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Initial efficacy of a community-derived mindfulness-based intervention for Latinx parents and their children

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Abstract

Background: Mindfulness-based interventions (MBIs) may offer a means for Latinx families to ameliorate stress, enhance emotion regulation, and foster social support.

Methods: We assessed pilot data from Latinx parents in Eastside Los Angeles (n = 27) matched with their children aged 10–16 (n = 32) to determine whether participation in a community-derived MBI was associated with greater improvements in dispositional mindfulness, perceived stress, emotion regulation, and family social support compared to a control condition.

Results: Compared to the control group, parents in the MBI group showed greater reductions in perceived stress scale (PSS) scores (B = -2.94, 95% CI [-5.58, -0.39], p = .029), while their children reported greater increases in perceived social support from family (B = 2.32, 95% CI [0.26, 4.38], p = .027).

Discussion: Findings show a community-derived MBI may improve stress in Latinx parents and social support for their children.

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Conflict of Interest

The authors declare no conflicts of interest

Keywords

Latinx; family; mindfulness-based interventions; parents; children; stress; social support

INTRODUCTION

In the United States, Latinx families experience stressors pertaining to acculturation challenges, immigration status, socioeconomic disadvantage, and discrimination, which can negatively impact the psychosocial health of both child and adult family members (1–3). The psychosocial health of Latinx parents and their children are interrelated: overall family dynamics can be influenced by parents' stress levels and emotion regulation, as well as by children's emotional and behavioral control (4, 5). For these reasons, many researchers suggest that mental health interventions engaging both Latinx parents and their children yield greater improvements in symptomatology compared to those that engage parents or children alone (6, 7).

Mindfulness-based interventions (MBIs) may offer a means for Latinx families to ameliorate stress and enhance emotion regulation. MBIs use the practice of meditation to systematically train participants in mindfulness—a conscious awareness of and attention to the present moment, free of judgement as each moment unfolds (8, 9)—which, in turn, promotes wise action (10). Previous studies on culturally tailored MBIs have documented reductions in stress, externalizing problems, and mood problems in Latinx children (11–13). In the general population, MBIs targeting parents or parent-child dyads appear to attenuate stress and depression in parents, improve mental health outcomes in their children such as stress, mood, and emotion and behavioral control, and improved parent-child relationships (13–18). However, the question of whether these findings are translatable to MBIs with co-participating Latinx parents and children with socioeconomic challenges has not been fully explored.

To test initial efficacy of a community-derived MBI to improve psychosocial health outcomes in Latinx parents and their children, we used data from the Partners for Strong, Healthy Families (PSHF) research project. PSHF is a community-based participatory research (CBPR) project intended to identify and address the psychosocial health needs of underserved Latinx families in East Los Angeles. PSHF community advisory board (CAB) members (Promotoras and staff at Legacy LA, academic researchers, a minister with a Ph.D. in community-based research, Bienestar, parents, youth, and community leaders) identified and expressed the need for a culturally- and community-adapted MBI to address family stress in underserved Latinx communities (19, 20). PSHF investigators and CAB members developed a pilot mindfulness-based intervention (MBI) to serve a sample of Latinx parents and their children from East Los Angeles. To determine initial efficacy of the community-derived MBI, we compared it to a control on changes in parental dispositional mindfulness, perceived stress, and emotion regulation; and changes in their children in dispositional mindfulness, perceived stress, emotion regulation, and perceived social support from family members.

METHODS

Participants

Pilot study data came from 59 participants: dyads of Latinx parents ($n = 27$) matched with their children aged 10–16 ($n = 32$) who participated in a quasi-experimental study in the Ramona Gardens, El Sereno, and Lincoln Heights neighborhoods of Eastside Los Angeles. Participants were assessed at study entry in October 2015 and 3 months later in January 2016 for a total of 118 person-observations. The Ramona Gardens neighborhood is located in Eastside Los Angeles and named for the public housing complex that makes up a significant proportion of the housing in this area. Ramona Gardens and the neighboring El Sereno and Lincoln Heights are historically Latinx, at 97%, 80%, and 71%, respectively (21). The median household incomes for Ramona Gardens, El Sereno, and Lincoln Heights were \$41,193, \$33,700 and \$47,359, respectively, during the study period (21). The eligibility criteria were: (a) residing in Ramona Gardens, El Sereno, or Lincoln Heights neighborhoods, (b) for youth, being aged 10–16 and attendance at a public middle or high school serving any of these three neighborhoods, and (c) for parents, fluency in English or Spanish, and being a parent or guardian of a youth participant. Potential youth participants who were unable to read, speak, and understand English were excluded; however, both English and Spanish sessions were provided to parents based on language needs. The MBI group consisted of 20 parents and 23 of their children who were recruited from the ongoing academic support program at the local community organization, Legacy LA. The MBI group received both the MBI and the standard academic support program at Legacy LA. The control group consisted of 7 parents matched to 9 of their children who were recruited from middle and high school bus stop locations in the Ramona Gardens, El Sereno, and Lincoln Heights neighborhoods. The control group received the standard academic support program at Legacy LA, but not the MBI.

All research procedures were reviewed and approved by the human subjects protection committee at the authors' home institution. After receiving informed consent or assent, we interviewed subjects in a one-on-one session with a trained and experienced interviewer in a private setting at Legacy LA. Prior to baseline interviews, parents received both a verbal description and a written copy of the informed consent form and provided their signed consent for themselves and their children. Informed assent was obtained from children. Consent documents were provided in English or Spanish based on participants' preferred language. Similar to baseline/screening interviews, 3-month follow-up interviews were conducted by a trained research interviewer and recorded on paper surveys. Each parent and each adolescent received a \$20 gift card for each follow-up interview they completed.

Mindfulness-based intervention

The PSHF intervention was derived from a two-part community needs assessment of Latinx families from the Ramona Gardens and surrounding neighborhood in East Los Angeles, which consisted of qualitative key informant interviews and group model building workshops (19). Findings from the community assessment have published elsewhere by Escobedo et al. (19), and identified chronic psychosocial stress, socioeconomic pressure, emotional and behavioral control challenges among children, communication and trust

problems within the family, and the need for increased parental support of children as the major community concerns. As a result, the community informants decided a mindfulness-based meditation intervention for parents and children would best address these needs.

PSHF delivered the MBI in separate rooms for groups of parents and children in 1-hour sessions once a week for 7 weeks at the Legacy LA facility, a familiar community environment. A senior mindfulness instructor, who had completed four years of Vipassana meditation training and had 10 years of meditation teaching experience, facilitated each session. For sessions offered in Spanish, an interpreter co-facilitated the sessions with the instructor. Sessions consisted of meditation, discussion, education, and activities addressing emotional states, life skills, and interpersonal relationships. In the first session, the instructor taught participants the basic techniques of meditation, described what it means to attain mindfulness, and described how mindfulness benefits people's lives. In subsequent sessions, the instructor covered applications of meditation and mindfulness perspectives on self-compassion, empathy, understanding suffering, emotion regulation and behavioral control, interpersonal relationships, and acceptance. Participants in the MBI received \$5 for each session they attended. Qualitative exit interviews were conducted following completion of the intervention to evaluate its feasibility and acceptability, and participants overall indicated they found the program convenient, enjoyable, and helpful for navigating stress and family problems (20). More detailed findings from this evaluation have been previously published by Tobin et al. (20).

Study Measures

Dispositional mindfulness—We measured mindfulness in parents using the original 15-item Mindful Attention Awareness Scale (MAAS; Cronbach's $\alpha = .87$; Brown & Ryan, 2003). The MAAS is a measure of dispositional mindfulness that specifically assesses the trait of awareness of present-moment experiences. Responses range from 1 (Almost always) to 6 (Almost never) to statements like, "I could be experiencing some emotion and not be conscious of it until some time later." Child participants completed an alternative version of the scale tailored to youth, the Mindful Attention Awareness Scale for Adolescents (MAAS-A; $\alpha = .75$), which consisted of items worded like, "I do jobs or tasks automatically, without being aware of what I'm doing" (22). Items were averaged for overall MAAS and MAAS-A scores. The survey measures also were made available in Spanish using validated translations of the MAAS ($\alpha = .90$; (23) and MAAS-A ($\alpha = .82$ (24).

Perceived stress—We measured perceived stress in parents and their children using the 10-item Perceived Stress Scale (PSS-10; (25). The PSS-10 scale captures feelings of overwhelming, distress, and uncontrollability ($\alpha = .68$ in parents; $\alpha = .69$ in children) using items such as, "In the past month, how often have you found that you could not cope (or deal) with all the things that you had to do?" Responses ranged from 0 (Never) to 4 (Very often) on a Likert-scale and were summed for an overall PSS score.

Difficulties in emotion regulation—We assessed emotion regulation in parents ($\alpha = .73$) and their children ($\alpha = .81$) using 16 items comprising the Brief Difficulties in Emotion Regulation Scale (DERS; (26, 27). The DERS captures various aspects of emotion

regulation including internal and external emotional reactivity, as well as the ability to identify emotions. Responses ranged from 0 (Almost never) to 4 (Almost always) to items such as, “When I am upset, I lose control over my behaviors or actions,” which were summed for an overall DERS score.

Family social support—Children self-reported their perceived social support from other family members based on the family subscale of the Multidimensional Scale of Perceived Social Support (MSPSS-Family) (28, 29). The MSPSS-Family subscale consists of four items, such as, “I get the emotional help and support I need from my family.” Responses ranging from 1 (Very Strongly Disagree) to 7 (Very Strongly Agree) and were summed for a MSPSS-Family score.

Analysis

We computed means, frequencies, and percentages on socio-demographics—age, gender, immigration status, and family income—of participants by group assignment. We conducted separate paired samples t-tests among parents and their children by group assignment to assess univariate changes in our study outcomes: MAAS, PSS, DERS, and MSPSS-Family. Prior to modeling changes by group assignment, we assessed for possible confounding by birth outside of the US and by number of people living in the household by testing associations with MAAS, PSS, DERS, and MSPSS-Family. Neither birth outside of the US nor number of people living in the household were significantly associated with these study outcomes, and were therefore not included in the final regression models.

We tested differences in changes in study outcomes between MBI and control groups using linear regression. We modeled change in each outcome by testing associations between group assignment and the outcome measure at 3-month follow-up while adjusting for baseline on the outcome. By adjusting for baseline on the outcome, we can interpret regression estimates for MBI assignment directly as its association with change in the outcome score from pre- to posttest (30). To model associations between MBI and child outcomes, we used population averaging to adjust for clustering by parent, as 10 of the children were related to 5 of the parents (2 children each).

RESULTS

Table 1 displays the descriptive statistics for socio-demographics in both parents and children. The mean age of parents was 43 years, and the majority were women ($n = 23$, 85%), unmarried ($n = 16$, 59%), and born outside the U.S. ($n = 17$, 63.0%). About 44% of parents reported a family monthly income of \$1,327 or less, which was at or below the 2015 Federal Poverty Line (31). The mean age of children was 13.4 years, more than half were female ($n = 17$, 53%), and almost all children were born in the U.S. ($n = 31$, 97%). Table 1 also stratifies these descriptive statistics by group assignment.

Paired samples t-tests estimated within-group changes in psychosocial outcomes, separately for the MBI and control groups, and are displayed in Table 2. Bivariate results show significant reduction in difficulties in emotion regulation (DERS) among children in the MBI group ($p = .017$). DERS also decreased among children in the control group, but only

marginally significantly ($p=.089$). Perceived stress (PSS) decreased in parents in the MBI group, but this decrease was only marginally significant ($p=.107$). Unexpectedly, the mean dispositional mindfulness (MAAS) scores ($p=.029$) increased in the control group.

Linear regression models estimated between-group differences between MBI and control participants in changes in psychosocial health outcomes from pre- to posttest. Regression results indicate that parents who participated in the MBI had significantly greater reductions in perceived stress (PSS) at posttest than the control group ($B = -2.94$, 95% CI $[-5.58, -0.39]$, $p = .029$) after adjusting for pretest PSS scores. Unexpectedly, parents who participated in the MBI had lower improvements in dispositional mindfulness (MAAS) than parents in the control group ($B = -0.59$, $p = .032$), though both groups increased in MAAS scores. After adjusting for pretest on the outcome, children who participated in the MBI had significantly greater MSPSS-Family improvements ($\beta = 2.32$, 95% CI $[0.26, 4.38]$, $p = .027$) compared to those in the control group, though the within-group changes were not significant as mentioned previously (see paired t-test results above and in Table 2).

DISCUSSION

The present pilot study reports the outcomes of a community-derived MBI among Latinx parents and their children. Participation in the MBI yielded several positive outcomes in psychosocial health. Parents in the MBI group had significantly greater reductions in stress than those in the control group. Children in the MBI group showed significant within-group improvements in difficulties in emotion regulation, but did not significantly differ from children in the control group in between-group regression modeling. Interestingly, children in the MBI group reported more positive changes in social support from family members compared to the control group in regression analysis, though within-group changes were not significant in bivariate t-tests. It is possible that differences between groups in family social support for children was due to improved involvement by parents who participated in the MBI. A growing number of randomized controlled trials have shown that MBIs can remedy stress and emotion regulation problems in adults (32, 33) and children (34), and in samples of parents and children participating together (13). Nevertheless, the number of studies on mindfulness meditation interventions tailored to families of racial/ethnic minority backgrounds is very limited despite the need to address excess stressors burdening minority communities (35–37).

Unexpectedly, parents participating in the MBI did not report significant improvements in dispositional mindfulness, whereas parents in the control group did report significant improvements. Furthermore, despite not appearing to improve in mindfulness, parents in the MBI group significantly improved in perceived stress whereas parents in the control group did not significantly improve. Children in the MBI group also did not significantly improve in dispositional mindfulness, but they did improve in emotion regulation. Because many mindfulness measures were originally validated in samples with limited minority representation, issues with linguistic or cultural incongruence may have limited our participants' semantic understanding of the mindfulness constructs at study entry (12, 38). Therefore, it is possible that our findings were influenced by changes in conceptual understanding of mindfulness from baseline to 3-month follow-up, especially in the MBI

group. For example, our sample of Latinx family and children may have entered the study with limited understanding of the mindfulness measures. However, those who participated in the MBI—not the control group—may have later developed a deeper, and therefore more critical understanding of their own level of mindfulness, resulting in lower self-reported mindfulness at posttest compared to the control group (39, 40). In addition to possible cultural incongruence, self-report assessments of mindfulness may be particularly difficult to comprehend for children (41), which may explain why dispositional mindfulness did not seem to improve alongside other psychosocial improvements among children participating in the MBI. Therefore, even if the MBI improved mindfulness in Latinx parents and children, it is possible that participants improved in psychosocial health measures but are more critical of their own mindfulness upon second measure.

There also remains the possibility that the impact of the intervention did not stem from mindfulness content itself, but other aspects of the intervention (40) that were not specifically measured. For example, the culturally tailored intervention may have bestowed its benefits simply by providing a culturally sensitive environment, community connection, or interpersonal interaction with an instructor. Furthermore, participants may have developed or applied psychosocial skills in their personal lives that tangentially relate to mindfulness rather than the specific cultivation of nonjudgmental, nonreactive attention to the present. Findings from our pilot study are also limited by its small and unbalanced sample. A quasi-experimental design with only two time points limited our ability to infer whether significant findings were due to the intervention, spurious change, or selection bias in participants' outcomes.

CONCLUSIONS

The present study suggests that community-derived mindfulness meditation interventions that include both parents and children pose psychosocial health benefits for co-participating Latinx parents and children. Future research is needed (1) to identify which cultural and substantive components of mindfulness interventions geared toward Latinx families yield positive outcomes,; (2) to evaluate the independent effects of various aspects of mindfulness (e.g., acting with awareness, nonjudgement) on improved mental health in Latinx family members; and (3) to evaluate both intra- and interpersonal benefits of having parents and children co-participate in family-oriented MBIs (40, 42).

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Table 1.

Descriptive statistics of parent (n = 27) and children characteristics (n = 32) by group assignment

Characteristic	Total		Mindfulness-based Intervention		Control	
	n (or Mean)	% (or SD [*])	n (or Mean)	% (or SD [*])	n (or Mean)	% (or SD [*])
Parents						
Age	(43.2)	(7.2)	(43.5)	(7.5)	(42.3)	(6.8)
Gender						
Female	23	85.2	17	85.0	6	85.7
Male	4	14.8	3	15.0	1	14.3
Income (monthly)						
\$1,327	12	44.4	10	50.0	2	28.6
\$1,328 or more	15	55.6	10	50.0	5	71.4
Married						
No	16	59.3	12	60.0	4	57.1
Yes	11	40.7	8	40.0	3	42.9
Born outside U.S.						
No	10	37.0	6	30.0	4	57.1
Yes	17	63.0	14	70.0	3	42.9
Total	27	100.0	20	100.0	7	100.0
Children						
Age	13.4	1.4	13.6	1.3	12.8	1.7
Gender						
Female	17	53.1	11	47.8	6	66.7
Male	15	46.9	12	52.2	3	33.3
Born in U.S.						
Yes	31	96.9	22	95.7	9	100.0
No	1	3.1	1	4.3	0	0
Total	32	100.0	23	100.0	9	100.0

*SD= Standard Deviation

Table 2.

Paired samples t-tests of psychosocial health outcomes in Latinx parents and children by group assignment

Psychosocial Health Outcome	Mindfulness-based Intervention						Control					
	Pretest		Posttest		t ^{**}	p	Pretest		Posttest		t ^{**}	p
	Mean	SD*	Mean	SD*			Mean	SD	Mean	SD		
Children												
MAAS	4.02	0.77	3.87	0.91	-0.77	.449	3.57	0.49	3.69	0.52	0.51	.631
PSS	29.43	3.73	28.11	4.34	-1.51	.150	27.00	2.76	27.67	5.65	0.40	.706
DERS	38.91	11.65	29.74	17.88	-2.58	.017	35.89	11.70	22.22	17.27	-1.93	.089
MSPSS-Family	13.78	2.96	14.06	1.92	0.41	.682	14.33	2.34	11.83	3.49	-1.36	.232
Parents												
MAAS	4.19	0.98	4.38	0.94	1.16	.262	3.70	1.40	4.63	1.02	3.03	.029
PSS	29.25	3.89	27.19	2.29	-1.71	.107	29.83	3.97	30.17	4.40	0.19	.854
DERS	28.48	6.13	26.63	9.86	-0.99	.338	26.33	9.97	29.33	7.69	-0.47	.661

Note: MAAS = Mindful Attention Awareness Scale; PSS = Perceived Stress Scale; DERS = Difficulties in Emotion Regulation Scale; MSPSS-Family = Multidimensional Scale of Perceived Social Support – Family Subscale

* SD = Standard deviation

** t = t-test statistic

Table 3.

Linear regression models of MBI on posttest psychosocial outcomes, adjusting for pretest scores

	Posttest Outcome											
	MAAS			PSS			DERS			MSPSS-Family**		
	B [†]	95% CI*	P	B [†]	95% CI*	P	B [†]	95% CI*	P	B [†]	95% CI*	P
Children												
MBI	-0.07	(-0.76, 0.61)	.840	-1.49	(-4.93, 1.96)	.398	6.22	(-6.55, 19.00)	.340	2.32	(0.26, 4.38)	.027
Pretest score	0.55	(0.13, 0.96)	.010	0.80	(0.37, 1.22)	<.001	0.43	(-0.08, 0.93)	.096	0.18	(-0.15, 0.51)	.284
Parents												
MBI	-0.59	(-1.12, -0.05)	.032	-2.94	-5.58, -0.39	.029	0.65	(-7.85, 9.16)	.880	--		
Pretest score	0.69	(0.46, 0.91)	<.001	0.07	-0.24, 0.39	.648	0.42	(-0.18, 1.02)	.170	--		

Note: MAAS = Mindful Attention Awareness Scale; PSS = Perceived Stress Scale; DERS = Difficulties in Emotion Regulation Scale; MSPSS-Family = Multidimensional Scale of Perceived Social Support – Family Subscale

[†]B=regression estimate

*CI=confidence interval

** Assessed for children only.