right! You are correct!”) and incorrect (“That is incorrect.”) answers.

Appendix C: Study 3 Publication Supplementary Material

Supplementary 1: Comprehension questions:

- In your own words tell me the purpose of this study.
- Can you tell me what is required of you in this study?
- How do you think this research will benefit others?
- Can you briefly explain what mental health help-seeking means?
- Can you give describe the difference between seeking formal, informal or self-help?

Q1 - Have you had any past experiences with seeking help for any mental health concerns?

If yes:

- Reason for seeking help
- Type of help sought and why (formal, informal or self-help)
- Was it helpful (why or why not)
- Would you consider seeking help again in the future if you experienced difficulties?

If no:

- Was there ever a time when you thought seeking help could have been helpful for you?
- If no, why is that?
- If yes, what type of help would you have sought and why (formal, informal or self-help)
- Would you consider seeking help in the future if you experienced difficulties?
- If yes: type of help sought and why
- If no: why is that?
- What stopped you from seeking help?

Q2 - Generally, what are reasons you think people may seek help?

Q3 - Why do you think some people experience mental health issues and others don't?

Q4 – (Depending on allocated intervention- there may be follow-up questions, e.g., has this always been your opinion, or has it changed in any way since completing the intervention component of the study?).

Q5 - How would you describe your attitude towards mental health? (follow-up question) And seeking treatment? Would you think any differently of yourself or someone you know if they sought treatment?

Q6 - How would you describe you family attitudes towards mental health? And seeking treatment?

Q7 - How would you describe your friends' attitudes towards mental health? And seeking treatment?

Q8 - How would you know if you should seek help?

Q9 - Do you have someone you talk to when facing difficult times, or just needing to vent?