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Title:
A cluster RCT to improve workplace mental health in a policing context: Findings of a mixed-methods implementation evaluation

Date:
2021-04-01

Citation:
LaMontagne, A. D., Martin, A. J., Page, K. M., Papas, A., Reavley, N. J., Noblet, A. J., Milner, A. J., Keegel, T., Allisey, A., Witt, K. & Smith, P. M. (2021). A cluster RCT to improve workplace mental health in a policing context: Findings of a mixed-methods implementation evaluation. American Journal of Industrial Medicine, 64 (4), pp.283-295. https://doi.org/10.1002/ajim.23217.

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A cluster RCT to improve workplace mental health in a policing context: Findings of a mixed methods implementation evaluation

Anonymized for review

Short title: Implementation evaluation of a workplace mental health intervention

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This is the author manuscript accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1002/ajim.23217.

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Authors' contributions: ADL led the conception and design of the study, its implementation and evaluation, and the writing of this paper. AJ Martin, KMP, NR, AJN, AJ Milner, TK, AA, and PMS contributed to the conception and design of the study. ADL, KMP, AJ Milner, AP, AA, and KW contributed to data collection and intervention implementation. Data analysis for this paper was conducted by ADL and AP. All authors contributed to revisions of the manuscript, approved the final version, and agree to be accountable for all aspects of the work

Acknowledgements: We thank all participating police members and intervention staff for their contributions to this research. We also acknowledge the memory of our treasured colleague A/Prof Allison Milner who was a key contributor to the project until her untimely death in 2019.

Funding: Australian National Health & Medical Research Council (NHMRC) Partnership Project Grant (NHMRC grant number 1055333) with WorkSafe Victoria; the Institute for Safety, Compensation and Recovery Research (ISCRR, Melbourne), and the Victorian Health Promotion Foundation (Melbourne) as cash partners on the project. The participating police department was a non-cash partner on the project.

Institution and Ethics approval and informed consent: The work was performed at Deakin University and the University of Melbourne. Ethics approval was granted by the Human Ethics Advisory Group at the School of Population and Global Health at The University of Melbourne (ethics number: 1340429), the Human Ethics Committee at Deakin University (ethics number: 2014-132). Participation included both verbal and written forms of consent.

Disclosure (Authors): *The authors declare no conflicts of interest.*

Disclaimer: *None*

ABSTRACT

Background: We conducted a cluster randomised trial of a workplace mental health intervention in an Australian police department. The intervention was co-designed and co-implemented with the police department. Intervention elements included tailored mental health literacy training for all members of participating police stations, and a leadership development and coaching program for station leaders. This paper presents the results of a mixed methods implementation evaluation of the trial.

Methods: Descriptive quantitative analyses characterised the extent of participation in intervention activities, complemented by a qualitative descriptive analysis of transcripts of 60 semi-structured interviews with 53 persons and research team field notes.

Results: Participation rates in the multi-component leadership development activities were highly variable, ranging from <10% to approximately 60% across stations. Approximately 50% of leaders and less than 50% of troops completed the mental health literacy training component of the intervention. Barriers to implementation included rostering challenges, high staff turnover and changes, competing work commitments, staff shortages, limited internal personnel resources to deliver the mental health literacy training, organizational cynicism, confidentiality concerns, and limited communication about the intervention by station command or station

champions,. Facilitators of participation were also identified, including perceived need for and benefits of the intervention, engagement at various levels, the research team's ability to create buy-in and manage stakeholder relationships, and the use of external, credible leadership development coaches.

Conclusions: Implementation fell far short of expectations. The identified barriers and facilitators should be considered in the design and implementation of similar workplace mental health interventions.

Keywords: police; implementation; process; evaluation; trial; job stressor; mental health; intervention; mixed methods; stress

INTRODUCTION

Police officers are exposed to a range of psychosocial and other job stressors and experience high rates of work-related mental health problems.[1] Stressor exposures fall generally into two categories: organizational (e.g., workload, job control, bullying, social support at work) and operational (e.g., exposure to traumatic incidents and violence).[1,2] High levels of organizational and operational job stressor exposures in police have been linked to burnout,[2] work-family conflict,[3] depression,[4] intimate partner violence,[5] psychological distress,[6,7] post-traumatic stress disorder,[8] and suicidal thoughts and behaviors.[9,10]

A wide range of stress reduction interventions have been implemented and evaluated in policing/law enforcement contexts, as summarized in a recent umbrella review of interventions for the prevention and management of occupational stress injury in first responders.[11] This review focused on mental health outcomes and detailed findings from 47 primary studies, categorized into Prevention (24 primary studies, 21/24 in

police settings) and Rehabilitation interventions (23 primary studies, 16/23 in police settings). Nearly all the Prevention interventions were at the secondary level: directed at how individuals perceive or respond to stressors.[12] These included, for examples, interventions on coping, resilience, mindfulness-based stress reduction, progressive relaxation, physical activity, dietary changes, cognitive behavioral therapy, stress management and stress inoculation training. There is an important role for secondary level interventions, but we would argue that they need to be complemented by primary prevention: work-directed interventions to reduce or eliminate exposure to job stressors.[12] Of the Prevention studies in this review, very few included primary prevention. Positive examples included interventions to increase co-worker and supervisory social support, such as through peer support programs. This may partly be explained by the fact that policing interactions with the public tend be very stressful, involving conflict, trauma, and violence, and these exposures are not—for the most part—directly under the control of police departments or organizations. Hence most 'preventive' interventions in policing have tended to be symptom-, health behavior-, or illness-directed (secondary or tertiary level intervention).[11] But there is growing recognition that generic or universal job stressors contribute as much to the burden of mental illness among police as operational stressors. It is critical to note that generic organizational stressors such as workload, job control and social support contribute at least as much as operational stressors to distress and other mental health outcomes, excluding PTSD.[2,8,13] It appears that the least attention is directed to reducing organizational stressors, yet they are the most modifiable by police organizations (i.e., in comparison to controlling operational stressors such as exposure to trauma and violence). Accordingly, while acknowledging that all levels of intervention are needed (primary, secondary and tertiary[12]), there is a relative neglect of primary

prevention to reduce job stressor exposures in the policing context, and efforts should be made to address this research, policy and practice gap. In addition, there is a dearth of experimental studies with high causal inference in the evidence base to date, thus more trial-based evidence is needed.[1,11]

Responding to a public advertisement for organizations willing to participate in workplace intervention research including primary prevention, we were approached by Occupational Health & Safety and Police Psychology staff from a state-wide police organization in Australia. This police department services a state with a population of 6 million operating approximately 346 police stations, and employs roughly 16,500 individuals (~13,500 'sworn' or uniformed police members and ~3,500 civilian staff). This policing workforce, like many others, has high stress-related worker's compensation claims rates compared to other sectors. We engaged in a process of needs assessment and intervention development with the organization, including the use of quantitative surveys, qualitative interviews, and participatory workshops. [14,15] This progressed to the co-design of a workplace mental health intervention strategy, and we subsequently obtained grant funding to evaluate its implementation and effectiveness in a cluster-randomized trial.[14]

Job stress intervention research (in general, across all sectors and work contexts) has a mixed record with respect to achieving favourable outcomes.[16,17] The inclusion of systematic implementation evaluation helps to ensure that valuable lessons can be gleaned from this trial regardless of effectiveness outcomes.[18] In addition, implementation evaluation can provide nuanced understanding of local intervention context which is often critical to the success or failure of an intervention.[19,20]

This paper presents the findings of a mixed methods evaluation of the implementation of the trial, answering the following two research questions:

1) To what extent was the intervention implemented as intended?
2) What were the barriers and facilitators to participation in, and implementation of, intervention activities?

METHODS

Intervention and Overall Study Design

The *Creating Healthy Workplaces* intervention was designed collaboratively with the police department and combined a multi-component leadership development program for station leaders (i.e., Sergeants and Senior Sergeants, and any officers acting in those roles) with separately tailored mental health literacy training for station leaders and troops (lower ranks) in each participating police station.[14,15] The leadership development program was called *Leading for Wellbeing*, and was implemented mainly by the research team. The mental health literacy component was called *Healthy Minds at Work*, abbreviated *HM@W*, and was implemented mainly by the Police Psychology Unit. Station leaders were offered a full-day *HM@W* training and troops were offered a shorter 2-hour training. Two additional activities for troops in the original intervention strategy had to be scrapped due to resource constraints: a stress & workload management program (two 2-hour sessions) and a station-level peer support program.[14,15]

The primary aims of the intervention were to improve psychosocial working conditions and mental health literacy, and secondarily, to improve mental health and organizational outcomes (e.g., sickness absence). In brief, the logic of the leadership

development intervention[14,15] was that improvements in supportive leadership capability among station leaders would translate to improved psychosocial working conditions for troops (e.g., improvements in supervisor social support) as well as senior officers (e.g., improved people management skills leading to lower perceived job demands). In parallel, the mental health literacy intervention aimed to improve mental health literacy and helping behaviors, as well as to reduce stigma, thus strengthening co-worker social support and the potential for enhanced help-offering and more timely help-seeking behaviours. The two main areas of intervention reflect an integrated approach and address primary, secondary and tertiary prevention levels for improvements in psychosocial work environments, supportive workplace culture, and improved help-offering and help-seeking. Improvements in mental health literacy should also benefit participants' lives outside of work by improving capacity to support other people in their social networks.

Intervention effectiveness was evaluated using a two-arm cluster-randomised trial design, with 12 police stations randomly assigned to the intervention and 12 to the non-intervention/usual care control condition. [14] Due to the need to roll out and randomly assign strata of six stations at a time due to feasibility/staffing limitations (3 intervention and 3 control), it took approximately 2.5 years to conduct baseline surveys, the intervention activities, and follow-up surveys for all participating stations.[14] Actual intervention periods averaged approximately 12-15 months for the two earliest intervention groups (strata 1 & 2), and shorter, approximately 9-10 months, for the later intervention groups (strata 3 & 4).

The trial was conducted following CONSORT guidelines,[21] and was registered in 2017 with the International Standard Randomized Controlled Trial Number Registry

(ISRCTN82041334). Ethics approval was granted by Human Ethics Advisory Group at the School of Population & Global Health at the University of Melbourne (ethics number: 1340429), the Human Ethics Committee at Deakin University (ethics number: 2014-132), and the research ethics committee of the host police department.

Mixed Methods Implementation Evaluation

Plans for this mixed methods implementation evaluation were first outlined in a published protocol for the trial.[14] The implementation evaluation was designed to provide narrative insight into how the intervention was implemented what it 'looked like' in practice.[22] This was complemented by quantitative data collection on the extent to which program components were implemented as planned as well as the extent of participation in intervention activities. The combination of qualitative and quantitative methods enabled exploration of context-specific factors that could modify intervention implementation as well as effectiveness.[19] The implementation evaluation was also used formatively, applying insights gained to refine intervention activities and implementation strategies over the course of the intervention period.

Data Sources & Collection Methods

Data sources included field notes and key informant interviews. Intervention staff recorded field notes including both quantitative and qualitative process evaluation data following intervention activities. They were asked to note activity type, location [which police station/cluster], duration, with whom, how many in attendance, as well as their experiences and impressions following the activity.[14]

Periodic semi-structured interviews were also conducted with field staff, key informants, and study participants (total of 60 interviews over the course of the

project, detailed in Table I). Specific interview schedules were created for research team field staff, leadership coaches, key informants in the host organization (e.g., Police Psychology), station leaders in intervention and control stations and troops in intervention stations (six specific interview schedules in total, please see Appendix 1). The interview guides included questions focused on the following issues from various perspectives:

- Levels of engagement in surveys and ways to optimise;
- Understandings of the project aims and processes;
- Feedback on the various elements of the intervention (e.g., workshops, 360-degree evaluation process, leader coaching, mental health literacy training for leaders and troops);
- Experiences of successes and challenges in the intervention activities;
- Factors that might influence the implementation or effectiveness of the intervention;
- Suggestions for optimising implementation of, and participation in, intervention activities;
- Experiences of project staff in implementing the intervention, including experiences of providing leadership coaching;
- Workplace mental health-relevant occurrences (if any) at control stations.

Table I about here

Finally, some questions from the pre-randomization and post-intervention quantitative census surveys that were relevant to implementation were also included (e.g., a post-intervention survey item to gauge turnover: asking participant if they were working at their current station at the start of the intervention period). Details of quantitative

survey methods are available in previous publications, where participant characteristics are detailed. [14,23] Briefly, at baseline, there were 806 survey respondents (75% response rate): n = 618 lower ranks/troops (77%) and n = 188 station leaders (23%); n = 506 males (63%), n = 107 females (23%), and n = 113 gender not reported (14%); most common duration of deployment at station 0-12 months (n = 250, 31%) and 13-36 months (n = 282, 35%).[21]

Quantitative Analysis

The first research question '*to what extent was the intervention implemented as intended?*' was mainly answered through descriptive quantitative analysis. Simple descriptive statistics were used to provide indicators of participation in the various elements of the research (e.g., surveys) and intervention activities.

Qualitative Analysis

The second research question *'what were the barriers and facilitators to participation in, and implementation of, intervention activities?'* was addressed using qualitative descriptive analysis.[24] The semi-structured interviews were audiotaped and transcribed, then combined with field notes to form a narrative database which was analyzed thematically using *NVivo (version 11)* for Windows. In the first pass, text passages were coded as barriers or facilitators to implementation (of planned intervention activities) or participation (of individuals within stations in the implemented, or offered, activities). These were then sequentially-grouped into specific themes and sub-themes, with periodic comparison and harmonization between two analysts (ADL and AP). The salience of each theme (in terms of patterns and regularities in the data[24]) was gauged by noting the number of independent

sources (persons or field note records) from which the theme was composed as well as the number of specific references to the theme (sometimes more than one per source).

RESULTS

Of the 24 stations enrolled in the trial at baseline, one intervention station dropped out early in the intervention period after the baseline survey, leaving a total of 11 intervention and 12 control stations (23 in total) completing the trial, including baseline and follow-up surveys. A total of 795 study participants completed baseline surveys (overall baseline response rate of 75.1%) and 736 completed the follow-up surveys (overall follow-up response rate of 69.1%). Partially completed surveys were included in the analyses. Blank survey responses were omitted (i.e., respondents opened the online survey but did not record any responses).

Quantitative Implementation Evaluation

Tables II and III present the extent of implementation and participation for specific intervention activities for station leaders (Table II), and troops (Table III). Station leaders were the predominant focus of the intervention by design, as illustrated by the large number of leader-based activities compared to one mental health literacy activity for troops: *Healthy Minds at Work* (*HM@W*). We initially obtained numbers of leaders and troops for each participating station through the central Human Resources department; these numbers, however, were almost uniformly out of date and were discordant with numbers reported by station leaders at the time of the intervention. Thus, we used station leader estimates. At some stations, we were not able to obtain estimates from station leaders (strata 1 & 2 in Table II). However, for

the remaining 6 stations in strata 3 and 4, the numbers of eligible and recruited leaders were quite similar (first two data columns of Table II), thus we used the number of recruited leaders as a conservative denominator. The far-right column of Table II shows that of those leaders recruited into the *Leading for Wellbeing* program, on average, one third dropped out due to transfers, sick leave, or undetermined reasons for withdrawal from the program (ranging from <10% to approximately 60% of leaders at station level).

In the earliest intervention stations (strata 1 & 2), we obtained good recruitment into 360-degree assessments and feedback, but relatively few leaders completed the subsequent coaching program. Of the leaders that began the coaching program, most completed only two of the four coaching sessions offered. In the intervention stations starting in the second half of the project (strata 3 & 4), we intensified efforts to retain leaders in the *Leading for Wellbeing* program and most leaders completed at least three coaching sessions. Engagement levels of leaders in the *Leading for Wellbeing* program varied by station; for example, the fullest implementation of the coaching program was realized at Station 1 (strata 4), where most of the leaders who participated in the program completed all four coaching sessions.

Table II about here

The *HM@W* for Managers (full-day) sessions were implemented partially across all four strata, mainly due to limited resources within the Police Psychology Unit and only being able to deliver one such training session at each station, whereas we had hoped to offer at least two (see Table II). Consequently, only half of station leaders received the *HM@W* training at most stations. Stations were unable to roster all leaders at any given time, some leaders were unavailable on the scheduled days for

other reasons, or both. Two stations (in strata 4) were positive exceptions, with most leaders available to attend *HM@W* training when it was scheduled (Table II).

Regarding implementation of *HM@W* sessions for troops, we were unable to obtain participation numbers for strata 1 and 2, but have firm numbers for strata 3 & 4 (Table III). Table III shows that none of those stations achieved even 50% troop participation in *HM@W* training. The situation was likely similar for strata 1 & 2, as only a maximum of two sessions were usually delivered at each station by Police Psychology staff and participation was voluntary regardless of whether troops had been rostered to attend. Furthermore, rostering challenges also adversely impacted attendance rates, as further illustrated in the qualitative interview results below.

Table III about here

Finally, in the follow-up survey of all trial participants, respondents were asked if they had completed a baseline survey: only 47% answered yes, suggesting only about half the participants experienced the full duration of the intervention.

Qualitative Implementation Evaluation

The qualitative interviews yielded a detailed portrayal of numerous barriers to implementation, and a smaller number of facilitators. Though station leaders were the source of roughly half of quotes presented (because they are also the most common interview types), the themes and illustrative quotes presented were based on insights from all source types. Barriers and facilitators were summarized in the form of themes and sub-themes as presented in Tables 4 and 5. The most salient themes are described and illustrated with indicative quotes below.

Table IV about here

Barriers to Implementation

Difficulties in scheduling and completing project activities constituted the most prominent theme, with *rostering challenges* and *staff turnover* sub-themes the most frequently raised by a large number of sources:

> *We all work shift work. You've got people working night shifts, afternoon shifts, day shifts. We all have two days off a week and then we have nine weeks leave a year. On any one day it's very difficult to get everybody there, and it's... I could say it's impossible to get the whole team there in one hit. So that side of it is always going to present problems when you're dealing with police.* (Senior Sergeant, Intervention Station)

> *Staff are constantly changing over which is one of the things I mentioned […] in relation to the before and after survey. You don't have the same audience. There will be people who will be doing the after survey that had no idea that there ever was a before survey because they've transferred in.* (Senior Sergeant, Control Station)

Organizational issues including workload and resourcing (theme in Table IV) were also frequently identified barriers. Such issues included changes to policies and practices co-occurring with the *Creating Healthy Workplaces* program that required additional time, such as a new requirement to complete family violence briefs in less time than previously allotted. Particularly salient workload barriers were not having enough time to participate, and having intervention activities displaced by operational activities:

> *So it's a lot more difficult to have a structured coaching process in this environment because they're you know... And all you need is for the person that you're coaching to go on night shift and then you're stuffed because they'll go on night shift and then they have the two weeks off and you don't see them for you know, a month. But not only have you not seen them for a month, but they probably haven't had chance to do what you asked them to do. So then you're out six weeks. So it's difficult.* (Key Informant [coach], Research Team)

> *Time commitment is always going to be a challenge and just coordination of the same people, same time, same place is difficult… I think organizationally that's one of the biggest issues they'll face.* (Key Informant)

> *Some stations failed to roster ORs [ordinary ranks, or troops] as agreed, made errors and/or requested date changes as a result of operational needs taking priority.* (Key Informant [Field Note], Research Team)

> *I mean it would be fantastic if there was nothing else to have to give attention to other than getting down to [station name] and having coaching sessions when they were available. But unfortunately various different things happened over that period, you know, anti-terrorism things came in and – which meant their roster kind of went all over the shop and various different things happened.* (Key Informant [internal coach])

> *I think that the workload is such at the moment that people are drowning in it, and that's a criticism of [the organization], not a criticism of the project. There are just not enough hours in the day for them to do what they have to do, and there is continually more and more work being put on them.* (Senior Sergeant, Intervention Station)

Related to workload, but captured as a separate fairly salient theme was the occurrence of non-program, non-operational events negatively affecting implementation, such as corruption allegations and potential tensions between stations leaders and troops:

> *The main thing going on here is we've had a few members suspended for corruption….* (Sergeant, Control Station)

> *What I've noticed is, and I've nothing to back it up with, I haven't gone through any sickies [sick days] and that, but I think that the sickies have increased, people going off sick, there's been a couple of instances where members have succumbed to, we'll call it mental illness, and that hasn't happened for quite some time. We have two new Senior Sergeants within the past bit over a year, and that may be affecting members' welfare.* (Sergeant, Control Station)

A specific sub-theme of *Organizational issues, workload and resourcing* pertained to that of the Police Psychology Unit and the impact this had on their ability to provide the key mental health literacy component of the program, *HM@W*, to both leaders and troops. Prior to the start of *Creating Healthy Workplaces*, Police Psychology

offered to provide mental health literacy training (in the form of a modified version of their pre-existing program) to all intervention stations.

> *I think there were a lot of assumptions made about what priority we were able to place on anticipating the Creating Healthy Workplaces. When I say 'we', I mean Police Psychology. We've had resourcing issues, we've had a lot of workload demands, and we just haven't been able to meet some of the deadlines. We've had some demands and assumptions made that we weren't able to meet.* (Key Informant)

In effect, mental health literacy training did not occur for the majority of officers at intervention stations:

> *Once we found out that the Healthy Minds at Work foundation sessions weren't booked in, there were again more time pressures and then it was dropped down to one session for each station for troops, but that just wasn't feasible at all for us because stations were only able to roster maybe a quarter of their total troops at any given time. So, in terms of implementing the actual Healthy Minds at Work program, that was going to be a failing in itself because then we're only accessing a maximum of a quarter of the station. After that conversation, they [Police Psychology] agreed to offer two sessions per station for troops, but we were met with, I guess, some resistance to that given their own workloads and time pressures, and it made it difficult.* (Key Informant, Research Team)

Other difficulties in scheduling and completing project activities included the frequency of officer leave, lack of training facilities, poor communication within the station about the project, difficulty reaching members and/or getting a response, and members failing to remember scheduled program activities and/or needing to reschedule. Examples were:

> *We don't have facilities. We don't have a conference room. We don't have a training room….* (Senior Sergeant, Intervention Station)

> *They [participants] are always on leave, and then you add to that that they do shift work […] it feels like they have 10 weeks off because their shifts are so…. it's just crazy. So you'll get a Senior Sergeant who is present for about two weeks and then no response from them, you ring the station, they're on leave…When are they back? Not for another three weeks. Is there someone else? Not really.* (Key Informant, Research Team)

Confidentiality was sometimes mentioned as a barrier to implementation, referring to confidentiality about survey responses, 360-degree assessments, coaching session content, and more.

> *I was disappointed to find out how the system [360 assessment process] actually worked, because to my understanding the managers were nominating a group of people, a small group of people. […] so when those managers get their feedback from you guys, it's not really that hard for them to work out who is saying what.* (Troop, Intervention Station)

Cynicism was a common barrier to intervention implementation, and was noted in relation to Police Psychology, the project itself, negative attitudes towards change, or—most frequently—to cynicism about the organization as a whole. For example, the following quote starkly expresses organizational cynicism:

> *I think if [organization name] was going to spend all this money doing this stuff they actually need to listen to the outcomes. I'm not confident they will, because there's a lot of idiots running this organization, who don't listen to other people because their ego is so big that they think they've worked it all out and that anyone who disagrees with them is stupid, or ignorant, or naïve, or junior, or inferior. They don't listen to people like me, even though the whole reason we exist is the stuff I do out there […] They don't listen to us.* (Troop, Intervention Station)

There was a number of barriers identified with respect to implementation of the *360-degree assessments and coaching program* as illustrated by the various sub-themes presented under this theme in Table IV. The most common issues were poor engagement from station leaders in the *Leading for Wellbeing* and the internal coaches being unable to commit time and availability to provide coaching.

> *He himself, the Senior Sergeant, didn't participate. So we felt that because he wasn't participating or any other Senior Sergeants weren't participating, the Sergeants were under the assumption that they don't have to participate either. They're leading by example basically* (Key Informant, Research Team)

> *I was on my own [at the station] for about six weeks and getting smashed on secondment as an OIC [Officer in Charge]. I struggled with getting that time to do the right thing by the two coachees that I had, but I also know they were*

> *in the same boat. Setting aside time was a bit of an issue...* (Key Informant [internal coach])

There were a number of other specific barriers identified, as detailed in Table IV. These included a theme around *implementation logistics*, most prominently non-program occurrences interfering with scheduled activities. Other issues included the voluntary nature of the project, given it was research-based. As a result, uptake of the program by individual station members was limited; perhaps those leaders with poorer supportive leadership skills who would have benefitted most from the program elected not to participate, as evidenced by the following quote:

> *I think the issue is that obviously I was happy and keen to do it, but perhaps the Sergeants that needed it actively avoided it and didn't participate* (Sergeant, Intervention Station).

Table V about here

Facilitators of Implementation

Despite the predominance of barriers in the qualitative results, a considerable number of facilitators were also identified. The persistence and flexibility of the research team, as well as its willingness to assist the Police Psychology Unit in the coordination and scheduling of mental health literacy training were acknowledged (Table V):

> *I thought you [research team] were good, well, they were really very generous and forgiving about what we could do at short notice, changes and those sorts of things, and I didn't feel particularly like I was getting a hard time if stuff didn't work out exactly as you wanted, which was nice.* (Sergeant, Intervention Station)

> *I've got no doubt that you guys found it frustrating sometimes with how long it took to get replies back and information back. […] It is a bit difficult for outsiders to understand some of the rostering restrictions, about how far ahead we can actually roster people and get it going. But I think the level and the type of communication that came from [research team] was terrific.* (Sergeant, Intervention Station)

Furthermore, under a broad theme of *Engagement*, interviews indicated that engagement was increased when the research team was able to overcome any cynicism or fears about the project, and when buy-in was achieved with ongoing relationship management:

> *There was some negativity towards the program as there is negativity towards any program, but I think to the credit of [research team], they got over that and won the troops over.* (Senior Sergeant, Intervention Station)

> *Couldn't have faulted the presenters and the coaches, they looked after us very well. You know, supplied lunches and coffees. We got to know them quite well and it was really nice to see them popping in. They certainly won the troops over, you know?* (Senior Sergeant, Intervention Station)

Effective information sharing by station leaders about the project was also mentioned with comparable frequency:

> *There were some Sergeants who were a bit sceptical about it, and I got them on board, and just said, "Look, you know, it's there, it's free. Let's do it. We can only try. It can only benefit you. There won't be any negatives that come out of it." I was trying to, you know, be quite positive about it. The ones that were sceptical about it are the ones that have come out and gone, "Oh wow. I got a lot out of that."* (Sergeant, Intervention Station)

Implementation was enhanced by engagement of the full range of ranks of participants within stations, as well as upper management (e.g., Inspectors). Most frequently acknowledged within stations were the station champion, Senior Sergeant (or Officer in Charge), and station leaders as a group (i.e., Sergeant rank and above):

> *You need the people like [the Senior Sergeant] and myself, one prepared for it to happen at your station and two prepared to let the Sergeants buy into it and then engage and keep going.* (Sergeant, Intervention Station)

> *The Senior Sergeant was supportive of it and obviously pushed it. I think all the Sergeants got something out of it. I certainly did.* (Sergeant, Intervention Station)

> *I shall speak generally, anything new that comes in is often viewed with a degree of skepticism. "It's another bloody thing," excuse my language, "Just another program…who is going to get promoted out of that?" That sort of thing. My function was to really drive it and try and get the members, across*

> *all ranks, to understand the thought process behind this and that they would benefit and the department would benefit at the end of the day.* (Senior Sergeant, Intervention Station)

> *Look, initially it took a lot of pushing and I was the one who put my hand up to drive it. At the start, it was probably difficult to get people to start doing the initial survey, but once the momentum started and our staff started having the sessions, I think it went really well.* (Senior Sergeant, Intervention Station)

Several other specific facilitators of implementation were also identified (Table V), including a number presented under a theme of *Adaptability and flexibility of program, and ability to address unmet needs*. Most prominent among these was the perceived need for, or benefits from, the program:

> *Right upon the initial presentation I was really keen to have it here, because we had some serious morale issues over the previous years before I got here. I knew that there were some issues here. It just sounded like a really positive process. We were really keen then to get it…* (Senior Sergeant, Intervention Station)

It seemed to be quite important to have the option of having a coach from the research team, rather than having an internal coach, although it is worth noting a few members did prefer internal over external coaches:

> *I liked the idea of having an external coach rather than an internal coach because I don't think we do managing people particularly well as an organization and so to have an external coach rather than some Inspector sitting down and telling me this is how it is, I think it was more beneficial to talk to someone with a completely – you know, the way police work is so different to normal people. But yeah, to actually have someone who understands how things should work rather than how things do work was quite refreshing.* (Sergeant, Intervention Station)

> *She was great. Obviously a very highly skilled lady and everything like that. […] She was very good at making me self-reflect. At first I thought, well hang on. You're a psychologist, you're an academic. You're going to come in here and tell me how to run 50-odd people and manage them and make them happy? But she didn't. It was all focused around personal impact and perception and stuff like that. I found it to be very good.* (Senior Sergeant, Intervention Station)

> *I deliberately nominated that I wanted an external coach. I didn't want an [internal] coach because I wanted to take the opportunity to have an outsider look at me and give me their views and give me some tools that perhaps*

> *weren't tainted by being in the organization a while, which I think sometimes is important because we can become very insular*. (Senior Sergeant, Intervention Station)

DISCUSSION

The main finding of this evaluation is that implementation fell far short of expectations for both major intervention components: mental health literacy training and leadership development. This was despite extending the project timeline and intensifying efforts to achieve full implementation as the project progressed. Despite being co-designed and co-implemented by the host organization, many participants felt that high workloads and inadequate resourcing were fundamental barriers. Poor psychosocial working conditions, ironically, appeared to have played a substantial part in undermining intervention efforts to improve psychosocial working conditions. High or excessive job demands in various operational and non-operational forms appear to have hindered both the implementation of activities (some not being offered) and the ability of leaders and troops to attend and participate in offered activities. This was compounded by high turnover, rostering challenges, organizational cynicism, and other barriers.

The quantitative implementation evaluation showed that many planned activities were either not run or had low participation. This was due to a number of factors, some general and some specific. General factors include the high mobility of police officers within the organization, which was reinforced by survey finding suggesting that only half the members experienced the full duration of the intervention. Another general challenge is the long lead time required to plan activities. Rostering Sergeants typically required 4-6 weeks advance notice in order to roster members for a particular group activity (e.g., workshop), and only a small percentage of members in a given station can be rostered on for such an activity due to operational demands; this

adversely impacted participation of leaders in most program-related activities, and troops in *HM@W* group training.

For intervention programs such as *Creating Healthy Workplaces* to succeed, indeed even to be implemented in a large organization, they must be made a priority both locally (station level) and centrally (headquarters), with allowance made in terms of the time and attention required to participate in intervention activities and to follow through with worker and workplace changes to improve mental health. The substantial shortcomings in implementation are obviously a threat to achieving the desired primary outcomes of improved working conditions and mental health literacy (which will be reported in a separate publication).

The research context of this intervention and trial also played an important role in hindering implementation. For example, the voluntary and 'add-on' nature of the project made it non-core business. Further, the qualitative interviews highlighted some shortcomings in intervention strategy and methods that need to be changed, especially those that raised questions about confidentiality; for example, in the future we would not use 360 degree assessments in this context. Though the intervention was intentionally focused on station leaders as a means of improving psychosocial working conditions for all, we had intended to have a comparable variety intervention activities for troops but were unable to offer the workload management and peer support activities we had planned.

The limitations of this study warrant mention. The qualitative interview participants do not represent a random sample, nor did we formally sample for maximum variation,[24] however, we did interview a large number of individuals, including interviewees from all key perspectives, and did build a substantial narrative interview

database complemented by project staff field notes. The qualitative analysis was limited to being descriptive, aiming to capture 'what happened' in everyday terms; more theoretically-oriented analyses of a more interpretive nature may be conducted in the future. With regard to the quantitative analyses, we did have some gaps in participation data (e.g., numbers of participants in activities), but the relatively high participation in the quantitative surveys (baseline and final response rates of 75 and 69%, respectively, compared to organizational norms of ~30%) provided independent verification of the high turnover rates which featured prominently in the interviews.

Despite the implementation challenges encountered in this project, we reaffirm the urgent need to improve psychosocial working conditions for police officers. The state of mental health in police workforce across the world is deeply concerning. A recent systematic review and meta-analysis found that around one in four police officers internationally screened positive for hazardous drinking, one in seven met criteria for PTSD and depression, and one in 10 met criteria for an anxiety disorder; results also indicated that poor social support, higher occupational stress and individuals' maladaptive coping strategies are strong risk factors for mental health problems among police.[1] While symptom and illness-directed measures are important and fairly prevalent, fundamental occupational health principles (the hierarchy of controls) indicate that they need to be complemented by measures to reduce or limit exposure to operational and organizational stressors to the extent. It appears that the least attention is directed to reducing organizational stressors, yet they are the most modifiable. While greater attention to operational stressors in police work is understandable given their dramatic nature and undeniable adverse impacts, there has been a relative neglect of organisational stressors in research, policy, and practice. In conclusion, we would argue that despite the challenges of getting police departments

and their funders (in the context of this study, the state government) to earnestly address organizational stressors, this remains an essential priority for workplace mental health in policing contexts and deserves on-going attention in research, policy and practice.[1,11]

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Tables

Table I: Qualitative Implementation Evaluation Data Sources

Data Type	Data Source	No. interviews (total n = 60)
Field Notes	Project field staff (8 unique persons)	--
Semi-structured interviews	Project field staff (7 unique persons)	9
	Project participants (43 unique persons)	37
	• Station leaders (Strata 1-4 intervention and control stations)	6
	• Station troops (Strata 3&4 intervention stations only)	8
	Organizational key informants supporting the project (7 unique persons)	

Table II: Station leader participation in *Creating Healthy Workplaces* program activities

Program Activities	**Stratum 1**		**Stratum 2**			**Stratum 3**			**Stratum 4**		
	Station AR (n)	*Station BW (n)*	*Station CB (n)*	*Station DK (n)*	*Station EO (n)*	*Station FR (n)*	*Station GK (n)*	*Station HW (n)*	*Station IB (n)*	*Station JN (n)*	*Station KS (n)*
Leaders eligible for recruitment at baseline	-*	-*	-*	-*	-*	11	11	16	17	10	8
Leaders recruited into *Leading for Wellbeing* program	22	13	10	9	12	10	11	16	13	9	7
360 degree assessment	21	13	9	8	8	9	11	16	13	9	7
• Leaders completing a 360 assessment	15	11	8	8	8	8	10	15	13	9	7
• Leaders received 360 assessment feedback											
•											
Leading for Wellbeing Group Workshops	2	2	2	2	1	1	2	2	2	1	1
• Number of initial workshops	10	10	6	6	8	5	7	11	10	5	4
	8	5	5	6	4	7	4	7	7	7	3

offered											
• Total participants in Initial workshops (beginning of program)											
• Total participants in Follow-up workshop (end of program)											
Healthy Minds @ Work Manager Training	1	1	1	1	2	1	1	1	1	1	1
• Sessions offered by Police Psychology Unit	6	5	5	4	5	7	5	12	7	8	6
• Total participants (across one or two sessions)											
•											
Coaching process											
• Commenced	12	10	5	4	6	5	5	13	13	8	5
• Completed one of four sessions	4	6	1	0	1	1	0	1	1	1	2
• Completed two of four sessions	0	0	1	2	1	2	1	1	2	2	0
• Completed three of four sessions	5	0	1	1	1	1	3	8	2	3	3
• Completed four	2	4	2	1	3	1	1	3	8	2	0

of four session											
Overall program drop-out rate (incl. transfer, leave etc; percent of recruited at baseline, second row)	41%	15%	30%	22%	58%	40%	54%	31%	23%	11%	43%

* Could not obtain specific leader numbers at baseline

Table III: Troop Participation in Healthy Minds @ Work (*HM@W*) Sessions

Police Station	Troops by station during baseline Survey period (n)	*HM@Work* Foundation sessions provided by PPU (n)	Troops attended *HM@W* sessions (total n)	Approx. % troops participated in *HM@W*
Stratum 1				
Station AR	54	*2*	no record*	n/a**
Station BW	24	*2*	no record	n/a
Stratum 2				
Station CB	18	*1*	no record	n/a
Station DK	38	*1*	no record	n/a
Station EO	36	*1*	no record	n/a
Stratum 3				

Station FR	33	*1*	10	30%
Station GK	57	*2*	22	39%
Station HW	49	*2*	22	45%
Stratum 4				
Station IB	56	*1*	3	5%
Station JN	28	*2*	11	39%
Station KS	29	*2*	12	41%

*No record: attendance numbers not able to be provided by Police Psychology Unit

**Not applicable

Abbreviation: HM@W = Healthy Minds at Work; PPU = Police Psychology Unit

Table IV: Barriers to implementation

BARRIERS: Specific Themes and Sub-Themes	**Sources***	**Refs****
Confidentiality	15	22
Engagement – subthemes:		
Closer to retirement and not open to program	14	16
Lack of engagement from station command, or champion	20	43
Poor engagement from station members	23	47
Low morale	9	17
Members lacking respect or trust for station command or champion	7	11
Implementation logistics – subthemes:		
Change in key project personnel or stakeholders	6	10
Non-*Creating Healthy Workplaces* occurrences or events (investigations, other programs, etc.) affecting implementation	18	62

Project timelines pushed back or cut short due to implementation issues	15	37
Survey issues, including iPads going missing	7	9
Voluntary nature of project	15	20
Stigma about job stress, mental health, help-seeking, etc.	12	22
Cynicism – subthemes:		
Individual cynicism about Police Psych personnel or Employee Assistance Program (quality of support provided; competence of EAP staff, etc.)	7	9
Individual cynicism about the project or being a control station	19	30
Negative attitudes to change or change fatigue	21	27
Organizational cynicism	23	42
Difficulty scheduling and completing project activities – subthemes:		
Frequency of leave	22	49
Lack of appropriate facilities at stations	5	8
Members failing to remember, or rescheduling, program activities	8	15
Rostering challenges at 24 hour stations	38	84
Staff turnover or rotation of leaders or key staff members	38	90
Unable to reach a member or they're unresponsive	11	27
Lack of project understanding, or limited communication about project within station	31	57
Issues related to 360-degree assessment or coaching program – subthemes:		
Allocation of an internal coach	5	7
Engagement affected by negative peer feedback (or anticipation of)	17	21
Lack of specific competence of coaches, or sufficient training unable to be provided	7	11
Members not completing rater lists accurately or raters not responding	5	5
Internal coaches unable to commit to full coaching program	11	14
Organisational issues, including workload and resourcing – subthemes:		
New policies and procedures adding time pressure and depleting resources	7	13

Lack of resources to cover participants attending program activities	5	5
Not enough time to participate, or not a priority	29	43
Operational work commitments displacing intervention activities	26	45
Police Psych unable to provide sufficient resources for mental health literacy training or other activities, or coordinate in a timely manner	15	30
Shortage of staff at station level	15	27

*Sources = number of individual persons or field note records

**References = number of references made (can be more than once per source)

Table V: Facilitators of implementation

FACILITATORS: Specific Themes and Sub-Themes	**Sources***	**Refs****
Program independence from host organization/employer – sub-themes:		
Externally run program with credibility and anonymity	9	10
Preference met for research team coach	12	16
Adaptability and flexibility of program, and ability to address unmet needs – subthemes:		
Perceived need or benefit of the project	25	41
Non-metro stations welcome training opportunity because don't usually receive	4	4
Personal tailoring, individual focus to development	19	21
Openness to change or anticipating career progression	13	16
Research team effectiveness in project delivery – subthemes:		
Research team coordination of mental health literacy training sessions between Police Psych and stations	3	4
Research team ability to overcome individual cynicism or fears	16	25
Research team and key contractors creating buy-in and relationship management	24	43
Effective communication and flexible approach to program delivery by Research team	23	35

Persistence in contacting participants to schedule individualized program components	7	8
Positive engagement at various levels – sub-themes:		
Effective information sharing about the project by station leaders	20	27
Engagement from Rostering Sergeant	7	8
Having an engaged and influential station champion	30	48
Maintaining engagement, and following up, with coaches	5	9
Positive engagement from upper management	10	16
Senior Sergeant engagement and encouraging participation despite any challenges	28	44
Station leaders' engagement	26	46
Troop engagement	9	12

*Sources = number of individual persons or field note records

**References = number of references made (can be more than once per source)