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Adaptation of a Mindfulness-Based Intervention for Trauma-Exposed, Unhoused Women With Substance Use Disorder

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Objective: Women experiencing homelessness (WEH) report exceedingly high rates of trauma exposure, posttraumatic stress disorder (PTSD), and substance use disorder (SUD). Mindfulness-based interventions including Mindfulness-based Stress Reduction (MBSR) may help lower traumatic stress-related symptoms and reduce SUD, but have been underexplored in community-based settings serving WEH with symptoms of PTSD and SUD. ***Method:*** We used a mixed-method, community-engaged approach that implemented a Community Advisory Board and the ADAPT-ITT (assessment, decision, adaptation, production, topical experts, integration, training, testing) framework, including intervention demonstrations, to adapt and refine MBSR for WEH experiencing symptoms of PTSD/SUD. Trauma-exposed WEH ($N = 28$) living at a drug treatment site provided perspectives and feedback on an MBSR demonstration via quantitative questionnaires and four focus groups. ***Results:*** Quantitative measures indicated high perceived acceptability and feasibility: Nearly all WEH reported MBSR activities (including yoga, meditation, body scans, class discussion, and home practice) would be at least "somewhat helpful"; between 71.43% to 89.29% reported each activity would be "a great deal helpful." Most reported the focus group sessions were useful for providing feedback relevant for improving program design and administration. Qualitative findings revealed four themes aligning with quantitative findings that provided useful suggestions to guide MBSR implementation with trauma-exposed WEH: (a) perception of feasibility and effectiveness of MBSR, (b) strategies for successful recruitment, (c) strategies for successful retention, and (d) characteristics of the MBSR trainer. ***Conclusions:*** Focus group recommendations could bolster intervention compliance, engagement, and completion for MBSR and community-based programs for WEH more generally. Results provide suggestions for implementing a trauma-sensitive approach when administering MBSR to trauma-exposed WEH.

Clinical Impact Statement

Mindfulness-based interventions may be appropriate for use with trauma-exposed unhoused women experiencing symptoms of posttraumatic stress disorder and substance use problems. Effectiveness, adherence, and retention may be enhanced with population-specific considerations.

Keywords: mindfulness, MBSR, community-engaged research, homeless, PTSD

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Alexandra Amador, Jessica Osorio, and Krista Sadiwa Ruivivar contributed equally to the project. Dana Rose Garfin served as lead for conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, supervision, writing–original draft, and writing–review and editing. Alexandra Amador served in a supporting role for formal analysis, investigation, project administration, and writing–review and editing. Jessica Osorio served in a supporting role for formal analysis, investigation, project administration, and writing–review and editing. Krista Sadiwa Ruivivar served in a supporting role for formal analysis, investigation, project administration, and writing–review and editing. April Torres served in a supporting role for methodology, project administration, and resources. Adeline M. Nyamathi served in a supporting role for conceptualization, formal analysis, investigation, methodology, resources, and writing–review and editing.

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Posttraumatic stress disorder (PTSD) and substance use disorder (SUD) frequently co-occur (Roberts et al., 2015). Estimates suggest those experiencing symptoms of PTSD have 30% greater odds of meeting lifetime prevalence for an alcohol use disorder (Goldstein et al., 2016); those with SUD are 30% more likely to meet lifetime prevalence for PTSD (Grant et al., 2015). Comorbidity may be even higher in groups most vulnerable to experiencing trauma (Roberts et al., 2015), such as women experiencing low socioeconomic status (Gluck et al., 2021) including women experiencing homelessness (WEH; Keyes et al., 2014). Indeed, WEH are at particularly high risk for trauma exposure and symptoms of PTSD, with estimates ranging from 25% (Tinland et al., 2018) to over 50% (North & Smith, 1992): rape as an adult (Tinland et al., 2018) and abuse (emotional, physical, or sexual) as a child (Tsai et al., 2015) are exceedingly common. This early life stress and ongoing trauma create a shared vulnerability for comorbid PTSD and SUD (PTSD/SUD) and a reciprocal process that maintains symptoms of both disorders (María-Ríos & Morrow, 2020). For example, people may self-medicate the symptoms of PTSD with substances; the pursuit and use of substances may create risky situations for new traumatic events to occur (María-Ríos & Morrow, 2020).

Those experiencing symptoms of PTSD/SUD face pronounced social, occupational, and psychiatric impairment (Simpson et al., 2019), creating a cycle of disability (Baxter et al., 2014) and social, economic, and health disparities. For WEH, services are often limited due to lack of funding and a cycle of institutionalization (psychiatric facilities, jails, and prisons) and homelessness that precludes stable housing and treatment (Schreiter et al., 2021). More generally, PTSD is costly and difficult to treat; 65% of those diagnosed with PTSD do not receive treatment or wait many years to seek it (Wang et al., 2005). Although PTSD treatment completion is often low for those experiencing symptoms of PTSD/SUD (Roberts et al., 2015), when administered, is most often in the context of SUD treatment settings (Najavits et al., 2020) or acute care where it is more available and assessable (Schreiter et al., 2021). Thus, community organizations providing SUD treatment to WEH could be optimal settings to administer interventions addressing PTSD/SUD, allowing for effective and sustainable reintegration of WEH into stable housing and employment.

Mindfulness-Based Interventions for Those Experiencing PTSD and SUD

Mindfulness-based interventions have emerged as a potential way to address key mechanisms of PTSD/SUD by encouraging approach-based coping (Roos et al., 2020), increased acceptance (Bowen et al., 2017), awareness, and nonjudgmental attitudes toward distress, which in turn may increase distress tolerance and reduce impulsivity (Somohano et al., 2022). Mindfulness-based interventions may also address mechanisms underlying craving, addiction, and maladaptive behaviors (Li et al., 2017), raise awareness of automatic addictive processes, and promote positive coping strategies (Garland, 2014; Li et al., 2017). Taken together, these factors may help break the PTSD/SUD cycle. As such, mindfulness-based interventions may be an effective, relatively low-cost adjunct or alternative to traditional care for those experiencing symptoms of PTSD/SUD, showing promise in populations experiencing high health disparities (Dutton et al., 2014; Wasson et al., 2020). Indeed, meta-analytic findings suggest the efficacy of mindfulness-based interventions is similar to second-line treatments for PTSD (Gallegos et al., 2017). Moreover, they can be used in their standard format to address trauma and related transdiagnostic symptoms (Taylor et al., 2020), adapted for trauma-sensitivity (Kelly & Garland, 2016), and appeal to those reticent to engage in traditional "psychiatric care" due to stigma or other concerns (Schreiter et al., 2021). Mindfulness-based interventions can be administered by qualified/certified trainers in the community rather than medically trained specialists (Kabat-Zinn, 1990), who are often limited in communities with high unhoused populations (Schreiter et al., 2021).

Meta-analytic findings suggest mindfulness-based interventions may be associated with reduced consumption of substances and substance craving (Chiesa & Serretti, 2014), increased treatment retention in women experiencing SUD (Black & Amaro, 2019), and reduced recidivism (Himelstein, 2011). For example, one recent meta-analysis suggested some mindfulness-based interventions were effective as evidence-based treatments for SUD (Korecki et al., 2020). Further, participation in a mindfulness-based relapse prevention program resulted in reductions in craving and PTSD symptoms in women with symptoms of PTSD/SUD (Somohano & Bowen, 2022). This is important for WEH since they experience high rates of PTSD (Gluck et al., 2021), as well as SUD (Fazel et al., 2016) and incarceration, a risk factor for additional trauma exposure (Sartor et al., 2012).

Mindfulness-based Stress Reduction (MBSR) is a group-based, manualized mindfulness-based intervention (Kabat-Zinn, 1990; Santorelli et al., 2017), consisting of eight weekly 2.5–3-hr sessions and a 1-day retreat (Ramel et al., 2004). Participation in MBSR and modified MBSR programs have been associated with reduced PTSD symptoms, evidenced in a randomized control trial of 116 veterans (Polusny et al., 2015) and a one-arm study of 27 child sexual abuse survivors (Kimbrough et al., 2010). Weekly topics in MBSR include: (a) Introduction, (b) Understanding Perceptions, (c) Hatha Yoga, Sitting Meditation, and Walking Meditation, (d) Concentration and Awareness, (e) Unhealthy Patterns and Getting Unstuck, (f) Transformational Coping Strategies, (g) Maintaining Discipline and Flexibility, and (h) Course Review. Participants complete brief homework assignments (e.g., mindful eating; pleasant/unpleasant events calendar) and listen to guided meditation recordings between sessions. Classes include instruction, experiential practice, and time for group discussions, led by a qualified trainer.

Despite growing evidence that MBSR could be beneficial in low-income populations experiencing symptoms of PTSD/SUD, MBSR has not been explored as a potential adjunct or alternative intervention appropriate for WEH experiencing symptoms of PTSD/SUD. Implementing MBSR with an underresourced population facing many barriers and risk factors may require specific considerations. For example, although meditations can elicit distress in those exposed to trauma and stress (Zhu et al., 2019), they can be administered in trauma-sensitive ways that emphasize safety and flexibility (Duane et al., 2021). Given the time and cost of implementing interventions to address PTSD/SUD, effective "adaptation" that involves modifying an intervention while maintaining its core components and logic can facilitate more effective implementation (Wingood & Diclemente, 2008).

Herein, we leveraged the expertise of a Community Advisory Board (CAB), helpful for encouraging community engagement in research (Matthews et al., 2018), to guide a mixed-method study to explore the potential use of MBSR in a sample of WEH with symptoms of PTSD/SUD. Our goal was to work with the target population to garner recommendations regarding how to adapt MBSR for potential future use in community-based settings serving WEH. We had four aims: (a) Work with a CAB to construct a semistructured interview guide to use with a distinct sample of trauma-exposed WEH; (b) Using the interview guide and a theater testing approach, conduct focus groups with trauma-exposed WEH living in a residential drug treatment site to guide population-relevant MBSR adaptation; (c) Integrate quantitative metrics of perceived acceptability and feasibility of MBSR with qualitative focus group data; and (d) Explore emerging themes related to mindfulness, MBSR, PTSD, and SUD as experienced by WEH.

Method

Design

Using a convergent mixed-methods design (Fetters et al., 2013), we implemented a community-engaged approach that included the use of a CAB (Matthews et al., 2018) to help design a semistructured interview guide for use in subsequent focus groups. We drew from key components of the ADAPT-ITT (assessment, decision, adaptation, production, topical experts, integration, training, testing) framework (Wingood & Diclemente, 2008) to adapt an MBSR-based intervention for a sample of trauma-exposed WEH living in a residential drug treatment site. The ADAPT-ITT framework involves pretesting interventions before administering them using a "theater testing" approach, where the potential intervention is presented to a group and key components are demonstrated (Wingood & Diclemente, 2008). Participants then provide feedback on the potential intervention with surveys and open-ended responses to guide adaptation for population-specific use (Wingood & Diclemente, 2008). We administered quantitative questionnaires and conducted in-depth focus groups with WEH residing in a drug treatment site. Procedures were approved by the Institutional Review Board at the University of California, Irvine.

Setting

Two residential drug treatment sites in Southern California, supported under the same state-funded organization, participated in the project. The residential drug treatment sites specialize in serving women with low income; over 85% of women receiving services are unhoused prior to admission. Both sites had similar treatment administration (e.g., level of care, type of programs offered) and overall demographic composition. Clients generally represent high racial/ethnic diversity. Drug Medi-Cal, which seeks to provide eligible residents care and services for long-term recovery from SUD (California Department of Health Care Services, 2022), funds much of the treatment. Clients typically stay at the drug treatment site between 60 and 120 days, and participate in 24–25 hr per week of treatment (including evidence-based clinical practice, group sessions, and individual therapy) targeting PTSD/SUD. Sites did not offer formal mindfulness-based interventions but one site presented some related skills during informal client education.

Procedure

CAB Activities

First, site staff and university researchers developed a CAB (Matthews et al., 2018). CAB members are individuals from the community who provide consultations to improve research capacity and quality (Matthews et al., 2018). CAB members were considered part of the research team rather than human subjects participants. For WEH, inclusion criteria for the CAB were: over 18 years of age, experienced homelessness, experienced a severe trauma or stressor, and English speaking. For site staff, inclusion criteria were: over 18 years of age, worked at the residential drug treatment site, provided services for unhoused clients, and English speaking. The CAB composition included (a) six WEH exposed to trauma, living at the residential drug treatment site, (b) one substance misuse counselor, (c) a site licensed clinical psychologist, (d) a site clinical manager, and (e) a site clinical director. CAB members were drawn equally from the two sites. Two CAB meetings were conducted over Zoom conferencing with members of the university research team present at both sites and the principal investigator alternating onsite presence. The CAB included diverse ethnicities; the university research team identified as White ($n = 1$), Hispanic ($n = 2$), and Asian ($n = 1$). The team identified potential challenges to acceptability and feasibility of the intervention, cultural issues that might arise when conducting the MBI, and other considerations (e.g., trauma-related triggers) relevant to trauma-exposed WEH. These discussions informed the development of a semistructured interview guide subsequently used to guide focus groups. We compensated CAB members $10 per session.

Recruitment

After interview guide finalization, clinical site staff passed out IRB-approved flyers to inform residents of the opportunity for focus group participation. Inclusion criteria were: women who experienced homelessness in the past 6 months, experienced a DSM-5 Criterion A trauma as measured with the Life Events Checklist (Gray et al., 2004), 18 years of age or older, and English speaking. Exclusion criteria included prior participation in the CAB and not meeting eligibility criteria. Psychologically or cognitively impaired women (as judged by site staff) were not invited to participate and would be referred to site staff for treatment if symptoms were later noted. Interested women were screened on a "first come, first served" basis. If eligible, research staff read aloud the IBR-approved informed consent sheet and answered any questions potential participants had. Women were compensated $3 for the 5–10 min screening and desirable snacks were available, in alignment with the "appreciation model" of participant compensation (Pandya & Desai, 2013).

Focus Group Administration

The principal investigator moderated focus groups to obtain feedback on MBSR administration; sessions were 1.5 hr long and held at a private location at the residential drug treatment site. We screened 35 women, 32 were eligible, and 28 participated in one of four focus groups (seven women per group). Of eligible women who did not participate, one had a court case, two had off-site appointments at the time of the focus groups, and one decided not to participate. WEH provided pseudonyms to protect their identity. We audio-recorded each focus group; two assistant moderators took detailed

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notes. After the focus groups, the women completed quantitative questionnaires. We compensated women $15 for participation in both components and provided snacks throughout sessions. A trained therapist was on site and available in case of participant distress.

First, we distributed a one-page summary sheet outlining the general structure of traditional MBSR. It included information regarding the 8-week format, the 1-day retreat, and the use of homework assignments (including an MP4 player with guided meditation recordings). We demonstrated key practices from MBSR including yoga, body scan practice, and breath meditation using a *theater testing* approach (Wingood & Diclemente, 2008), where the moderator demonstrated the MBSR activities to the women who were invited to follow along with the activities or simply observe. Using the interview guide, the moderator solicited feedback from the group regarding their initial reaction, length of time recommended for each practice, and any considerations that should be made to make the activities more appropriate for women who had experienced trauma, SUD and homelessness. See the online supplemental materials for full semistructured interview guide.

Qualitative Analyses

After focus groups transcription, the principal investigator and three research assistants (RAs) who participated in focus group administration engaged in precoding activities. Each RA reviewed the four transcripts (one from each focus group) in their entirely, using written notes for additional context. Using an inductive research process that drew from Grounded Theory (Glaser & Strauss, 1967), RAs highlighted words/phrases symbolizing key constructs using *open coding* techniques, whereby the codes emerged from the data (Glaser & Strauss, 1967; Williams & Moser, 2019). RAs also used “in vivo” code generation, using exact phrases from a participant’s response (Manning, 2017). Each RA independently generated an initial list of potential codes; the team then met at least weekly to review and discuss codes by analyzing transcripts line-by-line; synonyms (e.g., “calm down” and “calm myself”) were consolidated. After creating this initial code list, the team implemented *axial coding* to find interrelations and conceptual overlap between codes and then rereviewed the transcripts: themes were refined, aligned, and categorized (Williams & Moser, 2019). The team used *selective coding* to organize data (combining conceptually and expanding thematically) into cohesive and meaning-filled expressions (Williams & Moser, 2019). The team placed quotes and their associated codes into unique tabs in Excel according to potential themes, placing subthemes and related codes into each thematic tab. The team used consensus decision-making throughout (Campbell et al., 2013), discussing discrepancies in codes and/or themes until achieving agreement. Questions generated by the CAB and contained in the interview guide informed the selective coding process.

Quantitative Measures

Quantitative measures assessed demographic indicators and PTSD criteria to ensure feedback from the theater testing procedure was derived from a sample representing the target population. We calculated descriptive statistics; feasibility and acceptability metrics were then “converged” with qualitative data in a joint display (Guetterman et al., 2015).

Sociodemographic Questionnaire

This questionnaire assessed age, ethnicity, education, religion, number of children, marital status, sexual orientation, mental health ailments, and socioeconomic status.

Posttraumatic Stress Disorder

The Primary Care PTSD Screen (PC-PTSD; Prins et al., 2015) is a five-item, widely used, dichotomous screening tool that identifies individuals with probable PTSD and has been validated against clinician diagnostic interviews (Prins et al., 2016). Participants report occurrence of a Criterion A traumatic event (American Psychiatric Association, 2013) and, if one occurred, the experience of five key symptoms in the past month (0 = *no*; 1 = *yes*). Scores were summed. As recommended, endorsing three or more symptoms indicated probable PTSD.

Perceived Acceptability and Feasibility

Fourteen questions (see Table 1) that used a Likert-type scale from 1 (*a great deal*) to 3 (*not at all*) assessed perceived acceptability and feasibility of the intervention as well as perceived effectiveness of the focus groups. Items were derived from prior mixed-methods research on intervention acceptability and feasibility with marginalized groups (Salem et al., 2020).

Results

Participants were, on average, 30.3 years old ($SD = 8.6$, range = 18–59) with diverse ethnic identities: White ($n = 10$, 35.7%), Black ($n = 5$, 17.9%), and Hispanic ($n = 13$, 46.4%); among these women, two (7.1%) also identified as part Native American. Educational attainment was variable, although overall relatively low: less than high school ($n = 11$, 39.3%), high school/GED ($n = 6$, 21.4%), some college ($n = 10$, 32.1%), and bachelor’s degree ($n = 1$, 3.6%); one (3.6%) high school graduate also completed vocational training. All 28 WEH had been diagnosed with an SUD as a criterion for living at the drug treatment site and had been involved with the criminal justice system; 22 (78.6%) reported an additional clinician-based diagnosed mental health condition. Nearly all women met screening criteria for probable PTSD (89%, $n = 25$), as presented in a related report (Garfin et al., 2023). Reports of symptoms were high: 81.48% ($n = 22$) reported nightmares; 92.86% ($n = 26$) reported avoidance symptoms; 82.14% ($n = 23$) felt numb/detached from others; 75% ($n = 21$) felt guilty or unable to stop blaming themselves or others for the events; and 85.71% ($n = 24$) reported been constantly on guard, watchful, or easily startled. Additional descriptive demographic statistics are provided in a related report (Garfin et al., 2023).

Quantitative Results

Quantitative data from the questionnaire indicated high perceived acceptability and feasibility of the MBSR activities; over 96% of participants reported the activities would be a “great deal helpful” or “somewhat helpful,” and the vast majority (over 80%) reported most activities would be a “great deal helpful.” The body scan had slightly lower acceptability: over 71% reported the activity

Table 1
*Mixed-Methods Perspectives on Feasibility and Acceptability of Mindfulness-Based Interventions (*N *= 28)*

Question	A great deal % (*n*)	Somewhat % (*n*)	Not at all % (*n*)	Exemplar quotes
1. Do you think the following activities demonstrated would be helpful to other homeless women dealing with stressful life events?				
a. Gentle yoga	85.71 (24)	10.71 (3)	3.57 (1)	• "I've always wanted to try but I've never done yoga." • "Like, if you're having a hectic day you can just do a little yoga real quick and get back to that, that person that you need to be." • "I can't get into the yoga thing. I can't focus."
b. Breath meditation	85.71 (24)	14.29 (4)	0.00 (0)	• "I like meditation because to like, relieve stress….Like, putting it, like say a balloon, and like just letting go of the balloon like, in meditation." • "Because starting off of 45 min is a lot to ask people who are new to meditation."
c. Body scan	71.43 (20)	28.57 (8)	00.0 (0)	• "I like that kind of meditation." • "Is it okay for it to take a couple of sessions until you're able to like, until you come to the time where you are able to do that [BODY SCAN]? Like, maybe I can't do it today-maybe I like try it maybe tomorrow again."
d. Discussions with trainers/other women during the program	82.14 (23)	14.29 (4)	3.57 (1)	• "Tell them, this is not a therapy session. This is to help you deal with your stress."
e. Take home assignments (e.g., worksheets, other homework)[a]	89.29 (25)	10.71 (3)	3.57 (1)	• "I think that is a good idea." • "To start having them practice it during the homework assignments. Like, you have the, what was it, the five to 15 min of informal and then the 45 min of formal, I believe that if they start practicing it in their everyday life, after 30 days it becomes a habit."
2. Do feel the session helped identify ways to better recruit women?[b]	96.15 (25)	3.85 (1)	00.0 (0)	• "But everybody's going to get something. It's just like geared toward yoga and toward meditation. So like a yoga mat, candle." • "You don't need to know even what yoga or meditation is to start this class. Because they're going to teach you."
3. Do feel the session helped identify ways to help women finish the program?[b]	84.62 (22)	15.38 (4)	0.00 (0)	• "Finding a way to make it like…to like a calendar, a notebook, something that organizes the homework for them so that it's not so tedious or considered like, feel forced upon." • "I never graduated high school. I didn't get to, or I didn't promote from middle school so, to me, getting a certificate from something else, it would make me feel like I've completed something in my life."
4. Did the session identify challenges that women might face when attempting to complete a mindfulness-based stress reduction program?	82.14 (23)	17.86 (5)	0.00 (0)	• "We have a lot of PTSD. We have a lot of flashbacks, bad dreams. We have all of those, those symptoms of our trauma. And so, when you become aware of your body and your mind and where it's taking you, you can control it. And when you've learned to practice that control, practice makes perfect." • "The people that have PTSD; It's hard to close my eyes."
5. Do you feel the discussion helped improve the MBSR program?	89.29 (25)	10.71 (3)	0.00 (0)	• N/A

(*table continues*)

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Table 1 (*continued*)

Question	A great deal % (*n*)	Somewhat % (*n*)	Not at all % (*n*)	Exemplar quotes
6. Do you think the mindfulness-based stress reduction classes would be useful to you?	89.29 (25)	10.71 (3)	00.0 (0)	• "Be like having, you know, like different range of skill things that you actually apply these methods to…because a lot of us have all these tools, and we don't know where to use them, so. And it's so simple just to do a yoga or to do a guided meditation when we don't ever use those tools. We don't know if they can."
7. Overall, would you recommend the MBSR program to other homeless women who are dealing with stressful life events?	96.43 (27)	3.57 (1)	0.00 (0)	• "But it's just ways to cope with any stressful situation in life. So, you can use them just to go to sleep at night, or to get over maybe some kind of traumatic experience. Or you're going through something tough in life."
8. Was the session conducted in a useful and understandable way?	92.86 (26)	7.14 (2)	0.00 (0)	• N/A
9. Did the session identify challenges experienced by homeless women who have experienced traumatic/stressful life events?[b]	77.78 (21)	22.22 (6)	0.00 (0)	• "A lot of us that have lived in the streets and have lived in the streets most of our lives… that's all we know. So, it's a different way of coming about things and our trying to, you know, focus on things. It's harder for us to be in like, you know, groups and express ourselves with the people that don't understand us."
10. Do you feel the session identified challenges experienced by someone with a mental health problem?	67.86 (19)	25.00 (7)	7.14 (2)	• "At the end of the day, everybody in this program had experienced trauma. This is, this program is based on women who have experienced some form of trauma…Like, you, like the person who's in it just needs to learn that they need to have an open mind and be willing to change."

[a] 29 responses were recorded as one respondent provided two responses. [b] *N* varies due to missing data.

would be "a great deal helpful." See detailed responses for each MBSR component in Table 1, which includes exemplar quotes.

Qualitative Results

Using focus group data and the semistructured interview guide, we identified four themes relevant to the current report, each with several subthemes. Themes involved perceptions of MBSR classes in general and activities specifically; how to promote the classes and engage the community of residents in intervention participation; how to successfully engage and retain participants; and key characteristics of the trainer that could help facilitate intervention success, mitigate any adverse effects, and promote comfort and inclusivity. Note, pseudonyms are presented below.

Theme 1: Perception of Feasibility and Effectiveness of MBSR

Participants reported high perceived feasibility of administering an MBSR to WEH at a residential drug treatment site and effectiveness of the activities proposed for improving psychosocial outcomes relevant to PTSD/SUD. One WEH disagreed and thought the program might not be feasible, saying the activities were "outside of our comfort zone." This sentiment was not generally shared by others, who were mostly supportive of the activities, although some caveats were noted (see Table 1).

Subtheme 1.1: Perceived Effectiveness of MBSR. On balance, the WEH reported the techniques demonstrated in the theater-style approach would be effective at reducing stress. Some WEH reported general feedback on the activities (e.g., "I think they're really effective"), while others reported more specific benefits, such as "I think that's a good way we could build self-control" and "I feel like it's very relaxing and it releases a lot of tension." Kelli commented how MBSR could be used in daily life, saying, "So, you could've used it in your everyday life. So, it's good to teach it. But then everyone knows they can apply it to their daily routine and it'll help them get what they need."

Subtheme 1.2: Potential Benefit of MBSR Activities. Despite some initial reservations about the ability to maintain stillness and attention, WEH reported feeling focused during the demonstration. They described being able to connect with the body during the body scan. For example, Farrah reported, "The first one we did [body scan] where we had to notice our toes, I felt like it was going to work." Some expressed experiencing reduced anxiety during the breath meditation and body scan. Sam commented, "It's a really good challenge for patience, you know? It definitely keeps like, it keeps me in place. And like, from anxiety, I'm not shaking in my teeth and my fingers."

Subtheme 1.3: Achievable Implementation. The WEH described MBSR activities as implementable in their daily lives, noting specific times ideal for scheduling home practice (e.g., morning), which could occur with others or alone (e.g., "that's

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an easy one to practice alone," "you could do it in your room"). Kelli noted, "So, you could do it like a morning ritual, like when you wake up, or before you go to bed. It could be just part of your schedule."

Theme 2: Strategies for Successful Recruitment

The WEH provided several strategies to facilitate recruitment in the intervention. These included capitalizing on WEH's psychological (e.g., emphasizing accomplishment), social (e.g., integrating community), and economic (e.g., providing incentives) needs.

Subtheme 2.1: Appeal to People's Desire to Heal. One of the main strategies for recruitment was to target WEH's desire to improve their mental health and well-being. As noted by Jen, "Well, so, I want to heal. So, it's going to help me in the long run." Many participants reported dealing with legal issues, including separation from their children and drug-related arrests; participants thought the skills acquired through MBSR participation could help with emotion regulation issues and social reintegration. Pam noted, "It's like it's going to help you, you know, maybe get your kids back or get, you know, some kind of something that's going to make you, you know, benefit." Similarly, Sarah noted the importance of learning to regulate "your emotions" to recover from violence and drugs. She followed that statement saying how MBSR could help with "learning how to come back into society because you lived in the streets for so long and all you know is violence and negative and, you know, you've been around nothing but drug addicts, gang members."

Subtheme 2.2: Provide Incentives. The WEH described the importance of incentives, including snacks and small cash compensation. Personal tools facilitating meditation practices (including MP3 devices with prerecorded meditations and yoga mats), pens, and journals were received favorably, as were snacks (e.g., "I'm going to be honest, food").

> Honestly, for me, because it's [MP3 player, it is] going to get me more motivated to get out there and walk and meditate and get away from everything that's going on around me, you know. I can just drown it out and in what I'm listening to. (Frankie)

> I think another thing, because like there's going to be like, yoga, different types of activities like that, I think it would be kind of cool for each class that the people go to, like this week you get a yoga mat. This week you get this…like it goes with yoga. (Zoe)

Subtheme 2.3: Welcome the Beginner. The WEH emphasized the importance of welcoming individuals without prior mindfulness experience, with physical limitations, or with insecurities about trying new activities. One WEH noted that prior yoga classes held at the treatment site involved being "twisted up into a pretzel," despite being labeled as a "beginner" class. Encouragingly, it was noted that the yoga presented in the MBSR demonstration seemed "doable." Other WEH noted some MBSR-based practices might be "outside of our comfort zone," but emphasized that welcoming all levels of experience would help facilitate interest. Irma suggested a welcoming introduction, "So, there's like introduction, beginners, newcomers welcome, you don't need to know anything …. We'll teach you everything. We love newbies, come join." Similarly, Lisa noted the importance of a "welcoming and not discouraging, and a little intriguing … energy and vibe" making her feel, "like all right, let's go do this 8 weeks."

Subtheme 2.4: Integrate the Community. The WEH provided many suggestions on leveraging the community to generate interest in the program. For example, using weekly house meetings to inform residents of the opportunity, and making sure to offer MBSR classes at times that would not conflict with other recovery-related obligations (e.g., required clinical hours). Community members who had completed the MBSR program or who were currently involved could lead recruitment efforts, spreading information about the program through "word of mouth." Tania noted, "Like when she [other WEH] says 'oh, its really cool, like you have to really, really trust me' and you have to try it." Promoting nonjudgment and respect was also indicated as important for increasing retention and promoting engagement.

Subtheme 2.5: Emphasize Accomplishment. The WEH noted completing the MBSR program itself might be rewarding for individuals with few prior achievements due to addiction and the experience of homelessness. For example, Kara said, "I never graduated high school. I didn't get to, or I didn't [get promoted] from middle school, so, to me, getting a certificate from something else, it would make me feel like I've completed something in my life." They reported that participating in a study could provide feelings of success, accomplishment, and knowing their contribution would help others in the future, saying "it's not really about the money. This is going to help someone else … money really doesn't matter. It's going to help other people, other women … I'm giving back." Jessica commented on how receiving a certificate could increase feelings of self-esteem. She said, "So, if you get a certificate of completion, that's going to show you hey, I [accomplished] something. Maybe I'm not as, you know, dreary as I thought I was. Like, I can do stuff. I can accomplish stuff."

Subtheme 2.6: Communicate MBSR Is Not Therapy. The WEH thought it would be important to stress the voluntary nature of participation as well its distinctness from other therapies. They highlighted the importance of an invitational approach throughout the study procedures, with participants having freedom to choose when or not to share. Karla said, "Don't force people to speak on subjects they don't want to," while Angela suggested, "Tell them, this is not a therapy session. This is to help you deal with your stress. Being open and direct." As stated by Megan:

> Yeah, I think if you explain the class directly, like, this is not therapy but it's to help you center yourself and being still is to be able to come back to the here and now, instead of being all up in your head. I think that would help because a lot of people are in their head or they've got so much stuff going on or they're thinking so much.

Theme 3: Strategies for Successful Retention

The WEH provided several suggestions that the research team could implement to maximize retention in the study. They agreed with the overall format, providing ideas to increase adherence, which involved creating a comfortable and inclusive environment.

Subtheme 3.1: Agree With Format as Presented. The WEH responded positively to the overall structure as presented in the session outline (e.g., 8-week format) and theater style demonstration, achieving consensus on delivery structure. They were excited about the educational component of MBSR, where the stress process and mechanisms by which MBSR practices reduce stress are

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emphasized. Rebecca noted the importance of conveying "the science, the science and the psychology part of it." Similarly, Amber commented, "I think it would be really helpful for us to like, understand why it works, and that way we can see where it fits into our lives."

Subtheme 3.2: Ideas for Increasing Adherence. The WEH provided ideas to promote adherence to the program format, particularly with respect to the "home" practices MBSR participants are assigned. Ideas included using a planner or poster board for reminders and leveraging the group-based structure to inspire and maintain motivation. Xiomara suggested adherence could be increased through "… options of like a study group or like, the option to use the meditation room, that's another option. It'll give [people] … motivation to want to do it." Olivia spoke about structure in general as a critical component of healing from trauma and SUD.

> I'd probably have to set some kind of a timer on my phone, you know, to alert me that that's the time. So, I think one of the more difficult things that I have as an addict is having structure and that's how that just kind of, that cycle you know, ends at least. So, for me, the healing and awareness starts with the structure. So, if I set an alarm on my phone or something like that, so I would know at a certain time every day I was going to dedicate that time, okay, this is time, that would be a way of alerting myself either just as a reminder to become more mindful or it's time to practice, you know, a meditation or breathing exercise or whatever the exercise. Listen to whatever information was on the MP3 player or, you know, practice. (Olivia)

Subtheme 3.3: Create a Comfortable Environment. The WEH suggested limiting group size and maintaining acceptance and trust. Traditional MBSR groups can have 25 people; WEH suggested a smaller group size (e.g., closer to 10) to facilitate a comfortable and intimate environment for sharing emotional difficulties and struggles and for practicing new activities; as one WEH noted, she might feel "incredibly self-conscious" trying yoga in a large group. Others echoed this suggestion.

> It's uncomfortable when you have 20 people in the class to process … it's just too many, you know. And it doesn't help me open up anymore, you know. But when it's just a small group, it's easy for me to open up and even cry, you know. (Maria)

> It's better for a small group because I get like anxiety when I'm in a big group. Like … I shut down. I don't like to share with a lot of people. Like, in a small group … I'm able to gain trust a lot in a small group. So, it's like when I have a big group, I'll sit in the corner. I won't even participate. … When it's a small group, I … pretty much get a good feeling, a good vibe, and then I'll be able to like open up. (Diane)

Theme 4: Characteristics of the MSBR Trainer

The WEH highlighted key aspects critical to consider when selecting MBSR trainers. Key characteristics included compassion, passion, and experience with clinical populations. Some WEH cautioned that men may be a trigger, given the high level of intimate partner violence experienced among unhoused women with symptoms of PTSD/SUD; consensus on that point was not achieved.

Subtheme 4.1: Embody Compassion. The WEH talked about the importance of feeling accepted, and of the trainer not reacting to their problems with judgment (e.g., facial reactions). Rather, it would be critical for the trainer to embody compassion. More specifically, the WEH reported wanting to "feel acknowledged." This was the most common topic discussed.

> Just have them give eye contact. Keep their facial expressions to themselves, you know, just be understanding. You can't go wrong with that. Just like listening, empathy. You know, just like eye contact, not like in a condescending way …. (Farrah)

> Before the class begins, there's people [with] different [levels of] trauma. Just don't, no judging. If someone doesn't do it right, you know, don't put them on … don't make fun of them. Like, everyone here has gone through some traumatic event and we're not going to be like oh, I'm better than you. Like, nobody is better than anybody. (Noemi)

> Just showing they really, really care because some of us don't have family anymore. And just showing that they care and maybe just give you a little push to do whatever you have to do, you know, in the right direction, you know, maybe show them who to call or what to do. You know, because, I'm like clueless on a lot of things. (Maria)

Subtheme 4.2: Communicate Passion. The WEH noted that a passionate trainer was essential for inspiring interest in the program and facilitating retention over the 8-week period. The WEH recommended that the trainer should be knowledgeable and deeply believe in MBSR, saying, for example, "it also depends a lot on their knowledge, and their belief in what it is that they're doing." Kelli suggested the trainer should show their enthusiasm, for example, "Being involved like, if a teacher's like excited or something about their class and they're like, doing some fun activity to get you involved, instead of just, here's a packet." Farrah noted how important authenticity was for communicating that passion: "… because you can tell because some of them just, they'll, uh-huh, all right, okay, you, you know. And then you can pretty much tell if somebody is really caring about what you're doing or talking about."

Subtheme 4.3: Experience With Clinical Populations. Given the extensive mental health problems experienced by trauma-exposed WEH, the participants suggested it would be helpful for the MBSR trainer to have previous experience working with clinical samples. Many WEH reported personal issues with hyperactivity, distraction, and behavioral regulation that would be best managed by a highly experienced professional. Going slow and exercising patience were also emphasized.

> And don't go too fast. Like, it takes people time, you know … because we were addicts, so, giving the information and being mindful of just not reading something and being really quick about it. Just taking the time with people, take a minute to absorb the information. (Olivia)

Discussion

This project explored the potential benefit of implementing an MBSR-based intervention in a community setting serving WEH with symptoms of PTSD/SUD. The university team and community members worked in close congruence, facilitating suggestions for the adaptation of MBSR for use in a residential drug treatment site serving WEH. We used a mixed-methods approach that included data from qualitative focus groups and quantitative questionnaires. We drew from implementation research, using a complementary approach (Palinkas & Aarons, 2011) where qualitative data provide rich context for quantitative metrics. The theater testing demonstration provided useful data for applying mindfulness-based

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interventions and other complementary interventions with trauma-exposed WEH receiving drug treatment. While some recommendations related to MBSR specifically (e.g., "perception of feasibility and effectiveness"), others could inform the design and administration of other psychosocial interventions for trauma-exposed WEH (e.g., "characteristics of the trainer"). This could facilitate improved intervention implementation, which seeks to explore interventions in real world, rather than ideal, context (Peters et al., 2013).

As indicated by the quantitative metrics, gentle yoga, breath meditation, discussions with the trainer/other women during the program and take-home assignments had exceedingly high perceived acceptability; while perceived acceptability was high for the body scan, it was slightly lower than for the other activities. Although not specifically evaluated in this report, this may be due to the body scan's instructions that draw attention to sensations and cognitions associated with specific body parts, which may have been targeted during experiences of physical abuse. This highlights the value of a trauma-informed approach to administering an MBSR-based intervention with trauma-exposed individuals (Kelly & Garland, 2016), so that activities such as focusing on the body do not inadvertently activate the distress response (Russell & Siegmund, 2016). Importantly, as shown in the joint display, qualitative data yielded rich insights into which aspects of the mindfulness-based intervention resonated with WEH, which may prove challenging, and what could be done to improve implementation.

Findings inform several key suggestions to address population-specific concerns when conducting MBSR with WEH experiencing symptoms of PTSD/SUD. These include making the body scan optional; reminding participants that they can take a break from the practices at any time; and ensuring a site staff or member of the research team is available should a participant experience distress. Trainers should be aware of the potential participant's current psychological state: MBSR may be ineffective during the acute phase of severe mental illness (Hedman-Lagerlöf et al., 2018) or contraindicated during episodes of dissociation, psychosis, or severe eating disorders (Russell & Siegmund, 2016). Using a trauma-informed approach in the context of ongoing psychiatric care may help maximize the salutatory effects of MBSR for SUD and PTSD while minimizing the potential for adverse outcomes (Kelly & Garland, 2016).

The WEH provided helpful strategies to facilitate effective recruitment and retention of WEH during an MBSR-based clinical trial. Participants emphasized incentives including small gifts, snacks, and monetary compensation. This was effective in prior work with similar populations experiencing homelessness (Salem et al., 2020), resulting in high retention rates in previous trials conducted with WEH with SUD (Nyamathi et al., 2017) and unhoused adults being encouraged to obtain hepatitis vaccinations (Nyamathi et al., 2009). Of note, the WEH particularly liked incentives that would facilitate engagement with the program, such as personal yoga mats or MP3/4 players containing prerecorded meditations. Although the WEH generally agreed with the MBSR format, they provided suggestions for improving appropriateness for the target sample, such as smaller group sizes of approximately 10 people: traditional MBSR can include 25 participants or more (Kabat-Zinn, 1990). Themes that emerged from the qualitative findings provided tangible suggestions to increase feasibility, bolster recruitment and retention efforts, and ensure trust and comfort between participants and the MBSR trainer.

The WEH also communicated the importance of integrating and leveraging the community for effective intervention implementation. These are key components of effective community-engaged research that can help promote long-term partnerships with equity and sustainability (Brush et al., 2020). Principles such as diversity, commitment, trust, transparency, communication, flexibility, and power sharing could enhance the quality of community-engaged research (Brush et al., 2020). Such processes ensure the needs and ideas of researchers, clinical staff, and the communities they serve are continually represented and integrated.

WEH also emphasized program participation and completion as an accomplishment, highlighting the integrative role community members could—and should—play throughout the community-based health-related research process (Macaulay et al., 1999). Indeed, focus groups highlighted that program participation could increase feelings of personal development and societal contribution, through contributing to knowledge that could benefit others in the future. WEH also expressed the critical need to communicate the separation of the MBSR-based intervention from other clinical care. This aligns with the voluntary nature of research in general and the use of MBSR as an adjunct to standard clinical care for those with symptoms of PTSD/SUD in state-funded residential sites. Future work should explore an expanded version of MBSR that includes cognitive behavioral therapy (CBT) components: prior work suggests adding MBSR to CBT may increase positive outcomes in clinical samples (Fjorback et al., 2013).

Findings also highlight the importance of highly trained, passionate, and compassionate MBSR trainers. Key essential elements of MBSR-based programs include ongoing professional development (e.g., mindfulness retreats), skill development, and competencies practicing mindfulness (Crane et al., 2017). Trainers must also engage in participatory learning with their MBSR students by emphasizing the experience of a shared "common humanity" involving reciprocal learning (Crane et al., 2017). Reports from the WEH in our study demonstrate the benefit of continual personal work and of maintaining the attitude of nonjudgment, respect, and trust when working with marginalized groups. These are key components of a mindful attitude and a foundational perspective in MBSR (Kabat-Zinn, 1990).

Limitations and Future Directions

While our study provided data that could be used to modify MBSR for use at residential drug treatment sites serving trauma-exposed WEH, we note several limitations. We used a theater testing demonstration, appropriate for at-risk populations and did not pilot test the intervention using a pretest posttest design nor did we evaluate its implementation. We did not administer a full battery of metrics (including SUD diagnosis and severity), that would be useful during a full-scale clinical trial; thus, our data on mental health and functioning are limited to a checklist and a screening tool for PTSD. Our sample size was relatively small. Although a representative of the organization was involved throughout the data analyses and manuscript preparation, the entire CAB was not. Our quantitative metrics of acceptability and feasibility were modified from a previously implemented one, but have not been psychometrically evaluated. Moreover, since the quantitative metrics were devised a priori to the CAB and focus group, their scope was limited: future research should include an expanded questionnaire with

questions on how MBSR might be helpful for specific PTSD/SUD symptoms.

Taken together, our findings demonstrate a modified MBSR may show promise for acceptability and feasibility in a trauma-exposed sample of WEH with SUD. Modifications that include integration of the community and an awareness of the specific needs of trauma survivors could further bolster efficacy and promote sustainability and equity in the research process. This could facilitate improved intervention implementation, which seeks to explore interventions in the real world, rather than ideal, context (Peters et al., 2013). Such a process may help address PTSD/SUD in a highly trauma-exposed population, improving the crisis of health disparities in marginalized and underresourced communities.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Baxter, A. J., Vos, T., Scott, K. M., Ferrari, A. J., & Whiteford, H. A. (2014). The global burden of anxiety disorders in 2010. *Psychological Medicine*, *44*(11), 2363–2374. https://doi.org/10.1017/S0033291713003243

Black, D. S., & Amaro, H. (2019). Moment-by-moment in women's recovery (MMWR): Mindfulness-based intervention effects on residential substance use disorder treatment retention in a randomized controlled trial. *Behaviour Research and Therapy*, *120*, Article 103437. https://doi.org/10.1016/j.brat.2019.103437

Bowen, S., De Boer, D., & Bergman, A. L. (2017). The role of mindfulness as approach-based coping in the PTSD-substance abuse cycle. *Addictive Behaviors*, *64*, 212–216. https://doi.org/10.1016/j.addbeh.2016.08.043

Brush, B. L., Mentz, G., Jensen, M., Jacobs, B., Saylor, K. M., Rowe, Z., Israel, B. A., & Lachance, L. (2020). Success in long-standing community-based participatory research (CBPR) partnerships: A scoping literature review. *Health Education and Behavior*, *47*(4), 556–568. https://doi.org/10.1177/1090198119882989

California Department of Health Care Services. (2022). https://www.dhcs.ca.gov/services/adp

Campbell, J. L., Quincy, C., Osserman, J., & Pedersen, O. K. (2013). Coding in-depth semistructured interviews: Problems of unitization and intercoder reliability and agreement. *Sociological Methods & Research*, *42*(3), 294–320. https://doi.org/10.1177/0049124113500475

Chiesa, A., & Serretti, A. (2014). Are mindfulness-based interventions effective for substance use disorders? A systematic review of the evidence. *Substance Use & Misuse*, *49*(5), 492–512. https://doi.org/10.3109/10826084.2013.770027

Crane, R. S., Brewer, J., Feldman, C., Kabat-Zinn, J., Santorelli, S., Williams, J. M. G., & Kuyken, W. (2017). What defines mindfulness-based programs? The warp and the weft. *Psychological Medicine*, *47*(6), 990–999. https://doi.org/10.1017/S0033291716003317

Duane, A., Casimir, A. E., Mims, L. C., Kaler-Jones, C., & Simmons, D. (2021). Beyond deep breathing: A new vision for equitable, culturally responsive, and trauma-informed mindfulness practice. *Middle School Journal*, *52*(3), 4–14. https://doi.org/10.1080/00940771.2021.1893593

Dutton, M. A., Bermudez, D., Matas, A., Majid, H., & Myers, N. L. (2014). Mindfulness-based stress reduction for low-income, predominantly African-American women with PTSD and a history of intimate partner violence. *Cognitive and Behavioral Practice*, *20*(1), 23–32. https://doi.org/10.1016/j.cbpra.2011.08.003

Fazel, S., Hayes, A. J., Bartellas, K., Clerici, M., & Trestman, R. (2016). Mental health of prisoners: Prevalence, adverse outcomes, and interventions. *The Lancet Psychiatry*, *3*(9), 871–881. https://doi.org/10.1016/S2215-0366(16)30142-0

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs-principles and practices. *Health Services Research*, *48*(6pt2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Fjorback, L. O., Arendt, M., Ørnbøl, E., Walach, H., Rehfeld, E., Schröder, A., & Fink, P. (2013). Mindfulness therapy for somatization disorder and functional somatic syndromes—randomized trial with 1-year follow-up. *Journal of Psychosomatic Research*, *74*(1), 31–40. https://doi.org/10.1016/j.jpsychores.2012.09.006

Gallegos, A. M., Crean, H. F., Pigeon, W. R., & Heffner, K. L. (2017). Meditation and yoga for posttraumatic stress disorder: A meta-analytic review of randomized controlled trials. *Clinical Psychology Review*, *58*, 115–124. https://doi.org/10.1016/j.cpr.2017.10.004

Garfin, D. R., Amador, A., Osorio, J., Ruivivar, K. S., Torres, A., & Nyamathi, A. M. (2023). A multi-method exploration of mindfulness as a coping tool: Perspectives from trauma-exposed, unhoused women residing at a drug treatment facility. *Stress and Health*, *39*(2), 347–360. https://doi.org/10.1002/smi.3188

Garland, E. L. (2014). Disrupting the downward spiral of chronic pain and opioid addiction with mindfulness-oriented recovery enhancement: A review of clinical outcomes and neurocognitive targets. *Journal of Pain & Palliative Care Pharmacotherapy*, *28*(2), 122–129. https://doi.org/10.3109/15360288.2014.911791

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Aldine Publishing Company.

Gluck, R. L., Hartzell, G. E., Dixon, H. D., Michopoulos, V., Powers, A., Stevens, J. S., Fani, N., Carter, S., Schwartz, A. C., Jovanovic, T., Ressler, K. J., Bradley, B., & Gillespie, C. F. (2021). Trauma exposure and stress-related disorders in a large, urban, predominantly African-American, female sample. *Archives of Women's Mental Health*, *24*(6), 893–901. https://doi.org/10.1007/s00737-021-01141-4

Goldstein, R. B., Smith, S. M., Chou, S. P., Saha, T. D., Jung, J., Zhang, H., Pickering, R. P., Ruan, W. J., Huang, B., & Grant, B. F. (2016). The epidemiology of DSM-5 posttraumatic stress disorder in the United States: Results from the National Epidemiologic Survey on Alcohol and Related Conditions-III. *Social Psychiatry and Psychiatric Epidemiology*, *51*(8), 1137–1148. https://doi.org/10.1007/s00127-016-1208-5

Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., Pickering, R. P., Ruan, W. J., Smith, S. M., Huang, B., & Hasin, D. S. (2015). Epidemiology of DSM-5 alcohol use disorder results from the national epidemiologic survey on alcohol and related conditions III. *JAMA Psychiatry*, *72*(8), 757–766. https://doi.org/10.1001/jamapsychiatry.2015.0584

Gray, M. J., Litz, B. T., Hsu, J. L., & Lombardo, T. W. (2004). Psychometric properties of the life events checklist. *Assessment*, *11*(4), 330–341. https://doi.org/10.1177/1073191104269954

Guetterman, T. C., Fetters, M. D., & Creswell, J. W. (2015). Integrating quantitative and qualitative results in health science mixed methods research through joint displays. *The Annals of Family Medicine*, *13*(6), 554–561. https://doi.org/10.1370/afm.1865

Hedman-Lagerlöf, M., Hedman-Lagerlöf, E., & Öst, L. G. (2018). The empirical support for mindfulness-based interventions for common psychiatric disorders: A systematic review and meta-analysis. *Psychological Medicine*, *48*(13), 2116–2129. https://doi.org/10.1017/S0033291718000259

Himelstein, S. (2011). Meditation research: The state of the art in correctional settings. *International Journal of Offender Therapy and Comparative Criminology*, *55*(4), 646–661. https://doi.org/10.1177/0306624X10364485

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. Bantam Books.

Kelly, A., & Garland, E. L. (2016). Trauma-informed mindfulness-based stress reduction for female survivors of interpersonal violence: Results from a stage I RCT. *Journal of Clinical Psychology*, *72*(4), 311–328. https://doi.org/10.1002/jclp.22273

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Keyes, K. M., Pratt, C., Galea, S., McLaughlin, K. A., Koenen, K. C., & Shear, M. K. (2014). The burden of loss: Unexpected death of a loved one and psychiatric disorders across the life course in a national study. *American Journal of Psychiatry*, *171*(8), 864–871. https://doi.org/10.1176/appi.ajp.2014.13081132

Kimbrough, E., Magyari, T., Langenberg, P., Chesney, M., & Berman, B. (2010). Mindfulness intervention for child abuse survivors. *Journal of Clinical Psychology*, *66*(1), 17–33. https://doi.org/10.1002/jclp.20624

Korecki, J. R., Schwebel, F. J., Votaw, V. R., & Witkiewitz, K. (2020). Mindfulness-based programs for substance use disorders: A systematic review of manualized treatments. *Substance Abuse Treatment, Prevention, and Policy*, *15*(1), Article 51. https://doi.org/10.1186/s13011-020-00293-3

Li, W., Howard, M. O., Garland, E. L., McGovern, P., & Lazar, M. (2017). Mindfulness treatment for substance misuse: A systematic review and meta-analysis. *Journal of Substance Abuse Treatment*, *75*, 62–96. https://doi.org/10.1016/j.jsat.2017.01.008

Macaulay, A. C., Commanda, L. E., Freeman, W. L., Gibson, N., McCabe, M. L., Robbins, C. M., & Twohig, P. L. (1999). Participatory research maximises community and lay involvement. *British Medical Journal*, *319*(7212), 774–778. https://doi.org/10.1136/bmj.319.7212.774

Manning, J. (2017). In vivo coding. In Matthes, J. (Ed.), *The international encyclopedia of communication research methods*. Wiley-Blackwell. https://doi.org/10.1002/9781118901731.iecrm0270

María-Ríos, C. E., & Morrow, J. D. (2020). Mechanisms of shared vulnerability to post-traumatic stress disorder and substance use disorders. *Frontiers in Behavioral Neuroscience*, *14*, Article 6. https://doi.org/10.3389/fnbeh.2020.00006

Matthews, A. K., Anderson, E. E., Willis, M., Castillo, A., & Choure, W. (2018). A Community Engagement Advisory Board as a strategy to improve research engagement and build institutional capacity for community-engaged research. *Journal of Clinical and Translational Science*, *2*(2), 66–72. https://doi.org/10.1017/cts.2018.14

Najavits, L. M., Clark, H. W., DiClemente, C. C., Potenza, M. N., Shaffer, H. J., Sorensen, J. L., Tull, M. T., Zweben, A., & Zweben, J. E. (2020). PTSD/substance use disorder comorbidity: Treatment options and public health needs. *Current Treatment Options in Psychiatry*, *7*(4), 544–558. https://doi.org/10.1007/s40501-020-00234-8

North, C. S., & Smith, E. M. (1992). Posttraumatic stress disorder among homeless men and women. *Psychiatric Services*, *43*(10), 1010–1016. https://doi.org/10.1176/ps.43.10.1010

Nyamathi, A. M., Liu, Y., Marfisee, M., Shoptaw, S., Gregerson, P., Saab, S., Leake, B., Tyler, D., & Gelberg, L. (2009). Effects of a nurse-managed program on hepatitis A and B vaccine completion among homeless adults. *Nursing Research*, *58*(1), 13–22. https://doi.org/10.1097/NNR.0b013e3181902b93

Nyamathi, A. M., Shin, S. S., Smeltzer, J., Salem, B. E., Yadav, K., Ekstrand, M. L., Turner, S. F., & Faucette, M. (2017). Achieving drug and alcohol abstinence among recently incarcerated homeless women: A randomized controlled trial comparing dialectical behavioral therapy-case management with a health promotion program. *Nursing Research*, *66*(6), 432–441. https://doi.org/10.1097/NNR.0000000000000249

Palinkas, L. A., & Aarons, G. A. (2011). Mixed method designs in implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(1), 44–53. https://doi.org/10.1007/s10488-010-0314-z

Pandya, M., & Desai, C. (2013). Compensation in clinical research: The debate continues. *Perspectives in Clinical Research*, *4*(1), 70–74. https://doi.org/10.4103/2229-3485.106394

Peters, D. H., Adam, T., Alonge, O., Agyepong, I. A., & Tran, N. (2013). Implementation research: What it is and how to do it. *British Journal of Sports Medicine*, *347*, Article f6753. https://doi.org/10.1136/bmj.f6753

Polusny, M. A., Erbes, C. R., Thuras, P., Moran, A., Lamberty, G. J., Collins, R. C., Rodman, J. L., & Lim, K. O. (2015). Mindfulness-based stress reduction for posttraumatic stress disorder among veterans a randomized clinical trial. *JAMA*, *314*(5), 456–465. https://doi.org/10.1001/jama.2015.8361

Prins, A., Bovin, M. J., Kimerling, R., Kaloupek, D. G., Marx, B. P., Pless Kaiser, A., & Schnurr, P. P. (2015). Primary care PTSD screen. *Measurment Instrument*. http://www.ptsd.va.gov/professional/assessment/screens/pc-ptsd.asp

Prins, A., Bovin, M. J., Smolenski, D. J., Marx, B. P., Kimerling, R., Jenkins-Guarnieri, M. A., Kaloupek, D. G., Schnurr, P. P., Kaiser, A. P., Leyva, Y. E., & Tiet, Q. Q. (2016). The primary care PTSD screen for DSM-5 (PC-PTSD-5): Development and evaluation within a veteran primary care sample. *Journal of General Internal Medicine*, *31*(10), 1206–1211. https://doi.org/10.1007/s11606-016-3703-5

Ramel, W., Goldin, P. R., Carmona, P. E., & McQuaid, J. R. (2004). The effects of mindfulness meditation on cognitive processes and affect in patients with past depression. *Cognitive Therapy and Research*, *28*(4), 433–455. https://doi.org/10.1023/B:COTR.0000045557.15923.96

Roberts, N. P., Roberts, P. A., Jones, N., & Bisson, J. I. (2015). Psychological interventions for post-traumatic stress disorder and comorbid substance use disorder: A systematic review and meta-analysis. *Clinical Psychology Review*, *38*, 25–38. https://doi.org/10.1016/j.cpr.2015.02.007

Roos, C., Bowen, S., & Witkiewitz, K. (2020). Approach coping and substance use outcomes following mindfulness-based relapse prevention among individuals with negative affect symptomatology. *Mindfulness*, *11*(10), 2397–2410. https://doi.org/10.1007/s12671-020-01456-w

Russell, T. A., & Siegmund, G. (2016). What and who? Mindfulness in the mental health setting. *BJPsych Bulletin*, *40*(6), 333–340. https://doi.org/10.1192/pb.bp.116.054122

Salem, B. E., Klansek, E., Morisky, D. E., Shin, S. S., Yadav, K., Chang, A. H., & Nyamathi, A. M. (2020). Acceptability and feasibility of a nurse-led, community health worker partnered latent tuberculosis medication adherence model for homeless adults. *International Journal of Environmental Research and Public Health*, *17*(22), Article 8342. https://doi.org/10.3390/ijerph17228342

Santorelli, S. F., Meleo-Meyer, F., Koerbel, L., & Kabat-Ainn, J. (2017). *Mindfulness-based stress reduction (MBSR) authorized curriculum guide*©. University of Massachusetts Medical School.

Sartor, C. E., McCutcheon, V. V., Callahan O'Leary, C., Van Buren, D. J., Allsworth, J. E., Jeffe, D. B., & Cottler, L. B. (2012). Lifetime trauma exposure and posttraumatic stress disorder in women sentenced to drug court. *Psychiatry Research*, *200*(2–3), 602–608. https://doi.org/10.1016/j.psychres.2012.05.033

Schreiter, S., Speerforck, S., Schomerus, G., & Gutwinski, S. (2021). Homelessness: Care for the most vulnerable—A narrative review of risk factors, health needs, stigma, and intervention strategies. *Current Opinion in Psychiatry*, *34*(4), 400–404. https://doi.org/10.1097/YCO.0000000000000715

Simpson, T. L., Rise, P., Browne, K. C., Lehavot, K., & Kaysen, D. (2019). Clinical presentations, social functioning, and treatment receipt among individuals with comorbid life-time PTSD and alcohol use disorders versus drug use disorders: Findings from NESARC-III. *Addiction*, *114*(6), 983–993. https://doi.org/10.1111/add.14565

Somohano, V. C., & Bowen, S. (2022). Trauma-integrated mindfulness-based relapse prevention for women with comorbid post-traumatic stress disorder and substance use disorder: A cluster randomized controlled feasibility and acceptability trial. *Journal of Integrative and Complementary Medicine*, *28*(9), 729–738. https://doi.org/10.1089/jicm.2021.0306

Somohano, V. C., Vasquez, A., Shank, T., Irrgang, M., Newman, A. G., Evans, C., Wyse, J., Denneson, L., O'Neil, M., & Lovejoy, T. (2022). Perceptions of women with comorbid PTSD and substance use disorder on mechanisms underlying mindfulness-based interventions. *Cognitive and Behavioral Practice*. https://doi.org/10.1016/j.cbpra.2022.05.003

Taylor, J., McLean, L., Korner, A., Stratton, E., & Glozier, N. (2020). Mindfulness and yoga for psychological trauma: Systematic review and

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meta-analysis. *Journal of Trauma & Dissociation*, *21*(5), 536–573. https://doi.org/10.1080/15299732.2020.1760167

Tinland, A., Boyer, L., Loubière, S., Greacen, T., Girard, V., Boucekine, M., Fond, G., & Auquier, P. (2018). Victimization and posttraumatic stress disorder in homeless women with mental illness are associated with depression, suicide, and quality of life. *Neuropsychiatric Disease and Treatment*, *14*(8), 2269–2279. https://doi.org/10.2147/NDT.S161377

Tsai, A. C., Weiser, S. D., Dilworth, S. E., Shumway, M., & Riley, E. D. (2015). Violent victimization, mental health, and service utilization outcomes in a cohort of homeless and unstably housed women living with or at risk of becoming infected with HIV. *American Journal of Epidemiology*, *181*(10), 817–826. https://doi.org/10.1093/aje/kwu350

Wang, P. S., Lane, M., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Twelve-month use of mental health services in the United States: Results from the national comorbidity survey replication. *Archives General Psychiatry*, *62*(6), 629–640. https://doi.org/10.1001/archpsyc.62.6.629

Wasson, R. S., Luberto, C. M., Murthi, M., McDonald, S. B., Pallerla, H., Novak, B. K., & Cotton, S. (2020). Feasibility and acceptability of a community-based modified mindfulness-based stress reduction program for the under- and unemployed. *Global Advances in Health and Medicine*, 1–13. https://doi.org/10.1177/2164956120973636

Williams, M., & Moser, T. (2019). The art of coding and thematic exploration in qualitative research. *International Management Review*, *15*(1), 45–55.

Wingood, G. M., & Diclemente, R. J. (2008). The ADAPT-ITT model: A novel method of adapting evidence-based HIV interventions. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *47*(Suppl. 1), S40–S46. https://doi.org/10.1097/QAI.0b013e3181605df1

Zhu, J., Wekerle, C., Lanius, R., & Frewen, P. (2019). Trauma- and stressor-related history and symptoms predict distress experienced during a brief mindfulness meditation sitting: Moving toward trauma-informed care in mindfulness-based therapy. *Mindfulness*, *10*(10), 1985–1996. https://doi.org/10.1007/s12671-019-01173-z

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