Contemporary Clinical Trials 102 (2021) 106268

Contents lists available at ScienceDirect

Contemporary Clinical Trials

journal homepage: www.elsevier.com/locate/conclintrial

Group mindful self-compassion training to improve mental health outcomes for LGBTQIA+ young adults: Rationale and protocol for a randomised controlled trial

Amy Finlay-Jones [a,b,*], Penelope Strauss [a,b], Yael Perry [a], Zoe Waters [a,b], Dylan Gilbey [a,b], Meg-an Windred [c], Adrian Murdoch [c], Charlotte Pugh [a], Jeneva L. Ohan [b], Ashleigh Lin [a,b]

[a] Telethon Kids Institute, PO Box 855, Perth 6872, Australia
[b] School of Psychological Science, The University of Western Australia, 35 Stirling Highway, Perth, WA 6009, Australia
[c] Minus18, 81 Rupert St, Collingwood, VIC 3066, Australia

ARTICLE INFO

Keywords:
LGBT*
Youth mental health
Mindfulness
Self-compassion
Telehealth
Sexual minority
Gender minority

ABSTRACT

Background: Young adults who are lesbian, gay, bisexual, trans, queer or questioning, intersex, asexual and other diverse genders and sexualities (LGBTQIA+) are more likely to experience mental health difficulties and are at significantly elevated risk of substance abuse, self-harm and suicide, relative to their heterosexual, endosex and cisgender peers. There is a need for effective mental health interventions for LGBTQIA+ young adults. Mindful Self-Compassion training is a promising approach; among LGBTQIA+ individuals, self-compassion accounts for more variation in mental health outcomes than bullying, victimization, and adverse childhood experiences combined. Furthermore, LGBTQIA+ individuals with high self-compassion report more positive identity and happiness, less self-stigma, and lower suicidality than those with low self-compassion.

Method: This paper outlines the rationale and protocol for a single-blind CONSORT-compliant randomised controlled trial, comparing group Mindful Self-Compassion to a delayed-treatment waitlist control group, for improving mental health, decreasing self-criticism and increasing self-compassion in LGBTQIA+ young adults (age 18–25 years). Mindful Self-Compassion training is an 8-week group program that focuses on cultivating self-compassion and mindfulness. While typically delivered as a face-to-face program, the proposed trial will investigate efficacy of the program when provided via videoconferencing.

Discussion: Videoconference Mindful Self-Compassion training has the potential to improve the mental health of Australian LGBTQIA+ young adults and provide a possible cost-effective, scalable intervention for this population. The proposed trial will be the first to determine its efficacy for LGBTQIA+ young adults and will provide the first data on the delivery of the program via videoconferencing.

List of abbreviations

LGBTQIA+	Lesbian, Gay, Bisexual, Trans, and/or Queer or questioning, Intersex, Asexual and other diverse genders and sexualities
RCT	Randomised Controlled Trial

1. Introduction

Lesbian, gay, bisexual, trans, queer or questioning, intersex, asexual and other diverse genders and sexualities (LGBTQIA+) young people are at substantially increased risk of mental illness relative to their heterosexual, cisgender (non-trans) and endosex (non-intersex) peers [1–3]. According to minority stress theory, LGBTQIA+ youth experience distress because of conflict between their sexual or gender identity and the identities that are accepted and valued within the dominant social

* Corresponding author at: Telethon Kids Institute, PO Box 855, Perth 6872, Australia.
E-mail addresses: amy.finlay-jones@telethonkids.org.au (A. Finlay-Jones), Penelope.strauss@telethonkids.org.au (P. Strauss), yael.perry@telethonkids.org.au (Y. Perry), zoe.waters@telethonkids.org.au (Z. Waters), ylan.gilbey@telethonkids.org.au (D. Gilbey), meg.an@minus18.org.au (M.-a. Windred), adrian@minus18.org.au (A. Murdoch), charlotte.pugh@minus18.org.au (C. Pugh), jeneva.ohan@uwa.edu.au (J.L. Ohan), Ashleigh.lin@telethonkids.org.au (A. Lin).

https://doi.org/10.1016/j.cct.2021.106268
Received 6 October 2020; Received in revised form 10 December 2020; Accepted 1 January 2021
Available online 6 January 2021

framework [4]. Accordingly, they experience chronic social stressors that are unique to LGBTQIA+ people, including stigma, discrimination, and marginalisation [4], which contribute to a range of adverse health outcomes [5]. Understanding factors that contribute to *resilience* in the face of such stressors is an imperative for research and translation efforts aimed at improving the health of LGBTQIA+ youth [6].

Self-compassion is a modifiable individual difference factor that appears to play a role in promoting wellbeing and resilience in the context of minority stress [7–9]. According to Neff [10], self-compassion is an adaptive response to difficulties that involves (i) being mindfully aware of one's difficult experiences, rather than overidentifying with them; (ii) acknowledging that suffering is universal, rather than feeling isolated in one's struggles; and (iii) being caring towards oneself, rather than judgemental, during times of hardship. It has been proposed that together, these components may buffer the internalization of stigma – one process linking exposure to minority stress with subsequent adverse health outcomes [8].

Previous studies have found that self-compassion inversely predicts internalized homophobia among some subgroups of LGBTQIA+ young adults [11], and is positively associated with positive identity development and happiness among LGBTQA+ adults [12,13]. Two studies found that among LGBTQIA+ adolescents, self-compassion was inversely associated with suicidal ideation and attempts [9], and accounted for more variation in mental health outcomes than bullying, victimization, and adverse childhood experiences combined [7]. These findings are drawn from the same cohort, using a cross-sectional, correlational design, which limits generalizability and conclusions regarding directionality. Nevertheless, they provide some support for further exploring self-compassion as a potential target for interventions that aim to promote resilience among LGBTQIA+ youth. Further, studies have demonstrated that self-compassion can be cultivated through training, with concomitant benefits for mental and physical health in clinical and community samples [14–16]. For example, a recent meta-analysis of randomised controlled trials (RCTs) reported large effect sizes for eating behaviour and rumination, and moderate effects for self-compassion, mindfulness, self-criticism, stress, depression, and anxiety.

LGBTQIA+ populations also often face barriers to accessing traditional mental health services beyond those experienced by their heterosexual and cisgender peers [17,18]. Some individuals do not feel "queer enough" to access LGBTQIA+-specific services, but also do not feel safe accessing mainstream services [19]. Recent research highlighted that 60% of trans and gender diverse young people felt isolated from both medical and mental health services [20]. Improving mental health via targeted interventions is urgently needed, yet there are few evidence-supported mental health interventions for this group [21–23]. Of the four RCTs identified to date, none are self-compassion-based [24–27].

2. Methods

2.1. Funding and registration

The study is funded by an Australian Rotary Health Mental Health Grant. It has been registered with the Australian and New Zealand Clinical Trials Registry.

2.2. Aims

The proposed study seeks to determine whether self-compassion training is an efficacious intervention for improving mental health in a community sample of LGBTQIA+ young adults. Within the broader domain of self-compassion interventions, established and empirically-supported intervention approaches include the Mindful Self-Compassion training program [16,28,29], Compassion Cultivation Training [30,31], and Compassion Focused Therapy [32–34]; each of these has similar elements but include different theoretical models, and have differential focus on self- versus other-focused compassion. Currently, there are no studies directly comparing the efficacy of these different programs or documenting their comparative acceptability among different target groups. In the proposed study, we selected Mindful Self-Compassion training as the intervention approach because (a) it can be delivered by non-specialist facilitators (i.e. those who have completed Mindful Self-Compassion teacher training but are not qualified healthcare professionals); (b) it is designed for non-clinical populations; and (c) it has a robust international teacher training model, thereby supporting translation of evidence into practice should it provide to be effective. The training will be delivered via videoconferencing, due to COVID-19 social distancing requirements. Further, we will explore and describe the feasibility and acceptability of this program.

To understand mechanisms by which the Mindful Self-Compassion program may improve mental health, we will test three mediators: self-compassion, self-criticism, and emotion regulation difficulties. Conceptually, self-compassion is the most coherent potential mediator and testing mediation effects via changes in self-compassion will give us some insight into the specificity of the intervention effects. We have also included self-criticism as a mediator given that Mindful Self-Compassion content focuses specifically on working with the "inner critic" in addition to developing a more compassionate self. Finally, we have included reductions in emotion regulation difficulties as a proposed mediator based on prior work that emotion regulation mediates the relationship between self-compassion and mental health outcomes [35–37].

2.3. Study design and hypotheses

The proposed study will be a single-blind CONSORT-compliant randomised controlled trial, comparing Mindful Self-Compassion – an 8-week group-based self-compassion training - with a delayed-treatment waitlist control group. The study is designed to test the hypothesis that videoconference-delivered group Mindful Self-Compassion training will improve mental health outcomes among Australian LGBTQIA+ young adults (18–25 years), relative to waitlist control. We will test the following hypotheses:

i) Participants in the Mindful Self-Compassion intervention will report significant improvements in self-compassion from baseline to 16-week follow-up, compared with participants in the waitlist control group.
ii) Participants in the Mindful Self-Compassion intervention will report significant reductions in depression, anxiety, stress, self-criticism, and emotion regulation difficulties from baseline to 16-week follow-up, compared with participants in the waitlist control group.
iii) Reductions in depression, anxiety and stress will be mediated by improvements in self-compassion, self-criticism, and reductions in emotion regulation difficulties.

We will also explore change in outcomes over 6 months (i.e. from baseline to 24-week follow-up) for the intervention group only. We will investigate the acceptability of the program by conducting interviews with participants, program facilitators, and peer facilitators. An overview of the study design is shown in Fig. 1.

2.4. Study population

Participants will be Australian young adults, aged between 18 and 25 years who are LGBTQIA+ (lesbian, gay, bisexual, trans, and/or queer or questioning, intersex, asexual and other diverse genders, and sexualities). We are interested in understanding the impact of the program on dimensional measures of mental health difficulties (depression, anxiety, stress, emotion regulation difficulties, self-criticism), as well as positive mental health dimensions (self-compassion) among a community

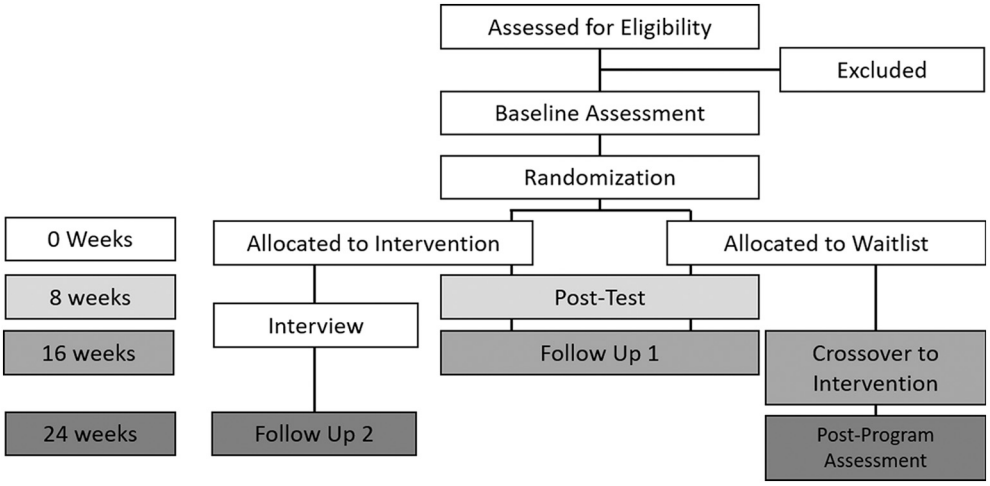

Fig. 1. Study design.

sample of LGBTQIA+ youth. In line with prior research, we anticipate that participants will reported elevated mental health symptoms at baseline, however in order to increase the accessibility and reach of the program we will not require participants to report symptoms above a certain threshold in order to be included.

Participants need to be able to attend the group intervention via videoconference for 2 h per-week for 8 weeks. This means that participants will require access to an internet-enabled device with audiovisual capabilities. Further inclusion criteria include living in Australia and speaking fluent English. Exclusion criteria includes current suicidal ideation with intent (score ≥ 4), as measured using the Columbia Suicide Severity Rating Scale (C-SSRS).

2.5. Intervention

Mindful Self-Compassion training is an 8-week group program designed to cultivate mindfulness and self-compassion through a combination of psychoeducation, meditation practice, group interaction and interpersonal exercises (see Table 1 for an overview). The program is delivered by a Mindful Self-Compassion-trained facilitator and is typically delivered in a face-to-face setting. For the purposes of the current trial, we will deliver the program using videoconferencing software (Zoom for Education, which is currently HIPAA compliant and 256-bit encrypted). As noted, this mode of delivery is necessitated by social distancing requirements because of COVID-19; however, it is also arguably a more accessible form of delivery for LGBTQIA+ young adults and warrants empirical investigation. LGBTQIA+ Australians often feel excluded from mainstream services, and experience difficulties in accessing services tailored to LGBTQIA+ populations, or finding mental health support that is inclusive of LGBTQIA+ identities and expressions [19]. Moreover, LGBTQIA+ young people often engage with online spaces [38], thus a virtual program may be appealing. In considering the adaptation of Mindful Self-Compassion for videoconference delivery, we will refer to the recently developed clinical guidelines to support the provision of virtual mental health treatments for LGBTQ+ youth. Breakout rooms will be used to facilitate small group discussions, and to support management of individuals who experience distress during the program and require 1:1 support from a facilitator.

In the current trial, Mindful Self-Compassion will be delivered with a queer peer facilitator present. Peer support has found to be a particularly useful model for LGBTQIA+ young people [39]. The Mindful Self-Compassion program protocol was reviewed by our community partner organisation to ensure the language used is appropriate for the target groups. While we have not made any changes to the program content, an understanding of how Mindful Self-Compassion content applies to the experiences of LGBTQIA+ youth will be gained via our interviews with participants and facilitators.

Table 1
Outline of Mindful Self-Compassion Intervention Content.

Session 1	General introduction and review of self-compassion
Session 2	Introduction to mindfulness
Session 3	Discussion of the applications of self-compassion
Session 4	Development of a compassionate inner voice
Session 5	Discussion of the importance of living in accordance with core values
Session 6	Development of skills to deal with difficult emotions
Session 7	Exploration of how to deal with challenging relationships
Session 8	Discussion of how to relate to positive aspects of the self and one's life with appreciation

2.6. Recruitment, randomization and allocation

The study will be advertised via social media and through peer support, clinical, and advocacy groups for LGBTQIA+ young people, including our project partners, Minus18. Potential participants will contact the research team via a weblink on the recruitment material. Informed consent to participate will be completed online. Consenting participants will then be contacted by telephone by the research assistant to screen for eligibility. Screening questionnaires will be completed over the phone before acceptance into the study. Potential participants will be screened for suicidal ideation and intention/plan to act and managed in line with the safety protocol (see Section 2.6.1). After eligibility is met for the program, we will wait until we have a sufficient sample size to randomize for the first wave of intervention (12 per condition). Once this is reached, participants will be asked to complete the baseline assessment measures online a week before commencing the program.

Eligible participants will be randomised to receive MINDFUL SELF-COMPASSION or waitlist in a ratio of 1:1. Randomization and allocation will be done via the online questionnaire software Qualtrics. Researchers, participants, and facilitators will not be blind to condition allocation, however, the researcher completing the analysis will be blind. For each wave, participants in both conditions will be asked to complete forms at 8 weeks (i.e. after the intervention), and at 16 weeks post-baseline (follow-up 1). Following the first follow-up, waitlist

participants will receive the Mindful Self-Compassion program. Participants in the Mindful Self-Compassion condition will be asked to complete a second follow-up at 24 weeks post-baseline (follow-up 2), while waitlist participants who have crossed over to the Mindful Self-Compassion program will complete an abbreviated post-program assessment at the same time-point. Participants will also receive AUD $20 for completing each assessment apart from baseline.

2.7. Data collection and study measures

2.7.1. Eligibility screening

Potential participants will be contacted via telephone to assess eligibility, including ensuring the individual is providing informed consent, is able to attend at least 80% of the sessions, and to screen for current suicidality. A suicide risk assessment will be completed using the Columbia-Suicide Severity Rating Scale (C-SSRS), a comprehensive assessment tool of current and historic risk of suicide [40]. A provisionally or fully registered general or clinical psychologist will complete the screening. If a provisionally registered psychologist completes the screening they will do so under the supervision of a fully registered psychologist. The assessment measures suicidal thoughts and behaviour and provides a score for both risk and frequency of thoughts/behaviour. The C-SSRS has proven valid and reliable psychometric properties, in addition to being sensitive to change in risk [40]. The threshold for study exclusion will be scoring a 4 or higher (i.e., a score that reflects at minimum active suicidal ideation with some intent to act, without a specific plan). Participants who are excluded from the study on the basis of suicidality will be made aware of why they were excluded and researchers will follow these steps to ensure their safety: 1) identify a safety person with the young person and encourage contact (via the individual or researcher), 2) the young person will be provided with contact details of support services (including nearby emergency departments). The researcher will request permission to follow up with the young person via phone or email within 72 h to determine if they need additional support. If a participant indicates suicidality at any time during the program the same steps will be followed to ensure the participant's safety.

2.7.2. Outcome measures

All quantitative outcome measures will be administered online, via Qualtrics.

Depression symptoms will be measured using the 9-item Patient Health Questionnaire (PHQ-9) [41]. The PHQ-9 is a reliable and valid scale used for screening and monitoring the severity of depression. Scores 10 and above indicate moderate depression, and scores 15 and above indicate moderately severe to severe depression [41]. The PHQ-9 is a useful measure due to its brevity and its direct link to the diagnostic criteria for depression. If an individual indicates suicidality on the PHQ-9, a member of the research team will follow-up with the participant following the steps as indicated above for the initial eligibility screening for suicidality.

Anxiety symptoms will be measured using the Generalized Anxiety Disorder 7-item scale (GAD-7) [42]. The GAD-7 is a widely used self-report scale to screen and monitor anxiety symptoms. The GAD-7 has demonstrated good validity and reliability [42], and excellent internal consistency ($\alpha = 0.92$; 42). Total scores range from 0 to 21; scores above 10 indicate moderate anxiety, scores above 15 indicate severe anxiety [42].

Stress symptoms will be measured using the 10-item Perceived Stress Scale (PSS-10; 43). This is a widely used measure of perceived stress (i.e. the extent to which people feel overwhelmed and unable to cope because of stress). The PSS-10 is reported to be both a valid and reliable measure, with Cronbach's alpha ranging from 0.84 to 0.86 [43].

Self-compassion will be measured using the Short Form of the Self-Compassion Scale (SCS-SF; 44). The SCS-SF is a 12-item measure used for examining the six subcomponents of self-compassion: self-kindness, self-judgement, common humanity, isolation, mindfulness, and over-identification. Each item is rated on a 5-point scale, and a total self-compassion score is generated. The measure has good reliability and validity (Cronbach's alphas $\geq$0.86 across three samples), and has a high correlation with the total score of the long form Self-Compassion Scale [44].

Self-criticism and self-reassurance will be measured using the Forms of Self-Criticism and Self-Reassurance scale [45]. This scale consists of 22 items, each rated on a 5-point Likert scale. It measures two forms of self-criticism, comprising feelings of self-inadequacy and of self-hate, respectively. It also measures the ability to reassure oneself when things go wrong. Synthesis of previous studies using this scale has found Cronbach's alphas between 0.87 and 0.91 for the self-inadequacy scale, 0.82 to 0.89 for the self-hate scale, and 0.82 to 0.88 for the self-reassurance scale [46].

Emotion regulation difficulties. Emotion regulation difficulties will be measured using the Difficulties in Emotion Regulation Short Form (DERS-SF), a widely-used, reliable and validated 18-item measure of emotion regulation problems [47]. The DERS-SF measures six dimension of emotion regulation: awareness of emotions, emotional clarity, acceptance of emotions, access to emotion regulation strategies, ability to engage in goal-directed behaviour when experiencing negative emotions, and impulse control in the face of difficult emotions. It provides a total score for emotion regulation difficulties. The DERS-SF has similar, if not better, psychometric properties than the full-length DERS, and demonstrates acceptable validity and reliability, with Cronbach's alpha for each of the DESR-SF subscales ranging from 0.79 to 0.91 [47].

2.7.3. Qualitative data collection

Intervention acceptability will be explored via interviews with 20 participants and all facilitators (including the Mindful-Self-Compassion trainer) following completion of the program. A semi-structured interview protocol will be used. Interviews will be audio recorded and transcribed to ensure reliability and rigour in the data analysis. Participants from the Mindful Self-Compassion group will be randomly selected to complete a phone/videoconference interview with a researcher to discuss their experience of participating in the training program. We will ask about benefits and drawbacks of videoconferencing as a means of intervention delivery, as well as their experiences of self-compassion training and other aspects of intervention feasibility and acceptability. Facilitators will be asked similar questions on their experience of delivering the program and their views on the acceptability of the videoconferencing format of the intervention. In total, 20 participants will be interviewed, or as many as needed to reach thematic saturation. Data on attendance and study attrition will also be analysed to inform intervention feasibility. All intervention facilitators will be requested to complete an interview following completion of the program.

2.8. Data analysis, sample size and power

All statistical analysis will be conducted by a researcher who is blinded to the allocated condition of the participant. We will run a series of Generalized Linear Mixed Models (GLMMs) – one for each of the six outcome measures. Each of the GLMMs will include two nominal random effects (participant and site), one nominal fixed effect (condition: Mindful Self-Compassion and Waitlist), one ordinal fixed effect (time: pre, post, and 16-week follow-up; and, for the Mindful Self-Compassion group only, 6-month follow-up), and the Condition $\times$ Time interaction. We will run separate GLMMs for each outcome, in order to optimize the likelihood that the GLMM solution will converge. Sample size estimates are therefore based on a Bonferroni-corrected alpha ($0.05/6 = 0.008$) to account for multiple statistical tests. Using medium effect sizes [28], a total sample of 71 participants is required for power = 0.80 and $\alpha = 0.008$ [48]. A target of 96 people (48 per group) has been set to allow for intervention drop out (~25%). To test our third

hypothesis, we will use multiple mediational analysis with bias-corrected bootstrap samples in Mplus to test total and specific indirect effects.

Qualitative analysis will be conducted using NVivo software to assist with coding. A general inductive approach will be used to analyse the data thematically, whereby the researchers allow the themes to emerge from the data [49]. Comparisons will be drawn between the participant and facilitator groups to inform future programs.

2.9. Data management

All data provided will be treated confidentially by researchers, study staff members and group facilitators. Information will be disclosed only by permission of the participant, or as required by law. The data provided will be kept for a minimum of seven years following publication of the data. All raw data will be kept in a non-identifiable way, stored in a secure digital location on Telethon Kids Institute servers. Audio files will be uploaded to a secure sever on a locked computer and stored in a deidentified format. After data analysis is complete, original audio files will be destroyed.

3. Discussion

3.1. Significance

This paper describes the protocol for a randomised controlled trial designed to assess the efficacy of a Mindful Self-Compassion training program for both increasing self-compassion and decreasing psychological distress and self-criticism for young adults who are LGBTQIA+. Although young adulthood is already a high-risk period for development of mental health difficulties [50], LGBTQIA+ young people are at even higher risk of developing a mental health disorder compared to their heterosexual,cisgender and endosex peers.

Despite the identified high-risk of mental ill-health within the LGBTQIA+ population, there is a lack of evidence-based mental health intervention and support that meet the specific needs of LGBTQIA+ young people. Further, barriers can prevent access to traditional mental health services. While previous research with LGBTQIA+ individuals has demonstrated links between low self-compassion and suicidality [9], eating disorder proneness [51], and symptoms of depression and anxiety [7], the impact of self-compassion training in this population has not yet been explored. Given that the literature has documented significantly lower self-compassion among LGBTQIA+ individuals when compared to the general population [7], investigation of self-compassion training to promote better mental health outcomes among this group is warranted. This trial will represent the first trial of Mindful Self-Compassion training for any LGBTQIA+ population, worldwide. This trial will provide the first Australian efficacy data for an intervention that aims to both improve positive mental health outcomes (self-compassion) and decrease symptoms of depression and anxiety in LGBTQIA+ young adults. We anticipate that the findings from this study will have important implications for prevention, as well as treatment, for mental health difficulties in this population. However, as we are not specifically targeting a clinical sample, the generalizability of the findings to clinical samples will depend on the baseline distress of our recruited participants.

Mindful Self-Compassion is a group program, which – if found effective – offers a scalable, and potentially cost-effective means of delivering mental health support to LGBTQIA+ youth. Group programs provide the added benefit of connecting young people with similar experiences. We anticipate that this will be beneficial for our target group given that these young people can feel isolated from their peers, particularly if they are not “out” to their family and friends. There are no prior published RCTs of Mindful Self-Compassion training via videoconferencing. The videoconferencing format of this intervention offers many potential advantages. It allows for participation from anywhere across Australia within a relatively small budget, including young people living in regional and remote regions, for whom self-compassion group programs or LGBTQIA+ specific interventions would otherwise be inaccessible. LGBTQIA+ people living outside of metropolitan areas may lack LGBTQIA+ safe spaces and safe mental health care. In addition, many young people do not feel comfortable attending LGBTQIA+ groups or services [19]. As such, the videoconferencing format may also offer a less intimidating alternative.

In contrast, some features of videoconferencing could potentially interfere with successful implementation of the Mindful Self-Compassion training program. A recent systematic review of evidence for group-based telehealth interventions indicated that therapeutic alliance may be slightly reduced when using videoconferencing, relative to face-to-face delivery [52]. Accordingly, by utilising a qualitative methodology to assess acceptability, this trial offers a unique opportunity to conduct a nuanced exploration of the benefits and drawbacks of videoconferencing technology to deliver group programs to LGBTQIA+ young adults. Given the uncertainty associated with social distancing restrictions in the future, it is both prudent and opportunistic to explore this novel approach to delivering Mindful Self-Compassion training. The degree to which the results of this trial will generalise to face-to-face delivery in this population, however, will require separate evaluation once COVID-related restrictions have been removed and it is safe to proceed.

3.2. Design strengths and limitations

Due to a lack of appropriate comparators, this trial will test the efficacy of Mindful Self-Compassion training relative to a waitlist control group only. Furthermore, all outcomes are measured via self-report. Partnering with an LGBTQIA+ support organisation (Minus18) for this trial is invaluable. Representatives from the organisation, alongside our LGBTQIA+ reference group, have provided input on the study design, including reviewing the Mindful Self-Compassion training protocol to ensure that there is no material that may be offensive to study participants. While we did not adapt the program specifically for this target group, we will use themes arising from interviews with participants and facilitators to determine if adaptations may be beneficial for future iterations of the program. Further, peer mentoring and facilitation has been demonstrated to be useful for LGBTQIA+ young people, especially for fostering social support [39]. Thus, the inclusion of a peer facilitator will allow for better engagement and encourage participation in group discussions.

Ethics approval and consent to participate

This study has received ethics approval from the University of Western Australia (HREC RA/4/20/6094).

All participants will fill out a consent form as part of their online screening questionnaire. The consent will specify that their (de-identified) data will be used for research purposes and that they consent to being invited to a follow-up interview.

Consent for publication

Not applicable.

Availability of data and materials

No datasets were analysed during the preparation of this protocol paper. Materials used are available, upon reasonable request, via contact with the corresponding author.

Funding

This research is funded by Australian Rotary Health as part of the

Mental Health of Young Australians (0–25 years) Project Grants. Australia Rotary Health had no role in the study design, data collection and analysis, or the writing of the manuscript. AL is funded by an NHMRC Career Development Fellowship (#1148793).

Authors' contributions

AFJ and JO conceived of the study. AFJ, AL, PS, JO and YP initiated the study design and secured funding. Australian Rotary Health are grant holders. AFJ, CP and ZW compiled the draft protocol for review. All authors contributed to refinement of the study protocol and approved the final manuscript.

Declaration of Competing Interest

AFJ is a trained and/or certified facilitator of several compassion training programs, including Compassion Cultivation Training, Mindful Self-Compassion Training, Mindfulness-Based Compassionate Living, and Making Friends with Yourself. She is also the developer of the Self-Compassion Online program.

Acknowledgements

We would like to acknowledge and thank our Youth Reference Group members for their input into the study.

References

[1] L. Hillier, T. Jones, M. Monagle, N. Overton, L. Gahan, J. Blackman, et al., Writing Themselves In 3 (WTi3), Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, Australia, 2010.
[2] K. Robinson, P. Bansel, N. Denson, G. Ovenden, C. Davies, Growing up Queer: Issues Facing Young Australians Who Are Gender Variant and Sexuality Diverse, Melbourne, Australia, Young and Well Cooperative Research Centre, 2014.
[3] P. Strauss, A. Cook, S. Winter, V. Watson, D. Wright Toussaint, A. Lin, Associations between negative life experiences and the mental health of trans and gender diverse young people in Australia: findings from Trans Pathways, Psychol. Med. 50 (5) (2019) 808–817.
[4] I.H. Meyer, Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence, Psychol. Bull. 129 (5) (2003) 674–697.
[5] I.H. Meyer, D.M. Frost, Minority stress and the health of sexual minorities, in: C. J. Patterson, A.R. D'Augelli (Eds.), Handbook of Psychology and Sexual Orientation, Oxford University Press, New York, NY, 2013.
[6] I.H. Meyer, Resilience in the study of minority stress and health of sexual and gender minorities, Psychol. Sex. Orientat. Gend. Divers. 2 (3) (2015) 209–213.
[7] A.J. Vigna, J. Poehlmann-Tynan, B.W. Koenig, Does self-compassion facilitate resilience to stigma? A school-based study of sexual and gender minority youth, Mindfulness. 9 (3) (2018) 914–924.
[8] A.J. Vigna, J. Poehlmann-Tynan, B.W. Koenig, Does self-compassion covary with minority stress? Examining group differences at the interseciton of marginalized identities, Self Identity 17 (6) (2018) 687–709.
[9] T. Hatchel, G.J. Merrin, D. Espelage, Peer victimization and suicidality among LGBTQ youth: the roles of school belongong, self-compassion, and parental support, J. LGBT Youth 16 (2) (2019) 134–156.
[10] K.D. Neff, Self-compassion: an alternative conceptualization of a healthy attitude toward oneself, Self Identity 2 (2003) 85–101.
[11] L.M. Gertler, The Coming out Experience, Internalized Homophobia, and Self-Compassion in LGBQ Young Adults: The Wright Institute, 2014.
[12] D.A. Crews, Exploring Self-Compassion with Lesbian, Gay, and Bisexual Person, University of Utah, Salt Lake City, UT, 2012.
[13] D.C. Greene, P.J. Britton, Predicting adult LGBTQ happiness: impact of childhood affirmation, self-compassion, and personal mastery, J. LGBT Issues Couns. 9 (3) (2015) 158–179.
[14] J.N. Kirby, C.L. Tellegen, S.R. Steindl, A meta-analysis of compassion-based interventions: current state of knowledge and future directions, Behav. Ther. 48 (6) (2017) 778–792.
[15] M. Ferrari, C. Hunt, A. Harrysunker, M.J. Abbott, A.P. Beath, D.A. Einstein, Self-compassion interventions and psychosocial outcomes: a meta-analysis of RCTs, Mindfulness. 10 (2019) 1455–1473.
[16] A. Finlay-Jones, Q. Xie, X. Huang, X. Ma, X. Guo, A pilot study of the 8-week mindful self-compassion training program in a Chinese community sample, Mindfulness. 9 (2018) 993–1002.
[17] A. Brown, S.M. Rice, D.J. Rickwood, A.G. Parker, Systematic review of barriers and facilitators to accessing and engaging with mental health care among at-risk young people, Asia Pac. Psychiatry 8 (1) (2016) 3–22.
[18] J. McIntyre, A. Daley, K. Rutherford, L.E. Ross, Systems-level barriers in accessing supportive mental health services for sexual and gender minorities: insights from the provider's perspective, Canadian J. Commun. Mental Health. 30 (2) (2012) 173–186.
[19] A. Waling, G. Lim, S. Dhalla, A. Lyons, A. Bourne, Understanding LGBTI+ Lives in Crisis, Australian Research Centre in Sex, Health & Society, LaTrobe University & Lifeline Australia, Bundoora, VIC & Canberra, ACT, 2019.
[20] P. Strauss, A. Cook, S. Winter, V. Watson, D. Wright Toussaint, A. Lin, Trans Pathways: The Mental Health Experiences and Care Pathways of Trans Young People, Summary of results. Telethon Kids Institute, Perth, Australia, 2017.
[21] Van Der Pol-Harney E, McAloon J, Psychosocial interventions for mental illness among LGBTQIA youth: a PRISMA-based systematic review, Adolescent Research Review. 4 (2) (2019) 149–168.
[22] S.R. Chaudoir, K. Wang, J.E. Pachankis, What reduces sexual minority stress? A review of the intervention "toolkit", J. Soc. Issues 73 (3) (2017) 586–617.
[23] R.W. Coulter, J.E. Egan, S. Kinsky, M.R. Friedman, K.L. Eckstrand, J. Frankeberger, et al., Mental health, drug, and violence interventions for sexual/gender minorities: a systematic review, Pediatrics. 144 (3) (2019), e20183367.
[24] J.E. Pachankis, M.R. Goldfried, Expressive writing for gay-related stress: psychosocial benefits and mechanisms underlying improvement, J. Consult. Clin. Psychol. 78 (1) (2010) 98.
[25] J.E. Pachankis, M.L. Hatzenbuehler, H.J. Rendina, S.A. Safren, J.T. Parsons, LGB-affirmative cognitive-behavioral therapy for young adult gay and bisexual men: a randomized controlled trial of a transdiagnostic minority stress approach, J. Consult. Clin. Psychol. 83 (5) (2015) 875.
[26] E.L. Grafsky, A. Letcher, N. Slesnick, J.M. Serovich, Comparison of treatment response among GLB and non-GLB street-living youth, Child Youth Serv. Rev. 33 (5) (2011) 569–574.
[27] T.M. Schwinn, B. Thom, S.P. Schinke, J. Hopkins, Preventing drug use among sexual-minority youths: findings from a tailored, web-based intervention, J. Adolesc. Health 56 (5) (2015) 571–573.
[28] K.D. Neff, Germer CK. A pilot study and randomized controlled trial of the mindful self-compassion program, J. Clin. Psychol. (2012) 1–17.
[29] A.M. Friis, M.H. Johnson, R.G. Cutfield, N.S. Consedine, Kindness matters: a randomized controlled trial of a mindful self-compassion intervention improves depression, distress, and HbA(.sub.1c) among patients with diabetes, Diabetes Care 39 (11) (2016) 1963.
[30] H. Jazaieri, G.T. Jinpa, K. McGonigal, E.L. Rosenberg, J. Finkelstein, E. Simon-Thomas, et al., Enhancing compassion: a randomized controlled trial of a compassion cultivation training program, J. Happiness Stud. 14 (4) (2012) 1113–1126.
[31] H. Jazaieri, K. McGonigal, T. Jinpa, J.R. Doty, J.J. Gross, P.R. Goldin, A randomized controlled trial of compassion cultivation training: effects on mindfulness, affect, and emotion regulation, Motiv. Emot. 38 (1) (2013) 23–35.
[32] C. Craig, S. Hiskey, A. Spector, Compassion focused therapy: a systematic review of its effectiveness and acceptability in clinical populations, Expert. Rev. Neurother. 20 (4) (2020) 385–400.
[33] P. Gilbert, Introducing compassion-focused therapy, Adv. Psychiatr. Treat. 15 (3) (2009) 199–208.
[34] Compassion-focused therapies for self-esteem, A systematic review and meta-analysis, in: Psychology and Psychotherapy, 2020.
[35] A.L. Finlay-Jones, The relevance of self-compassion as an intervention target in mood and anxiety disorders: a narrative review based on an emotion regulation framework, Clin. Psychol. 21 (2017) 90–103.
[36] A.L. Finlay-Jones, C.S. Rees, R.T. Kane, Self-compassion, emotion regulation and stress among Australian psychologists: testing an emotion regulation model of self-compassion using structural equation modeling, PLoS One 10 (7) (2015) e0133481.
[37] E. Inwood, M. Ferrari, Mechanisms of change in the relationship between self-compassion, emotion regulation, and mental health: a systematic review, Applied Psychology: Health and Well-Being. 10 (2) (2018) 215–235.
[38] E. McDermott, E. Hughes, V. Rawlings, Queer Futures: Understanding Lesbian, Gay, Bisexual and Trans (LGBT) adolescents' Suicide, Self-Harm and Help-Seeking Behaviour, UK, Department of Health Policy Research Programme Project, 2015.
[39] V. Poštuvan, T. Podlogar, N.Z. Šedivy, D. De Leo, Suicidal behaviour among sexual-minority youth: a review of the role of acceptance and support, Lancet Child & Adolescent Health. 3 (3) (2019) 190–198.
[40] K. Posner, G.K. Brown, B. Stanley, D.A. Brent, K.V. Yershova, M.A. Oquendo, et al., The Columbia-Suicide Severity Rating Scale: initial validity and internal consistency findings from three multisite studies with adolescents and adults, Am. J. Psychiatry 168 (12) (2011) 1266–1277.
[41] K. Kroenke, R. Spitzer, J. Williams, The PHQ-9: validity of a brief depression severity measure, J. Gen. Intern. Med. 16 (9) (2001) 606–613.
[42] R. Spitzer, K. Kroenke, J. Williams, B. Lowe, A brief measure for assessing generalized anxiety disorder - the GAD-7, Arch. Intern. Med. 166 (10) (2006) 1092–1097.
[43] S. Cohen, T. Kamarck, R. Mermelstein, A global measure of perceived stress, J. Health Soc. Behav. 24 (4) (1983) 385–396.
[44] F. Raes, E. Pommier, K.D. Neff, D. Van Gucht, Construction and factorial validation of a short form of the self-compassion scale, Clin. Psychol. Psychother. 18 (2011) 250–255.
[45] P. Gilbert, M. Clarke, S. Hempel, J. Miles, C. Irons, Criticizing and reassuring oneself: an exploration of forms, styles and reasons in female students, Br. J. Clin. Psychol. 43 (2004) 31–50.

[46] R. Baião, P. Gilbert, K. McEwan, S. Carvalho, Forms of self-criticising/Attacking & Self-Reassuring Scale: psychometric properties and normative study, Psychol. Psychother. Theory Res. Pract. 88 (4) (2015) 438–452.
[47] E.A. Kaufman, M. Xia, G. Fosco, M. Yaptangco, C.R. Skidmore, S.E. Crowell, The difficulties in emotion regulation scale short form (DERS-SF): validation and replication in adolescent and adult samples, J. Psychopathol. Behav. Assess. 38 (3) (2016) 443–455.
[48] F. Faul, E. Erdfelder, A.G. Lang, A. Buchner, G*power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences, Behav. Res. Methods 39 (2) (2007) 175–191.
[49] D.R. Thomas, A general inductive approach for Analyzing qualitative evaluation data, Am. J. Eval. 27 (2) (2006) 237–246.
[50] R.C. Kessler, G.P. Amminger, S. Aguilar-Gaxiola, J. Alonso, S. Lee, T.B. Ustun, Age of onset of mental disorders: a review of recent literature, Curr Opin Psychiatry. 20 (4) (2007) 359–364.
[51] K. Bell, E. Rieger, J.K. Hirsch, Eating disorder symptoms and proneness in gay men, lesbian women, and transgender and non-conforming adults: comparative levels and a proposed mediational model, Front. Psychol. 9 (2019).
[52] M.T. Gentry, M.I. Lapid, M.M. Clark, T.A. Rummans, Evidence for telehealth group-based treatment: a systematic review, J. Telemed. Telecare 25 (6) (2019) 327–342.