PROJECT LR12647 (2021)

MATES in Construction New Zealand: A longitudinal assessment of suicide prevention programme for construction workers

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Dr Kate Bryson, Axon Consulting Limited
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BRANZ
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Executive Summary

Mates in Construction (MATES) was started in New Zealand in November 2019, in response to the alarming number of suicides in the industry. Adopted from Australia, MATES provides early intervention training and support services that promote mental health and suicide awareness and encourage help-offering and help-seeking among construction workers.

This study is the first phase of an ongoing MATES evaluation programme in New Zealand. It evaluated the efficacy and impact of the General Awareness Training (GAT) on the workers' attitudes towards suicide, help-offering, and help-seeking. It also produced evidence and baseline data to measure impact and inform further development and refinement of the MATES programme in New Zealand.

Longitudinal assessment showed that GAT training significantly improved participants' perception of suicide prevention, their confidence in noticing others' distress, and their competence in connecting co-workers to appropriate support. It revealed that participants who felt better about their wellbeing are the ones who would seek help, highlighting the challenge of encouraging people who are in distress to seek assistance. It also found that people who work for a worksite they perceive more positively, feel more confident to seek help – emphasizing the challenge of encouraging help-seeking when people do not feel their worksite supports wellbeing. MATES training showed a greater impact on women's attitudes to intervention around suicide compared to men (although impact on men was still significant and strong). People are mostly likely to seek help from worker/connector, workmate, and friends.

Although MATES GAT Training is showing promising results overall, it is too early to show any reduction in suicides among construction workers. Ongoing evaluation of the programme over a longer period of time is needed to monitor its impacts and confirm its contribution to suicide prevention.

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INTRODUCTION

The construction industry has the highest proportion of suicides across all industries in New Zealand, according to a report by the Suicide Mortality Review Committee in 2016. Recent statistics from the Chief Coroner revealed 161 construction workers may have died from suicide between 2017 to 2020. This is equivalent to an average of 53 deaths per year the past 3 years and 30 per year in the decade preceding that.

MATES in Construction New Zealand

In 2018, BRANZ published the *Mental health in the Construction Industry Scoping Study* (Bryson & Duncan, 2018) that initiated the process of investigating the mental health of New Zealand's construction workforce. The study revealed a need for more research to better understand suicide in the industry. It also identified the demand from industry leadership for more evidence that could inform suicide prevention and mental health education initiatives.

The following year, BRANZ in partnership with Site Safe, published the *Suicide in New Zealand's Construction Industry Workforce: Factors Identified in Coronial Reports* (Bryson, Doblas, et al, 2019) that delved deeper into the industry's suicide phenomenon and identified risk factors that could have contributed to the suicides. The study examined 300 coronial files of construction workers who took their lives, between 2007 to 2017. It provided evidence-based insights and some baselines for supporting and evaluating the impact of suicide prevention and mental health education initiatives in the country.

Findings of these studies have motivated the industry to support the implementation of MATES in New Zealand, whilst ensuring the programme is adapted to meet the local industry's context (Mates in Construction NZ Brochure, 2019).

MATES is an early intervention training programme that promotes mental health and suicide awareness and encourages help-offering and help-seeking among construction workers (Ross, et al, 2020). It was designed in Australia to address the same problem and has been delivered to over 160,000 Australian workers, since its inception in 2008. MATES is an evidence-based workplace suicide prevention model, developed to reduce high suicide rates in the construction industry (Heller, Hawgood and De Leo, 2007).

MATES has been adapted to suit the New Zealand context, with the ultimate goal of preventing suicide, improving the wellbeing of construction workers, and supporting them to become more resilient and productive. Its main objectives are:

- raising workers' awareness and understanding of mental ill-health and suicide in the workplace;
- developing site-based peer intervention capability to identify and connect vulnerable workers to appropriate support; and
- ensuring workers' easy access to practical, professional, and appropriate support through on- site networks, field officers, case managers and a 24/7 support line.

It provides the following training programs and services:
General awareness training (GAT) - is a one-hour session delivered to at least 80% of workers on site. It is delivered en-masse and on-site at a time and place convenient to contractors. It is designed to reduce the stigma associated with suicide, encourage help-offering and help-seeking, and present suicide as a preventable workplace health and safety issue for the construction industry. GAT teaches participants how to identify the warning signs for suicidality and how to offer active support to struggling co-workers.

Previous pre–post training evaluation research in Australia has shown GAT to be an effective program in fostering suicide prevention awareness and shifting attitudes towards suicide and mental health.

Connector training is for volunteer workers who are trained as gatekeepers to identify warning signs of suicidality and respond to those at risk.

Evidence suggests that this training is effective in reducing suicide as part of a systematic approach to suicide prevention. It has been adopted in many community suicide-prevention strategies worldwide (e.g., European Alliance Against Depression, Lifespan).

ASIST (Applied Suicide Intervention Skills Training) provides key workers with the skills to be "intervenors" or "first point of contact" for the Connectors or gatekeepers.

Critical Incident Support & MATES Standby Postvention supports workers after a critical incident or suicide. This includes working with the MATES network (Connectors and ASIST workers) to be vigilant in keeping an eye on their mates in case this incident has had an adverse effect on any worker.

To date, 198 sites have received the programme and 83 companies have become investment partners. A total of 11,383 workers were inducted and 557 connectors were trained in New Zealand.

PURPOSE

Over the past 13 years, MATES has been repeatedly evaluated in Australia to ensure shared learning and efficacy. It is important that the same measures be undertaken and replicated here in New Zealand to make sure the programme aptly responds to the needs of our construction workers.

This study is the first phase of an ongoing MATES evaluation programme. It aims to

- evaluate the efficacy and impact of the GAT on the attitudes towards suicide, help-offering, and help-seeking among New Zealand construction workers, and
- produce evidence and baseline data to measure the impact and inform further development and refinement of the MATES programme in New Zealand.

The primary audience of this paper is MATES NZ. However, results will also be shared with the construction industry and the mental health sectors, as they are essential to the ongoing success of the programme. Findings on what works and what needs to be improved in suicide prevention will also inform and benefit other mental health and suicide prevention and intervention initiatives.

METHODOLOGY

This evaluation study was conducted between November 2019 and October 2020. Data on trainees' attitudes were collected using short surveys distributed at three touchpoints – immediately prior to and immediately after the GAT training sessions, and again 3 to 12 months after training.

The surveys or feedback forms ask a series of questions that measure suicide awareness and knowledge, attitudes around help-offering and help-seeking, and emotional well-being. See appendix A.

The NZ MATES evaluation approach added collection of attitudes data at 3-12-month follow-up period, to measure the enduring impact of the programme and improvement of attitudes over time, with the ongoing visibility of the MATES programme on site. Broadbent (2020) demonstrated, among others, the importance of longitudinal evaluation to assess retention of knowledge over an extended period. The study was approved by the Victoria University's Human Research Ethics Committee (RM28715).

The main limitation of this study is the low retention rate at follow-up. Ethical considerations around confidentiality prevented us from matching participants from post-training to follow-up and hindered a more robust analysis of the long-term effects of the training. Future evaluations that allow for matching of participants from pre-post training and 12-month follow up will provide more robust longitudinal analysis. Future reviews of the programme would also benefit from strategies that improve participant retention (Abshire, et al, 2017).

RESULTS AND DISCUSSION

A total of 8,491 pre-post training surveys were collected on the day of training. 457 of these (5.4%) were completed by women.

Pre and post training survey

Prior to the training session, a slight majority (51.2%) indicated that they had had "heard of MATES in construction and the work that they do." A further 15.1 were uncertain (selecting "maybe" as their response to the question).

How did the training impact the participants' suicide awareness and attitudes?

We conducted repeated measures analysis of variance to compare responses to six attitudinal questions (whether participants believe that they can prevent suicide by talking about it; whether they would notice a co-worker going through a tough time; whether they felt competent to direct a co-worker to get help; whether they would themselves be willing to seek help; whether they perceived their work site as supporting good wellbeing; and their current mental wellbeing status) pre- to post-training.

This analysis indicated significant multivariate effects for pre-to-post-training differences (Wilks' λ (1,6285)=2499.40, p<.001, partial-η^2=.29) and question (Wilks' λ (1,6281)=574.92, p<.001, partial-η^2=.31) as well as an interaction of time by question (Wilks' λ (1,6281)=225.16, p<.001, partial-η^2=.15).

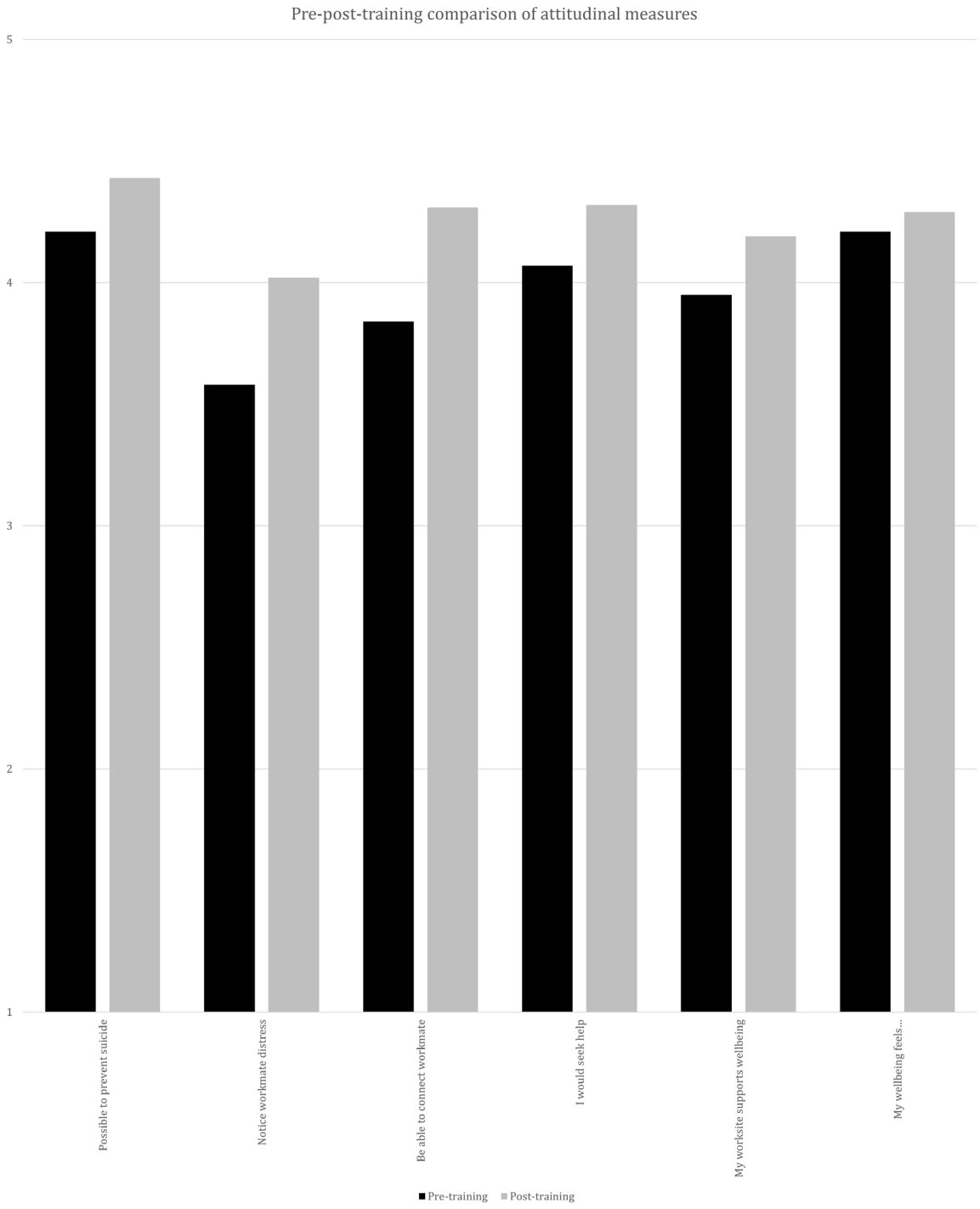
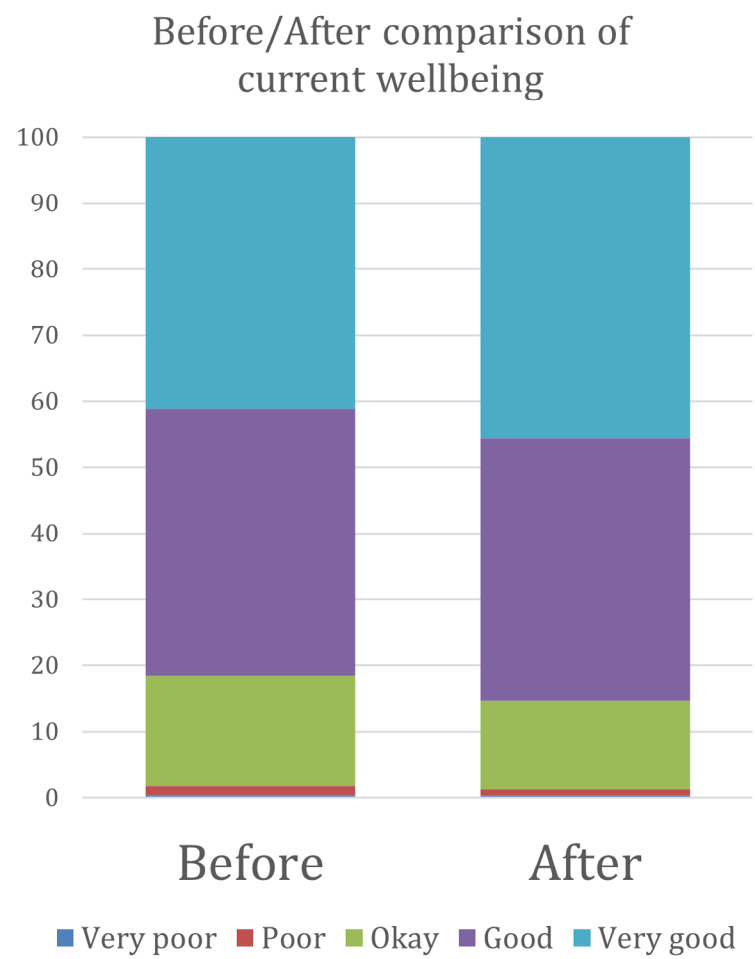


Figure 1: Pre- and post-training mean responses to attitudinal questions.

Prior to training, participants were generally positive about suicide prevention, their ability to notice and respond to distress (either their workmates or their own), their perceptions of worksite wellbeing support, and their own mental health states. The mean responses to all six questions was above the theoretical scale midpoint of '3'. The main effect for time indicates that, for all six questions, answers became significantly more positive pre-to-post-training, while the significant interaction indicates that the improvement is greater for some questions than others. For example, the greatest improvements can be seen for confidence in noticing others' distress (Mean improvement = .44 or over half a standard deviation) and competence in connecting a co-worker to appropriate support (Mean improvement = .47 or around half a standard deviation), while the weakest improvements are seen for the utility of talking for preventing suicide (Mean improvement = .22 or approximately a quarter of a standard deviation) and personal wellbeing (Mean improvement = .08 or around a tenth of a standard deviation).
Taken together this indicates that post-training participants are more positive about suicide prevention, their confidence and competence in supporting others in distress, their personal confidence to take action when they feel distressed, their perceptions of their worksite in relation to promoting positive wellbeing, and their own current wellbeing. All things being equal, the effect of training on attitudes indicate that 29% of the variance in responses is accounted for by the pre-to-post-training difference – this is consistent with a large effect size in statistical terms.

Responses to questions about recognising others' distress, connecting others, and seeking help for oneself were combined into a scale (pre-training α=.62, post-training α=.71). Repeated measures ANOVA was used to assess pre-to-post-training differences, indicating (as expected based on the prior results) a significant multivariate effect for time (Wilks' λ (1,7946)=2204.29, p<.001, partial-η^2=.22). There was a strong increase in help-seeking/offering after training.

How do participants feel about their wellbeing before and after training?



Prior to training, the most common response (41%) to the question "So far today my mental wellbeing feels…" was "Very good", with almost 41% selecting "Good". Only .4% and 1.4% selected either "very poor" or "Poor" respectively.

However, approximately 1 in 7 (16.6%) participants indicated they were "okay".

Post-training, 45.6% selected "Very good", and 39.7% selected "Good". The proportions (.3% and 1.0%) selecting "Very poor" and "poor" were roughly similar to pre-training levels, with a small decrease in those indicating "Okay" (13.4%).

This suggests that the post-training increase is accounted for mainly through a small proportion of participants who had previously selected "Okay" and "Good" elevating their responses to "Good" and "Very good" respectively. Training appears to have had a diminished effect on those who reported some version of poor wellbeing pre-training.

Table 1 shows the pre-training mean response to these questions, as well as the correlation between attitudinal questions and familiarity with MATES and their work. Generally speaking, responses to all questions are significantly correlated – the more you agree with one question, the more you agree with others. 15 of 21 correlations were small (0.10 to 0.30) with 6 falling into the medium range (0.30-0.50). *Generally speaking, greater familiarity with MATES predicted more positive responses to suicide prevention, confidence and competence in responding to distress, perception of worksite support for wellbeing, and also current (pre-training) wellbeing*. It should be noted that there is a risk that these results may reflect some degree of response bias – as all items were worded in a pro-trait direction there is no way to ensure that this general pattern of intercorrelation does not reflect participant acquiescence bias.

Table 1. Mean responses and intercorrelations between attitudinal questions PRE-TRAINING

	Pre-training M(SD)	6. My wellbeing feels…	5. My worksite supports wellbeing	4. I would seek help	3. Be able to connect workmate	2. Notice workmate distress	1. Possible to prevent suicide
Heard about MATES and their work		.12	.26	.20	.27	.23	.18
1. Possible to prevent suicide	4.21 (.87)	.14	.25	.29	.22	.23	-
2. Notice workmate distress	3.58 (.97)	.14	.32	.31	.38	-	
3. Be able to connect workmate	3.84 (.96)	.20	.38	.37	-		
4. I would seek help	4.07 (.92)	.27	.39	-			
5. My worksite supports wellbeing	3.95 (.92)	.21	-				
6. My wellbeing feels…	4.21 (.79)	-					

Note: All correlations significant at p<.001

Table 2 shows the post-training mean response to these questions, as well as the correlation between attitudinal questions and familiarity with MATES and their work. Again, responses to all questions are significantly correlated – but the pattern was significantly (p<.01) stronger for post-training intercorrelations. 10 of 21 correlations were small (0.10 to 0.30) while 11 fell into the medium range (0.30-0.50).

Table 2. Mean responses and intercorrelations between attitudinal questions POST-TRAINING

	Pre-training M(SD)	6. My wellbeing feels…	5. My worksite supports wellbeing	4. I would seek help	3. Be able to connect workmate	2. Notice workmate distress	1. Possible to prevent suicide
Heard about MATES and their work		.11	.17	.15	.15	.15	.10
1. Possible to prevent suicide	4.43 (.75)	.16	.31	.42	.41	.41	-
2. Notice workmate distress	4.02 (.75)	.18	.34	.40	.48	-	
3. Be able to connect workmate	4.31 (.70)	.20	.43	.48	-		
4. I would seek help	4.32 (.80)	.30	.39	-			
5. My worksite supports wellbeing	4.19 (.82)	.27	-				
6. My wellbeing feels…	4.29 (.75)	-					

Note: All correlations significant at p<.001

Importantly, more positive responses to the attitudinal questions were associated with more positive self-assessment of one's mental wellbeing. That is to say, the more positive a participant was about any of the attitudinal questions, the better they reported their mental wellbeing to be.

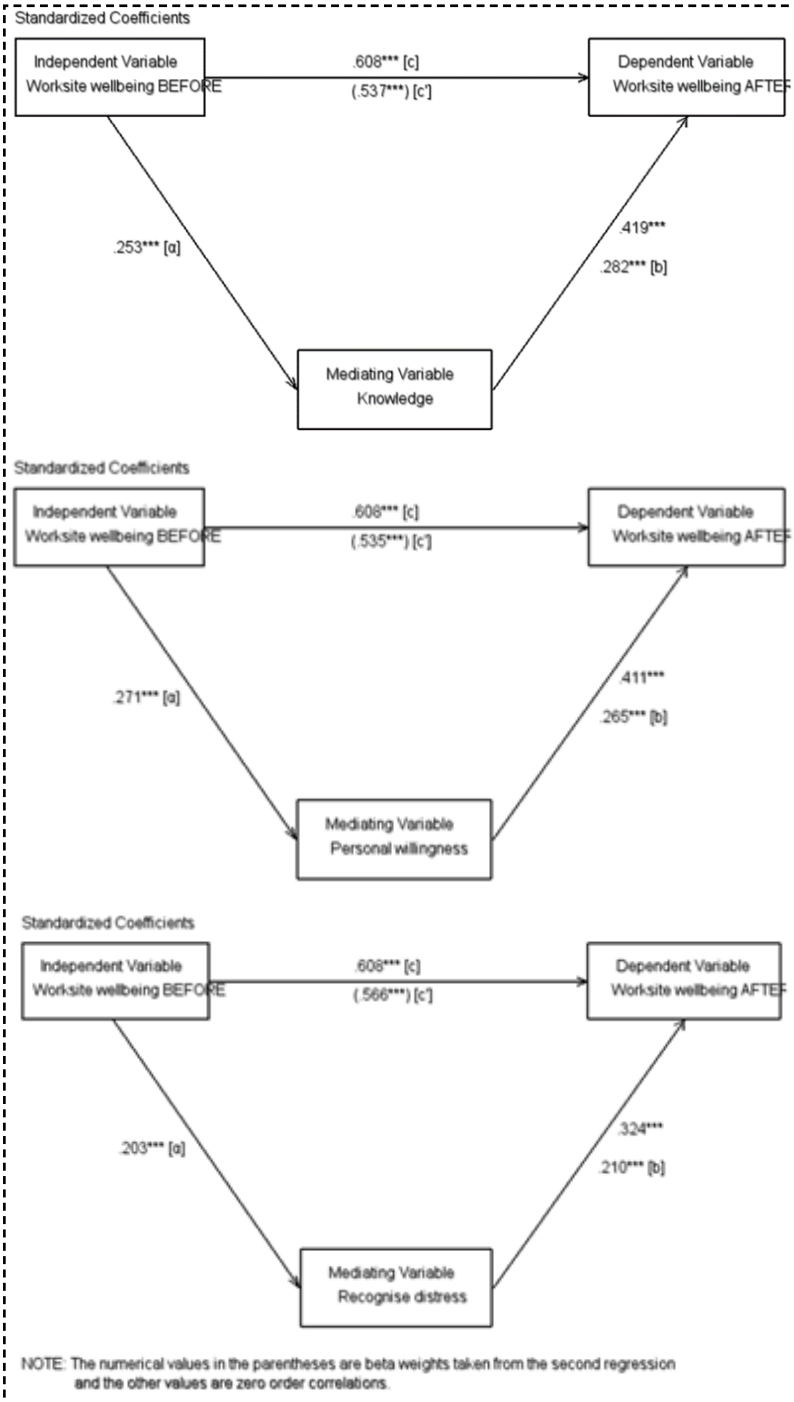
Table 3. Intercorrelations between pre- and post-training responses to attitudinal questions

	AFTER:					
BEFORE	1. Possible to prevent suicide	2. Notice workmate distress	3. Be able to connect workmate	4. I would seek help	5. My worksite supports wellbeing	6. My wellbeing feels…
1. Possible to prevent suicide	.47	.24	.26	.29	.21	.14
2. Notice workmate distress	.14	.42	.21	.21	.17	.14
3. Be able to connect workmate	.16	.26	.31	.25	.35	.20
4. I would seek help	.24	.27	.30	.53	.27	.27
5. My worksite supports wellbeing	.18	.23	.27	.26	.48	.22
6. My wellbeing feels…	.13	.15	.16	.24	.24	.82

Note: All correlations significant at p<.001

Table 3 shows the correlation between pre- and post-training mean responses to these questions. The same pattern identified in Tables 1 and 2 is repeated here - responses to all pre-training questions are significantly correlated with all responses to pre-training questions. The strongest relationships can be seen between pre- and post-training responses to the same questions – people who felt more positive about suicide prevention pre-training were the most positive post-training.

Generally, as expected, the strongest correlations are typically between responses to a particular question and the same question post-training (e.g., "I would seek help" pre-training correlates .53 with "I would seek help" post-training). However, these autocorrelations vary greatly in magnitude. For example, confidence at being able to connect a distressed workmate responses correlate 'only' .31, prevention of suicide through talking correlates .47, while current mental wellbeing correlates .82 pre-to-post-training. *This suggests that the training is making an important difference to responses on the knowledge-based questions in particular*. That is to say, pre-training attitudes to suicide prevention predict only 22% of the variation in post-training attitudes to suicide prevention. Given the increase in responses to this question, this suggests at least some part of the 78% of unexplained variation in post-training response is likely accounted for by the training itself. Whereas 66% of post-training mental wellbeing variation is captured by how participants responded pre-training. *In this case post-training mental wellbeing is more strongly explained by how a participant felt pre-training than any other factor.*



One way we can investigate the impact of training is to look at changes in attitudes before and after training, as we have done above. Another way is to look at which parts of the training may have resulted in (positive) change. For example, it is a reasonable expectation that one of the reasons a participant may feel more strongly that their workplace promotes wellbeing after training, might be because participants feel more confident about what to do (or who to talk to) if a workmate was distressed. To assess this, we use multiple regression to test for mediation – whether the relationship between perceptions of workplace wellbeing before and after training are 'mediated' (partly explained by knowledge about how to connect someone in distress. *In this example, the answer is yes – people who perceive they work at a site that promotes wellbeing tend to report greater confidence post-training, but greater post-training confidence predicts stronger perception of workplace support, and this explains a small portion of the variation in post-training workplace support perceptions.*

The same is true for personal willingness to seek help – increased willingness to seek help explains a piece of the relationship between pre- and post-training perceptions of workplace support.

Finally, confidence in recognising distress also explains (a small part of) the increase in perceptions of worksite wellbeing promotion.

Does gender influence attitudinal response?

As noted already, approximately 5% of participants in MATES training were women. Inclusion of gender as a fixed factor in the multivariate ANOVA of pre-to-post-training attitudinal responses indicated that gender was important.

Inclusion of gender attenuated the effects and interactions previously identified though they were still in the same direction and strong: significant multivariate effects for pre-to-post-training differences

(Wilks' λ (1,6270)=824.85, p<.001, partial-η^2=.12) and question (Wilks' λ (1,6266)=147.30, p<.001, partial-η^2=.11) as well as an interaction of time by question (Wilks' λ (1,6266)=78.91, p<.001, partial-η^2=.06).

There was no significant effect for gender (F (1,6270)=2.45, p=.12, partial-η^2<.01). However, the inclusion of gender identified a gender by time interaction (Wilks' λ (1,6270)=32.87, p<.001, partial-η^2=.01), a gender by question interaction (Wilks' λ (1,6266)=8.28, p<.001, partial-η^2=.01) and a significant three-way interaction between gender, time, and question (Wilks' λ (1,6266)=4.80, p<.001, partial-η^2=.004). Essentially, gender is important because women and men differ in their responding depending on the question being asked and whether those questions are being asked pre- or post-training. Figures 2a and 2b present the mean scores for men and women for each question, separately for pre-training and post-training.

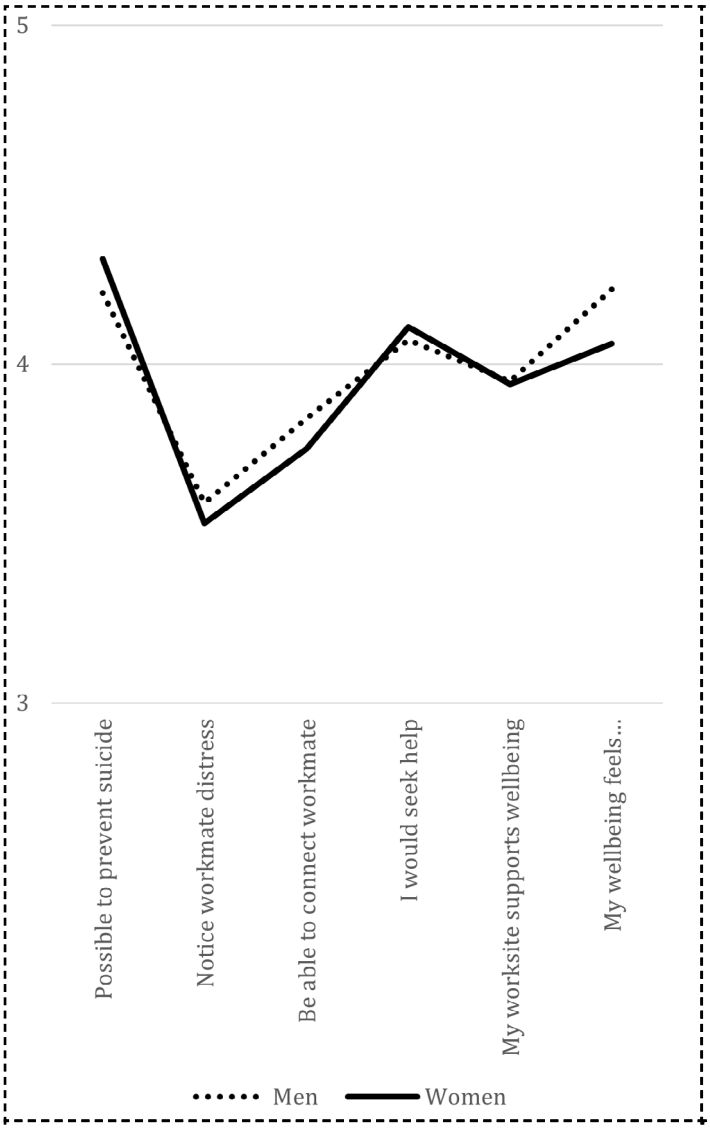


Figure 2a. Pre-training responses to attitudinal questions by gender

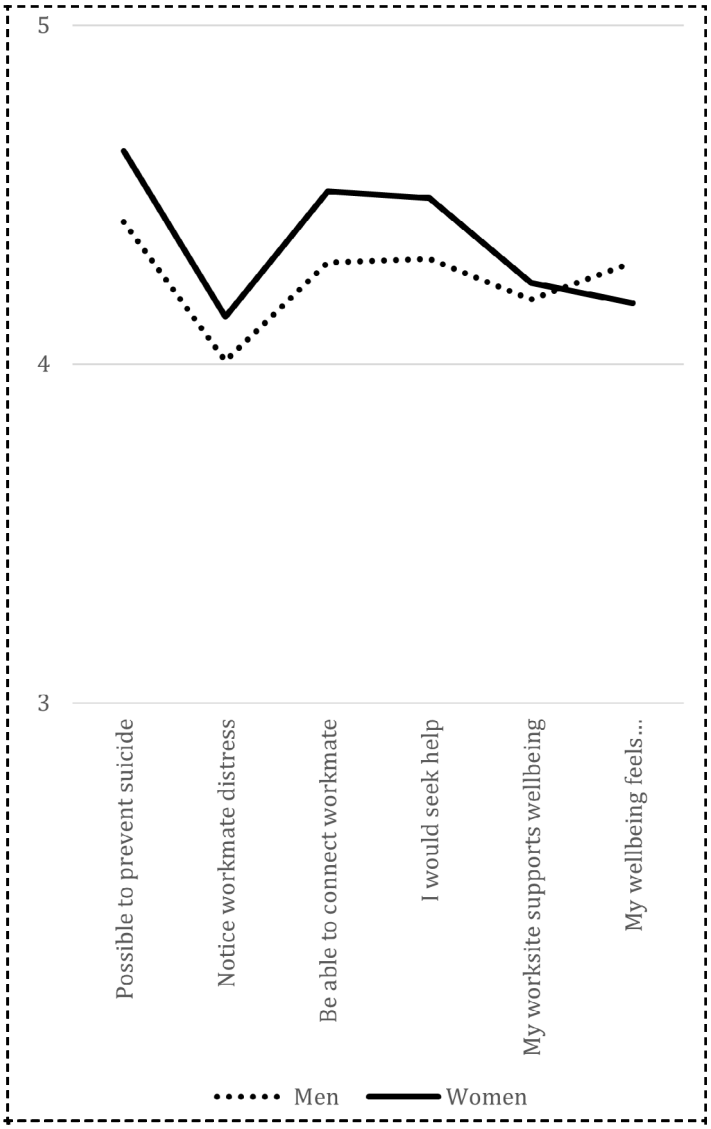


Figure 2b. Post-training responses to attitudinal questions by gender

Men and women respond almost identically to these attitudinal questions pre-training with two exceptions: Women report slightly more positive beliefs towards prevention of suicide through talking ($F(1,8.53)=5.32$, $p=.02$) and notably poorer mental wellbeing ($F(1,7348)=13.29$, $p<.001$).
However, while there is a significant improvement in responses to *all* attitudinal questions post-training for the sample as a whole, women show a significantly different rate of increase compared to men on all but one question – perceptions of worksite promotion of wellbeing ($F(1,7888)=2.26$, $p=.13$). At the same time they report significantly greater improvements for attitudes to suicide prevention, confidence and competence in identifying and supporting distressed workmates, and personal help-seeking (F's between 10.87 and 31.14, all p's<.001).

However, women still reported slightly but significantly less positive mental wellbeing compared to men ($F(1,7220)=6.56$, $p=.01$), though women (like men) reported significantly more positive mental wellbeing post-training (Wilks' λ $(1,385)=36.93$, $p<.001$, partial-$\eta^2=.09$).
In short, overall, MATES training showed a greater impact on women's attitudes to intervention around suicide than on men (though the impact on men was still significant and strong). However, women continued to report less positive mental wellbeing than men both pre- and post-training.

Who would participants seek help from?

4,496 participants completed a version of the training survey that asked them before and after training about their help-seeking. Participants were asked to indicate on a 1 ("Extremely Unlikely") to 5 ("Extremely Likely") scale, how likely "you would be to seek help from the options listed". For simplicity, we have aggregated "Extremely Unlikely" and "Unlikely" together to present the proportion of participants who indicated they were unlikely to seek help from a particular source. Similarly, we aggregated "Extremely Likely" and "Likely", and retained "neutral" to indicate ambivalence. The proportions of the sample responding as "likely", "neutral" and "unlikely" to seek help from various sources is presented in Table 4 and Figures 3a and 3b, below.

Table 4. Likelihood of seeking help from various sources, pre-and-post-training

	Pre-training				Post-training			$X^2(1)=$
	Unlikely	Neutral	Likely		Unlikely	Neutral	Likely	
Intimate partner	6.4	11.3	82.3		5.1	8.3	85.6	18.17***
Whanau	7.4	10.9	81.7		5.5	8.8	85.7	26.63***
Friend	6.8	17.8	75.4		4.7	11.3	84.0	102.75***
Workmate	21.4	29.6	49.1		13.4	23.9	66.7	285.64***
Supervisor	27.5	27.4	45.1		21.0	25.8	53.3	60.47***
Doctor	15.8	21.3	62.9		13.9	20.4	65.7	7.67**
Mental health professional	15.4	20.6	64.0		12.9	20.4	66.7	7.24**
Telephone helpline	27.5	26.5	45.9		21.8	25.8	52.4	38.00***
MATES connector	21.9	31.2	46.8		11.2	20.9	67.9	409.13***
Minister/religious leader	43.4	22.0	34.7		41.0	22.1	37.8	9.35**
Nobody	57.0	22.0	21.0		47.8	25.6	26.6	38.87***

Note: **=p<.01, ***=p<.001

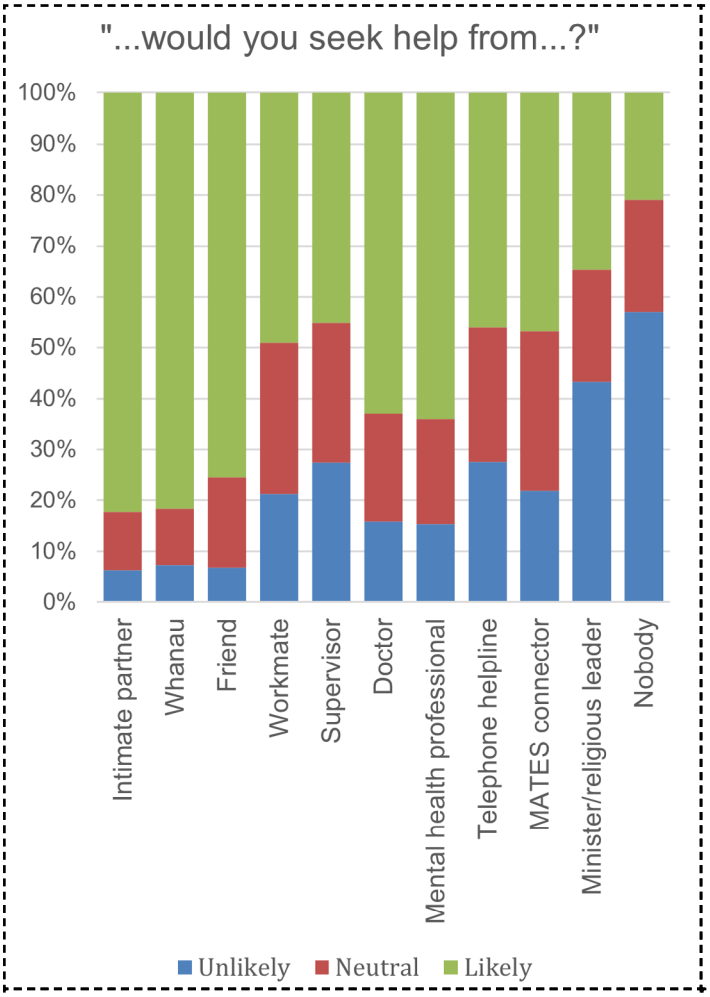


Figure 3a. Likelihood of seeking help pre-training

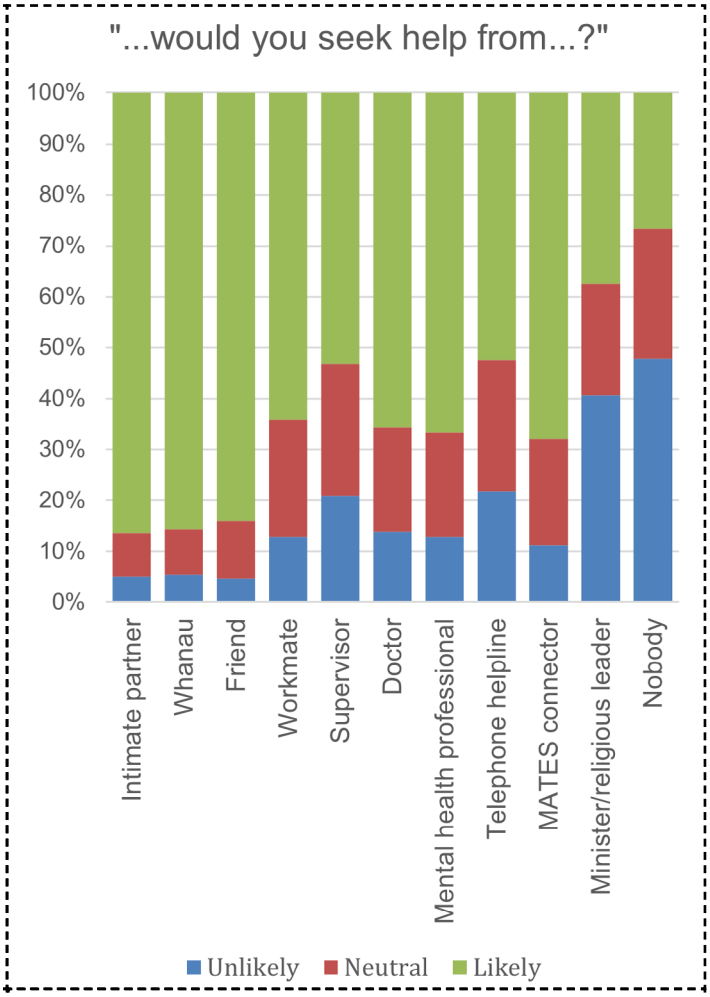


Figure 3b. Likelihood of seeking help post-training

Participants reported greater post-training likelihood of seeking help from anyone listed, but the greatest increase in likelihood was associated with MATES in construction worker/connector (from 46.8% to 67.9%), workmate (49.1% to 66.7%) and friends (75.4% to 84.0%). At the same time, participants also reported significantly greater pre-to-post-training likelihood of not seeking help from anyone (21.0% to 26.6%). *This is inconsistent with the general pattern of increased likelihood associated with every other help source, so may reflect a conceptual confusion or, alternatively, greater confidence in managing difficulties without support.*

Finally, there was a statistical relationship (r's between .129 and .261, all p's <.001) between pre-training and post-training mental wellbeing and likelihood of seeking help. *That is to say, the better people felt about their wellbeing the more likely they were to say they would seek help from any one of the sources listed. This highlights the challenge or encouraging people who need assistance, to seek assistance.*

The same general pattern is found for perceptions of the extent to which one's worksite promotes wellbeing (r's between .146 and .315, all p's <.001) indicating the people who work for a worksite they perceive more positively also feel more able to seek help, particularly from workmates (r's=.26 and .31, pre- and post-training), supervisors (r's=.28 and .32, pre- and post-training), and MATES workers (r's=.22 and .28, pre- and post-training). *This highlights the challenge of encouraging help-seeking when people do not feel their worksite supports wellbeing.*

Follow-up survey

People who had participated in MAT equently contacted and invited to participate in a follow-up survey that reprised many of the questions in the original at-training survey. 270 people chose to participate (3.2% of those who participated at training).

Table 5. Means, SD's, and 95% CI's for attitudinal questions, by post-training and follow-up survey

	Post-training			Follow-up		
	Mean	SD	95% CI	Mean	SD	95% CI
1. Possible to prevent suicide	4.41	.48	4.40, 4.43	4.49	.71	4.40, 4.57
2. Notice workmate distress	4.02	.77	4.00, 4.03	4.02	.78	3.93, 4.11
3. Be able to connect workmate	4.30	.72	4.28, 4.31	4.50	.70	4.42, 4.58
4. I would seek help	4.19	.82	4.17, 4.21	4.41	.78	4.31, 4.50
5. My worksite supports wellbeing	4.32	.80	4.30, 4.34	4.38	.88	4.27, 4.49

Note: All correlations significant at p<.001

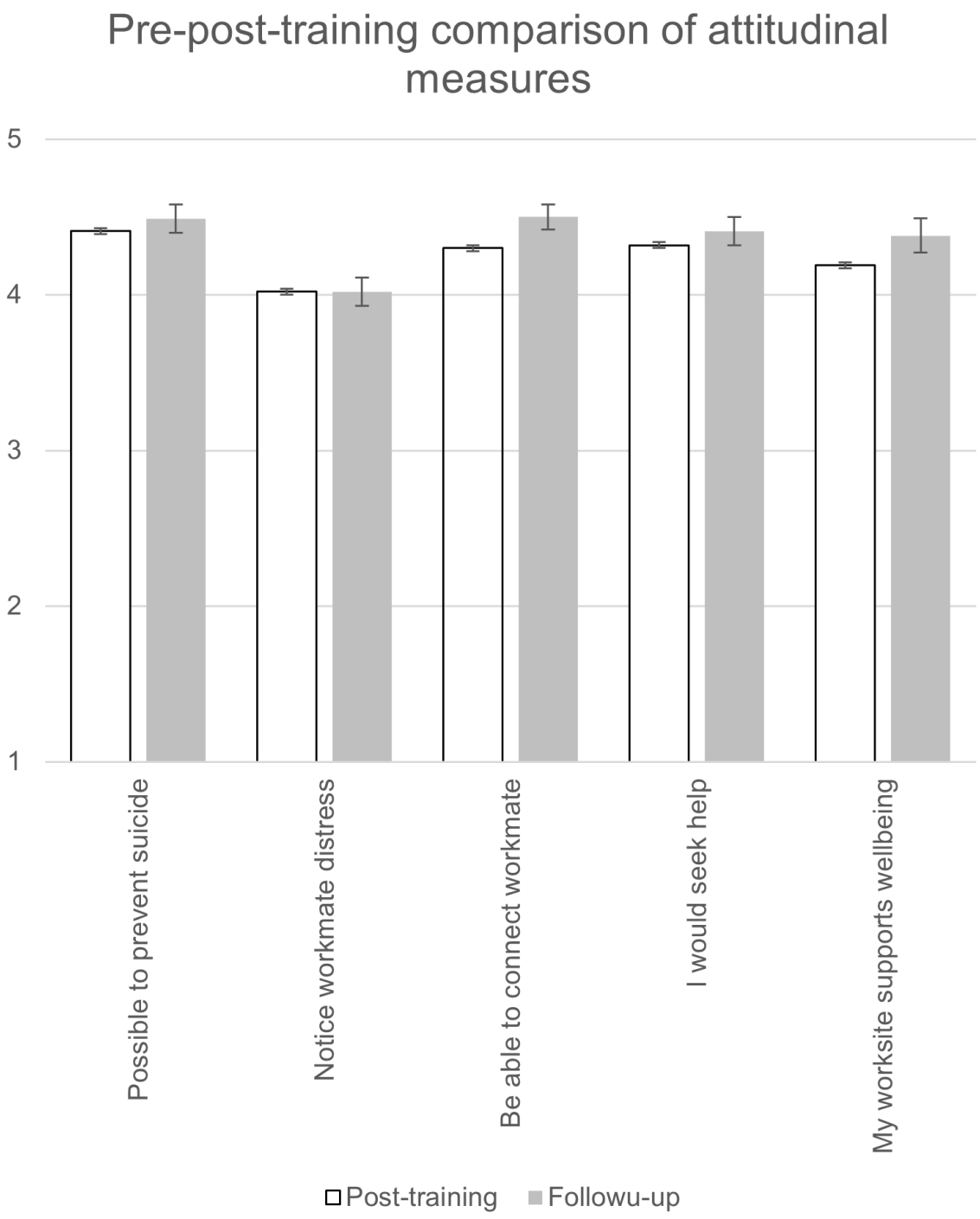


Figure 4: Means, SD's, and 95% CI's for attitudinal questions, by post-training and follow-up survey

The mean responses to training-related attitudinal questions are summarised in Table 5 and Figure 4, including standard deviations and 95% confidence intervals (these become important shortly). Follow-up responses were at least as positive as post-training responses to all questions. With the exception of confidence identifying workmate distress (which was identical), all responses to the follow-up survey were, on average, more positive.

A multivariate ANOVA indicated that Follow-up survey responses to two of these questions were statistically significant: knowing how to connect a distressed workmate ($F(1,8016)=20.08$, $p<.001$, partial-$\eta^2=.002$) and perception of work site promotion of wellbeing ($F(1,8016)=13.11$, $p<.001$, partial-$\eta^2=.002$). However, this analysis assumes these are independent samples, when the follow-up sample is, in fact, a subset of the training-based survey sample. Without a reliable method to match respondents there is not a way to conduct the same pre-post-training analyses presented above.

CONCLUSIONS

Overall, our findings showed significant improvements on the participants' suicide awareness, confidence, and competence to support co-workers in distress and to connect them to appropriate support. These findings are consistent with previous evaluation research by Ross & Caton (2019) and Gullestrup, Lequertier and Martin (2011) which found the effectiveness of MATES training.

MATES training appears to have also improved participants' self-reported emotional wellbeing. And the better participants felt about their wellbeing, the more likely they said they would seek help. This highlights the challenge of asking people to speak up when struggling and in distress, and the importance of having people in the worksite who are able to identify the warning signs for suicidality and to offer active support. Previous evaluation research has shown GAT to be effective in fostering suicide prevention literacy (Gullestrup, et al, 2011), increasing help-seeking behaviours, and reducing stigma around mental health issues (Sayers, et al 2019).

We also found that people who work for a worksite they perceive more positively, feel more confident to seek help - most likely from MATES connector, their workmates, and friends. On one hand, this highlights the challenge of encouraging help-seeking when people do not feel their worksite supports wellbeing. On the other hand, it also stresses the importance of fostering social support in work settings to promote help-seeking and as a protective factor for suicide (Milner, Maheen, Currer, & LaMontagne, 2017).

MATES training also showed a greater impact on women's attitudes to intervention around suicide than on men (though the impact on men was still significant and strong). However, women continued to report less positive mental wellbeing than men both pre- and post-training.

Follow-up responses to all questions were as positive as post-training responses, suggesting a long-term change in wellbeing and help-seeking behaviours among this small follow-up sample of participants after MATES training. However, ethical considerations around confidentiality meant we were unable to match participants from post-training to follow-up and this hindered more robust analysis of the long-term effects of the training. Future

evaluations that allow for matching of participants from pre-post training and 12-month follow up will provide more robust longitudinal analysis.

In summary, MATES GAT training is showing promising results. Strong and significant positive changes in attitudes towards help-offering and help-seeking are evident post-training. Early indications from the small sample of follow-up participants are that these effects are enduring or even strengthened over time. Ongoing evaluation of the MATES programme should continue to monitor these impacts.

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Appendix A

FEEDBACK FORM

Please provide your details and respond to these statements **BEFORE** completing General Awareness Training (GAT).

YOUR DETAILS

Gender

Name

Date of birth

Email

What ethnic group do you identify with most?

Are you of Māori descent?

Have you had previous training by MATES in Construction?
○ GAT ○ Connector ○ ASIST

Contact phone number

Address

Employer

Site

Occupation

Roughly how long are you going to be working on this site?
0-2 weeks | 1-2 months | 3-6 months | 6-12 months | 1-2 years | 3+ years

MATES in Construction may send you important information about your health and wellbeing by email
○ Please tick here if you do not want to receive any MATES in Construction information or material
Please note: under no circumstances will MATES in Construction provide personal information to third persons without your express consent.

• BEFORE THE TRAINING Complete the BLUE section before the training begins

HOW MUCH DO YOU AGREE WITH THE STATEMENTS BELOW?

Please tick one circle to indicate your level of agreement with each of the statements below:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. I have heard about MATES in Construction and the work that they do	○	○	○	○	○
2. You can prevent suicide by talking openly about it	○	○	○	○	○
3. I would notice if my workmate was going through a tough time or thinking about suicide	○	○	○	○	○
4. If my workmate was going through a tough time or thinking about suicide, I would know how to connect them to the right help	○	○	○	○	○
5. My current worksite supports good mental health and well-being	○	○	○	○	○
6. If I was going through a difficult time, feeling upset, or was thinking about suicide, I would be willing to seek help	○	○	○	○	○

WHO HAVE YOU TALKED TO ABOUT YOUR TOUGH TIMES IN THE PAST?

Tick all that apply:

○ Intimate partner	○ A supervisor	○ MATES in Construction worker/Connector
○ Family / Whānau	○ My doctor	○ Minister or religious leader
○ Friend	○ Mental health professional (Psychologist)	○ Kaumātua / Iwi leaders
○ Workmate	○ A telephone helpline (e.g. Lifeline)	○ I have not asked for help from anyone

SO FAR TODAY MY MENTAL WELLBEING FEELS:

○ Very poor ○ Poor ○ OK ○ Good ○ Very good

• AFTER THE TRAINING Complete the GREEN section after the training is finished.

HOW MUCH DO YOU AGREE WITH THE STATEMENTS BELOW?

Please tick one circle to indicate your level of agreement with each of the statements below:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. You can prevent suicide by talking openly about it	○	○	○	○	○
2. I would notice if my workmate was going through a tough time or thinking about suicide	○	○	○	○	○
3. If my workmate was going through a tough time or thinking about suicide, I would know how to connect them to the right help	○	○	○	○	○
4. My current worksite supports good mental health and well-being	○	○	○	○	○
5. If I was going through a difficult time, feeling upset, or was thinking about suicide, I would be willing to seek help	○	○	○	○	○

WHO WOULD YOU SEEK SUPPORT FROM?

Please tick one circle to indicate how likely you would be to seek help from the options listed:

	Very unlikely	Unlikely	Neutral	Likely	Very likely
Intimate partner	○	○	○	○	○
Family / Whānau	○	○	○	○	○
Friend	○	○	○	○	○
Workmate	○	○	○	○	○
A supervisor	○	○	○	○	○
My doctor	○	○	○	○	○
Mental health professional (eg. psychologist)	○	○	○	○	○
A telephone helpline (e.g. Lifeline)	○	○	○	○	○
MATES in Construction worker/Connector	○	○	○	○	○
Minister or religious leader	○	○	○	○	○
Kaumātua / Iwi leaders	○	○	○	○	○
I would not seek help from anyone	○	○	○	○	○
I would seek help from another (please list):					

SO FAR TODAY MY MENTAL WELLBEING FEELS:

○ Very poor ○ Poor ○ OK ○ Good ○ Very good

- Would you like a follow up call from a MATES in Construction Field Officer? ○ Yes ○ No
- Are you interested in becoming a Connector? ○ Yes ○ No
- I consent for my answers on this form to be used in research about how well MATES is working. ○ Yes ○ No

  Signed: _____
- Would you like to be part of MATES in Construction research in the future? ○ Yes ○ No

Any comments? _____

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