Evaluation of a Culturally Sensitive Social and Emotional Wellbeing Program for Aboriginal and Torres Strait Islanders

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Abstract

Objective: To evaluate Deadly Thinking, a social and emotional wellbeing promotion program targeted to remote and rural Aboriginal and Torres Strait Islander communities. Deadly Thinking aims to improve emotional health literacy, psychological wellbeing and attitudes toward associated help-seeking.

Design: Participants completed pre/post-test evaluations via a brief self-report survey immediately before and after the Deadly Thinking workshop.

Setting: Aboriginal and Torres Strait islander communities in rural and regional Australia.

Participants: Data were obtained from 413 participants (69.8% female, mean age 41.6 years), of whom 70.4% identified as Aboriginal and/or Torres Strait Islanders.

Intervention: Deadly Thinking workshops involve participant's engaging with a series of videos and facilitated group discussions with other participants related to social and emotional wellbeing topics relevant to individuals and communities.

Main outcome measures: Participants completed measures of psychological distress, suicidal ideation, substance use, changes in attitudes toward help-seeking and help-seeking intentions, and satisfaction with the workshop. Additionally, participants in a train-the-trainer (TTT) workshop rated their perceived confidence to deliver the program post-workshop.

Result: Participants reported positive perceptions of community safety and wellbeing and low rates of marked distress, with no significant difference between TTT and community

workshop participants. Results indicated significant improvement in help seeking intentions post- workshop, and high rates of satisfaction with workshop components.

Conclusion: Initial evaluation indicates good acceptability and feasibility of delivering the Deadly Thinking program in rural and remote indigenous communities, however more robust evaluation of the program is warranted using controlled conditions to measure effectiveness, particularly for changing in help-seeking behaviour.

Declaration of interest: Jennifer Bowers was the CEO of RRMH, the organisation responsible for the development and delivery of the Deadly Thinking program. Contributions her team made to the evaluation questions are outlined in the measures section. The analysis and interpretation of the surveys/program evaluation was independently conducted by Orygen whose staff led the authorship of this manuscript.

Keywords: Mental health promotion, community intervention, rural and remote, mental health, help-seeking

What is already known on this subject:

- Aboriginal and Torres Strait Islander people face a variety of social disadvantages that contribute to markedly higher rates of emotional-ill health.
- There is an urgent need for the development of culturally adapted mental health interventions that can be effectively delivered within Indigenous communities.

What this paper adds:

- This is the first study to evaluate the acceptability and potential efficacy of the Deadly Thinking program in improving Aboriginal and Torres Strait Islander participant's understanding of psychosocial risk factors for poor social and emotional wellbeing.
- The style, content and structure of the Deadly Thinking program were acceptable to participants as a culturally tailored social and emotional wellbeing program that has the potential to implement effective change.
- The majority of participants indicated that the program would help them to support

others experiencing an emotional health crisis and improve their knowledge regarding emotional health.

Evaluation of a Culturally Sensitive Social and Emotional Wellbeing Program for Aboriginal and Torres Strait Islander Australians

Aboriginal and Torres Strait Islander people are two distinctive cultural groups that share a strong historical background and contend with a range of challenges in contemporary life in Australia (1), and a variety of social factors that contribute to greater risk of emotional health-related conditions, including substance misuse, domestic violence, and limited access to healthcare services (2). Aboriginal and Torres Strait Islander people have markedly lower rates of social and emotional wellbeing relative to the general Australian population (3), and the prevalence of suicide, hospitalisations for diagnosed emotional disorders and emergency department attendances for emotional health-related reasons are two to three times greater in Aboriginal and Torres Strait Islander people than non-indigenous Australians (4). Recent data further suggests that despite Aboriginal and Torres Strait Islander males being hospitalised at just over twice the rate of non-indigenous males, a third (30%) did not access healthcare when they needed it in the past 12 months (2). Limited access to appropriate specialist emotional health services (5) in Aboriginal and Torres Strait Islander communities may be compounded by marked differences in emotional health literacy, language and worldview (6) that further impede help-seeking from appropriate services.

While low health literacy can negatively impact health outcomes (7), health literacy can be improved with social and emotional wellbeing knowledge and culturally appropriate communication. Within Aboriginal and Torres Strait Islander communities, emotional, spiritual and practical support are often provided by family members, friends, traditional healers and community helpers who are non-medical or health professionals (8). Therefore, a community-based approach to increasing knowledge and awareness of social and emotional health and wellbeing among the broader community (including familial networks) provides an opportunity to improve the understanding of emotional health, culturally-appropriate self-management and help-seeking options. This is particularly important in remote and rural communities, where professional health care is scarce or difficult to access.

A number of community-based mental health promotion interventions have been targeted towards and implemented in Aboriginal and Torres Strait Islander communities (9). These include the Building Bridges program, developed by the Centre for Rural and Remote Mental Health Queensland (now Rural and Remote Mental Health: RRMH), which aimed to increase Indigenous communities' ability to promote social and emotional wellbeing and implement suicide prevention strategies through knowledge sharing-forums and training sessions conducted in a variety of communities (10), and the Aboriginal and Torres Strait Islander Mental Health First Aid Course, which has been culturally adapted for Aboriginal and Torres Strait Islander people, based on the Mental Health First Aid model (11). The latter program requires participants to complete a 14-hour course focused on instruction on identifying mental illness and understanding mental health risk factors (11). Although scientific evaluation has supported the efficacy of the MHFA program, surprisingly few of these programs have used quantitative methods to assess their acceptability and potential efficacy amongst participants, with program evaluation (using outcome measures) rarely undertaken (9).

To further address the gap in programs targeted to Aboriginal and Torres Strait Islander communities, RRMH developed Deadly Thinking as an emotional health promotion program targeted at remote and rural communities across Australia. The distinguishing features of Deadly Thinking include the opportunity for participants to yarn about understanding common sources of stress such as family or job worries, racism and discrimination; the signs of anxiety, depression and suicide; how to reduce stigma and manage the impact on social and emotional wellbeing; and where and how to seek help. The content of the Deadly Thinking program is based on the Menzies School of Health Research's Australian Integrated Mental Health Initiative, Northern Territory resources (12) and consultation with local Aboriginal communities through the implementation of the precursor Building Bridges project (10). The program was piloted in five sites across four states of Australia. Participant feedback from these initial pilot workshops suggested that the program was well-accepted and needed in other remote Aboriginal and Torres Strait Islander communities (13). Deadly Thinking seeks to improve emotional health literacy, psychological wellbeing and attitudes toward help seeking associated with emotional-ill health. It is delivered as group-based one-day (Community) or two-day (Train-the-Trainer) workshops that include self-report measures to assess the acceptability and potential efficacy of the intervention.

The primary aim of this study was to assess the acceptability of the Deadly Thinking program to participants and the feasibility of delivering this program via the TTT model in Indigenous communities. The emotional wellbeing of all participants was measured at baseline and post-workshop, in addition to attitudes toward help-seeking and perceived help-seeking intentions , along with the participants' satisfaction with the workshop. The evaluation included the two phases of Deadly Thinking, the train-the-trainer (TTT) and community workshops. The TTT workshop also assessed the participants' perceptions regarding their confidence and knowledge to deliver the intervention post-workshop.

Method

Design

Pre/post evaluations of the TTT and community program involved consenting participants completing a short self-report survey immediately before, and after the Deadly Thinking workshop.

Participants

A total of 437 adults who participated across 40 locations (TTT 18 locations; Community 22 locations) throughout rural and remote Australia were included in this evaluation.

Measures

Demographics: The baseline survey comprised standard demographic information questions (e.g., age, marital status, education).

Community health: Five items adapted from Shaw and d'Abbs (14) were used to measure participant's views toward safety, social issues, and connection to the land and community. Participants rated these items on a three-point scale from 'not at all' to 'always'. Participants were also asked whether they had ever sought help for an emotional health problem or concern and whether they found it helpful or not.

Psychological distress: A modified version of the Kessler Psychological Distress Scale – 5 item (K5) was used to assess psychological wellbeing (15). The K5 is a subset of questions derived from the Kessler Psychological Distress Scale – 10 item (K10) and provides an overall measure of psychological distress culturally appropriate for Aboriginal

and Torres Strait Islander populations (15). The questions pertain to depressive and anxiety symptoms that an individual has experienced over the most recent 4-week period on a four-point scale ranging from 1 (not at all) to 4 (all of the time); therefore total scores range from 5-20 with higher scores indicating greater severity of distress. The modified K5 Scale has satisfactory reliability (α = .82)(16).

MINI Suicide Scale (17): The MINI Suicidal Scale, derived from the structured MINI diagnostic interview (17), was used to measure suicide risk and behaviours in the current sample. The scale comprises six items scored yes or no and was found to have an acceptable reliability (α = .65)(16). The first five items relate to behaviour or thoughts that have occurred during the last month, whereas the sixth item pertains to whether there ever has been a suicide attempt (17). Each of the items are weighted according to estimated contribution to risk level and a total score is derived on these weightings. Scores range from 0-33 points and higher scores depict greater level of risk (1-5 low risk, 6-9 moderate risk and 10 or over high risk).

Substance use: A modified version of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST-Lite) (18) was used to measure cigarette, alcohol, cannabis, heroin and amphetamine consumption, as these are the most frequently reported substances used in this population (4). The modified ASSIST-Lite scale was found to have satisfactory reliability (α = .80)(16).

Help seeking intentions: To assess the likelihood that participants would seek help for mental health issues, participants were asked to indicate on a three-point scale (unlikely, somewhat likely, very likely) the likelihood that they would seek help from a number of different professionals (e.g., family doctor, emotional health professional) and individuals close to them (e.g., partner, friend, parent) if they were to experience a mental health issue.

TTT and community participant satisfaction and confidence: All participants were asked to rate how helpful they found the workshop on a three-point (community) or five-point (TTT) scale from 'unhelpful' to 'helpful'. Both groups were also asked to rate different aspects of the program (e.g., videos, presenters, training content and materials) on a three-point scale from 'unhelpful/boring' to 'helpful/interesting'. Similarly, participants were asked to identify which key messages they thought they would take away from the workshop (e.g., 'Mental health issues are very common'). Participants' self-perceived confidence in their knowledge about emotional health was also determined through several questions adapted

from an evaluation of a training program on mental health and wellbeing for alcohol and drug workers (19). Finally, TTT participant's perception of their own knowledge of emotional and social wellbeing and confidence in presenting after the workshop was rated four-point scale ('not much/not confident' to 'a lot/very confident') and their overall impression of the TTT workshop on a five-point scale ('unhelpful' to 'deadly'). These questions were developed by RRMH.

Procedure

Participants of the TTT and Community workshops aged 18 years and older were invited to participate in the evaluation component of the program. Participants were informed of the purpose of the survey evaluation and general instructions on completing the surveys by watching a plain language statement (PLS) video that was delivered by the CEO of RRMH. Participation was voluntary and consent was implied by the completion of the written survey. Participants generated an anonymised code at the beginning of the pre and post program survey (based on their date of birth and mother's maiden name), and the unique ID was matched during data collection. RRMH staff identified or responded to requests from community leaders (Aboriginal and Torres Strait Islander elders and educators) in remote and rural communities to participate in the TTT program. Aboriginal and Torres Strait Islander community leaders who completed the TTT program were then selected and invited by RRMH to present the Community one-day program to their communities. In the Community workshops, RRMH staff provided presenters with the same PLS video information message as in TTT, including information about informed consent to voluntarily participate in the workshop evaluation. At the end of the workshop, presenters were asked to complete a two-page presenter's survey covering workshop outcomes such as participant verbal feedback during the program and any issues that were experienced during the program delivery. The evaluation was approved by the Behavioural Sciences and Human Research Ethics committee at the University of Melbourne (Ethics ID 1545521).

Deadly Thinking Workshops

The content of the program was developed based on resources from the Australian Integrated Mental Health Initiative, Northern Territory (12), and consultation with remote communities and trainers. Deadly Thinking comprises of two phases. Train the Trainer (TTT) is the first phase which aimed to (i) increase participant's knowledge and awareness of anxiety, depression and suicide and (ii) train and select participants to implement the

Community one-day program into their communities. The Community program and day one of the TTT program involved participant's engaging with a series of videos and interactive group discussions around social and emotional wellbeing topics, such as the importance of yarning with family and friends and understanding how life stressors, drug use, violence, grief and stigma can affect social and emotional wellbeing and help seeking. It also focused on identifying risk factors and pathways to seek help, along with finding strength in culture, family and connection to country to improve social and emotional wellbeing. On the second day of the TTT workshop, participants are asked to present to the group in preparation of them becoming a presenter. Non-Aboriginal and Torres Strait Islander participants were welcome to take part in the TTT program, however they were only able to be a co-presenter alongside an Aboriginal and Torres Strait Islander presenter to ensure that the program continued to represent Aboriginal and Torres Strait Islander people and that they had a voice in the continued implementation of the program as recommended in current health policies (20).

The community workshops were implemented by participants who had completed the TTT phase. A key role of presenters was to help engage potential community participants (Aboriginal and Torres Strait Islander groups) to take part in the program; to this end Aboriginal and Torres Strait Islander community leaders took the lead on publicity and local arrangements for the workshops via word-of-mouth and distribution of RRMH advertisement flyers within their community.

Data analyses

Preliminary analyses were conducted using descriptive statistics to characterise the sample. Sample sizes vary for analyses due to missing data, therefore valid percentages are reported. Data for the 23 participants who completed both the TTT program and Community program was analysed only for the Community program, given that this program was the first encounter with the program content. The following results are presented for 413 respondents to the evaluation of the Deadly Thinking program. Between-group differences in baseline characteristics of Aboriginal and Torres Strait Islander Community and TTT participants were examined through chi-square tests of independence or independent t-tests. Binomial analysis was conducted using McNemar's test. Asymptotic significance (two-sided) or exact significance (two-tailed) reported depending on sample size as determined by SPSS statistics

software. Chi-square values were corrected for continuity. Statistical significance was set at $p < .05$.

Results

Participant characteristics

A total of 413 participants were included in the evaluation (representing 94.5% of those who engaged in the workshops). The sample consisted of 223 participants who completed the TTT survey and 190 participants who completed the Community survey. A total of 170 (76.2%) TTT participant's and 160 (84.2%) Community participant's pre and post surveys were completed and matched for paired-sample analyses.

Table 1 presents the demographic characteristics of participants in the TTT and Community workshops. The majority of participants who completed the survey attended workshops in Queensland and identified as female (see Table 2). Male participants were significantly more likely to report being from an Aboriginal or Torres Strait Islander background than females in both the TTT program (males 84.1%, females 70.3%; $\chi^2(1) = 4.6$, $p = .031$), and Community program (males 79.5%, females 59.7%; $\chi^2(1) = 5.6$, $p = .018$). The average age of Community participants was 40.9 years (SD = 12.4, range 18-69, n = 165) and 42.1 years (SD = 12.9, range 18-75, n = 201) in the TTT group. In both workshops, more than two-thirds of participants identified as Aboriginal and/or Torres Strait Islander, which was significantly higher for the TTT participants (74.9%) than Community participants (64.9%), $\chi^2(1) = 4.4$, $p = .035$.

Insert Table 1

Community safety and wellbeing

Table 2 presents a summary of participants' rating of their perceptions of safety and wellbeing within their community. Overall, participants in both groups reported positive perceptions of community safety and wellbeing, and there were no significant differences between TTT and Community participants' safety and wellbeing ratings.

Insert Table 2

Psychological distress

Overall, there were low rates of marked distress (experiencing distress most or all of the time) in both groups, and general consistency across the groups for reporting on each of the modified K5 items. No significant difference was found between TTT (M = 8.2, SD = 2.3) and Community (M = 8.29, SD = 2.3) participants' average modified K5 scores, t(356) = -.53, p = .599. Participants scored within the low (TTT 41.2%, Community 39.6%), moderate (TTT 51.0%, Community 53.0%), high (TTT 6.2%, Community 5.5%), and very high (TTT 1.5%, Community 1.8%) categories of psychological distress.

Substance misuse

Table 3 summarises the frequencies of participants from both TTT and Community groups who reported having used cigarettes, alcohol or marijuana (yarndi) or experiencing substance abuse-related behaviours in the past three months. Community participants (35.2%) were significantly more likely than TTT participants (24.9%) to report smoking more than ten cigarettes per day, $\chi^2(1) = 4.16$, p = .041. No other significant differences were found between groups' substance use scores, although it should be noted that missing data was high for these questions with only 46.9% of TTT and of 44.1% of Community participants fully completing this measure.

Insert Table 3

Suicide risk and help seeking

Mean MINI total scores were low for both TTT (M = 1.2, SD = 3.5) and Community (M = 1.3, SD = 3.6) participants with no significant group difference t(363) = -0.15, p = .882, or gender difference t(363) = -0.80, p = .422. Results indicated that 4.5% of TTT participants and 3.1% of Community participants reported above the MINI cut-off of 9, suggesting they were at high risk of taking their own life at the time they completed the survey.

No significant difference was observed between the proportion of TTT participants (49%, n = 100) and Community participants (58.4%, n = 97) who indicated that they had previously sought help for an emotional health or wellbeing issue, $\chi^2(1) = 3.26$, p = .071. The majority of these TTT (93.8%, n = 90) and Community participants (92.3%, n = 84) reported that the help they received was helpful. No gender differences were found in reported previous help seeking for an emotional health or wellbeing issue, $\chi^2(1) = 1.61$, p = .204.

Impact on Help-seeking intentions

Paired-samples t-tests were conducted to compare the mean ratings of help-seeking attitude scores before and after the workshop. For TTT participants, significantly greater help-seeking intentions were reported for all help seeking sources, (with the exception of 'no-one'), after attending the program (see Table 4). Significant improvement in help seeking intentions for parents, community leaders, emotional health professionals, mental health phone services and family doctors were observed for the community group. As shown in Table 4, significant effect sizes (Cohen's d) were small to moderate, ranging from .17 to .52.

Insert Table 4

Participant satisfaction with the TTT program

The majority of TTT participants (81.0%, n = 149) rated their overall impression of the TTT workshop as 'deadly' (highest score on 5-point scale). Satisfaction with all components of the workshop was high; Presenter (93.4%, n = 171), Material – Training Manual (90.1%, n = 164), Content (88.5%, n = 161), Videos (84.8%, n = 145). Results also indicated that on a five-point scale from 'unhelpful' to 'helpful', 81.0% (n = 141) of participants who responded rated the TTT workshop as helpful. Additionally, 60.6% (n = 109) indicated on a three-point scale ('not confident' to 'very confident') that they were 'very confident' in their ability to present the Community workshop to others.

Table 5 summarises the frequencies of TTT participant's rating on a set of items regarding their own knowledge and confidence of emotional and social wellbeing after the workshop. The highest reported items for these items were 'I am confident that I would know what to do in an emotional health crisis' (95.1%, n = 174) and 'I am confident that I would know how to support others following an emotional health crisis' (95.1%, n = 173).

Insert Table 5

Analysis of the percentage of TTT participants reporting changes in knowledge following the TTT workshop, as measured on a three-point scale ('not at all', 'somewhat', 'very much'), indicated that participants felt there was a change in their attitude towards mental health as a result of the workshop. The majority of TTT participants indicated that they 'very much' believed that having information on mental health problems will help them understand and deal with your own worries (80.3%), they are more comfortable talking about social and emotional wellbeing (68.5%) and changed their attitude towards mental health

(54.6%) after the workshop. No significant gender differences in mean scores were found for TTT evaluations.

Participant satisfaction with the Community workshop

The degree of satisfaction with the Community workshop was overall positive. Participants who completed the post workshop survey rated how helpful they found the workshop on three-point scale from 'unhelpful' to 'helpful', with 89.8% (n = 158) reporting the workshop as 'helpful' and only 1.1% as 'unhelpful'. The majority of participants also rated the video material from the workshops are 'helpful/interesting' (86.1%, n = 142). All participants (100%, n = 180) reported that mental health in rural and remote Aboriginal and Torres Strait Islander communities needs more attention ('somewhat' or 'very much' on a three-point scale). The overwhelming majority of participants reported that the workshop had produced a change in their attitude towards mental health (93.8%, n = 168) and that the workshop would help them understand and deal with their own worries (100%, n = 180; ratings of 'somewhat' or 'very much' on a three-point scale from 'not at all'). Males scored significantly higher (M = 2.7, SD = 0.6) on their change in their attitude towards mental health compared to females (M = 2.5, SD = 0.6), t(77.1) = 2.3, p = .02. This suggests some changes in men's attitudes towards mental health relative to females following the workshop. Additionally, content and presentation of the program was rated very positively by participants. By selecting the highest response on the three-point scale ('not at all' to 'very'), a high proportion of community participants indicated that they could understand the presentation (90.4%, n = 160), the trainer presented the workshop well (89.9%, n = 161), they could use the information for themselves and others (87.8%, n = 158), and they were more comfortable to talk about mental health (76.1%, n = 137).

Discussion

This study aimed to assess the acceptability of the Deadly Thinking program delivered to Aboriginal and Torres Strait Islander participants, and its potential efficacy in improving emotional health and wellbeing literacy and attitudes toward help-seeking. The results of the evaluation indicated a positive reception to the program by participants and overall reported acceptability of the program was high.

Participant's responses to community wellbeing and safety questions suggest that both TTT and Community groups have a high degree of respect for their community,

perceive it as safe and largely agree it facilitates overall wellbeing. In comparison to the Shaw and d'Abbs (14) study, in which 96.4% of the sampled rural Northern Territory participants reported their culture was 'important' or 'very important', the present study found a comparatively lower rate of participants (83.4% TTT, 73.7% Community) reporting feeling a connection to culture. This may be explained by the fact that 29.6% of participants in the current study did not identify as Aboriginal and/or Torres Strait Islander, whereas participants in the Shaw and d'Abbs (14) study were reportedly all Indigenous Australians. It is also noted the questions adopted from Shaw and d'Abbs (14) used in the current study had modified wording compared to the original questions. For example, Shaw and d'Abbs (14) measured items using a 4-point Likert scale, whereas the current study used 3-point scales. Although these questions assessed the same concepts, these are approximate comparisons only given the change in scale questions between results and must be interpreted cautiously.

Included in this evaluation was an assessment of the frequency and prevalence of substance use in Aboriginal and Torres Strait Islander people who participated in Deadly Thinking, given that substance misuse has been highlighted as a prominent issue in these communities (21), and programs such as Deadly Thinking may foster a shift in attitudes around substance misuse. As measured by the modified ASSIST-Lite (18), the proportion of participants who reportedly smoked more than ten cigarettes per day in the past three months in the TTT (24.9%) and Community (35.2%) workshops are comparable to Aboriginal and Torres Strait Islander daily cigarette use population rates (27% to 39%) (21). Most concerning is the reported levels of alcohol consumption in the current sample. For instance, 44.6% of TTT and 43.2% Community participants' scores exceeded single-occasion risk guidelines (4 or more standard drinks) in the past three months. This proportion is higher than the 30.1% Aboriginal and Torres Strait Islander population rates measured over the past 12 months (21). A smaller percentage of participants reported recent use of yarndi (marijuana) in the TTT (9.5%) and Community (11.7%) groups. These results were lower than comparative national rates of Aboriginal and Torres Strait Islander peoples aged 15 years or over, of which 19% reported use in the last 12 months (21).

In regard to suicide risk and behaviours, approximately 1 in 7 (15%) Community participants, and 1 in 8 (12.7%) TTT participants reported a previous suicide attempt. A minority of participants in both groups also indicated recent suicidal ideation. Due to the paucity of data that exists on rates of previous suicide attempts or suicidal ideation for Aboriginal and Torres Strait Islander peoples, population comparisons are difficult. However,

the most recent national survey estimated that 3.3% of the general population had attempted suicide, with 13.3% experiencing suicidal ideation sometime in their life (22). The higher suicide risk of participants compared to population may be due to selection-bias in that people with an experience of mental health concerns or suicide attempts may have been more likely to want to take part in the Deadly Thinking program.

The degree of satisfaction with all aspects of the Community program were highly rated. The results indicate that the program was reported as being acceptable in the community for which it was designed, and the content mostly accessible to participants. Results suggest that participants believe that the workshop would help them to support others experiencing an emotional health crisis, and improve their knowledge regarding emotional health, which are key tenets of mental health literacy programs.

Future directions & conclusion

Based on the demonstrated acceptability of Deadly Thinking and the feasibility of delivering the program in Aboriginal and Torres Strait Islander communities, it is recommended that a more robust evaluation be conducted of the program effectiveness using a controlled trial, focusing on both attitudinal and behaviour change over a longer term follow-up. A major challenge of this methodology is the availability of culturally acceptable measures that are valid to Aboriginal and Torres Strait Islander peoples.

A lower number of males participated in the program and its evaluation (between 27-33%), and therefore the extent to which the program is acceptable to males is unclear. The relatively low participation rate of males in the workshops may be due to a cultural preconception of gender-specific responsibilities for social and emotional wellbeing in Aboriginal and Torres Strait Islander communities, with females being seen to play a strong leadership and health promotion role (23). Gender-specific care and promotion of new programs through pre-existing, male-specific services has been found to attract higher rates of Aboriginal and Torres Strait Islander males to services (24). Therefore, it is recommended that providing a workshop specifically designed for men may encourage increased male attendance and create a safe environment to discuss topics that may be perceived by men to be somewhat confronting.

In conclusion, this evaluation demonstrates that the content and method of delivery of the Deadly Thinking program was acceptable as a culturally tailored social and emotional

wellbeing program. Deadly Thinking may have the potential to improve mental health literacy and promote early help-seeking behaviour in Australian communities, but more rigorous evaluation is needed. Future evaluation should be co-designed with community to ensure optimal approaches for program dissemination, implementation, and outcome-based research.

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Table 1

Participant demographic characteristics

	TTT		Community	
	Total n	% (n)	Total n	% (n)
Male	207	33.3 (69)	170	26.5 (45)
Female		66.7 (138)		73.5 (125)
Aboriginal and/or Torres Strait Islander	207	74.9 (155)	168	64.9 (109)
Country of birth				
Australia				
New Zealand	183	93.4 (171)	136	91.2 (124)
Other		3.3 (6)		1.5 (2)
		3.3 (6)		7.4 (10)
Education				
University	206		169	
Certificate, TAFE or Diploma		31.6 (65)		34.3 (58)
Year 12		37.9 (78)		30.8 (52)
Year 11		12.1 (25)		14.8 (25)
Year 10 or lower		6.3 (13)		4.1 (7)
		12.1 (25)		16.0 (27)
Marital status				
Single	205		169	
Married/Partner		35.6 (73)		28.4 (48)
Separated/divorced		57.6 (118)		66.3 (112)
Widowed/widower		5.3 (11)		4.8 (8)
		1.5 (3)		0.6 (1)
Employed				
	200	90.5 (181)	166	92.2 (153)

Live with (multiple responses possible)	205	34.6 (71)	168	38.1 (64)
Partner and children		20.0 (41)		28.0 (47)
Partner		16.6 (34)		14.3 (24)
Children		9.8 (20)		6.0 (10)
Parents		10.2 (21)		8.9 (15)
Other family		2.9 (6)		4.2 (7)
Friends		16.1 (33)		7.1 (12)
Alone				
Lived in the past year	206		155	
In this community		71.4 (147)		85.5 (142)
Somewhere that is not this community		28.6 (59)		14.5 (24)
Previous training				
Has previous emotional wellbeing training	201	67.7 (136)		-
Has previous training in the workplace	199	58.3 (116)		-
Easy access to social and emotional health services	193	89.6 (173)	154	95.5 (147)
Workshop location	217		186	
Queensland		63.6 (138)		73.7 (137)
New South Wales		25.8 (56)		16.7 (31)
Western Australia		10.6 (23)		2.2 (4)
Australian Capital Territory		-		4.3 (8)
Victoria		-		3.2 (6)

Table 2

Safety and wellbeing in the community

	TTT		Community		χ	df	p
	Total n	% (n)	Total n	% (n)			
Do you feel… (most of the time/always)							

Connection to the land	196	91.9 (180)	158	87.3 (138)	2.65	2	.266
Connection to culture	199	93.4 (186)	158	88.6 (140)	5.38	2	.068
Safe in your community	200	99.5 (199)	162	98.2 (159)	5.58	2	.061
That leaders in your community are strong	200	85.5 (171)	155	83.2 (129)	2.44	2	.295
Respect for elders	199	97.5 (194)	162	98.8 (160)	2.73	2	.256

Table 3

Frequencies of substance use in train-the-trainer and community participants

	TTT		Community				
	Total n	% (n)	Total n	% (n)	χ	df	p
In the past 3 months have *you…*							
Smoked cigarettes	189	35.4(67)	149	45.0(67)	3.15	1	0.076
Smoked >10 cigarettes per day	185	24.9(46)	145	35.2(51)	4.16	1	0.041
Drank alcohol	196	68.4(134)	155	59.4(92)	3.07	1	0.080
Drank more >4 STD alcohol	193	44.6(86)	155	43.2(67)	0.06	1	0.803
Tried to cut down/stop drinking	184	18.5(34)	148	23.6(35)	0.13	1	0.248
Used yarndi (cannabis)	190	9.5(18)	145	11.7(17)	0.45	1	0.505
Had a strong desire to give up yarndi (at least 1/wk)	195	4.1(8)	153	3.9(6)	0.00	1	0.932

Table 4

Mean changes in likelihood of help seeking scores pre and post workshop in train-the-trainer and community participants

	TTT Pre		TTT Post		Within groups		Community Pre		Community Post		Within groups	
	M	SD	M	SD	p	d	M	SD	M	SD	p	d
Partner	2.4	0.8	2.6	0.7	.001**	.30	2.5	0.7	2.6	0.7	.131	.12
Friend	2.4	0.7	2.7	0.6	.000**	.33	2.5	0.7	2.5	0.7	.458	.05
Parent	2.2	0.8	2.5	0.8	.001**	.29	2.2	0.8	2.3	0.8	.009**	.23
Other relative	2.2	0.8	2.4	0.7	.043*	.17	2.2	0.8	2.3	0.7	.325	.09
Community Leader	1.8	0.8	2.2	0.8	.000**	.52	1.8	0.8	2.0	0.8	.003**	.27
Emotional health professional	2.4	0.7	2.6	0.6	.000**	.28	2.2	0.8	2.4	0.7	.000**	.32
Phone line	1.7	0.8	1.8	0.8	.025*	.17	1.6	0.7	1.7	0.8	.019*	.22
Family doctor	2.2	0.8	2.4	0.7	.002**	.26	2.2	0.8	2.3	0.7	.021*	.20
Other (not listed)	1.9	0.9	2.2	0.9	.020*	.36	1.6	0.9	1.8	0.8	.360	.13
No one	1.5	0.7	1.4	0.7	.334	-.16	1.6	0.8	1.5	0.7	.321	-.11

*p < 0.05, **p < 0.01

Table 5

Frequencies of *TTT participants' scores for confidence following train*-the-trainer workshop

	Total n	Scores of 1 or 2 (Not much/ not confident) % (n)	Scores of 3 or 4 (A lot/very confident) % (n)
I know about emotional health issues	184	7.6 (14)	92.3 (170)
I know about treatment services	184	7.1 (13)	93.0 (171)
I know about the early warning signs	184	7.6 (14)	92.4 (170)
I am confident to communicate with others about emotional health problems	183	6.0 (11)	94.0 (172)
I am confident that I would know what to do in an emotional health crisis	183	4.9 (9)	95.1 (174)
I am confident that I would know how to support others following an emotional health crisis	182	4.9 (9)	95.1 (173)