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## Relational Savoring Intervention: Positive Impacts for Mothers and Evidence of Cultural Compatibility for Latinas

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Parenting young children poses numerous emotion regulation challenges, and prevention programs that promote emotion regulation skills can help with this important task of parenthood. Relational savoring (RS), which entails savoring a positive experience of interpersonal connectedness, is a brief manualized intervention program, 4 weeks in length, grounded in positive psychology and attachment theory. In the current longitudinal, randomized, controlled trial, we examined the impacts of RS compared with an active control (personal savoring [PS], defined as savoring a positive individual experience) in a sample of N = 164 mothers of toddlers ( $M_{age} = 20.93$  months) on outcomes that were assessed immediately postintervention (positive emotion, closeness to child) and at a 3-month follow-up visit (parenting sensitivity, reflective functioning [RF], savoring uptake, and parenting wellness). Compared with mothers assigned to the PS condition, mothers in the RS condition had greater immediate response to the intervention (greater increases in positive emotions [gratitude, pride], closeness to their child) as well as greater increase in sensitivity to toddlers' cues at the three-month follow-up. Neither RS nor PS increased overall parenting wellness at the three-month follow-up. Latina mothers (but not non-Latina mothers) in the RS condition had higher RF and greater savoring uptake than Latina mothers in the PS condition at follow-up. Findings provide preliminary evidence of the efficacy of RS in modifying therapeutic targets and suggest evidence of the cultural congruence of RS for Latina mothers.

Keywords: attachment-based intervention, Latino/a, parenting sensitivity, reflective functioning, savoring

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Parenting young children presents a complex emotional challenge (Kerr et al., 2021; Nelson et al., 2014). Parents must provide momentto-moment assistance to children as they navigate the world, and in so doing, must regulate their children's emotions as well as their own. However, parenting also offers unique opportunities for creating joy, meaning, and purpose (Baumeister et al., 2013; Nelson et al., 2014), as well as building meaningful connections with a developing child. Indeed, parents who capitalize on the positive feelings of connection to

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families who participated in this project and research assistants who helped collect and process the data. Other findings from the larger investigation from which the data originated have been disseminated through publications and conference posters and presentations. No prior analyses or publications include the same ideas or findings as presented in this article. The current article is unique in its focus on intervention outcomes. The datasets used in these analyses have been made publicly available online at https://osf.io/uk8r2/.

Correspondence concerning this article should be addressed to Jessica L. Borelli, Department of Psychological Science, University of California, Irvine, 4201 Social and Behavioral Sciences Gateway, Irvine, CA 92617, United States. Email: jessica.borelli@uci.edu In the present study, we report the results of a randomized controlled trial that tested the efficacy of a *relational savoring* intervention with mothers of toddlers on key *short-term* (positive emotion, closeness to child) and *long-term* (sensitivity, reflective functioning, parenting well-being, savoring uptake) outcomes, as well as central indicators of the intervention delivery (intervention fidelity, savoring quality). We argue that by focusing on moments of positive connectedness within the parent–child relationship, relational savoring (RS) enables parents to reap the greatest reward from their engagement with their children. We examine these effects on the entire sample and as a function of mothers' ethnicity. We argue that this type of parenting emotion regulation intervention might be uniquely appealing to mothers from particular cultural backgrounds.

## Importance of Sensitive Parenting and Reflective Functioning for Young Children's Development

Parent-child relationship quality plays a central role in promoting children's psychosocial development and emotional regulation (Cassidy & Shaver, 2016), making it a key target of interventions in early childhood. Strong parent-child relationships, particularly those characterized by secure attachment, result in a host of positive outcomes for children throughout development (e.g., Sroufe, 2005), such as fewer behavioral problems (e.g., Boldt et al., 2014), greater social competence (e.g., Neppl et al., 2019), and better language and school readiness skills (e.g., Spieker et al., 2003).

More specifically, parenting sensitivity, or the awareness, accurate interpretation, and appropriate responsiveness to children's signals (Ainsworth et al., 1972, 1974), is a strong predictor of children's attachment security (De Wolff & Van IJzendoorn, 1997; Verhage et al., 2016) and socioemotional outcomes throughout development (Belsky & Fearon, 2002; Raby et al., 2015). A psychological capacity thought to underlie parenting sensitivity is parental mentalizing (Slade, 2005), or the ability to view oneself and one's child as beings motivated by mental states (i.e., thoughts, feelings, desires) and to understand the child's behavior as a function of those mental states. Indeed, parental reflective functioning (RF), one way that parental mentalizing is operationalized within the research literature (Slade, 2005), is directly associated with sensitive parenting (e.g., Slade et al., 2005; Stacks et al., 2014; Suchman et al., 2010). Importantly, parenting sensitivity and parental RF have been shown to work together to predict secure attachment in children (e.g., Grienenberger et al., 2005), and both can be modified through attachment-based interventions (e.g., Slade et al., 2020; Suchman et al., 2017).

## Relational Savoring for Parents: Enhancing the Strengths Embedded in Parent–Child Relationships

Much attention has been devoted to developing and testing interventions with parents of young children because improving parent-child relationships should promote both parents' wellbeing and children's development. These interventions are designed with different audiences in mind. For example, many interventions target at-risk parents with the goal of mitigating risk or negative outcomes, whereas others are designed for all parents with the goal of preparing them to weather parenting challenges by boosting their well-being and relationship with their child. The present intervention is designed as a universal prevention program, based in the theoretical framework of attachment and in the positive psychology practice of savoring (Bryant & Veroff, 2007); it is suitable to be delivered to all parents in the service of enhancing short-term and long-term parenting outcomes.

Embedded in most people's lives are small positively-valenced interactions-these nuggets of felt security typically slip by unnoticed in daily life but have the potential to be mined for their psychological benefit. An attachment theory framework asserts that feelings of security in relationships promote positive adjustment (Bowlby, 1988); based in this core idea, the process of RS involves mentally activating memories of emotional security and their associated feelings and thoughts to help people extract the maximum psychological benefit from their relationships (Borelli et al., 2020). From this perspective, RS could be particularly helpful for parents who have histories of negative interactions with their own caregivers-their internal working models of attachment could be biased toward processing threat-related information (e.g., rejection, hostility, abandonment; Bowlby, 1973) that could prevent them from reaping the benefits of positive interactions occurring in their daily lives.

Savoring positive experiences is the process of enhancing and prolonging emotions attached to those experiences (Bryant & Veroff, 2007). People who naturally savor in their daily lives are less prone to depression and experience more intense and frequent positive affect (Bryant, 2003; Carver & Johnson, 2009; Smith & Hollinger-Smith, 2015). Savoring can also be effectively taught as a positive emotion regulation strategy (Bryant & Veroff, 2007), and savoring interventions have been shown to increase happiness and decrease depression and negative mood (e.g., Bryant et al., 2005; Hurley & Kwon, 2013; McMakin et al., 2011; Quoidbach et al., 2009). People have a natural tendency to savor interpersonal experiences (Bryant et al., 2005; Burkhart et al., 2015). In RS, participants are asked to savor a positive experience of connectedness with another person (Borelli et al., 2020). RS can be conducted with a wide range of individuals (e.g., parents, nonparent adults, adolescents). When RS is conducted with parents, interveners assist them in selecting a memory of a time when they felt especially connected to their child and/or provided sensitive care to their child, and then guide them through five standardized reflection steps (Borelli et al., 2020). Reflecting on moments in which they provided sensitive care helps to bolster parents' representations of themselves as being able to provide support and protection, which also reinforces their perceptions of themselves as being able to receive protection and support from others. Because of the interconnections between the caregiving system and the attachment system, parents can increase their own felt security by considering their own successful security provision (George & Solomon, 2008; Mikulincer & Shaver, 2007).

According to the Broaden-and-Build theory, practices that promote immersion in positive emotions, including RS as a form of savoring, expand one's attentional field, undo the adverse effects of negative emotions, and assist people in building resources for the future (Fredrickson, 2005). By helping parents focus on times when they experienced a positive connection with their child, or a time when they effectively met their child's needs, RS aims to heighten experiences of positive emotion within the parent–child relationship. In turn, positive feelings ostensibly activate broadened action tendencies, motivating the parent to engage with the child in positive ways, thereby increasing positivity resonance between parent and child and enhancing meaning and joy in the parenting role (Major et al., 2018). Further, incremental changes in joy and meaning can accumulate over time, creating upward spirals in parents' enduring personal resources (Kok & Fredrickson, 2010), bolstering their ability to manage future stressful parenting interactions.

We argue that RS will increase RF because during the intervention, parents are repeatedly coached toward linking mental states (thoughts, feelings) with behavior, increasing their future capacity to mentalize (Borelli et al., 2020). Further, mentalizing when immersed in the positive emotional state created by RS may facilitate learning (Fredrickson & Joiner, 2002)-positive emotions enable parents to broaden their attentional focus (Fredrickson, 2005) and reduce defensiveness, which may allow them to be better able to consider their child's thoughts and feelings, as well as their own thoughts and feelings in the parenting role both key components of RF. Engaging in RS should also increase attention to and awareness of times when parents responded sensitively; that is, as part of the RS protocol, interveners assist the parent in perceiving their role in the parent-child relationship in new ways, by placing value on the parent's sensitive behavior and highlighting their child's perception of the parent as a stable, safe, reliable figure in their life. If parents are able to respond in a more sensitive manner to their children's needs, both parents and children may experience their interactions as more attuned, responsive, and satisfying (Borelli et al., 2020).

To date, RS has been evaluated in a handful of short-term Internet-based studies and small sample in-person studies. In each of these, the rigorous comparator against RS has been a savoring condition designed to be completely parallel in structure to RS except that the focus is on a positive memory of an event that the individual experienced alone. In one large-scale study of adults in long distance relationships involving a single Internet-based administration of RS, compared with personal savoring (PS) as well as to an additional neutral control (reporting on one's morning routine), RS increased positive emotion, decreased negative emotion, and protected against declines in relationship satisfaction (Borelli, Rasmussen, et al., 2014). A single in-person administration of RS with older adults resulted in lower cardiovascular reactivity, compared with PS (Borelli et al., 2019). An online study focused on parents of young children found that RS increased positive emotion and decreased negative emotion compared with the neutral control, as well as increased relationship satisfaction compared with PS (Burkhart et al., 2015). Only one study has examined the impact of savoring on parents of young children beyond the immediate period following the intervention, but that study was limited because a nonrandom (self-selected) subsample of the original sample was examined (Burkhart et al., 2015).

## RS and the Case for Cultural Compatibility With Latina Mothers

RS was originally developed and tested without an eye toward Latino/a culture, but it shares a high degree of overlap with values that are prized within many Latino/a families. For instance, the emphasis placed on positive emotion within familial relationships is consistent with Latino/a values of *simpatía* (emotional positivity and warmth on the one hand, and the tendency to avoid negativity

and conflict on the other) and *familism* (valuing close family connections) (Acevedo et al., 2020; Campos & Kim, 2017; Senft et al., 2021). The fit between RS and Latino/a cultural values suggests that some interventions can be culturally congruent without extensive tailoring; indeed, identifying programs that match the cultural values of different groups is in line with goals of interventionists who seek to make their programs inclusive. Currently, with close to one fifth (18.4%) of the total population and approximately onequarter (26.0%) of children under the age of 5 in the United States identifying as Latino/a (U.S. Census Bureau, 2019, 2020), this community constitutes the largest and most rapidly growing group in the United States (Takeuchi et al., 2007). Thus, it is important to take the needs of this community into account, particularly in regions where large populations of Latino/a families reside. Delivering programs that are consistent with families' cultural values can result in high rates of program completion and satisfaction, positive intervention outcomes, and feelings of inclusion (Updegraff et al., 2016), whereas those that are inconsistent with cultural values run the risk of alienating families and recapitulating experiences of discrimination (Calzada, 2010; Cardona et al., 2009). Moreover, programs that are culturally sensitive to the needs of communities of color are necessary (Parra-Cardona et al., 2008), because these populations are at risk of negative mental health and behavioral outcomes owing to the heightened socioeconomic adversities they encounter (Lara-Cinisomo & Wisner, 2014).

Preliminary work supports the assertion that RS may be compatible with Latino/a culture: In a reanalysis of Burkhart et al. (2015) sample, Goldstein et al. (2019) found that RS increased RF immediately following savoring among Latino/a parents high in attachment insecurity (avoidance) but not in comparable non-Latino/a parents. Thus, a relationship-relevant outcome, namely, parental RF, was improved immediately following the intervention. The current study builds on our prior work by examining whether inperson delivery of RS has positive impacts on mothers of toddlers and on Latina mothers in particular, in both immediate and longerterm outcomes.

### **The Present Investigation**

In the present study, we test the impact of RS on mothers' individual and interpersonal wellness in a randomized controlled trial (see Figure 1). Specifically, in comparison with a PS control condition, we (a) evaluate the efficacy of an RS intervention delivered in person, once a week over 4 weeks, (b) assess its immediate and longer-term outcomes, (c) assess its impacts on both maternal behavior and RF, and (d) evaluate both intervention fidelity and savoring quality. We test five hypotheses related to the efficacy of RS.

First, we predict that RS will result in immediate positive impacts on mothers' emotional state and closeness to child (H1). Specifically, we assess five discrete emotions (selected for their theoretical relevance to RS) before and after each of the four savoring sessions. We predict that as compared with mothers assigned to the PS condition, those assigned to the RS condition will exhibit greater increases in these positive emotions. Second, using a self-report measure of closeness administered immediately before and after each savoring session, we predict that mothers assigned to RS will exhibit greater increases in perceived closeness to child than mothers in PS.



#### Figure 1

Diagram Depicting Participant Flow Throughout the Study

*Note.* NCAST = Nursing Child Assessment Satellite Task; PDI = Parent Development Interview; PANAS= Positive and Negative Affect Schedule; IOS = Inclusion of Other in Self.

Four hypotheses pertain to the longer-term impacts of RS on mothers. Hypothesis 2 (H2) holds that RS will increase maternal sensitivity during a teaching interaction from baseline to a threemonth follow-up, relative to PS. H3 posits that mothers in the RS condition will have higher RF, measured with the Parent Development Interview-Revised (PDI-R; Slade et al., 2004), than mothers in the PS condition at follow-up. H4 proposes that mothers in the RS condition will report practicing savoring more frequently at follow-up, compared with mothers in the PS condition, suggesting that RS has more potential in terms of long-term sustainability. Finally, H5 holds that mothers in the RS condition will show greater increases in parenting emotional wellness (operationalized as meaning in life and subjective happiness in parenting) from baseline to follow-up, relative to PS. Each hypothesis will be evaluated for Condition  $\times$  Ethnicity interactions to determine whether Latina mothers show comparable or stronger responses to RS than non-Latina mothers.

#### Method

#### **Participants**

Our laboratory is located within a region of the United States populated by a large percentage of Latino/a families with young children (e.g., approximately 56% of children ages 0–17 in this region identify as Latina or Hispanic; California Department of Finance, 2020). Owing to our desire to recruit a sample consisting of a large percentage of Latina mothers, our recruitment strategy (posting paper ads at community centers, online posting of ads) intentionally paralleled that used in our prior studies, which had resulted in a sample consisting of approximately half Latina mothers. We conducted a power analysis using effect sizes derived from other large-scale administrations of RS compared with control conditions (Borelli et al., 2014;  $\eta_p^2 = .03$  on positive emotion and  $\eta_p^2 = .020$  on negative emotion; Burkhart et al., 2015;  $\eta_p^2 = .022$  on positive emotion and  $\eta_p^2 = .019$  on negative emotion). A power analysis conducted with G\*Power assuming a small effect size

 $(\eta_p^2 = .025)$ , for a repeated-measures ANCOVA, assuming  $\alpha = .05$  and power of .95, with two covariates (estimated) and two groups, suggested we would need a sample size of 130 at follow-up to test interaction effects. We conservatively recruited to 26% above our desired sample size of N = 130 to account for attrition. We stopped recruiting when we reached our targeted sample size and when we determined we had a sufficient number of mothers within each ethnic group and condition.

Mothers (N = 164;  $M_{age} = 30.63$  years,  $SD_{age} = 5.33$ ) and their toddlers (ages 18 to 27 months,  $M_{age} = 20.93$  months,  $SD_{age} = 2.90$ ) participated in this IRB approved study (Pomona College IRB, #4/ 29/2016JB-MP); participants were involved in the study for a period of an average of 6.2 months. Children with diagnosed developmental disabilities or delays were excluded. Mothers came from diverse racial (White [65%], more than one race [11.8%], other [13.5%], Asian/Pacific Islander [6.1%], Black [2.5%], and American Indian [1.8%]) and socioeconomic (31% earned below \$40,000 per year) backgrounds. Participants were asked to report whether they identified as Hispanic, and 41% of the sample identified as Hispanic.<sup>1</sup> Among the mothers identifying as Latina, 21.1% reported speaking Spanish with their child at home always, 31.6% reported speaking Spanish at home frequently, and 42.1% reported speaking Spanish at home often. At the baseline assessment, most mothers had a partner (87%). About half of the mothers reported being unemployed (47.1%), whereas the remainder reported being employed full-time (23.5%), part-time (20.0%), self-employed (10.0%), or other (9.3%); note that mothers could choose more than one option). About half (44.7%) of the mothers had at least a bachelor's degree. Most mothers had one (45.5%) or two (46.2%)

<sup>&</sup>lt;sup>1</sup> At the time of data collection, the term "Hispanic" was widely used, including in the US Census, which is the reason why we used it as the ethnicity probed in our data collection. In the current report, we use the term "Latina" to refer to mothers who self-identified as Hispanic. Views differ on the preferred term for this ethnic group (Cardemil et al., 2019; Mora et al., 2022), but we chose the term Latina as it is recognized by the community and as all participants in the study self-identified as female.

children, and 8.3% had three or four, who ranged in age from 2 months to 22 years of age (M = 6.0 years, SD = 4.5).

To better characterize the sample, we report on the mean levels of chaos our full sample of families reported (Confusion, Order, and Hubbub Scale; Matheny et al., 1995; M = 27.81, SD = 6.81, Range = 15–52; see Evans et al., 2005). Although there are no standardized scores or cut-offs for this measure, the level of chaos is fairly comparable to what has been reported in a study of low income children using the same scale and response anchors—for instance, Johnson et al. (2022) found the kindergartners had total scores of 10 points on a 6-item CHAOS scale (translates to 25 points on a 15-item scale) and first graders had scores of 11 points on the 6-item scale (translates to 27.5 points on a 15-item scale). Importantly, first graders' scores in the Johnson et al. (2020) study were obtained during COVID-19, when chaos might have been higher, though chaos might also be higher when children are younger.

Further, mothers reported on their toddlers' temperament using select scales from the Short Version of the Early Child Behavior Questionnaire (Putnam & Rothbart, 2006)—the sample means are provided so that readers can ascertain the distribution of temperamental characteristics of the toddlers in this study (see Supplemental Table 1 and the descriptions below in the Measures section).

## Procedure

Figure 1 depicts the participant flow throughout the study. Mothers and their toddlers participated in a baseline assessment, which took place in the laboratory, where they completed questionnaires and a structured interaction task together. After the initial visit, mothers were randomized via a random number generator to one of the two savoring conditions (RS vs. PS). Home visit intervention sessions were scheduled at a time convenient to the family (occurring four times over a 4-week period). Three months following the end of the intervention sessions, mothers returned to the laboratory for a follow-up visit in which they completed the PDI-R, questionnaires, and the interaction task.

#### Attrition

We experienced attrition between stages of the study. One hundred sixty-four mothers began the study; 148 mothers began the first intervention session (PS: 39 Latina, 39 Non-Latina; RS: 23 Latina, 47 Non-Latina): 140 finished the fourth intervention session (for a total of 576 intervention sessions), and 134 mothers completed the follow-up assessment. Using independent samples t tests and chi-square analyses, we examined differences in the baseline characteristics of participants who did and did not begin the intervention sessions. These participants did not differ in terms of child age, mother age, household income, child sex, or mother ethnicity. However, compared with dyads who did not begin the intervention, mothers in dyads who began the intervention had higher education, t(163), = -2.24, p = .03. Dyads who began the intervention did not differ significantly from those who did not on any baseline measure (i.e., demographics, positive emotion, closeness to child, parenting sensitivity, self-reported RF, self-reported savoring).

We also examined differences between dyads who did and did not complete the three-month follow-up assessments in the study. These two groups did not differ in terms of child age, mother age, household income, child sex, or mother ethnicity. However, compared with dyads who did not complete the follow-up assessment, mothers in dyads who completed the follow-up had higher education, t(163) = -2.93, p = .004. Dyads who completed the follow-up did not differ significantly from those who did not on any baseline measures (i.e., demographics, positive emotion, closeness to child, parenting sensitivity, self-reported RF, self-reported savoring). We conducted the hypothesis-tests including education in the models; doing so did not change the patterns of findings.

## Intervention

All interveners were paraprofessionals, with levels of education ranging from college students (n = 26) or postbaccalaureate research assistants (n = 5), to graduate students in developmental psychology (n = 4). Only one of the interveners had any clinical training (this person began seeing clients under clinical supervision during his time working on the study); he led the sessions for five participants (20 sessions total, 3.4% of the sessions in the study). Interveners had to demonstrate some social-interpersonal ease in interacting with members of the research team and indicate that they would be comfortable administering a manualized intervention. Approximately half of the intervention sessions were led by interveners who identified as White (55.6%), Asian or Asian American (23.8%), Latino/a (12.9%), or multiracial (7.8%). Most sessions were led by undergraduates (74.2%), followed by postbaccalaureate research assistants (17.5%) or graduate students (8.4%). Most interveners identified as female (82.3%).

Prior to becoming interveners, students received 4 hr of training, which included research ethics/professionalism, the theoretical basis of the intervention, and managing risks (e.g., child abuse reporting). Prior to conducting the intervention with participants, prospective interveners completed practice sessions with a study coordinator; the study PI then reviewed an audio recording of one of these practice sessions and provided feedback. Once prospective students became interveners, they attended weekly group lab meetings with the PI to receive feedback on delivering interventions and to troubleshoot potential issues. A total of 35 different interveners participated in this study, which was conducted over a 3-year period. For consistency and rapport-building, interveners remained with the same mothers for all four in-home intervention sessions. Interveners led between two and 43 intervention sessions in total. All intervention sessions were conducted with a second research assistant present for safety reasons.

Most intervention sessions were conducted in participants' homes after their children had gone to bed for the evening (e.g., around 8 p.m.), although sometimes children were still awake. One participant opted to do the savoring sessions in the research laboratory. All intervention sessions were audio recorded for use in fidelity and content coding.

As in prior savoring studies (Borelli et al., 2019), intervention sessions began with a one-minute mindfulness exercise involving deep breathing and relaxation. Interveners then began an invariant set of steps that included generating at least two memories that fit the specifications of their savoring protocol (RS vs. PS), and helped mothers select one memory to focus on during the reflection stage (see Borelli et al., 2020; for more details). In the RS condition, interveners helped mothers choose a memory of a time when they felt extremely "connected, close, or 'in-sync' with their child, a time when they found joy in helping (their) child grow, a time when (their) child needed (them) and (they) were there for him/her, or a time when (they) felt like (they) comforted, soothed, protected, or supported (their) child." In PS, mothers were asked to reflect on a time when they felt "happy, content, or relaxed." They were asked to recall a memory of a time when they "were alone or doing something just for (themselves) and something (they) enjoyed but haven't had time to really think about. The were told it could be something as simple as taking a nice walk, having time to (themselves), or listening to music. It could also be something as major as getting a promotion or accomplishing a big task."

During the memory reflection stage, interveners guided mothers through five preset prompts, each lasting approximately one minute, that invited mothers to reflect on (a) the sensory details of the memory ("Notice and remember the details of the event.... what did [child] look like or what was s/he wearing?...."); (b) the emotional content of the memory ("I'd like you to notice how you felt at this time. What kinds of things were you feeling in your body?"); (c) the meaning-making/cognitive aspect of the memory ("Now I'd like you to think about what you were thinking when [memory]. For example, were you thinking, [child] really needs me at this moment?"); (d) the significance the memory holds for the participant's future ("Focus on how close you felt to [child] at that time. How will the bond that you have together affect your relationship in the future?"); and (e) allowing the participant to let their mind wander ("Please let your mind wander in any way you'd like related to this event. You may want to think about things I have asked you to think about earlier or you may want to think about how this memory is related to other relationships and your life...."). Interveners were trained to help mothers coconstruct their narratives, to be curious and ask questions, and to comment on positive aspects of the mother's behavior. They were also trained to help mothers stay with positive aspects of their experiences and to focus on content that was consistent with their intervention condition (e.g., focusing on personal content in the personal condition). The entire savoring session lasted between 20 and 30 minutes.

### Intervention Fidelity

Intervention sessions were coded for the degree to which interveners adhered to a series of general intervention strategies used in savoring (SG; e.g., *intervener redirects participant's attention back to the positive*), rapport-building strategies (R; e.g., *using a calm voice/matching participant's cadence*), as well as strategies specific to RS or PS (I; e.g., *elicits secure base memory content,* see Supplemental Table 2). This fidelity scheme was developed by the PI based on her knowledge of the savoring intervention goals and the fidelity scheme of another mentalization-based treatment (Suchman et al., 2017). The intention was to assess the intervener's behavior during the session and determine whether the interventions were delivered in a standardized fashion.

Savoring sessions were coded for fidelity by a team of 14 coders who underwent training in which they reviewed the detailed coding manual, listened to intervention sessions, and practiced applying the coding system to the sessions. Coders attended weekly research meetings at which topics of attachment and savoring were discussed. Coders were instructed to pay attention to interveners' behavior without considering participants' responses to the intervention. Coders were not explicitly informed of participants' savoring condition. We were lacking fidelity coding for three participants because of missing or corrupted audio files.

## Session Content Coding

We used another coding system to evaluate the quality of the mothers' savoring responses during the intervention sessions. The savoring quality coding system was developed based on our prior work (Bond & Borelli, 2017; Burkhart et al., 2015), and included scales that were designed to assess overall savoring quality (SG; e.g., specificity, positivity), scales specific to the PS condition (P; e.g., self-focus), and scales specific to the RS condition (R; e.g., connectedness with child; see Supplemental Table 3). Three coders who were not fidelity coders and were unaware of participants' savoring condition coded the savoring session audio recordings. The coders achieved a high degree of interrater reliability (.64  $\leq \alpha s \leq .95$ .) We were lacking session content coding for three participants because of missing or corrupted audio files.

## Measures

#### Immediate Impact of Savoring Interventions

**Positive Emotion.** We used the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) to assess momentary positive emotion before and after each savoring session. The PANAS is a 20item measure that consists of two subscales: Positive Affect (PA) and Negative Affect (NA). Participants rate the extent to which they feel each of a series of emotions (e.g., *grateful, proud*) on a 7-point Likert scale (1 = very slightly or not at all; 7 = extremely). The PANAS has strong psychometric properties (Watson et al., 1988). For the purposes of this study, we focus on five positive emotion words we thought would be conceptually related to RS: *content, grateful, proud, interested,* and *calm.* One presavoring score was calculated by taking the mean of the ratings for each emotion taken prior to each of the four sessions; one postsavoring score was calculated by taking the mean of the ratings for each emotion taken after each of the four sessions.

**Closeness to Child.** Mothers reported on their closeness to their child before and after each intervention sessions using the Inclusion of Others in Self Scale (IOS; Aron et al., 1992), a singleitem pictorial measure. This measure presents Venn-like diagrams with different degrees of overlap of two same-size circles; greater overlap represents higher levels of closeness. A presavoring score was calculated as the mean of the ratings assigned before each of the four sessions; a postsavoring score was calculated as the mean of the ratings assigned after each of the four sessions.

#### Longer-Term Impact of Savoring Interventions

**Maternal Sensitivity.** Our assessment of maternal sensitivity was the Nursing Child Assessment Satellite Training: Parent-Child Interaction Teaching task (NCAST; Barnard & Eyres, 1979). This is a standardized, caregiver-child interaction measure suitable for children between the ages of 0 and 36 months. Mothers choose the first activity (e.g., drawing a straight line, stringing beads) they think is just beyond their child's ability from a list of activities that increases in difficulty; mothers are then asked to teach their child how to perform the activity. The research assistant then leaves the room, and mother and child interact for between one and seven minutes. If the child completes the activity in less than one minute, the researcher

returns and asks the mother to choose a more difficult activity. The task ended when 7 minutes had passed or the mother indicated the activity/teaching was complete, whichever transpired first.

NCASTs were video recorded and later coded using the NCAST PCI-Teach assessment tool, a 73-binary-item checklist (Barnard & Eyres, 1979). Here we used only the Sensitivity to Cues subscale, which consists of 11 items that measure the mother's ability to accurately read the child's cues, a requirement for mothers to appropriately modify their behavior (e.g., *Caregiver* pauses when child initiates behaviors; Caregiver positions child so that child can reach and handle teaching materials). This subscale assesses broad skills that form the foundation for parenting sensitivity, whereas other subscales are related to specific aspects of parent-child interaction (e.g., Cognitive Growth Fostering). NCAST interactions were coded by two certified NCAST coders; interrater reliability (Kappa) on 22.5% (n = 67) of the total sample of NCASTs (164 baseline and 134 follow-up) was .68, which is considered substantial. For the purpose of analysis, we used total scores from the Sensitivity to Cues subscale, henceforth referred to as maternal sensitivity. We were missing n = 3 NCASTs at baseline owing to equipment malfunction.

**Reflective Functioning.** The PDI-R (Slade et al., 2004) is a gold-standard measure of parental RF. This validated semistructured interview provides parents an opportunity to discuss their emotional experiences of parenting by presenting them with a series of questions about their own (e.g., *Can you describe a time when you and your child were really clicking?*) and their children's emotions (e.g., *Can you tell me about a time when your child felt rejected?*). Parents' scores on the PDI-R are associated with theoretically-related constructs such as parenting sensitivity (e.g., Grienenberger et al., 2005; Suchman et al., 2010) and children's attachment security (e.g., Grienenberger et al., 2005; Slade et al., 2005).

The PDI-R was administered to mothers at the 3-month follow-up by a trained research assistant (who was never the research assistant administering the intervention). Interviews were audio-recorded, transcribed verbatim, checked for quality, and subsequently coded by one of three postgraduate researchers who were trained and certified in RF coding (Slade et al., 2004). A portion of the interviews (20%; n = 25) were coded by a second researcher to establish interrater reliability. ICCs on all scales of the PDI were above .70. Nine PDIs were missing due to equipment malfunction, data loss, or inability to stay for the entirety of the follow-up visit (e.g., childcare issues). In this study we used mothers' overall RF scores as our focal measure of RF.

**Savoring Uptake.** At the 3-month follow-up visit, participants reported on the frequency of savoring on their own after the intervention had concluded. We developed a question for this study: A few months ago, we came to your home several times and engaged in a positive memory reflection with you. We would like you to think back over the past few months since your last home visit. How often did you find yourself reflecting on positive memories on your own? Participants were given the following response options: 1 = several times a week, 2 = about once per week, 3 = once or twice per month, 4 = never. For ease of interpretation, we reverse-scored this variable so that higher scores indicated more frequent use of savoring.

**Parenting Emotional Wellness.** We assessed mothers' evaluations of the happiness and meaning in life that they derive from parenting by adapting items from the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999) and the Presence subscale of the Meaning in Life Questionnaire (MLQ; Steger et al., 2006). The SHS consists of four items (e.g., *In general, when I am spending time with my children I am*...) that participants rate on 7-point Likert scales (e.g., 1 = not at all happy, 7 = extremely happy). The MLQ subscale consists of five items (e.g., *My children make my life meaningful*) that participants rate on a slightly different 7-point Likert scale (1 = not at all true, 7 = absolutely true). Both adapted scales demonstrated good interitem reliability ( $\alpha = .80$  and .79, respectively) in a previous study using the same adaptation (Ashton-James et al., 2013). Reliability for this sample was good at baseline ( $\alpha = .80$  for MLQ and  $\alpha = .70$  for SHS) and follow-up ( $\alpha = .81$  for MLQ and  $\alpha = .77$  for SHS).

#### Additional Measures

Baseline Reflective Functioning. Owing to resource constraints, we were unable to administer the PDI at baseline. Instead, we assessed RF using the Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017), which consists of three subscales: Pre-Mentalizing, that assesses the tendency to defensively block mentalizing (e.g., Often, my child's behavior is too confusing to bother figuring out; Slade, 2005); Certainty about Mental States, that assesses the confidence a parent has about knowing their child's thoughts and feelings (e.g., I always know why my child acts the way he or she does); and Interest and Curiosity, that assesses the parent's desire to know about the child's internal world (e.g., I wonder a lot about what my child is thinking and feeling). Mothers rated items on a 7-point Likert scale, ranging from 1 = Strongly Disagree to 7 = Strongly Agree. High scores on the Prementalizing and Certainty scales indicate low RF, whereas high scores on the Interest and Curiosity scale indicate high RF. The PRFQ was developed based on the RF manuals for both the Parent Development Interview and the Adult Attachment Interview (Luyten et al., 2017), and evidence suggests that two of the subscales (Interest/Curiosity and Certainty) are significantly correlated with PDI global scores (Anis et al., 2020). This measure has been used in previous studies of parental RF and parent/child outcomes (e.g., Schultheis et al., 2019). The scales showed adequate internal consistency in our sample, Pre-Mentalizing  $\alpha$  = .66, Certainty  $\alpha = .79$ , Interest  $\alpha = .75$ .

**Savoring Beliefs.** There is no validated self-report measure of traitlike RS. Thus, to assess baseline savoring practices, mothers completed the reminiscing subscale of the Savoring Belief Inventory (Bryant, 2003). The reminiscing subscale, consisting of eight items (e.g., *I like to store memories of fun times that I go through so that I can recall them later*), rated on a scale from 1 to 7, focuses on retrospective savoring. Internal consistency in our sample was  $\alpha = .84$ .

**Chaos.** The Confusion, Hubbub, and Order Scale was administered at follow-up (CHAOS; Matheny et al., 1995) as an assessment of parents' perceptions of the overall level of commotion or confusion in the home (e.g., *No matter how hard we try, we always seem to be running late.*) to help characterize the sample. Various scoring systems are in use for the CHAOS scale; in the current study, we scored the 15-item measure using the 4-point scoring system (1 = Very much like your own home; 2 = Somewhat like your own home; 3 = A little bit like your own home; 4 = Not at all like your own home). A single score is derived by summing item

responses, with higher scores representing a more chaotic, disorganized, and hurried home. In this sample, internal consistency was  $\alpha = .83$ .

**Child Temperament.** To help characterize the sample, we assessed toddlers' temperaments. The Early Childhood Behavior Questionnaire (ECBQ; Putnam et al., 2010) is a 107-item, 18-sub-scale parent-report instrument to measure temperament-related behaviors in 16- to 36-month-old children. For this study, we included the following 10 subscales: Activity Level/Energy, Attentional Focusing, Attentional Shifting, Cuddliness, Fear, Frustration, High Intensity Pleasure, Inhibitory Control, Sadness, and Soothability. Participants rate items (e.g., *When playing outdoors, how often did your child seem to be one of the most active children*) on a 7-point scale (1 = Never to 7 = Always). The subscales have acceptable internal reliability with alphas ranging from .69 to .83 (Putnam et al., 2010). In the current study, alphas ranged between .68 and .80 and are reported in Supplemental Table 1.

#### **Data Analytic Plan**

First, we examined the distributions of continuous study variables. Then, to test whether our randomization was effective in creating equivalent groups, we evaluated differences in demographic factors (i. e., mother age, child age, mother ethnicity, household income, mother education, number of children) as a function of savoring condition. We used independent samples t tests to examine differences in key study variables by child sex and mother ethnicity (Latina vs. non-Latina). Recognizing that we were limited in statistical power, we did not retain variables as covariates if including them did not alter results.

To test hypotheses regarding dependent variables that were assessed at baseline and follow-up using identical measures (e.g., maternal sensitivity using the NCAST), we used repeated measures analyses of covariance. Condition and ethnicity were fixed factors in the models. In all models we also examined the effects of time, Time  $\times$  Condition, and Time  $\times$  Condition  $\times$  Ethnicity.

To test hypotheses that did not involve repeated measures (e.g., RF measured with PRFQ at baseline, and with PDI-R at follow-up), we conducted linear regressions on the 3-month follow-up measures with condition (RS/PS) as the independent variable and ethnicity (Latina/Not Latina) as a moderator. In regression analyses, the interaction between condition and ethnicity was probed using the PROCESS Macro for SPSS by Hayes and Little (2018), which generates simple slopes at different levels of the moderator using a percentile-based bootstrapping procedure.

## **Transparency and Openness**

In this study, we report how we analyzed and interpreted our data. We acknowledge all missing data. We did not make any exclusions to our data. All data and all syntax are available online (Kerr, Rasmussen, Borelli, et al., 2021). Data were analyzed using SPSS Version 27. This study was launched in 2016 and was not preregistered.

#### Results

Descriptive statistics for key study variables are presented in Table 1. Associations between demographics and immediate outcome variables assessed before (presavoring) and immediately after the fourth intervention session (postsavoring; i.e., self-reported positive emotions, closeness to child) revealed that among non-Latina mothers, older age was related to feeling less calm at presavoring (r = -.30, p = .004). Also among non-Latina mothers, having more children was associated with feeling less close to their children at pre- (r = -.22, p = .03) and postsavoring (r = -.28, p = .01). Among Latina mothers, we observed different associations between demographics and immediate outcome variables. Household income was associated with numerous state emotion variables—higher household income was associated with higher presavoring joy (r = .33, p = .009), higher presavoring gratitude

Table 1

Descriptive Statistics for Key Study Variables by Condition and Ethnic Group

		Full Sample		Pers	sonal	Rela	tional
Variable	All M (SD)	Non-Latina M (SD)	Latina M (SD)	Non-Latina M (SD)	Latina M (SD)	Non-Latina M (SD)	Latina M (SD)
Mother age	30.63 (5.34)	31.96 (5.01)	28.70 (5.23)	32.18 (4.15)	27.85 (5.15)	32.47 (4.57)	30.35 (5.46)
Child age	20.93 (2.50)	21.07 (2.60)	20.73 (2.35)	21.38 (2.53)	20.87 (2.26)	20.89 (2.66)	20.48 (2.50)
Income	2.88 (1.75)	3.45 (1.76)	2.06 (1.36)	3.46 (1.68)	2.05 (1.41)	3.53 (1.86)	2.30 (1.33)
Sens BL	8.91 (1.18)	8.94 (1.11)	8.85 (1.28)	9.03 (1.14)	9.06 (1.28)	8.98 (1.14)	8.45 (1.40)
Sens FU	9.30 (1.10)	9.47 (0.99)	9.03 (1.20)	9.34 (0.94)	9.03 (1.17)	9.58 (1.03)	9.05 (1.28)
PRFQ BL	1.51 (0.69)	1.40 (0.50)	1.69 (0.88)	1.32 (0.37)	1.68 (0.98)	1.43 (0.51)	1.70 (0.69)
RF FU	4.99 (1.15)	5.26 (1.08)	4.62 (1.14)	5.33 (0.99)	4.34 (1.07)	5.20 (1.16)	5.05 (1.15)
Savor BL	5.99 (0.90)	6.10 (0.79)	5.83 (1.02)	6.15 (0.80)	5.74 (1.12)	6.07 (0.83)	5.85 (0.84)
Savor FU	3.06 (0.87)	3.18 (0.81)	2.89 (0.94)	3.26 (0.78)	2.62 (0.99)	3.11 (0.79)	3.33 (0.66)
MIL BL	6.50 (0.72)	6.46 (0.72)	6.57 (0.73)	6.57 (0.54)	6.54 (0.77)	6.31 (0.85)	6.54 (0.75)
MIL FU	6.26 (0.89)	6.24 (0.80)	6.29 (1.00)	6.35 (0.67)	6.19 (1.16)	6.15 (0.89)	6.44 (0.70)
SH BL	6.10 (0.80)	6.01 (0.75)	6.23 (0.86)	6.08 (0.74)	6.38 (0.86)	5.97 (0.74)	6.05 (0.97)
SH FU	5.93 (0.85)	5.85 (0.86)	6.04 (0.83)	6.04 (0.74)	6.02 (0.86)	5.70 (0.92)	6.06 (0.78)

*Note.* Income = Annual household income ( $1 \le 40,000, 2 = \$40,000 - \$60,000, 3 = \$61,000 - \$80,000, 4 = \$81,000 - \$100,000, 5 = \$101,000 - 120,000, 6 \ge 120,000$ ); Sens = Maternal Sensitivity as measured on the Nursing Child Assessment Satellite Task (NCAST); BL = baseline; FU = follow-up; RF BL = reflective functioning at baseline as measured on the Parental Reflective Functioning Questionnaire (PRFQ; mothers' scores on the Prementalizing subscale); RF FU = mothers' scores on the Parent Development Interview used at FU as measure of RF; Savor BL = savoring scores on the Savoring Beliefs Inventory used as measure of baseline savoring; Savor FU = measure of savoring practice at follow-up (note that this is not the Savoring Beliefs Inventory and is on a different scale than this measure); MIL = Meaning in Life in Parenting; SH = Subjective Happiness in Parenting. (r = .29, p = .03), higher postsavoring gratitude (r = .27, p = .04), and higher postsavoring contentment (r = .27, p = .03).

Correlations between demographics and long-term outcome variables are reported in Table 2 for non-Latina and Latina mothers. Note that only the Certainty scale of the PRFQ at baseline was positively associated with the PDI RF scores at follow-up among Latina mothers only (see Table 2); the other scales were not positively associated with PDI RF scores.

To conserve power, we report findings from analyses in which we did not control for age, number of children, or income as including them did not alter the pattern of any findings, including the moderations.

#### **Baseline Group Differences**

Participants in the RS and PS conditions did not differ in the majority of demographic variables (child age, household income, number of children, maternal education, child sex). However, mothers in the RS condition were significantly older than mothers in the PS condition, t(146) = -2.12, p = .036, and there were significantly more Latina mothers in the PS condition than in the RS condition,  $\chi^2(1) = 4.45$ , p = .04. Importantly, by condition, mothers did not differ on baseline savoring scores, any of the three PRFQ subscales, baseline state emotion, or closeness to child.

We tested whether child sex was associated with any study variables—mothers of girls reported significantly more interest at presavoring, t(141) = 2.42, p < .001, as well as more sensitivity to in analyses and therefore was not retained. Finally, we tested whether families with Latina mothers differed from families with non-Latina mothers on study variables: Latina mothers were significantly younger, t(146) = 4.02, p < .001, and reported a lower household income, t(146) = 5.45, p < .001, than non-Latina mothers, consistent with U.S. demographics (Matthews & Hamilton, 2016; Murphy et al., 2014). Latina mothers also had higher PRFQ prementalizing at baseline, t(146) = -2.70, p = .008, reported lower feelings of contentment at presavoring, t(146) = -2.02, p = .05, and postsavoring, t(146) = 2.60, p = .01; reported higher closeness to child at presavoring, t(146) = -2.09, p = .04, and at follow-up were less sensitive to children's cues, t(132) = 2.30, p = .02, and had lower PDI RF, t(123) = 3.21, p = .002.

#### **Preliminary Analyses**

#### **Treatment Fidelity**

Independent sample t tests did not reveal any significant differences in any fidelity scales thought to be relevant to rapport building (R), savoring in general (SG), or quality of the intervention environment (Q). However, interveners conducting RS sessions used index therapeutic skills (I; those deemed to be relevant to RS, such as "elicits relational memory and elicits secure base/safe haven content") at higher rates than interveners conducting PS sessions (see Supplemental Table 2).

## Table 2

Zero-Order Correlations With Long-Term Outcomes Across the Sample, Presented Separately Within Ethnic Groups

Variable	2	3	4	5	6	7	8	9	10	11	12	13
<ul> <li>Non-Latina <ol> <li>Mother age (in years)</li> <li>Child age (months) at BL</li> <li>Household income</li> <li>Maternal sensitivity BL</li> <li>Maternal sensitivity FU</li> <li>PRFQ certainty BL<sup>a</sup></li> <li>PDI RF FU<sup>b</sup></li> <li>Savoring beliefs BL</li> <li>Savoring practice FU</li> <li>MIL parenting BL</li> <li>MIL parenting FU</li> <li>Subjective hap BL</li> <li>Subjective hap FU</li> </ol></li></ul>	.10	.48** .21* 	.10 07 .07	.23 .06 .17 .06	13 .17 11 .03 .28*	05 .01 .00 .07 .14 17	06 .21* .04 .05 .11 .09 16	.02 16 12 03 14 .09 09 .11	08 .04 31** .03 36** .15 17 05 .20 	03 04 31** 04 32** .23* .05 .09 .14 .73**	22 .03 21** .02 16 .12 06 .19 .27* .50** .44**	15 05 35** .03 15 .17 .02 .13 .42** .38** .47** .69**
Latina 1. Mother age (in years) 2. Child age (months) at BL 3. Household income 4. Maternal sensitivity BL 5. Maternal sensitivity FU 6. PRFQ certainty BL <sup>a</sup> 7. PDI RF FU <sup>b</sup> 8. Savoring beliefs BL 9. Savoring practice FU 10. MIL parenting BL 11. MIL parenting FU 12. Subjective hap BL 13. Subjective hap FU	10 	.40** 23 	.09 01 .01 	16 .02 .29* .39** 	28* 27* 27* .02 .03 	.23 18 .22 09 04 30*	07 .01 .01 05 01 04 .04 	00 03 .02 21 08 .03 .24 08	25* .22 14 .03 .24 .33* 17 .20 .07	06 .18 .20 .06 .39** .04 .08 .27 .09 .50**	12 .19 .11 10 .15 .23 03 .29* .08 .50** .28* 	15 .21 .19 18 .13 .22 01 .10 .10 .44** .23 .77**

*Note.* BL = baseline; FU = follow-up; RF = reflective functioning; PRFQ = Parental Reflective Functioning Questionnaire; PDI = Parent Development Interview; MIL = Meaning in Life; Hap = happiness.

<sup>a</sup> Higher scores signify lower RF. <sup>b</sup> Higher scores signify higher RF.

\* p < .05 (2-tailed). \*\* p < .01 (2-tailed).

## Intervention session Content

Mothers in the RS condition were rated as having significantly higher scores on the hypothesized content scales (R), but also on the two SG scales (positivity, specificity; see Supplemental Table 2).

# Hypothesis One: Immediate Impact of RS on Positive Emotion and Closeness to Child

We conducted repeated measures analyses of covariance (ANCO-VAs), examining the effects of savoring condition, ethnicity, and savoring Condition × Ethnicity on change in positive emotions. As shown in Table 3, in terms of changes in specific positive emotions, scores on all five emotions increased significantly from presavoring levels to postsavoring levels across the whole sample, with large effect sizes ( $\eta_p^2 = .25$  or greater) for all but interested ( $\eta_p^2 = .03$ ). In terms of Time × Condition effects, participants in RS increased significantly more in *grateful* and *proud* than participants in PS, with small to medium effect sizes ( $\eta_p^2 = .056$  and .053, respectively). The three-way interaction (Time × Condition × Ethnicity) was not significant.

In terms of closeness with child, the sample overall increased from pre- to postsavoring levels, with a small effect size ( $\eta_p^2 = .03$ ). In addition, there was a Time × Condition effect, with participants in the RS condition increasing more in their reported closeness from pre- to postsavoring,  $\eta_p^2 = .16$ , a large effect. The interaction with ethnicity (Time × Condition × Ethnicity) was not significant.

## Hypothesis Two: Impact of RS on Parenting Sensitivity at Follow-Up

We conducted a repeated-measures ANCOVA, finding that the sample overall increased in sensitivity to cues from baseline to three-month follow-up,  $\Lambda = .08$ , F(1, 127) = 10.75, p = .001,  $\eta_p^2 = .08$ , a medium to large effect size. In addition, there was an interaction between time and savoring condition,  $\Lambda = .03$ , F(1, 127) = 4.18, p = .04,  $\eta_p^2 = .03$ , a small to medium effect size. Mothers in RS increased more in their sensitivity to cues from baseline to follow-up than mothers in PS (see Figure 2). The interactions between time and ethnicity ( $\Lambda = .01$ , F(1, 127) = .80, p = .37), as well as between time and condition with ethnicity ( $\Lambda = .00$ , F(1, 127) = .34, p = .56) were not significant.

#### Hypothesis Three: Impact of RS on Maternal RF

We conducted a linear regression entering mothers' intervention condition (b = -.13, SE = .26, p = .60) and ethnicity (b = -.99, SE = .27, p < .001) in Step 1,  $R^2 = .12$ , to predict mothers' RF at follow-up. Non-Latina ethnicity was associated with higher RF. The interaction of condition and ethnicity in Step 2 yielded a significant contribution to the model,  $\Delta R^2 = .03$ , p = .04, b = .80, SE = .40, 95% CI [.04, 1.64], a small to medium effect size. Among Latina mothers, RF was higher in the RS than the PS condition at follow-up, b = .71, SE = .31, p = .02, whereas among non-Latina mothers, there was no difference in RF between conditions at follow-up, b = -.13, SE = .26, p = .60 (see Figure 3).

## Hypothesis Four: RS Will Be Associated With Greater Savoring Uptake at Follow-Up

We conducted a linear regression, entering condition (b = -.14, SE = .19, p = .45) and mothers' ethnicity (b = -.64, SE = .20, p = .002) in Step 1 to predict savoring practice at followup,  $R^2 = .10$ , p = .003. Non-Latina mothers practiced savoring

**Table 3** 

			Positive Emotion			Relational
Variable	Content	Grateful	Proud	Calm	Interested	Closeness to Child
Time	df (1,144) A = 0.25	df (1,144) <b>A = 0.27</b>	df (1,144) $\Lambda = 0.37$	$df$ (1,144) $\Lambda = 0.25$	df (1,144) $\Lambda = 0.03$	$\frac{df}{\Lambda = 0.03}$
Time $\times$ Ethnicity	F = 49.00  p < .001 $\Lambda = 0.01$	F = 52.01 $p = .001Pillai's Trace = 0.00$	$F = 84.64  p < .001  \Lambda = 0.03$	F = 47.57 $p < .001\Lambda = 0.01$	F = 4.65 $p = .03\Lambda = 0.00$	F = 4.73 $p = .03\Lambda = 0.04$
Timo V Condition	F = .83 $p = .37$	F = .52 $p = .47$	F = 4.86 $p = .03$	F = 0.73 $p = .39$	F = 0.42 $p = .52$	F = 5.38 $p = .02$
	F = .04 $p = .84$	F = 10.32 $p < .01$	F=7.79 $p<.01$	F = 0.62 $p = .43$	F = 0.06 $p = .81$	F = 27.87 $p < .001$
Time $\times$ Condition $\times$ Ethnicity	$\Lambda = 0.02$	$\Lambda = 0.00$	$\Lambda = 0.00$	$\Lambda = 0.01^{-1}$	$\Lambda = 0.00$	$\Lambda = 0.001$
	F = 2.49 $p = .12$	F = 0.05 $p = .82$	F = 0.01 $p = .93$	F = 1.03 $p = .31$	F = 0.12 $p = .73$	F = 0.15 $p = .69$
Direction of condition effects Effect size magnitude		RS greater increase $\eta_p^2 = .07$	RS greater increase $\eta_p^2 = .05$			RS greater increase $\eta_p^2 = .16$
<i>Note.</i> RS = relational savoring Direction of effects and effect s Child indexed from the Inclusion	c. Data presented here refle izes for significant effects z of other to self (higher scor	ct mean scores across all f are displayed below each co res indicate greater closeness	our savoring sessions per p lumn. Positive emotion scor ;).	articipant. Cells with bold t es derived from Positive ar	text indicate the F statistic nd Negative Affect Schedu	s with significant values. le items and Closeness to





more at follow-up than Latina mothers. The interaction between condition and ethnicity in Step 2 accounted for significantly more variance in savoring practice,  $\Delta R^2 = .06$ , p = .004, b = .86, SE = .30, 95% CI [-1.45, -.26], a small to medium effect size. For Latina mothers, RS was associated with greater savoring practice at follow-up compared with PS, b = .74, SE = .24, p = .002, but this was not the case for non-Latina mothers, b = -.15, SE = .19, p = .45 (see Figure 4).

## Hypothesis Five: RS Will Predict Greater Parenting Emotional Wellness at Follow-Up

A repeated measures ANCOVA revealed that mothers' meaning in life from parenting decreased significantly from baseline to follow-up,  $\Lambda = .06$ , F(1, 131) = 8.39, p = .004, a small to medium effect, and there was no Time  $\times$  Condition effect,  $\Lambda = .01$ , F(1, 131) = 1.45, p = .23,

suggesting that RS did not exert a main effect on meaning in life. Likewise, there was not a Time × Condition × Ethnicity interaction,  $\Lambda = .03$ , F(1, 131) = .45, p = .50. Further, a repeated measures ANCOVA revealed that mothers' subjective happiness in parenting significantly decreased from baseline to follow-up,  $\Lambda = .07$ , F(1, 131) = 9.06, p < .01, a small to medium effect size, and there was no Time × Condition effect,  $\Lambda = .00$ , F(1, 131) = .00, p = .99, suggesting that RS did not exert a main effect on subjective happiness in parenting. The Time × Condition × Ethnicity interaction was not significant,  $\Lambda = .03$ , F(1, 131) = 3.97, p = .05.

### Discussion

This study constitutes the first examination of the longer-term impacts of an in-person administration of RS. Thus, the current

#### Figure 3





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#### Figure 4





study represents an essential step in the line of work on this intervention modality. Further, consistent with our goal of examining the compatibility of RS for Latina mothers, we specifically evaluated the benefits within this population. The study provides initial evidence of the efficacy of RS delivered in-person to mothers of young children, with some benefits specific to Latina mothers.

## **Intervention Fidelity**

Given that the intervention was provided by paraprofessionals, we begin with a discussion of intervention fidelity. Among existing attachment-based programs, many focus predominantly on negative emotions or problematic parent–child interactions, discussions that may require clinical training and importantly, may be less compatible with cultural values of some Latino/a communities (Acevedo et al., 2020). Further, such programs are costly in terms of time, resources, and training, and therefore are unlikely to meet the global public health needs of parents of young children (e.g., Shulruf et al., 2009), especially those that are underresourced. Thus, there is a need for the development of brief intervention programs with high potential for dissemination.

Brief parenting interventions lasting from one to four sessions are effective in improving parenting and child outcomes, and relationship building may be one skill that is particularly amenable to a brief intervention approach (Dishion & Stormshak, 2007; Tully & Hunt, 2016). Fidelity assessments of our RS/PS intervention showed that it was delivered in line with our goals: The interveners in both conditions engaged in behaviors designed to build rapport between the intervener and the mother, to cultivate a climate in which calm reflection was possible. They also engaged in tasks that were specific to their intervention condition—PS interveners focused on content that was specific to the self, whereas RS interveners focused on content specific to the mother-child relationship. These findings illustrate that trained paraprofessionals (in this case, mainly undergraduate students) can administer the interventions in a way that adheres to the treatment manuals. Research assistants were encouraged to become interveners if they felt comfortable taking on this charge; in other words, we did not apply a highly selective screening process. Thus, the fidelity data suggest that the RS intervention is portable and feasible to implement in community agencies that may have fewer resources for training and fidelity monitoring.

Also in line with our goals, the RS and PS conditions differed in session content. As hypothesized, relational and secure base content were greater in RS than PS, but contrary to our prediction that RS and PS would be equal in specificity and positivity, mothers in the RS condition generated narratives that were significantly more specific and positive than narratives by mothers in the PS condition. These findings are consistent with previous work showing that relationship memories may lend themselves more naturally to savoring (Bryant & Veroff, 2007), and that parents tend to savor interpersonal events, even when asked to savor a memory involving only themselves (Burkhart et al., 2015). It is noteworthy that even mothers—who may spend much of their time thinking about their young children—express greater positivity (as coded by independent raters) from this type of memory reflection than from reflecting on a positive independent experience.

#### **Intervention Efficacy**

#### **Immediate Impacts**

When it comes to the efficacy of the intervention, our first goal was to examine the immediate positive outcomes (i.e., positive emotions, closeness to child) of RS. In contrast to our hypotheses, RS participants did not differ from PS participants in the emotions of contentment, calm, or interest. However, consistent with our hypotheses, we found that RS participants increased significantly more than PS participants in pride and gratitude, controlling for presavoring levels. Our decision to examine discrete emotions rather than broadband positive affect, as previous studies have done (Borelli et al., 2014), enabled us to understand with greater

precision which aspects of positive affect are likely impacted by RS. Increasing mothers' feelings of pride may have important effects on their feelings of self-efficacy and competency in the parenting role, which some evidence suggests can lead to improvement in parents' mental health (Osman et al., 2017). In addition, increasing mothers' gratitude has the potential to increase other, longer-term parenting outcomes, such as meaning, parental RF, and parenting satisfaction, as well as connection to their children and perceptions of children's behavior (Nelson-Coffey et al., 2021).

In addition, RS participants had significantly greater increases in feelings of closeness to their children from presavoring to postsavoring than PS participants. This finding resonates with prior work finding increased parent–child relationship closeness after savoring (Burkhart et al., 2015), although the methods in this earlier study differed somewhat. Although Latina mothers did not exceed non-Latina mothers in immediate increases in positive emotion or closeness, they benefited just as much as non-Latina mothers.

## **Longer-Term Impacts**

Three months after the end the intervention, we investigated whether certain outcomes of interest (parenting sensitivity and parenting wellness) had increased, and whether other outcomes, measured just at follow-up (RF) were higher in the RS condition. In support of our hypotheses, we found that mothers completing RS exhibited higher levels of sensitivity to their child's cues during a teaching task at follow-up compared with mothers in the PS condition, after controlling for preintervention sensitivity. Sensitivity is a targeted outcome of RS (Borelli et al., 2020), but has never been examined as a long-term impact (but see Ahn et al., 2021, for an examination of the short-term impacts on sensitivity). RS is designed to draw parents' attention to moments when they had been sensitive caregivers and to highlight the feelings and significance of these experiences for the child and mother. By drawing parents' attention to their role in a nonjudgmental, celebratory way, RS helps parents align themselves with this view of their role, in theory helping them invest more in their parenting. This change is particularly significant because sensitive caregiving predicts key psychosocial outcomes in children's lives, such as attachment security (Raby et al., 2015; Verhage et al., 2016). Thus, RS may have downstream impacts on parent-child interactions that affect children's developmental trajectories; this latter assumption awaits testing in subsequent trials, but if demonstrated, tremendous social and financial benefits could ensue, given the demonstrated cost of attachment insecurity for society (Bachmann et al., 2019, 2021).

On the other hand, RS did not exert any significant impacts on parenting wellness at the 3-month follow-up—in fact, the sample overall decreased in meaning in life and subjective happiness across the two conditions. That all participants decreased in parenting wellness is somewhat surprising given that both interventions resulted in short-term increases in all five discrete emotions. However, these findings could be due to a ceiling effect—mothers started out with mean scores of greater than 6 on a 7-point scale (see Table 1). Alternatively, the decrease could reflect developmental trends in parenting wellness across the transition through toddlerhood—this stage of parenting is notoriously stressful for parents (Williford et al., 2007). Regardless, RS did not improve parents' well-being within the parenting role; this contradicts our hypothesis (Borelli et al., 2020) and conflicts with prior research that examined outcomes immediately following the administration of the savoring interventions (Borelli et al., 2014; Burkhart et al., 2015). To mirror the immediate effects observed in prior studies, booster sessions of RS may be needed. Alternatively, RS may not be a strong enough intervention to produce longer-term changes in parenting wellness—riding the tide of children's emotions is challenging and deriving greater meaning from parenting may require a different approach.

We also evaluated whether RS was associated with higher RF, a measure of mothers' insight into personal and relationship dynamics, at follow-up. Overall, mothers in the RS condition did not score higher on RF than mothers in the PS condition at follow-up; however, RS yielded higher RF scores on the PDI among Latina mothers. When interpreting these findings, it is important to note that on the PDI, an overall score of 5 means mothers are consistently mentalizing (Slade et al., 2004). As compared with Latina mothers in PS (M RF = 4.34, SD = 1.07), those in RS crossed the mean score of 5 (M RF = 5.05, SD = 1.15). In contrast, non-Latina mothers had significantly higher RF scores on the PDI than Latina mothers, and these scores were above a 5 in both the PS (M RF = 5.33, SD = .99) and RS conditions (M RF = 5.20, SD = 1.16). Among mothers who have already acquired mentalizing at a fairly sophisticated level, it is unlikely that a brief, four-session intervention would result in meaningful change in mentalizing; a longer-term intervention would likely be necessary to yield increases beyond a score of 5. In this context, the fact that among Latina mothers, those in the RS condition had significantly higher RF at follow-up than those in PS is noteworthy. For these mothers, mentalizing may be higher because the intervention was compatible with their cultural values; its resonance with their affinity for sharing positive emotion in the context of family relationships may have opened a window of opportunity for growth in the realm of RF. Notably, in our sample, Latina mothers had significantly lower household income than non-Latina mothers. Markers of lower income status create stress that can crowd out psychological reflection (Boman-Davis et al., 2021; Ennis et al., 2000); perhaps RS counteracts the adverse impact of low SES on reflection.

We also note that this finding-that RS appears to boost RF for Latina mothers-resonates with prior studies indicating first, that a group therapy intervention that incorporates elements of RS positively impacted RF among Latina mothers of adolescents (Borelli, Yates, et al., 2021) and second, in a reanalysis of an Internet-based administration of RS (Burkhart et al., 2015), that Latino/a parents of toddlers who were high in attachment avoidance showed increases in RF (Goldstein et al., 2019). Regarding this latter finding, prior work on attachment avoidance suggests that it is more problematic among people from culturally collectivistic backgrounds (Friedman et al., 2010). Thus, high avoidance and low RF could be ripe for change through interventions that emphasize cultural congruent values of positive emotion, closeness and connection. This is an important insight for intervention, as few programs have demonstrated the potential to increase parental RF within this population. RS may have great potential for enhancing Latina parents' appreciation of their children's emotions and motivations because these parents are likely to be immersed in a context that highly values positive emotions and family ties.

One consideration about this finding is that we assessed mothers' RF in the context of their RF regarding the parent-child relationship and parenting, which could have constrained the effects we observed. Had we assessed RF regarding the self, we might have found that PS likewise was efficacious in increasing this form of self-focused RF, as engaging in savoring that focuses on the self may increase one's ability to mentalize regarding one's own thoughts and feelings outside of the context of parenting.

Finally, we examined the long-term utility of the savoring techniques within mothers' lives. For non-Latina mothers, both PS and RS were associated with high savoring practice at follow-up (somewhere between multiple times a week and daily). However, Latina mothers in the RS group reported being more likely to continue using the savoring techniques on their own at follow-up, compared with Latina mothers in the PS condition. These findings suggest that RS is a practice that has greater uptake potential by Latina mothers (on average, somewhere between multiple times a week and daily). These high levels of uptake, as well as the differential pattern of uptake across parent ethnicity, suggest that mothers of toddlers find savoring a worthwhile practice. This pattern of findings provides evidence of cultural compatibility of both PS and RS for non-Latinas, and of RS among Latinas. A longer follow-up could reveal whether mothers who continue to practice RS independently show continued or increased impact across time.

We pause here to comment on the overall picture that emerges from these findings—compared with mothers assigned to PS, mothers participating in RS exhibit the affective (feelings of pride, gratitude), perceptual (feelings of closeness), behavioral (stronger signs of parenting sensitivity), and, in the case of Latina mothers, social–cognitive (higher RF) hallmarks of healthy parents. Although some of these effects are short-term (affective, perceptual) and some of them are limited to Latina mothers (increased RF, greater uptake), as a group they are remarkably encouraging given the limited dose (four 20- to 30-minute RS sessions, delivered by paraprofessionals).

With regard to the issue of cultural compatibility, we note that parenting interventions that do not disadvantage people of color (e.g., by their emphasis on discipline, lack of availability) are difficult to come by. In contrast, the RS intervention used here had advantageous effects on RF and uptake of the practice for Latina mothers, perhaps because of its compatibility with cultural values of *familism* and *simpatía*; and is therefore especially promising. In comparison to many other interventions, RS focuses on strengths -inviting parents to savor moments of parenting success-rather than asking parents to discuss parenting struggles or problems. For parents of color, who have encountered discrimination, problemfocused interventions could create revictimization if not done with high levels of cultural sensitivity and clinical skill. In the current study, even when Latina mothers did not show stronger impacts from RS, they were not disadvantaged, suggesting they were getting the same benefits as the non-Latina (primarily non-Latina White) mothers.

When discussing the compatibility of RS with values of Latino/ a families, we do not wish to overstate the similarities across Latino/as, because the diversity within this cultural group is significant. Although we did not explicitly assess acculturation, a limitation of the study, a precondition was the ability to speak and read English fluently, reducing the variability of acculturation levels in the sample. In the future, it will be important to examine this intervention among less acculturated Latino/a parents as well as other culturally specific groups (e.g., first generation immigrants vs. second generation immigrants, immigrants from Mexico vs. immigrants from Central America); alterations could be made to the protocol to make it culturally sensitive to parents from these different contexts. Finally, it is intriguing that although Latina mothers did not show stronger immediate benefits (in positive emotions and closeness to child), they showed stronger longerterm benefits from RS. These longer-term effects could be driven by the fact that the RS intervention had greater appeal (i.e., uptake) than the PS intervention, perhaps owing to its cultural congruence. If so, this provides additional evidence that compatibility of interventions with the population being served is crucial. One other caveat is that the although the RS intervention may be compatible for Latino/a parents, it should not be assumed to also be compatible for parents from different cultural backgrounds. Parents from different cultures may benefit from an intervention that is in line with their cultural values.

## Strengths, Limitations, and Suggestions for Future Research

This randomized controlled trial of RS/PS has unique strengths and limitations. One of the most significant strengths is our use of a robust control condition, PS, which is itself an intervention. That is, PS positively impacted well-being in several investigations with parents of young children (e.g., Burkhart et al., 2015; Pereira et al., 2021). An additional strength of the current study is the inclusion of an ethnically diverse sample of mothers, which enhances the generalizability of some of our findings to a broader population.

Further, testing interventions with a high potential for dissemination is a strength—using paraprofessionals to deliver the interventions, administering brief yet theoretically-informed savoring interventions, and using small amounts of training to interveners are all factors that increase the potential for dissemination and sustainability. Finally, we introduced methodological rigor through our assessments: We used multiple types of outcome assessments (e.g., self-report, interview, interaction tasks); we evaluated both intervention fidelity (to ensure that participants received the intended coaching) and savoring session quality (that revealed additional intervention session content); and we examined both immediate and longer-term outcomes, enhancing our confidence that the effects of RS endure over several months. Future studies should examine these outcomes over a longer time period.

The study also had limitations that should be addressed within future investigations. One central limitation is that the study did not include immediate posttreatment assessments of several constructs (e.g., PDI RF, NCAST teaching sensitivity). The reasons behind this design decision were pragmatic—we had a limited amount of funding to conduct this investigation and could include either a posttreatment assessment or a follow-up assessment. Given that we wanted to test longer-term outcomes of RS, we decided to assess participants' RF and parenting sensitivity at follow-up and not at posttreatment. However, the omission of assessments at the immediate postintervention time point precludes (a) our being able to examine mediators of intervention impact (for those outcomes that were significantly impacted by RS) as well as (b) identifying whether certain effects are present at posttreatment but would need boosters to persist until follow-up, or in contrast, if they were never present and would need additional intervention to be impacted. Likewise, our study lacked certain measures at baseline (e.g., PDI-R, a measure of relational savoring practice) that would have increased the strength of our causal reasoning, also for pragmatic (e.g., funding) reasons. Thus, we administered the PDI-R as a central outcome assessment at follow-up but could not also administer it at baseline. Instead, we administered the PRFQ, which is not equivalent to the PDI-R. Even though RF at baseline, measured with the PRFQ, was equivalent across the groups within our sample, only the Certainty scale was significantly associated with PDI RF scores at follow-up among Latina mothers. Therefore, it cannot be considered a substitute for the PDI-R.

Another potential constraint is our use of a mindfulness relaxation exercise prior to the beginning of each of the in-person savoring exercises to help relax and ground participants (see Borelli et al., 2019). Though this was uniform across the conditions, it is possible that some of the observed effects may have been accentuated by the use of mindfulness. In the future it may be important to distinguish the effects of RS without mindfulness, compared with RS with mindfulness preparation.

It is also worth considering how the sample constrains the conclusions we can draw. Although we had an interest in examining interactions between maternal ethnicity and the RS/PS intervention conditions, based on findings that emerged in a prior study (Goldstein et al., 2019), we did not assess factors that might have enhanced our understanding of the impact of RS on Latina parents, such as acculturation and generational status. In the present study, we would not have had the power to examine effects of these variables on intervention outcomes but we hope that in future investigations, this limitation can be addressed. Our sample of Latina mothers was highly acculturated, raising questions as to whether RS would have the same acceptability and success within less acculturated populations; this is a question for future research. If the effects were still present, this would increase enthusiasm for the intervention.

In these less acculturated groups, investigators interested in using RS may wish to employ the methods of community-based participatory research to codevelop interventions that are consistent with local values (Borelli, Cervantes, et al., 2021; Borelli, Yates, et al., 2021). Because our Latina sample was relatively acculturated, we believe our study provides a more conservative estimate of the effect of ethnicity on intervention outcomes. Given the cultural congruence and conservative estimate arguments, foreign-born Latinas might show more benefit from a codesigned RS intervention than the women studied here.

Finally, our non-Latina group was not homogeneous (i.e., it was not exclusively European American), which introduces error into the design. However, we note that when we reran the analyses comparing Latina mothers and exclusively European American mothers, the outcomes where Latina mothers showed stronger impacts remained (increases in RF and savoring uptake), enhancing our confidence in the generalizability of these findings.

#### Conclusion

This study provides the first in-depth test of the longer-term effects of RS, delivered in person four times over a 4-week period, among a diverse cohort of mothers of toddlers. We examined the immediate and longer-term impacts of the intervention on core components of the parent-child attachment system, testing key tenets of the theoretical model of RS (Borelli et al., 2020). Our findings provided support that in a sample of mothers with generally high levels of wellness, RS resulted in greater sensitivity and closeness for all mothers, as well as higher RF and continued savoring practice for Latina mothers.

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