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Title

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Permalink

<https://escholarship.org/uc/item/8v84z093>

Journal

Journal of Counseling Psychology, 73(4)

ISSN

0022-0167

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Publication Date

2026-07-01

DOI

10.1037/cou0000875

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Peer reviewed



Published in final edited form as:

J Couns Psychol. 2026 July ; 73(4): 460–472. doi:10.1037/cou0000875.

Pilot Test of an Adapted Relational Savoring Intervention for Latine-Serving Community Health Workers

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Abstract

The current pilot randomized control trial investigated the acceptability and efficacy of a community-informed adaptation of *relational savoring (RS)* for use with community health workers (CHWs) working in Latine-serving agencies. The adapted version of RS focuses on recalling moments of connection with the community members they serve and engage with through their work. Eighty-four participants were randomized to either the intervention group, RS, or a waitlist control group - who completed an initial baseline and a second baseline 4 weeks later before starting the intervention. All participants completed a post-treatment assessment the week following their last intervention visit, and a follow-up assessment three months later. Acceptability - defined as frequency of use, perceived value of the intervention, willingness to recommend, and intention to continue engaging in the intervention skill - was measured post-intervention and during the 3-month follow-up. Emotional valence and feelings of closeness to the community were measured before and after each session. Burnout, job satisfaction, psychological distress, and physical health were assessed at initial baseline (and baseline two for the waitlist control), post-intervention, and 3-months post-intervention. Acceptability ratings indicated that CHWs found the adapted RS intervention to be highly acceptable. Structural equation growth modeling revealed that emotions and connectedness to the community had immediate and sustained improvements during the intervention. Repeated measures analysis of variance (ANOVA) revealed improvements in long-term psychological distress, but not in burnout, job satisfaction, or physical health. These findings suggest that the community-informed adaptation of RS demonstrates initial promise to improve the well-being of Latine-serving CHWs, laying the groundwork for larger scale trials. We discuss potential areas of enhancement (e.g., offering booster sessions; examining intervention effects among specific Latine subgroups) to target longer-term impacts.

Keywords

Relational savoring; Community health workers; Latine; Burnout

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Community health workers (CHWs) play a crucial role in promoting health within Latine communities, serving as bridges between community members and health systems. Because CHWs often belong to the communities they serve, they possess a unique combination of cultural familiarity and shared lived experiences that fosters interpersonal trust. This trust makes them particularly effective in promoting preventive care, increasing access to services, and addressing social determinants of health, among other functions (Hartzler et al., 2018).

CHWs serving the low income Latine community (referred to henceforth as Latine-serving CHWs) are often members of historically underserved communities, and as such are often vulnerable to the risk factors that Latine populations living in the U.S. face, including poverty, lack of access to healthcare, unstable employment, and racial and ethnic disparities (Brener et al., 2024). In addition, despite their strengths (e.g., cultural knowledge, bilingual communication skills, and strong community trust) and documented impact (Hernandez-Gordon, 2022; Taverno Ross et al., 2022), Latine-serving CHWs face vulnerabilities as part of their unique role providing healthcare. First, Latine-serving CHWs often operate within systems that offer limited support, such as providing low or inconsistent wages for CHWs and limited supportive supervision stemming from inconsistent funding (Sabo et al., 2017; Smithwick et al., 2023). Second, many face demanding workloads, low or no wages, chronic exposure to community members' stress, and unclear boundaries between personal and professional lives (Orpinas et al., 2021; Zhou et al., 2025) – all of which increase their risk of burnout and decrease job satisfaction, while negatively impacting CHWs' mental and physical health (Joshi et al., 2020; Tabur et al., 2022). In turn, high levels of burnout, low job satisfaction, and health problems can increase risk for staff turnover at community health agencies, which can place the low-income Latine communities they serve at risk (Brabson et al., 2020). These challenges were exacerbated during the COVID-19 pandemic, when CHWs were called upon to address rapidly changing health needs in Latine communities –which were disproportionately impacted by the pandemic (Pedraza et al., 2022)– often without adequate resources (Marquez et al., 2023). Given the central role that Latine-serving CHWs play in promoting community well-being, it is critical to prioritize their own health as they support others—particularly in the wake of COVID-19, when the need for self-care became even more urgent. This highlights the importance of interventions that directly support CHWs as a pathway to strengthening the broader communities they serve.

Relational Savoring

Relational Savoring (RS), a brief psychological intervention that consists of reflecting on positive moments of connection with others (Borelli, 2024; Borelli, Smiley, et al., 2020), is a new intervention that may hold promise for supporting Latine-serving CHWs. RS is grounded in the broaden-and-build theory of positive psychology (Fredrickson, 2001), which posits that experiencing positive emotions can lead to long-term benefits by building cognitive and emotional resources. Through a guided reflection on positive moments of interpersonal connection, RS has the potential of leading to feelings of joy, love, satisfaction, and pride, among other positive emotions, all of which may strengthen individuals' emotional resilience and support their well-being. Further, RS draws on attachment theory (Bowlby, 1988), which suggests that sensitive caregiving involves providing comfort and

safety to a person seeking care from you (*safe haven*), or providing a care-seeker with support in taking risks (*secure base*). These safe haven and secure base interactions form the sense of interpersonal connection that is a foundation for socioemotional wellbeing. Though attachment theory traditionally focuses on the role of primary caregivers (e.g., parents), Latine-serving CHWs' role naturally involves interactions with the community that are rich in attachment-related experiences (i.e., *safe haven* and *secure base*), making it easier for them to recall meaningful moments to reflect on during the RS intervention. For instance, in their interactions with community members, CHWs often act as a safe haven – offering emotional support, listening attentively, and helping people navigate crises (Albarran et al., 2014; Zhou et al., 2025). Likewise, CHWs frequently serve as a secure base for community members, providing encouragement and resources that empower them to face challenges or pursue new opportunities (Albarran et al., 2014; Messias et al., 2013; Zhou et al., 2025). Thus, the primary mechanisms of change in RS are increases in emotional wellness and increased feelings of connectedness (Borelli, 2024).

In prior versions of RS, the focus of the intervention has been on helping people savor their connection within a specific relational context – for example, helping a parent savor their relationship with a child or an adult with their romantic partner (see Borelli, 2024 for more information). In this context, RS has been deemed effective in improving relationship satisfaction/closeness, psychological agency, affective states, and markers of physical health (e.g., adhering to recommended health practices during the COVID-19 pandemic [Doan et al., 2023; improved cardiovascular health outcomes [Borelli, Bond et al., 2020; Borelli, Hong et al., 2024]). Indeed, work with mother-child dyads (Borelli et al., 2023) suggests that RS may be particularly effective with Latine populations, potentially due to congruence with Latine cultural values (Borelli, Zhou et al., 2024), such as *simpatía*, which emphasizes the importance of harmonious social interactions through positive emotional expression (Acevedo et al., 2017). However, in the current adaptation of RS, we sought to shift the focus to savoring one's connection to the community (e.g., supporting the community, being there to provide comfort to the community), which may lend additional cultural congruence for Latine populations given the emphasis on communal values, and is specifically consistent with the goals of CHWs (Borelli, Zhou et al., 2024).

Given the unique demands placed on Latine-serving CHWs, and the associated risk of burnout discussed earlier, particularly during and in the aftermath of the COVID-19 pandemic, interventions that support resilience (i.e., the ability to cope with stress and recover from work-related challenges) are especially relevant. RS has potential to support resilience among Latine-serving CHWs through its aim of increasing positive emotions and enhancing interpersonal well-being. Positive emotions are linked to greater psychological flexibility and reduced emotional exhaustion, both of which are critical for lowering burnout risk (Archer et al., 2024). Likewise, enhancing interpersonal well-being through feelings of closeness and relational satisfaction may help buffer against the stresses CHWs face in their role. This enhanced relational wellbeing may, in turn, positively influence job satisfaction (Fiaz & Qureshi, 2023) – particularly for Latine-serving CHWs, whose sense of purpose is often tied to the support they provide to community members (Zhou et al., 2025). Further, by strengthening emotional resources and promoting reflection of positive relational experiences, RS may improve mental and physical health outcomes (e.g., adhering to

recommended health behaviors [Doan et al., 2023; improved cardiovascular health outcomes [Borelli, Bond et al., 2020; Borelli, Hong et al., 2024]; Wang et al., 2021). By targeting these intersecting domains of wellbeing, RS holds promise as an intervention particularly suited to target Latine-serving CHWs' needs. The current investigation aims to expand on existing literature by evaluating the applicability and effectiveness of RS among Latine-serving CHWs.

Current Investigation

We sought to conduct a pilot study examining an adapted version of RS for use with Latine-serving CHWs. When aiming to support historically underserved and marginalized communities, such as Latine populations within the United States, approaches that actively engage the community are most effective (Wallerstein & Duran, 2010). Therefore, the RS intervention was adapted with CHWs' input to increase the potential for its impact with this community (see Arcos et al., 2023 for a description of this process and the adaptations that were made). Using this adapted version of RS, we conducted a randomized controlled trial using a waitlist control design in which we assessed Latine-serving CHWs at baseline (before intervention administration), post-intervention, and three months following the intervention. Participants in the waitlist control condition received an extra baseline assessment (baseline 2) four weeks following their first baseline assessment.

First, we examined the acceptability of the intervention, testing mean levels of acceptability scores at post-treatment and at 3-month follow-up across the whole sample (Aim 1). Acceptability in the current study is defined as frequency of use, perceived value of the intervention, willingness to recommend, and intention to continue engaging in the intervention skill. We expected that participants would find the intervention acceptable (H1). Second, we examined the immediate impact of RS on participants' closeness to the community and emotional wellness (Aim 2). Here, we predicted that after each intervention session, participants would feel closer to the community and show increases in emotional wellness (i.e., less negative emotions, more positive emotions), compared to before the intervention sessions (H2). Third, we examined the longer-term impact of RS on study outcomes (burnout, job satisfaction, mental health, and physical health). This was accomplished by comparing the intervention and the waitlist control group from baseline to post-treatment (Aim 3a) and by examining within-group changes across the entire sample during the entire study period (Aim 3b). We expected that the RS treatment group would have greater improvements in burnout, job satisfaction, mental health, and physical health compared to the waitlist control group before the waitlist control group underwent the intervention (H3a). In addition, we anticipated that because the entire sample participates in the intervention, the entire sample would experience improvements in these same study outcomes across the duration of the study (H3b).

Method

Participants

Participants in this study ($N = 84$; 92% female) were recruited from 12 community service agencies that primarily serve low-income Hispanic/Latine (HL) families. Participants spent

on average a total of 7.27 ($SD = 7.26$) years volunteering or working as a CHW and 5.05 ($SD = 5.16$) years at their current agency. The majority of participants identified themselves as Latine (95.2%), while 2.4% of the sample identified as Black or African American and 2.4% identified as “other” but did not specify further when asked. Most participants (79.8%) were born outside of the United States, with 61 participants being born in Mexico, 4 in Colombia, 1 in El Salvador, and 1 in the Dominican Republic. Two participants declined to answer questions regarding their nationality. Eighty-five percent of participants indicated having children ($M = 2.80$ children, $SD = 1.31$). Based on advice from our community partners, questions regarding immigration status were not asked since questions of this nature may lead to fear that disclosure (accidental or not) would lead to deportation or discrimination. Not asking these questions increases participants’ safety and trust in the research team. The majority of participants reported that they had lived in Southern California for at least 20 years (81%) and 82% reported being born outside the U.S. On average, participants had completed 11.25 ($SD = 2.65$) years of school, and 61% reported completing a high school degree. The average annual household income fell between \$35,000 and \$45,000, with 26% of participants reporting annual incomes within that range. Almost half of participants (46%) reported experiencing food insecurity within the past year.

Study Design

Administrators and promotores from local community service agencies serving Latine communities assisted with designing the current study protocol, outlined in Arcos and colleagues (2023), in addition to adapting the intervention to the specific context of Latine-serving CHWs (Borelli, Zhou et al., 2024). This study was preregistered on [clinicaltrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT05560893) (NCT05560893) and approved by the Institutional Review Board at the University of California, Irvine (#1596). For more information about data and supplementary files for this study, go to: <https://osf.io/vu9dj/files/osfstorage> (Borelli & Rowley, 2025). We report how we determined our sample size, all data exclusions (of which there are not any), all manipulations, and all measures in the study.

Data for this study were collected between September 2022 and October 2024. Participants were recruited from community agencies serving predominantly Hispanic/Latine populations in Southern California. To recruit participants, we contacted community service agencies and invited them to take part in the study. Agencies who elected to participate shared the opportunity with their CHWs, who reached out to us individually if interested. Potential participants underwent a short screening process over the phone to verify their eligibility (i.e., age 18 or older and currently working as a CHW) and provide verbal consent. A community health worker is a lay member of the community who works for pay or as a volunteer as part of the local health care system (National Heart, Lung, and Blood Institute, 2020). Qualifications for this position can vary, especially considering positions that are voluntary versus paid; however, typically these positions require people to have at least a high school diploma and prefer candidates to have some lived experience similar to the communities they will be serving. They can work in a variety of settings, including community-based organizations, hospitals, and public health departments (Bureau of Labor Statistics, 2025). Some services that CHWs provide in their

role include interpretation and translation services, culturally appropriate health education and information, connecting people in the community to services and resources they need, informal counseling and guidance on health behaviors, advocacy for individual and community health needs, and direct services (e.g., first aid and blood pressure screening) (U.S. Department of Health and Human Services et al., 2007). All participants completed an initial baseline assessment session and were randomly assigned to a waitlist control group or intervention group. Participants assigned to the intervention group began the 4-week intervention the week after their initial assessment. Participants assigned to the waitlist control group waited 4 weeks before conducting an additional assessment session (baseline 2; BL2), and then began the 4-week intervention. The waitlist control group participated in an additional baseline assessment session so that we could compare changes in intervention outcomes between a group that participated in the intervention and a group that did not in the same span of time. All participants completed a post-treatment assessment the week following their last intervention visit, and a follow-up assessment three months later. Figure 1 depicts participant flow through the study and Figure 2 depicts participant enrollment.

During assessment visits, participants completed assessment batteries in their preferred language (English or Spanish) via Qualtrics. Participants completed these surveys while on a Zoom call with a bilingual research assistant who was available to assist participants with technical issues if needed. Participants also completed surveys before and after each intervention session using this same method.

Intervention

Interventions were conducted by 14 bilingual research assistants. Interventionists were paraprofessionals, with education levels ranging from some college courses ($n = 10$), to post-baccalaureates ($n = 3$), to one interventionist with a master's degree ($n = 1$). All interventionists demonstrated social-interpersonal competence (evidenced through observations during interviews, as well as ability to develop rapport observed during training) and were fluent Spanish speakers. Interventionists indicated that they would be comfortable conducting a manualized intervention both in Spanish and English before conducting intervention sessions with participants.

Interventionists completed a 4-hour training led by the principal investigator which included the theoretical background of the intervention, research ethics, and managing risks (e.g. reporting suspected abuse or potential future harm to self or others). Prospective interventionists completed several rounds of mock intervention sessions, in which they delivered the intervention to a research assistant role-playing as a participant. The study coordinator reviewed recordings of each mock session and provided feedback to interventionists. Interventionists were selected to move forward only if they were able to develop rapport effectively and met intervention fidelity benchmarks. Once interventionists began conducting sessions with participants, they attended weekly meetings with the research team to discuss issues and receive additional feedback. To maintain consistency and facilitate rapport, interventionists met with the same participant for all four of their intervention sessions. All intervention sessions were conducted virtually over zoom, and were scheduled according to the participant's availability.

Per relational savoring (RS) protocol (Borelli, 2024), intervention sessions began with a one-minute mindfulness exercise intended to help the participant relax and encourage a reflective state. Interventionists then prompted the participant to generate at least two memories with strong attachment content. Participants were instructed to recall a time in their role as a CHW where they “felt extremely connected, close, helpful, or important in (their) community,” “found joy in helping someone in (their) community reach new heights,” a time “when someone needed (the participant) and (the participant was) there for them,” and/or “a time when you saw how the work you were doing lifted the whole community up.” To reflect the interconnectedness of community service work, interventionists informed participants that their memory could feature either a moment of connection with a specific person or a broader connection to their community as a whole. Interventionists rated each memory on its positivity, detail, and degree of connection to others/their community. Interventionists used these ratings to choose which memory would be savored in the next stage of the session, selecting the memories with the strongest attachment content, most positivity, and highest amount of detail.

After selecting a memory, interventionists began the reflecting stage of the intervention. Interventionists led participants through five standardized questions, prompting participants to a) reflect on the sensory details of their memory, b) describe the emotional content of the memory, c) describe their thoughts and meaning-making of the memory, d) reflect on the future significance or positive impact of the memory, and e) let their mind wander about the event and share any concluding ideas related to the event. Interventionists were trained to highlight the attachment content within participant memories and provide positive feedback to participant responses. See Zhou and colleagues (2025) for qualitative findings from a subset of the participants in this study. Interventionists were also trained to redirect the participant back to positive aspects of the memory if they fixated on negative aspects of the memory during savoring. The entire intervention lasted approximately 30–45 minutes. Examples of memories selected for savoring are provided in Table 1.

Measures

Relational Savoring Acceptability: Relational Savoring Acceptability is a 6-item questionnaire that was developed for this study in order to assess frequency of use, operationalized as how often participants have practiced savoring since their previous session (e.g., *How often did you find yourself reflecting on positive memories related to your work experiences?*); perceived value of the intervention, operationalized as how helpful and valuable they found the savoring experience (e.g., *How valuable did you find this reflection exercise to your daily life?*); willingness to recommend, operationalized as whether they would recommend savoring to others (e.g., *How likely would you be to recommend this program to coworkers?*), and intention to continue, operationalized as whether they intend to continue engaging in savoring independently (e.g., *How likely would you be to continue using this reflection technique on your own?*). Each item was rated on a scale from 1 (*not at all likely, useful, or valuable*) to 5 (*extremely likely, useful, or valuable*). This questionnaire was administered post-treatment and at 3-month follow-up. Internal consistency was acceptable at post-treatment ($\alpha = .82$) and follow-up ($\alpha = .82$).

Relational Savoring Pre-Post Intervention Session Outcomes

Emotional Valence. The Self-Assessment Manikin (SAM; Bradley & Lang, 1994) is a nonverbal pictorial measure that assessed participants' emotional states, valence, and arousal levels using various pictures to represent how a participant is feeling in response to a stimulus. In the current study, only the valence measure was utilized. This contained a single-item in which participants were asked to select one of five pictograms that ranged from frowning to smiling (e.g., *Using the following images, please circle the choice that best describes how you feel right now*). On the valence scale, possible scores range from 1 to 5, with a score of 1 signifying a positive affective state and a score of 5 signifying a negative affective state. This measure was administered immediately before and after each intervention session. The reliability and validity of this measure have been documented in previous studies (Bradley & Lang, 1994 [convergent or construct validity]; McManis et al., 2001 [convergent or construct validity; interrater reliability, $r = .83 - .96$]) and the performance of this measure in the current study is comparable to studies that have used the measure in the past further demonstrating reliability of this measure (Borelli et al., 2014; Borelli, Kazmierski et al., 2023). As a single-item measure, it is not possible to produce specific reliability estimates.

Feelings of Closeness to the Community. The Inclusion of Other in the Self Scale-Community Version (IOS-C; Aron et al., 1992) was used to assess participants' perceived closeness to the community. This single-item visual measure presents a series of seven Venn diagram-style images, each showing an increasing overlap between two circles to indicate varying levels of closeness between the self and neighbors. Participants were asked the following: *"Please select the picture below that best represents your current relationship with your neighbors."* The more overlap there was between the two circles, the greater the perceived closeness between the self and neighbors. This measure was administered at pre- and post-assessment during each intervention session. The reliability and validity of this measure have been documented in previous studies (Folk, Enriquez et al., 2019 [concurrent, convergent, and discriminant validity]; Mashek et al., 2007 [test-retest reliability, $r = .74$; convergent and discriminant validity]) and the performance of this measure in the current study is comparable to studies that have used the measure in the past further demonstrating reliability of this measure (Folk, Stuewig et al., 2019; Rugh et al., 2024). As a single-item measure, it is not possible to produce specific reliability estimates.

Long-term Relational Savoring Intervention Outcomes

COVID-19 Burnout. The COVID-19 Burnout scale consisted of 10 items (e.g., *When you think about COVID-19 overall, how often do you feel hopeless?*) that measured burnout in relation to the COVID-19 pandemic (Yıldırım & Solmaz, 2020) during baseline 1 ($\alpha = 0.86$), baseline 2 ($\alpha = 0.87$), post-treatment ($\alpha = 0.88$), and at 3-month follow-up ($\alpha = 0.86$). These items were rated on a scale from 0 (*never*) to 6 (*all the time*).

Job Satisfaction. The Job Satisfaction Scale is a 36-item measure (e.g., *When I do a good job, I receive the recognition for it that I should receive*) that assessed participants' attitudes related to their job (Spector, 1994). Items were scored on a scale that ranged from 1 (*disagree very much*) to 6 (*agree very much*). In the current study, only the total satisfaction

score was utilized and not the subscales. This survey was administered during baseline 1 ($\alpha = 0.87$), baseline 2 ($\alpha = 0.90$), post-treatment ($\alpha = 0.87$), and at 3-month follow-up ($\alpha = 0.87$).

Psychological Distress. The Brief Symptom Inventory is a 19-item measure that was utilized to assess psychological well-being regarding depression (e.g., *How much have you suffered from feeling blue?*), anxiety (e.g., *How much have you suffered from nervousness or shakiness inside?*), and somatic symptoms (e.g., *How much have you suffered from pains in heart or chest?*) (Derogatis & Melisaratos, 1983). Items were rated on a scale that ranged from 0 (*not at all*) to 5 (*extremely*). In the current study, the global score indicating overall psychological distress was utilized. This measure was administered during baseline 1 ($\alpha = 0.94$), baseline 2 ($\alpha = 0.90$), post-treatment ($\alpha = 0.95$), and at 3-month follow-up ($\alpha = 0.92$).

Physical Health. The 36-item Short Form Health Survey (SF-36; Hays et al., 1993) assessed eight health-related domains: physical functioning, role limitations due to physical problems, perceptions of general health, vitality, social functioning, role limitations due to emotional problems, and perceived mental health. In the current study, the perceptions of general health subscale was used. On this subscale, participants rated various statements about their health (e.g., *“My health is excellent”*) from 1 (*definitely true*) to 5 (*definitely false*). Higher scores on the subscale indicate better perceptions of general health. This survey was administered during baseline 1 ($\alpha = 0.81$), baseline 2 ($\alpha = 0.74$), post-intervention ($\alpha = 0.79$), and at 3-month follow-up ($\alpha = 0.70$).

Data Analysis: The sample size for this study was determined based on prior power analyses conducted by Hertzog (2008) which aimed to provide recommendations about sample size for pilot intervention studies. According to the calculations performed for within-subject designs (similar to Aim 2 and Aim 3b), with a probability of .80, $\alpha = .05$, 40 participants, and 3 measurement times a moderate population effect size ($\eta^2 = .04$) is the smallest effect that can be detected. It is important to note that power varies as a function of the number of participants and number of time points. With greater number of participants and/or greater number of time points, power to detect effects is also increased. While the opposite is also true, reduced number of time points will reduce the power to detect these effects. The analysis for the second aim of this study is likely similarly powered to the calculations performed by Hertzog (2008) since there is one less time point and a greater number of participants. Meanwhile, the analysis for Aim 3b would have greater power given that 8 time points were included in the model with the full sample. In another set of calculations performed by Hertzog (2008) for between-subject designs (similar to Aim 3a), the smallest possible population effect size able to be detected with a probability of .80, $\alpha = .05$, and 80 participants (with 40 per group) is a medium-to-large population effect sizes ($\eta^2 = .09 - .14$).

Prior to testing hypotheses, data were evaluated for normality. BSI was positively skewed, meaning that participants tended to report low levels of psychological distress, therefore BSI scores were transformed by taking the square root of the scores. After the transformation was completed, the data were normally distributed. All other variables were normally

distributed and all other assumptions (i.e., linearity, sphericity, missingness, independent observations) met.

Aim 1. To evaluate the acceptability of the RS intervention, descriptive statistics were computed at post-treatment and follow-up using IBM SPSS Version 30.

Aim 2. Structural equation growth modeling was used to investigate whether there were changes from pre- to post-session for outcomes related to RS and was facilitated by the Mplus 8.1 program (Muthén & Muthén, 1998–2017). Growth models were used to estimate within-person change over time. Maximum Likelihood Estimation was used to address missing data which is robust to missingness (Shin et al., 2017). To estimate effect size, standardized coefficients were estimated by multiplying the unstandardized coefficient with the standard deviation of the predictor (i.e., time) divided by the standard deviation of the outcome.

Aim 3. Repeated measures analyses of variance (ANOVAs) were used, facilitated by IBM SPSS Version 30, to evaluate long-term outcomes of RS. This was tested in two ways. First, a between-group comparison was conducted using a series of 2 (intervention group, waitlist-control group) x 2 (Pre-intervention or Initial Baseline, Post-Intervention or Baseline 2) mixed factorial analysis of variance (ANOVAs) with repeated measures on the second factor to examine the differences between the intervention and waitlist-control groups (Aim 3a) on the four variables of interest (burnout, job satisfaction, global psychological distress, and physical health). In comparing the groups' change, baseline and post-intervention were used for the intervention group, while initial baseline and baseline 2 were used for the waitlist-control group. This test determines whether the change in these outcomes for the intervention group is above and beyond the change for the waitlist-control group. Second, a within-group analysis (Aim 3b) was conducted to examine changes across the three time points (pre-RS, post-RS, and 3-month follow-up) on these same variables with the entire sample that participated in treatment.

Results

Across the two groups, a total of 82 participants began the RS intervention and 80 participants completed all 4 sessions. The median number of sessions was 4 (range 0–4). We conducted independent samples *t*-tests to test for differences present at baseline between the RS and waitlist groups – the two groups were not significantly different in participant age, income, education, family income, length of time serving as a CHW, or baseline health variables.

In the RS group ($n = 41$), 40 participants (98%) completed all four sessions. Median session completion was 4 (Range: 1 – 4). The reason for drop-out was that participants did not respond to outreach. Among the 43 waitlist control participants who were later offered RS, 40 (93%) completed all 4 sessions. Again, median session completion was 4 (Range: 0 – 4).

Aim 1: Examine the Acceptability of the Intervention

At post-treatment ($M = 24.47$, $SD = 3.05$, Range: 15–30) and follow-up ($M = 24.25$, $SD = 3.03$, Range: 16–30) acceptability scores were high. Item-level scores correspond to an average of 4 for both timepoints (very valuable, very likely, very useful, depending on the item).

Aim 2: Examine Immediate Pre-Post Outcomes of Relational Savoring

First, changes from pre- to post-session were examined at each session across the intervention. As seen in Figure 3, there was a significant medium-effect decrease in negative emotion from pre- to post-session for each session ($B_{Session1} = -0.69$, $p < .001$, $\beta = .36$; $B_{Session2} = -0.66$, $p < .001$, $\beta = .36$; $B_{Session3} = -0.63$, $p < .001$, $\beta = .40$; $B_{Session4} = -0.57$, $p < .001$, $\beta = .34$). In contrast, perceived closeness to others significantly increased during the first three sessions with a small effect size ($B_{Session1} = 0.65$, $p = .01$, $\beta = .19$; $B_{Session2} = 0.62$, $p = .02$, $\beta = .19$; $B_{Session3} = 0.52$, $p = .04$, $\beta = .16$) from pre-to-post session, but did not significantly change during the fourth session ($B_{Session4} = 0.38$, $p = .17$, $\beta = .11$), as seen in Figure 4. The unstandardized coefficients from the growth models are presented in Table 2.

In order to examine if there were differences in pre-post session change across the intervention trial, session number was dichotomized and used as a predictor of pre-post slope (with Session 1 as the reference session). Results revealed that the pre-post slope for negative emotional valence ($B_{Session2} = 0.02$, $p = .86$, $\beta = .15$; $B_{Session3} = -0.01$, $p = .93$, $\beta = .08$; $B_{Session4} = -0.06$, $p = .66$, $\beta = .40$) and perceived closeness to others ($B_{Session2} = 0.07$, $p = .78$, $\beta = .06$; $B_{Session3} = 0.23$, $p = .39$, $\beta = .18$; $B_{Session4} = 0.20$, $p = .44$, $\beta = .16$) did not change significantly when comparing all sessions to the first session. Thus, the pre-post slope for all sessions were combined to examine whether there were changes from pre- to post-session, overall.

After combining the pre-post slope for all sessions, consistent with earlier results, there was a significant, small-effect decrease in negative emotions ($B = -0.64$, $p < .001$, $\beta = .19$) and a significant, medium-effect increase in perceived closeness to others ($B = 0.55$, $p < .001$, $\beta = .31$) from pre- to post-session overall. In other words, across the four sessions, negative emotions decreased and closeness to others increased.

Finally, follow-up exploratory analyses were conducted to examine whether the changes in RS-related outcomes were sustained across the entire intervention. To do this a growth model was conducted estimating the slope across all time points in the intervention (T1 [pre-session 1] to T8 [post-session 4]). There was a significant, small-effect decrease in negative emotions ($B = -0.05$, $p = .001$, $\beta = .07$) from T1 to T8 and a significant, small-effect increase in perceived closeness to others from T1 to T8 ($B = 0.08$, $p = .003$, $\beta = .22$) when examining change across the entire intervention, indicating that the changes at each session were sustained over time.

Aim 3: Examine Longer-term Outcomes of Relational Savoring

Between group comparison. Multivariate analyses examining global psychological distress (BSI-GSI) demonstrated a significant main effect of time, $F(1, 68) = 8.42$, $p = .005$,

partial $\eta^2 = .11$, indicating a significant reduction in psychological distress from Time 1 to Time 2 across the full sample. However, the interaction between time and condition was not significant, $F(1, 68) = 0.03$, $p = .86$, partial $\eta^2 = .00$, suggesting that the reduction in distress was not significantly different between the intervention and waitlist-control groups. Between-subjects effects showed no significant main effect of condition on average psychological distress, $F(1, 68) = 0.62$, $p = .44$, indicating that the groups did not differ significantly in overall levels of psychological distress across timepoints (see Table 3).

There were no significant effects for burnout (Time: $F(1, 71) = 0.22$, $p = .64$, partial $\eta^2 = .003$; Condition: $F(1, 71) = 1.45$, $p = .23$, partial $\eta^2 = .02$; Time x Condition: $F(1, 71) = 0.05$, $p = .82$, partial $\eta^2 = .001$), job satisfaction (Time: $F(1, 71) = 0.21$, $p = .65$, partial $\eta^2 = .003$; Condition: $F(1, 71) = 0.23$, $p = .64$, partial $\eta^2 = .003$; Time x Condition: $F(1, 71) = 0.02$, $p = .88$, partial $\eta^2 = .00$), nor global physical health (Time: $F(1, 71) = 0.62$, $p = .43$, partial $\eta^2 = .01$; Condition: $F(1, 71) = 0.31$, $p = .58$, partial $\eta^2 = .004$; Time x Condition: $F(1, 71) = 0.25$, $p = .62$, partial $\eta^2 = .003$).

Within group comparison.

For global psychological distress (BSI-GSI), the assumption of sphericity was violated ($p = .01$), thus the Greenhouse-Geisser correction was applied and showed a significant reduction in distress from pre-intervention to the 3-month follow-up, $F(1.70, 86.80) = 4.04$, $p = .03$, partial $\eta^2 = .07$. These findings suggest that participation in the RS intervention may be associated with reduced psychological distress over time.

However, burnout ($F(2, 110) = 1.72$, $p = .185$, partial $\eta^2 = .030$), job satisfaction (Greenhouse-Geisser correction: $F(1.67, 92.08) = 1.576$, $p = .215$), nor global physical health ($F(2, 53) = 0.924$, $p = .403$, partial $\eta^2 = .034$) significantly changed over the course of the intervention.

Discussion

This pilot randomized control trial investigated the acceptability and efficacy of a community-informed adaptation of relational savoring (RS) for use with Latine-serving community health workers (CHWs) that focuses on recalling moments of connection with community members they serve and engage with through their work. This study specifically evaluated the efficacy of the adapted RS intervention by examining immediate change in RS outcomes from pre-to-post intervention session, comparing change in long-term RS outcomes between the intervention and waitlist-control group, and by examining change in long-term RS outcomes for the full sample who participated in the intervention. We found that there was high acceptability among Latine-serving CHWs of the adapted RS intervention, that the adapted RS intervention improved RS outcomes pre-to-post intervention session, and that psychological distress - but no other long-term RS outcomes - improved for the full sample that participated in the adapted RS intervention.

Acceptability of the Adapted Relational Savoring Intervention

Among a sample of Latine-serving CHWs, high acceptability of the adapted RS intervention was found consistent with our hypothesis and with previous studies that have found high

acceptability of RS interventions with different populations (e.g., Borelli et al., 2023 [*with parents*]; Borelli, Bond et al., 2020 [*with older adults*]; Wang et al., 2021 [*with adolescents in residential treatment*]). In addition, in a previous randomized control trial of RS with parent-child dyads, Latine mothers had greater intervention uptake and higher reflective functioning scores (an outcome related to RS) in the RS group compared to the personal savoring group (Borelli et al., 2023). The RS group focused on recalling connections with their child, while the personal savoring group focused on recalling a positive individual experience. It was posited that the match between the RS intervention and Latine cultural values may make RS more relevant to people from Latine backgrounds (Borelli et al., 2023). Specifically, RS's focus on close relationships and positive emotions aligns well with the values emphasized in Latine culture - such as *familismo* (prioritization of family relationships; Corona et al., 2017) and *simpatía* (emphasizing harmonious, positive social interactions; Acevedo et al., 2020). The high acceptability of the current adapted RS intervention could be similarly enhanced by the cultural match between the intervention's goals and the values likely held by the Latine-serving CHWs - who were predominantly Latine (Arcos et al., 2023; Borelli, Zhou et al., 2024). The fact that our study found high acceptability of RS supports this idea.

Given the ongoing challenges facing under-resourced and immigrant communities, including the current mental health crisis in the United States exacerbated during the COVID-19 pandemic and recent anti-immigrant policies from the Trump administration, the potential for Latine-serving CHWs to provide critical support, resources, and advocacy to under-resourced communities is especially timely. Providing support to CHWs using a community-informed adapted intervention within a relational savoring framework whose focus aligns with their predominant cultural values is essential to that work (Borelli, Zhou et al., 2024). An intervention with high acceptability by the community it is meant to serve can increase the likelihood that participants in the intervention will adhere to treatment recommendations, attend sessions consistently, and benefit generally from the intervention (Sekhon et al., 2017). In fact, in the current study, 80 of 82 CHWs completed all four sessions of the intervention, which is excellent compared to other published RCTs trials of interventions (Fernandez et al., 2015). Finding that Latine-serving CHWs regard this intervention as acceptable is an important first step to understand how Latine-serving CHWs might benefit from the adapted RS intervention.

Short-Term Intervention Effects: Improvements in Relational Savoring by Session

Consistent with our hypotheses, results revealed that emotions and connectedness to the community had both immediate (at each session of the intervention) and sustained (across the intervention) improvements during the course of the adapted RS intervention for Latine-serving CHWs. Feelings of connectedness to the community and emotional valence are both outcomes that are directly targeted by RS, since participants were guided to choose a memory to savor during which they felt connection with a person or to their community as CHWs (Borelli, 2024). As noted earlier, RS has not previously been implemented with CHWs as the target population; however, there were several reasons to anticipate its effectiveness with this group. First, RS has been shown to be effective among several other populations, such as parents, older adults, and adolescents in residential treatments (Borelli

et al., 2015; 2020; 2023; Wang et al., 2021). Having demonstrated effectiveness in these other populations, the positive impact of RS among CHWs highlights its adaptability and broad applicability across contexts. Second, as discussed earlier, RS may be especially applicable to and effective with Latine populations, like the Latine-serving CHWs in this study, due to its congruence with Latine cultural values. Finding that the community-informed, adapted RS intervention was effective in improving feelings of closeness to the community and emotional valence provides support that RS is an intervention suited to target Latine-serving CHWs' needs

Intervention Effects: Longer-Term Impact of Relational Savoring

When comparing the intervention and the waitlist-control groups, there were no differences in the rates of change for any of the outcomes of interest (i.e., burnout, job satisfaction, global psychological distress, physical health), contrary to what was expected. Of note, there was no improvement in COVID-19 related burnout, job satisfaction, or physical health in either the intervention or the waitlist-control groups. Even when examining the entire sample together, the only outcome that improved over time was overall psychological distress. These findings should be interpreted in the context of the global pandemic, as the study occurred during the pandemic. During and following the COVID-19 pandemic there were sharp increases in mental and physical health difficulties (e.g., anxiety, depression, fatigue, pain; Shanbehzadeh et al., 2021), especially among health care professionals (Shaukat et al., 2020) who needed to continue to work to provide the essential care to our communities. Unfortunately, also during the COVID-19 pandemic, factors such as high workloads, vicarious trauma, and low social support led to high levels of burnout among healthcare professionals, including CHWs (Joshi et al., 2020; Tabur et al., 2022). The conditions related to the COVID-19 pandemic - which could have maintained or increased burnout, worsened job satisfaction, and worsened physical health (all outcomes related to our intervention) - may have counteracted the potential long-term positive impact of the adapted RS intervention. The mostly lack of long-term impacts of the intervention provide mixed support for the final hypotheses of this project. It may be that booster sessions of the intervention, especially during times of global crisis, may be helpful in increasing long-lasting effects of the adapted RS intervention.

Limitations

First, although conducting this intervention during the COVID-19 pandemic presented a unique opportunity to provide support to Latine-serving CHWs who were especially vulnerable, it also meant that this may have limited the benefits of the adapted RS intervention. Since there were positive signals to the potential benefit of this intervention with CHWs, it should be replicated outside of the context of the COVID-19 pandemic on a larger scale. In addition, future research could investigate whether adding components to the intervention or booster sessions might help maintain or increase the benefit of RS to CHWs during particularly stressful times like during a global pandemic. Second, our sample size limited the power to detect intervention effects - typical of pilot intervention studies (Hertzog, 2008; Kunselman, 2024). A larger sample, in a larger scale trial, would allow us to empirically examine between group effects between an intervention and control group which would expand the findings we have at the within group level. Finally, the current study uses

the term Latine which is panethnic and may obscure important differences or similarities across distinct communities (e.g., Mexican, Puerto Rican, Cuban). Future research could benefit from examining how the intervention is experienced by specific Latine subgroups, as cultural values, community contexts, and systemic challenges may vary and influence both acceptability and effectiveness of the adapted RS intervention.

Implications and Conclusion

Mental health problems have reached alarming rates, especially during and following the COVID-19 pandemic (Shanbehzadeh et al., 2021), making it all the more concerning that health care providers are leaving the profession (Joshi et al., 2020). High levels of burnout due to high workload, vicarious trauma, and low social support, all of which escalated during the COVID-19 pandemic, may be to blame (Joshi et al., 2020; Tabur et al., 2022). One potential solution to meet the rising mental health care needs is to utilize the services of CHWs who have been a trusted potential stopgap to poor access to care. CHWs serve as a bridge to their community, providing critical mental health care and resources to under-resourced communities in a cost-efficient, well-received, and effective way (Barnett et al., 2018). However, Latine-serving CHWs often encounter the same barriers that healthcare workers face in addition to challenges that are specific to under-resourced Latine populations, such as racism, discrimination, and low income (Breslau et al., 2005; Kawachi et al., 2005; Miranda et al., 2008). These stressors could heighten vulnerability to burnout, contributing to the decision to leave the profession. This illustrates a critical problem in the mental health field: there is a deficit of mental health professionals, particularly with underrepresented minority professionals (Lin et al., 2018), needed to meet the increased demand for mental health care; and, CHWs who can meet this need are vulnerable to burnout which increases turnover in the field (Joshi et al., 2020; Tabur et al., 2022).

The current study tested a pilot of a community-based adaptation of RS with CHWs and found that it was highly acceptable among Latine-serving CHWs, as well as effective in improving their feelings of connectedness with their community, emotions, and reducing long-term psychological distress. These findings demonstrate that the adapted RS intervention has promise to improve the well-being of CHWs which over time has the potential to improve their work retention and thus positively impact their work with community members. As such, this positive impact on CHWs may then have the potential to carry over to improve the health and well-being of their client communities. These findings lay the groundwork for larger scale trials to further investigate the adapted RS intervention's efficacy and explore its capacity to improve the well-being of Latine-serving CHWs and the communities they serve.

Author Note

This work was supported by a grant awarded to J. Borelli (National Institutes of Minority Health and Health Disparities; UCLA CTSI UL1TR001881/UCI ICTS UL1TR000153). For more information about data and supplementary files for this study, go to: <https://osf.io/vu9dj/files/osfstorage> (Borelli & Rowley, 2025). Preliminary results for this study were presented at the American Psychological Association Annual Convention in 2024. No other information in the current manuscript has been disseminated in any other format. There are no conflicts of interest to disclose. The authors would like to thank the promotores and staff at Latino Health Access for encouraging the authors to do this project and for assisting with the initial adaptation process.

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Public Significance Statement:

The current study found that a version of relational savoring that was adapted in collaboration with Latine-serving community health workers (CHWs) was highly acceptable and effective in improving CHWs' feelings of connectedness to their community, emotional wellness, and reducing long-term psychological distress. The adapted RS intervention provides preliminary support for improving CHWs' well-being, with potential implications for workplace retention and positive downstream effects on the client communities they serve.

Relational Savoring Group Timeline



Waitlist Control Group Timeline



Figure 1.
Corazón Study Design and Timeline for Intervention and Control Group

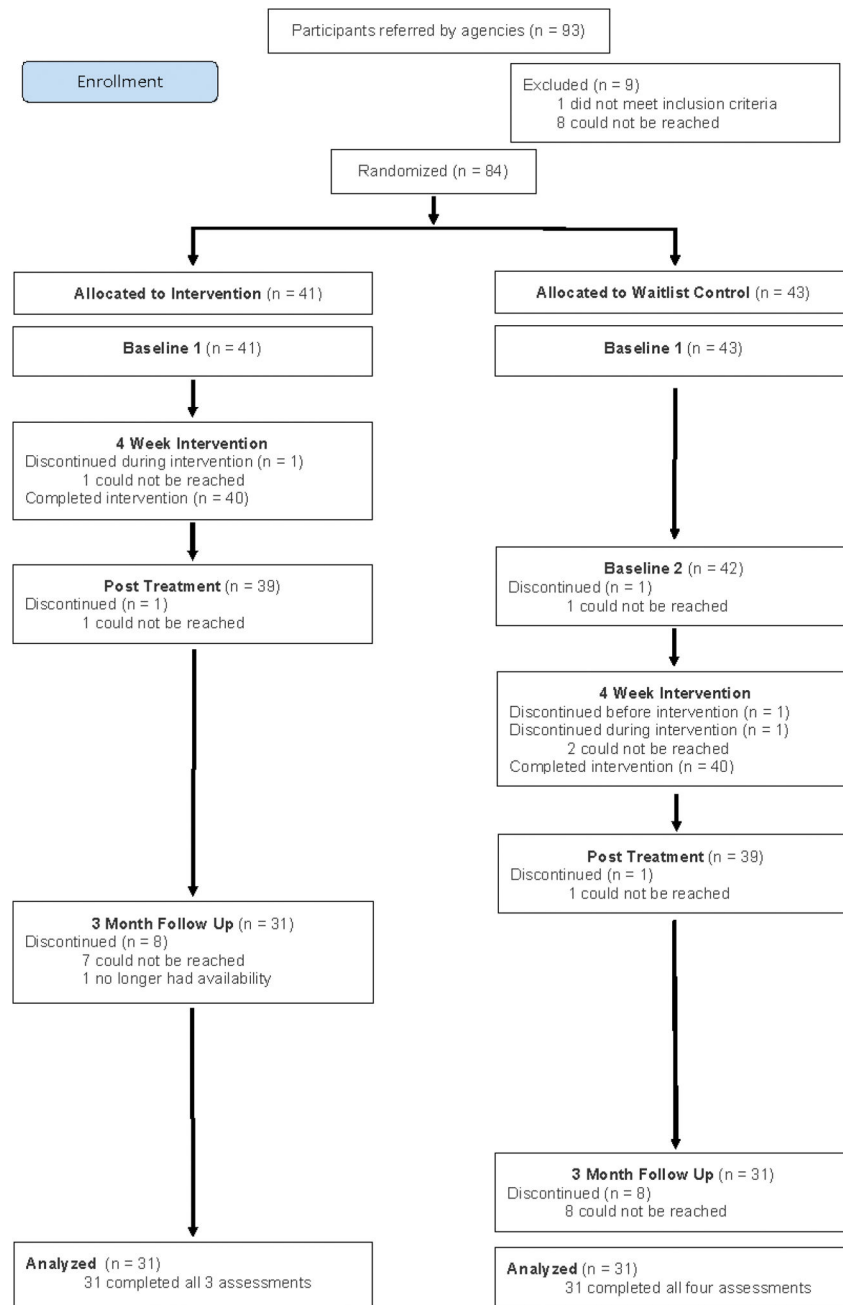


Figure 2.
Corazón Study Flow Chart

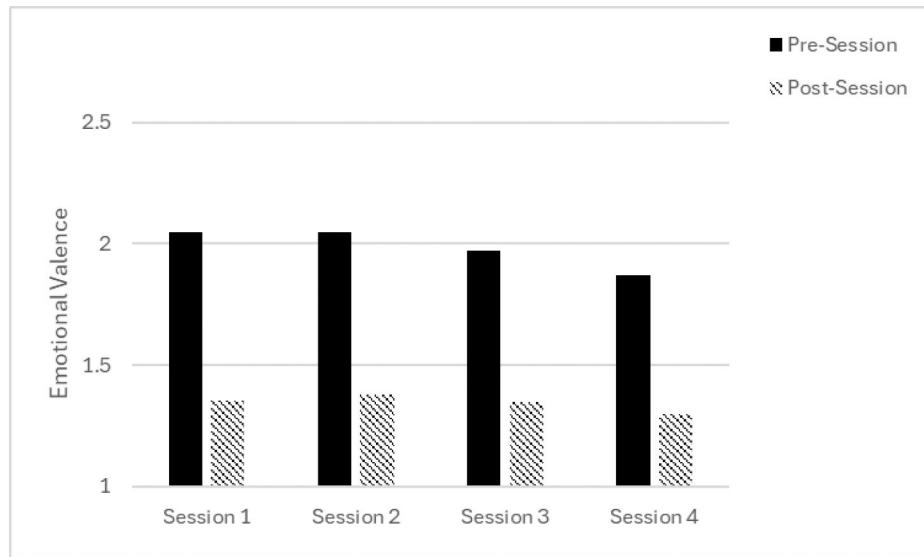


Figure 3. Pre-Post Emotion Changes Across Intervention

Note. High scores of emotional valence signify greater negative emotions, while low scores on emotional valence signify greater positive emotions.

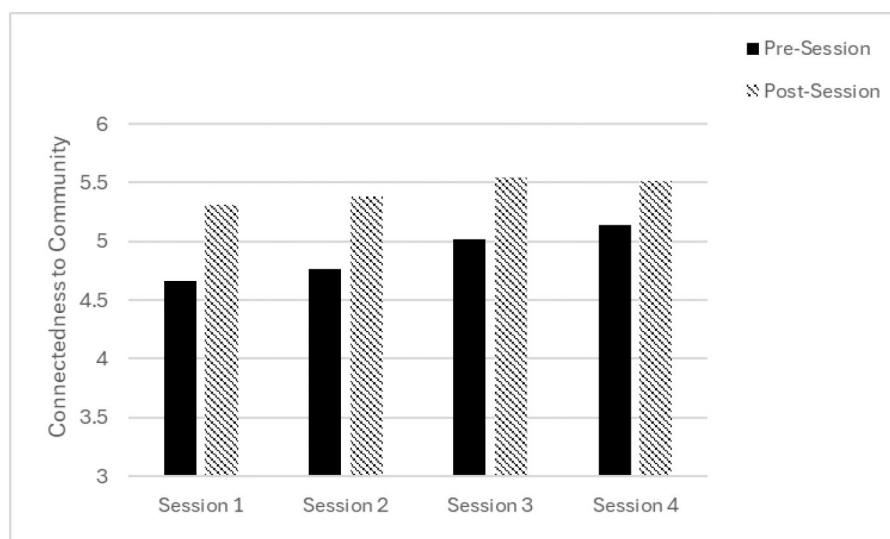


Figure 4.
Pre-Post Connectedness to Community Changes Across Intervention

Table 1
Memories Generated by Participants During Savoring Sessions

Individual-Focused	Community-Focused
Providing emotional support to a community member during a time of grief	Leading a support group for women overcoming domestic violence
Reassuring a community member who was apprehensive about the COVID-19 vaccine and helping them get vaccinated	Leading a youth group for adolescents and providing a safe space for them to discuss issues they experience at school and home
Encouraging and comforting a community member experiencing depression	Distributing food to many community members in need during the COVID-19 lockdown
Driving an elderly community member to an important doctor's visit	Teaching a class designed to help Latina high school students succeed academically
Helping a community member enroll in an independent living program	Uniting with co-workers and community members to help an elderly neighbor
Connecting an immigrant family to housing resources	Designing and implementing a community outreach program which educates local immigrant community on their rights
Distributing food to a family in need during the COVID-19 lockdown	Directing a food bank and seeing the gratitude of community members
Assisting an elderly community member enroll in a local support group	Coordinating an internship program for systematically marginalized students
Helping an illiterate community member obtain the COVID-19 vaccine	Teaching a community CPR class in Spanish for Spanish-speaking community members
Helping an elderly community member enroll in school for the first time in 20 years	Teaching an arts and crafts class for community members
Connecting a community member to local substance abuse resources	Contributing to the construction of a local park
Guiding a couple through the process of obtaining permanent housing	Volunteering for a free drive-through vaccination clinic during the COVID-19 pandemic
Providing emotional support to a community member recovering from a traumatic event and connecting them with resources	Donating and preparing school supplies for students at local school
Encouraging an anxious community member to attend a support group and seeing them flourish in the class	Volunteering at a Thanksgiving holiday food drive
Providing counseling for a young girl struggling to succeed in school	Teaching classes to empower and promote self-sufficiency among women
Helping a community member enroll in SNAP benefits program	Teaching a community class on the risks of e-cigarette use
Directing a community member to appropriate mental health crisis services	Advocating for city regulations to prohibit the use of e-cigarettes by minors
Talking and connecting with an elderly community member who was struggling with loneliness	Giving presentations to first-generation students to help them navigate post-secondary education
Providing emotional support to a father whose son received a medical diagnosis	Organizing a Children's Day celebration at a local elementary school
Assisting an unhoused community member find safe housing	

Table 2
Growth Models Examining Change in Relational Savoring Outcomes: Unstandardized Associations

Variable	Emotion	Connection to Community
	Estimate (SE)	Estimate (SE)
Model 1 – Pre-Post Change at Each Session		
Session 1 Δ	-0.69 (0.14) ***	0.65 (0.26) **
Session 1 Baseline	2.05 (0.12) ***	4.66 (0.19) ***
Session 2 Δ	-0.66 (0.15) ***	0.62 (0.26) *
Session 2 Baseline	2.05 (0.12) ***	4.77 (0.19) ***
Session 3 Δ	-0.63 (0.12) ***	0.52 (0.26) *
Session 3 Baseline	1.97 (0.10) ***	5.02 (0.19) ***
Session 4 Δ	-0.57 (0.13) ***	0.38 (0.27)
Session 4 Baseline	1.87 (0.11) ***	5.14 (0.19) ***
Model 2 – Pre-Post Change Sessions Combined		
Overall Δ	-0.64 (0.07) ***	0.55 (0.13) ***
Overall Baseline	1.99 (0.05) ***	4.89 (0.09) ***
Model 3 – Change Across Intervention		
Overall Δ	-0.05 (.02) **	0.08 (0.03) **
Overall Baseline	1.84 (0.06) ***	4.87 (0.12) ***

Note. Time was centered pre-session. SAM and IOS were correlated in the model.

*
 $p < .05$

**
 $p < .01$

 $p < .001$

Table 3
Between Subjects Effects of Relational Savoring Intervention on Longer Term Effects

Variable	Time	Time x Condition (Interaction)
Burnout	$F(1, 71) = 6.30, p = .01$	$F(1, 71) = 0.02, p = .90$
Job Satisfaction	$F(1, 71) = 2.41, p = .12$	$F(1, 71) = 0.43, p = .51$
Psychological Distress	$F(1, 68) = 8.42, p = .005$	$F(1, 68) = 0.03, p = .86$
Social Functioning	$F(1, 71) = 0.62, p = .43$	$F(1, 71) = 0.25, p = .62$