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Schema therapy, motivational interviewing, and collaborative-mapping as treatment for depression among low income, second generation Latinas

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ABSTRACT

US-born Latinos report significantly more depression than foreign-born Latinos in the US, and Latinas have twice the rate of depression than Latino men. The purpose of this pilot study was to test the feasibility of an innovative, short-term program of Schema Therapy (ST) combined with Motivational Interviewing (MI) techniques to reduce depression and increase resilience among second generation Latinas of low income in the US. In addition to blending ST and MI strategies with a focus on resilience, a novel technique called collaborative-mapping was a crucial strategy within treatment. Scheduling for sessions was flexible and patients had unlimited cell phone access to the therapist outside of sessions, although few used it. A mixed linear regression model for BDI-II scores of 8 women who completed all eight 2-h sessions demonstrated that the treatment significantly decreased BDI-II scores during the course of treatment ($p = .0003$); the average decreasing rate in BDI-II scores was 2.8 points per visit. Depression scores remained sub-threshold for 12 months after treatment completion. Resilience scores significantly increased after treatment completion and remained high at all follow-up visits through 1 year ($p < .01$). Thus, this short term, customized intervention was both feasible and effective in significantly decreasing depression and enhancing resilience for this sample with effects enduring one year after treatment. This study is the first to combine ST and MI in therapy, which resulted in an appealing, desirable, and accessible depression treatment for this severely understudied, underserved sample of low income, second generation Latinas in the US.

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1. Background

Depression is the most common mental health problem among women worldwide, with rates twice that of men (World Health Organization, 2010). Among Latinos, the largest ethnic minority group in the United States (US), more than twice as many women than men suffer from depression (Vega, Sribney, Aguilar-Gaxiola, & Kolody, 2004) and US-born Latinos of Mexican descent have reported significantly higher rates of depression than those born in Mexico (Alegria et al., 2008; Huang, Wong, Ronzio, & Yu, 2007; Vega et al., 2004). Poverty increases women's vulnerability to depression (Heilemann, Lee, & Kury, 2002; Huang et al., 2007) and almost one quarter of Latinos in the US live in poverty (Ramirez & de la Cruz, 2002). Although depression is treatable, the US mental health system provides less care to Latinos compared to Whites (Cook, McGuire, & Miranda, 2007) including Latinos who have health insurance (Lagomasino et al., 2005).

Cognitive Behavioral Therapy (CBT) has been somewhat effective in depression treatment studies with Latinos (Miranda, Azocar, Organista, Dwyer, & Areane, 2003) but recruitment and retention has been problematic (Miranda, Azocar, Organista, Muñoz, & Lieberman, 1996). In a randomized controlled trial of CBT that included Latinas, eight weeks of CBT was more effective than community referrals but not as effective as six months of antidepressants in reducing depression by month six. However, only 36% of women randomized to receive CBT actually attended at least six sessions, despite reminder calls and free transportation (Miranda, Chung, et al., 2003). Culturally sensitive and financially feasible models are needed to increase engagement by Latinas.

In an effort to create an appealing psychotherapy intervention specifically tailored to the needs of low income, second generation Latinas with depression in the US, we created a treatment program that combines Schema Therapy (ST) (Young, 1990; Young, Klosko, &

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Weisharr, 2003) with the techniques of Motivational Interviewing (MI) (Miller & Rollnick, 2002). Treatment was delivered by a nurse therapist (NT) (first author) in a community-based child development setting that was familiar to the women, as recommended by Miranda, Lagomasino, Lau, & Kohn (2009), but did not carry the stigma associated with mental health or illness.

Young's (1990; 1999) ST is an expansion of CBT that emphasizes the exploration of childhood origins of psychological problems by linking them to current problems through schema mode work and limited reparenting. ST has demonstrated relatively low levels of attrition (e.g. Giesen-Bloo et al., 2006) with populations who may otherwise struggle to engage in therapy, making it a promising approach for Latinas. Because the ST model assumes that all people develop schemas in childhood (Arntz & van Genderen, 2009), an explicit focus is put on schema development, often involving family relationships. Strategies are employed to defuse dysfunctional, self-defeating patterns fueled by early maladaptive schemas that formed due to unmet needs (Young, Klosko, & Weishaar, 2003). The ST focus on interpersonal and family relationships makes it particularly relevant to Latinas because of the cultural value of familism, a deep sense of loyalty, solidarity, and reciprocity among Latino family members (Sabogal, Marin, Otero-Sabogal, Marin, & Perez-Stable, 1987). A careful understanding of familism is considered crucial for successfully recruiting and retaining Latinos in psychotherapy research (Miranda et al., 1996) but the topic is complex. Adherence to familism can bring benefits that are protective (Gallo, Penedo, Espinosa de los Monteros, & Arguelles, 2009) such as family cohesion and support (Sabogal et al., 1987), but it can also present challenges. Overt or covert cultural expectations regarding obligations or gender roles in the family starting in childhood can create emotional conflict with potential to influence adult relationships (Gil & Vazques, 1996). The focus on schemas allows a way to deal with familism within ST.

Research with 315 women of Mexican descent showed that resilience was inversely related to depressive symptoms (Heilemann et al., 2002) and positively correlated with sense of energy or vitality (Heilemann, Lee, & Kury, 2005). Thus, resilience, the ability to adapt and persevere despite adversity (Wagnild & Young, 1993), was emphasized in this intervention, recognizing women's strengths for coping and personal resources, not just deficits (Grote, Zuckoff, Swartz, Bledsoe, & Geibel, 2007). Our focus on resilience brought a natural opening to discuss the ST model which holds that, in an attempt to survive toxic experiences, children develop coping styles that perpetuate maladaptive schemas but the goal of ST is to weaken and heal dysfunctional schemas so the patient is not compelled to repeat old coping patterns (Young et al., 2003).

Nonetheless, Young et al. (2003) warn that patients often have little hope for changing and will resist treatment in an attempt to maintain a sense of control even if that means holding onto a maladaptive schema. In addition, societal stigma among second generation Latinas who are less likely to want treatment due to fear of family disapproval could lead to ambivalence about entering therapy or missed appointments (Vega, Rodriquez, & Ang, 2010). Therefore, we integrated MI techniques in our intervention to reduce ambivalence and resistance to change (Miller & Rollnick, 2002) while helping patients deal with their fear of relinquishing the security that even a maladaptive schema provides (Young et al., 2003). MI has been used in research with Latinos to improve adherence to treatment with antidepressants (Interian, Martinez, Iglesias Rios, Krejci, & Guarnaccia, 2010) and with low income women as a prelude to interpersonal psychotherapy for depression (Grote et al., 2007). However, no previous studies have combined MI with ST in the treatment of depression or any other disorder.

During the course of treatment, an innovative therapeutic strategy called "collaborative-mapping" was introduced and used with all participants, although more with some than others. Like coping cards and flash cards, collaborative-maps were co-created by the patient and therapist. However, the maps were unique in that they involved the use of metaphor and analogy to represent meaningful aspects of dynamics or processes that were otherwise difficult to verbalize and often had autobiographical implications related to the self, similar to what was described by Butler and Holmes (2009). Drawings and diagrams were used to knit together images or symbols with meaning-laden words or phrases that were invoked by a patient or originated in dialogue between a patient and therapist. Collaborative-maps depicted a variety of feelings, forces, or motives drawn on a full page of paper, thereby externalizing imagery, meaning, and content by using a combination of verbal labels and illustration (Butler & Holmes, 2009). However, the goal of collaborative-mapping was not to transform a problematic mental image into a more benign image through imagery rescripting (Arntz & Weertman, 1999; Holmes, Arntz, & Smucker, 2007). Rather, collaborative-maps functioned to illustrate the dynamics of distressing or confusing processes experienced by patients in order to understand and clarify emotions or meanings attached to these processes, often in relation to schemas.

The purpose of this study was to test the feasibility of an innovative pilot program of ST combined with MI techniques called 'MI-infused ST' or 'MIST', that had an explicit focus on resilience and incorporated collaborative-mapping as a treatment strategy. MIST was specifically designed for use with depressed, low income second generation Latinas. Our first study aim was to test the effectiveness of MIST to reduce depression symptoms over eight weeks of treatment and to determine if the change endured over 12 months post treatment. The second aim was to determine if resilience increased significantly over the course of treatment and if the change endured over 12 months post treatment.

2. Method

2.1. Design

Screening (Phase I) led to eight sessions of treatment (Phase II) followed by three follow-up visits (1, 3, and 12 months after treatment) that targeted depressed, low income, second generation Latinas of Central American and Mexican descent living in a major metropolitan area of California (see Table 1). Approval was obtained from the UCLA Institutional Review Board (IRB) and all participants gave written, informed consent.

2.2. Participants

Community-based recruitment was done from January to July, 2007 at seven healthcare, child development, and family service sites with distributed flyers. No recruitment was done at any mental health facilities. Latinas were eligible for screening if they were 18–50 years of age, fluent in English, eligible for low income social services, and were born or grew up in the U.S. with foreign-born parents. A total of 29 women inquired about the study but 17 were ineligible due to being in psychiatric care elsewhere, non-Latina ethnicity, or age >50 years. A total of 12 women participated in the diagnostic interview but three were referred to psychiatry for suicidal ideation or psychosis. All nine remaining eligible women desired to enter treatment (Phase II of the study). One discontinued after the second session saying her symptoms had resolved (the "non-completer"). Thus, a total of eight women completed all eight treatment sessions and all three follow-up visits (the "completers").

Table 1
Demographic Information for the "Completers" ($N = 8$).

Age:
Average Age: 30 ± 9.41 (S.E.)
Range: 20–48 years
Income:
Average Annual Income:
$15,080 ± 927 (S.E.)
Range: $4272 (for a family of 4) to
$33,996 (for a family of 5)
Current Partner Status and Living Situation:
Currently in committed relationship: 1
Living with partner: 1
Currently not partnered: 7
Living with parents or extended family: 4
Living on her own: 3
Past Romantic Partner Status:
Relationship in past but not committed: 4
Relationship with a man: 2
Relationship with a woman: 1
Relationship with a man and later with a woman: 1
Past committed romantic relationship: 4
Legally married to a man: 3
Partnered with a man but never married: 1
Education:
Completed 8th grade: 1
Completed High School or equivalent: 7
Taken at least one class at junior college: 3
Biological Children:
None: 2
One child: 1
Two children: 4
Three children: 1
Employment and Health Insurance Status
Work full time and insured: 3
On disability from full time job and insured: 1
Work part time but not insured: 4
Self-reported History of Abuse
Physical abuse as child: 4
Sexual abuse as child: 3
Drug/alcohol abuse: 1
Domestic violence: 6 (observed as child or endured as adult)

While flexibility was needed due to women's demanding, erratic schedules, all eight women completed eight sessions within 16 weeks of initiating the program (range: 8–16 weeks). Only two participants called the NT who was accessible by cell phone for therapeutic help after hours. None of the women missed any post treatment follow-up visits.

2.3. Procedure

Participants at screening who scored 14 or higher on the Beck Depression Inventory-II (BDI-II) (Beck, Steer, & Brown, 1996) were eligible to participate in Phase I which was implemented immediately for most participants. After completing the Resilience Scale (Wagnild & Young, 1993), a diagnostic interview using the Structured Clinical Interview for the DSM-IV (SCID) (Version 2.0) (First, Spitzer, Gibbon, & Williams, 1997) was administered in conjunction with MI techniques (Miller & Rollnick, 2002) and a carefully designed "Motivation Assessment" using MI followed (Pieters & Heilemann, 2010). Participants received $10 cash as an incentive for screening (BDI-II completion) and $35 after the Phase I interview (1.5–3 h) (see Fig. 1).

Eligibility criteria for the Phase II (treatment) included major or minor depression on the SCID (First et al., 1997) according to the *Diagnostic and Statistical Manual of Mental Disorders-IV (*American Psychiatric Association, 1994) including the appendix criteria for minor depression. Exclusion criteria was bereavement, psychosis, active suicidal ideation, current drug/alcohol misuse, pregnant or less than four weeks post partum, or already engaged in mental health treatment elsewhere. Phase II involved an 8-week, nurse-led, depression treatment program of MIST. Each session was approximately 2 h in length.

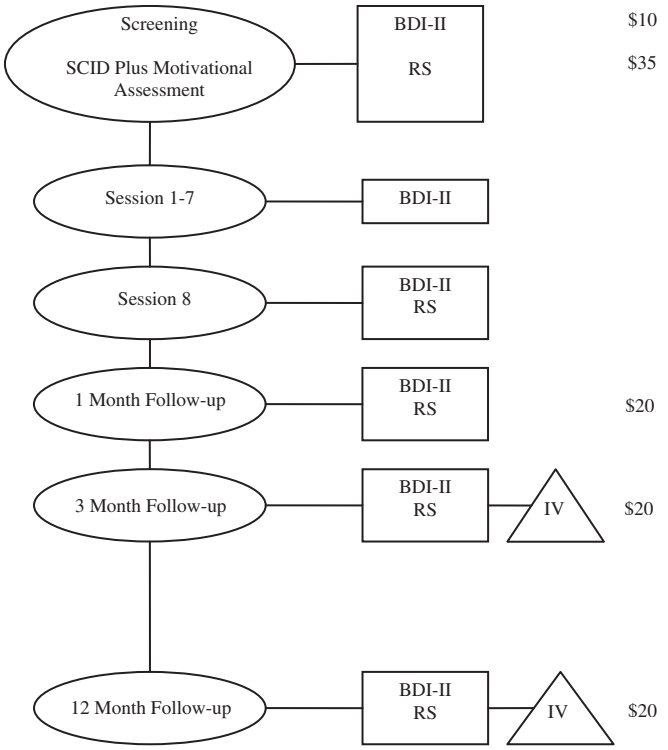

Fig. 1. Flow diagram of data collection activities.

No monetary incentive was given for any of the treatment sessions, but free childcare was offered, although no participants used it. The BDI-II was completed at the start of each session and the Resilience Scale was also completed at the eighth session. Follow-up visits with the NT or her research assistant were 1, 3, and 12 months after treatment at which time the BDI-II and Resilience Scale were completed. The women participated in an open ended qualitative interview at 3 and 12 -month follow-up visits (reported elsewhere). Participants received a $20 cash incentive after each visit.

2.4. Measurements and instruments

2.4.1. SCID

Several modules of the SCID (First et al., 1997) were administered in Phase I to diagnose depression and to check inclusion/exclusion criteria. Modules assessing for mood disorders plus mood differential (including major depressive episode past and present, mania, hypomania, bipolar, and dysthymia), psychosis and differential diagnosis of psychotic disorders, alcohol abuse, and substance abuse were included.

2.4.2. Depression

The BDI-II (Beck et al., 1996), a well-established 21-item questionnaire that assesses depressive symptomatology over the preceding two weeks (Steer, Ball, Ranieri, & Beck, 1999), was used both for screening and at each treatment session and follow-up visit. The greater the BDI-II score, the greater the level of depression: 1–13: minimal, 14–19: mild, 20–28: moderate, and 29–63: severe (Beck et al., 1996). Generally, a Cronbach's alpha of .70 is

considered good measure of reliability (Santos, 1999), signifying what is considered to be good reliability of the instrument (Cronbach, 1951). The alpha for our sample of completers ($n = 8$) ranged from .63 to .98 (mean:.79) across different time points.

2.4.3. Resilience

The Resilience Scale (Wagnild & Young, 1993) was originally designed with 25 items to measure adaptability despite adversity. However, in a previous study with 168 English-speaking women of Mexican descent, reliability for two items was unacceptable so these two items were dropped to form a 23-item modified scale (Heilemann et al., 2002). For the eight completers, the Cronbach's alpha scores across all five data collection points ranged from .76 to .94 (average: .87) for the modified 23-item modified Resilience Scale. High scores indicate high resilience.

2.5. Therapeutic approach

The NT (Principle Investigator and first author) for this study speaks both Spanish and English. She is well acquainted with the life situations of the sample, having over 20 years experience as a Public Health Nurse and qualitative researcher with this population. She received intensive training over a 1.5-year period for CBT and ST through the Beck Institute for Cognitive Therapy and was supervised in all phases of the research by a licensed clinical psychologist.

2.5.1. MI in the pretreatment diagnostic interview

The SCID was integrated with MI techniques to identify ambivalence and reduce barriers to engagement in treatment (Zuckoff, Swartz, & Grote, 2008), to develop the discrepancy between how a patient wished her life was and how things actually were, to explore priorities for reducing depression, and to affirm patients' stated desires to change (Miller & Rollnick, 2002). This was followed by a customized motivational assessment focused on patients' sense of urgency to begin treatment and confidence that they could complete treatment if started (also described in Pieters & Heilemann, 2010).

2.5.2. ST infused with MI techniques and a focus on resilience

In addition to basic CBT techniques and a deliberate focus on resilience, MI techniques were infused in ST on each session. MI brought a focus on expressing empathy (Miller & Rollnick, 2002) which was synergistic with ST's "therapeutic stance" of empathic confrontation (Young et al., 2003, p. 198). As is typical in ST, early sessions focused on assessment including a deeper exploration of life history, relationships, and symptoms, giving insight into the childhood origins of schemas and what might activate them (Young et al., 2003). Basic education on CBT and analysis of automatic thoughts (Beck, 1995) led to education on schemas, coping styles, and modes which paved the way to explore long standing patterns in relation to current problems (Young et al., 2003). The NT focused on the most affectively charged or developmentally immobilizing issues, safety, and current life themes.

In the change phase of MIST, cognitive strategies were invoked to weaken the power of schemas and to strengthen the Healthy Adult mode (Young et al., 2003). Experiential strategies were used to trigger emotional responses to maladaptive schemas and to begin some imagery work. Behavioral strategies targeted coping styles and self-defeating behaviors. Homework was collaboratively planned and discussed in subsequent sessions. Interpersonal strategies (e.g., empathic confrontation) were used to challenge and modify schemas. Limited reparenting modeled protection and nurturance of the Vulnerable Child and strengthened the Healthy Adult mode (Young et al., 2003).

2.5.3. Collaborative-mapping as an additional treatment strategy

In MIST, the NT and patient used pen and paper to actively map the dynamic of a patient's experience from her point of view, through "collaborative-mapping". The process of mapping had a temporal potency, simultaneously locating the woman in the present with a concrete activity while remembering the past. It seemed to de-escalate noxious emotional states related to distressing experiences making these memories more tolerable to discuss. By tracing a path, capturing a pattern, or illustrating a process (Butler & Holmes, 2009) the paper maps externalized the dynamic of an experience or situation that held particular valence in terms of distress. Seeing the previously overwhelming phenomenon mapped on a single page of paper gave a sense of order to what previously felt chaotic and disorganized to the patient, creating what seemed to be "an external working space" (Butler & Holmes, 2009, p. 170) where connections between people, events, and feelings that previously had not been noticed became visible. Thus, women were able to symbolize their experiences in new ways, change their interpretations, and break old patterns. A map could be tested against past experiences which often led to a discussion of particular schemas and their origins and helped identify coping styles. Anchored by the personalized meanings drawn on the maps, opportunities to work with the Vulnerable Child and Healthy Adult modes became more acceptable to women, thus enabling role play and imaginative dialogue to be done with the goal of behavior change. Copies of maps were kept in the patients' files so they could be used in subsequent sessions or edited over time.

It was common for participants to remember particular collaborative-maps from one session to the next. Many women requested to take particular maps home to use when they experienced symptoms of depression or were triggered by a schema, to challenge old thought patterns, and to replace maladaptive coping styles with healthier behaviors. Some patients kept the maps in files and used them after the MIST program ended to help them understand their feelings and to remind them of how to access the Healthy Adult or nurture the Vulnerable Child.

2.6. Statistical analysis

A mixed effects model (SAS Version 9.1.3) with random intercept for each patient was used to fit the BDI-II scores across eight treatment sessions to account for the repeated measures within each patient (Laired & Ware, 1982). Initial graphical exploratory analysis indicated that on average, the BDI scores were decreasing linearly over time so time was included as a fixed, linear term in the mixed effects model. An autoregressive covariance matrix, which assumes that the correlation between different measurements decreases with time, was used to model the correlation within the data for each participant. Post-hoc analyses such as paired *t*-tests were done with BDI-II scores at various intervals to determine if BDI-II scores decreased significantly from the time of screening/SCID to session eight to the follow-up visits (1, 3, and 12 months post treatment). Similar post-hoc analyses were done for resilience to determine if there were significant differences in resilience scores over time including the time of screening/SCID, session eight, and the three follow-up visits.

3. Results

3.1. Sample

Of the nine women who entered the MIST treatment program, eight completed all treatment sessions and all follow-up visits. Of the eight "completers", six were US-born and two had immigrated

to the US as children. The non-completer was US-born. All were bilingual in Spanish and English but preferred to use English. See Table 1 for other demographic data.

3.2. Depression

The SCID showed that all nine women met criteria for major or minor depression based on the DSM-IV. The mean BDI-II score for "completers" at screening/SCID had been in the "severe" category (Beck et al., 1996). The non-completer entered the study with a "moderate" BDI-II score that fell to the "minimal" category by the time of her second session. BDI-II scores among the completers decreased throughout the eight-week program (see Table 2). The mixed linear regression model in Fig. 2 demonstrates that the treatment had a significant effect on BDI-II score change over eight treatment sessions ($p = .0003$). The average decreasing rate in BDI-II scores was 2.8 points per visit. Compared to scores at screening/SCID, BDI-II scores were significantly lower at the first and last sessions and the 12-month follow-up visit (see Table 3). By the last session, all eight completers had "minimal" BDI-II scores (Beck et al., 1996). Compared to the one-month follow-up visit, there were no significant differences in BDI-II scores at the three and 12-month follow-up visits.

3.3. Resilience

Scores of the modified 23-item Resilience Scale increased significantly from screening/SCID to the eighth treatment session. Moreover, the higher resilience scores at the eighth session remained high at the follow-up visits with no significant change over 12 months post treatment (see Table 3).

3.4. Collaborative-mapping in MIST

To illustrate the integration of collaborative-mapping with MI and ST in MIST, an example based on a participant with the pseudonym of "Ana" will be presented. Ana was a 24-year old single woman who initially presented in therapy with a great deal of sadness and anger due to a failed romantic relationship. As a US-born Latina, Ana was bilingual (English/Spanish) but her parents were born in other countries and only spoke Spanish. Ana had served as her parents' unofficial "secretary" since age 5, translating conversations, telephone calls, and documents from landlords or bill collectors. The collaborative-map in Fig. 3 was created based on the perceived unbalance Ana experienced due to anger, guilt and fear; anger because her parents automatically expected her to meet their needs, guilt because she no longer wanted to help them, and fear that she would be "disowned" if they perceived her reluctance as a lack of family loyalty. Ana said this felt like being on the "Dumbo ride at Disneyland" wherein the rider is taken in undulating circles around a fixed point, but never actually goes anywhere. Ana and the NT used Ana's words, phrases, and metaphors, to create a detailed drawing of the unbalance she felt. It served to develop her understanding of the discrepancy (Miller & Rollnick, 2002) between what Ana wanted in her life (balance) and the reality of the heavy weight she carried (feelings of anger, guilt, and fear). The map was a springboard for exploring the various ways emotional balance could be achieved (such as facing her fear or controlling her anger). It deepened her motivation to understand the ST model, such as maladaptive schemas and coping styles (Young et al., 2003). One year after Ana completed treatment, she had moved out of her parents' home into an apartment with a friend, had a new boyfriend, and was working a part time job. She still felt a nagging sense of guilt about her parents' needs and desires but it no longer overruled her ability to make decisions to meet her own needs. She described this struggle as part of the process of "growing up".

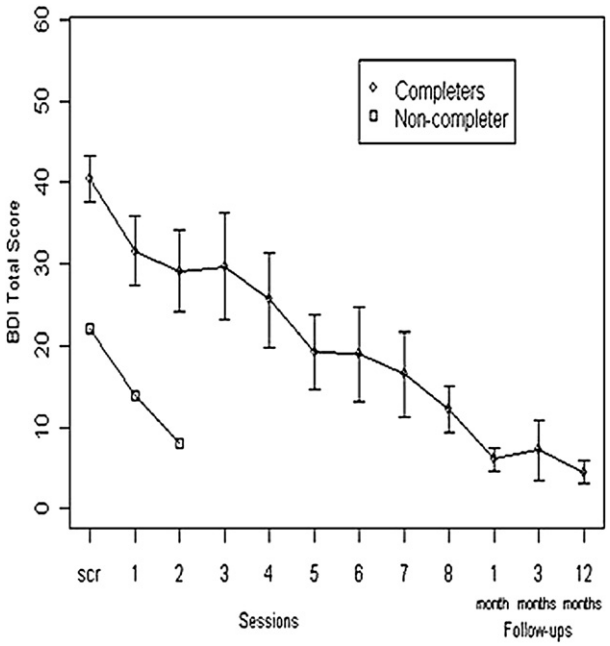

Fig. 2. BDI-II Scores for Depression of Completers ($n = 8$) and Non-Completer ($n = 1$) from time of screening/SCID to one year after treatment (mean ± SE).

Table 2
BDI-II scores and Resilience Scale scores for completers over the course of treatment and follow-up ($n = 8$).

	BDI-II scores Mean (SE)	Resilience scale Mean (SE)
Screening/SCID	40.50 (2.89)	98.38 (5.45)
Session 1	31.63 (4.21)	–
Session 2	29.13 (5.05)	–
Session 3	29.75 (6.49)	–
Session 4	25.63 (5.82)	–
Session 5	19.25 (4.57)	–
Session 6	19.00 (5.75)	–
Session 7	16.50 (5.15)	–
Session 8	12.25 (2.88)	128.54 (5.05)
1-month follow-up visit	6.13 (1.43)	136.50 (5.89)
3-month follow-up visit	7.25 (3.66)	135.58 (5.59)
12-month follow-up visit	4.50 (1.45)	138.13 (6.28)

4. Discussion

This was the first study to combine MI techniques with ST in psychotherapy research. Together with a focus on resilience and the therapeutic strategy of collaborative-mapping, MIST was a powerful therapeutic program that resulted in decreased depression and enhanced resilience for this sample of low income, second generation Latinas. Although previous depression research has focused on the use of MI with Latinas, no published research has investigated the impact of ST alone with Latinas. With our study, it is not clear whether it was ST, MI, or other aspects of the intervention that led to its effectiveness. It is possible that ST alone would have brought significant therapeutic benefit to a Latina sample because of the gain in understanding related to compelling family dynamics and schemas. However, without an explicit goal to work with ambivalence and resistance to change, as is the focus of MI, it is

Table 3
Intervention effect for depression (change in BDI-II scores) and Resilience (change in 23-item modified Resilience Scale score) from screening/SCID to follow-up visits ($n = 8$).

Comparisons	BDI-II		Resilience	
	Mean difference (SE)	t	Mean difference (SE)	t
Screening/SCID − session 1	8.87 (2.98)	2.97[a]		
Screening/SCID − session 8	28.25 (4.00)	7.06[c]	−31.54 (8.78)	−3.59[b]
Screening/SCID − 12-month follow-up	36.00 (3.61)	9.97[c]	−41.00 (8.51)	−4.81[b]
Session 8 − 1-month follow-up	6.13 (2.42)	2.53[a]		
Session 8 − 12-month follow-up	7.75 (2.25)	3.44[b]	−9.46 (4.25)	−2.23
1 month follow-up − 3-month follow-up	−1.13 (2.66)	−.42		
1 month follow-up − 12-month follow-up	2.75 (4.00)	.69		

[a] $p<.05$.
[b] $p\leq.01$.
[c] $p\leq.0001$

possible that stigma or judgment from family or community members related to being in psychotherapy (Nadeem et al., 2007) could have disrupted Latinas' commitment to treatment. Likewise, it is not clear if or how our reinforcement of resilience may have bolstered Latinas' resolve to persevere in treatment because their personal strengths were recognized and affirmed throughout each stage of MIST.

Results from MIST compared favorably to other short term treatments for depressed Latinas. Both our 8-session MIST program and the 12-session Behavioral Activation program by Kanter, Santiago-Rivera, Rusch, Busch, and West (2010) resulted in significant decreases in depression for those who completed the programs. While eight of nine Latinas completed the MIST program, six of ten Latinas completed the Behavioral Activation program. No follow-up data were reported for the latter but all of our completers achieved sub-threshold depression scores that held until one year after treatment completion. In a different study (Miranda, Chung, et al., 2003) however, CBT results were less favorable. That is, six months after initiating the treatment program, less than one third of participants with major depressive disorder were asymptomatic (Miranda et al., 2005). In another depression study, MI was combined with ethnographic interviewing in a pretreatment session and then combined with Interpersonal Psychotherapy in an 8-session program with black and white American mothers of children in psychiatric treatment (Swartz et al., 2008). Just as in MIST, depression significantly decreased in the Interpersonal Therapy study and most (10 of 11 patients) completed all eight treatment sessions. While the latter study did not include Latinas, it provided supportive evidence of the power of including MI in a short-term depression treatment intervention for women.

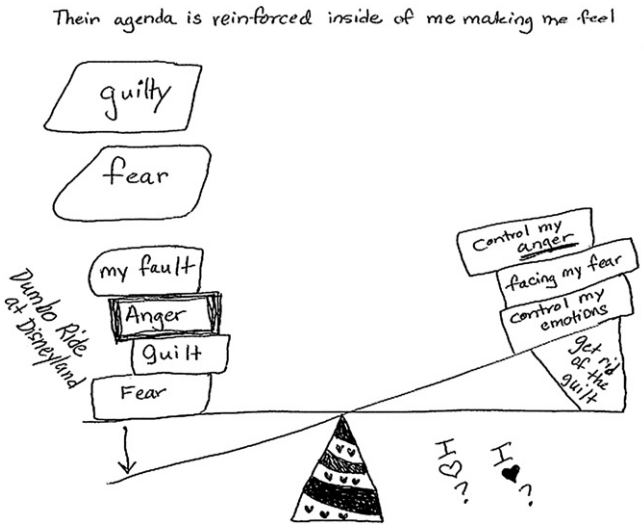

Fig. 3. Collaborative-map of the imbalance of emotions felt by the patient ("Ana") with guilt and fear of abandonment outweighing an ability to cope with anger and emotions.

Although delving into family dynamics can be culturally taboo for Latinas, ST's focus on maladaptive schemas and their childhood origins as well as women's adaptation to, or survival of, a stressful childhood environment, was remarkably well received by this sample. Because focus was on the situation that fostered the maladaptive schema and not any one person per se, perhaps ST was not perceived as blaming a particular parent or relative, which might have compelled a Latina to defend a family member for the sake of *familismo* or solidarity (Sabogal et al., 1987). Rather, the ST framework provided an organized but flexible model for addressing dynamics within each woman's unique family situation and cultural milieu, tailoring each session to the particular details of her world.

Collaborative-mapping was both process and product in MIST and relied on the patient's ability to actively assume the role of the expert and authorize the exploration of her experiences. Being actively engaged in mapping may have offset feelings of helplessness, by giving a sense of control when discussing distressing experiences. Because stigma related to depression among second generation Latinas is strong (Nadeem et al., 2007; Vega, Rodriguez, & Ang, 2010), a sense of mastery over the content of a therapeutic activity may have increased the participants' ability to tolerate the interaction. Butler and Holmes (2009) hold that when abstract concepts such as violence or neglect, or strong emotions such as terror or humiliation, are made more concrete through the use of metaphor or imagery, communication is facilitated and meaning is clarified; when this is done in the presence of an affirming, validating "other", the experience can be emotionally powerful and healing. In MIST, the collaborative aspect of mapping may have fostered trust and thereby cohesion, making a safe place for the patient to express anger or sadness while simultaneously initiating relief from prior confusion. At its best, this may reflect what Holmes et al. (2007) described as part of the healthy mourning that results from shifts in cognition through the use of imagery that activates highly emotional issues in therapy and ultimately promotes emotional growth.

Women entered MIST with relatively low resilience scores (98.38 ± 5.45) compared to a normative, convenience sample of 315 low income women of Mexican descent (139.3 ± 25.89) (Heilemann et al., 2005). However, MIST's focus on strengths, empathy, and confidence may have enhanced resilience in our sample because after treatment completion, scores increased significantly and one year later, scores were almost the same as those of the afore mentioned normative sample (138.13 ± 6.28). Thus, MIST not only reduced depression, but increased resilience.

Just as was demonstrated in previous ST trials with samples who are difficult to engage in treatment (Giesen-Bloo et al., 2006), MIST had a low drop out rate. Structural elements of the MIST program may have increased the effectiveness of the intervention. For example, patients had unlimited access to the NT via cell phone outside of sessions although very few actually called the NT. Similarly, Nadort et al. (2010) found that unlimited telephone availability of the ST therapist for patients diagnosed with borderline personality disorder was associated with significantly fewer treatment sessions to achieve the same therapeutic results over a three-year period. Another structural element was location; MIST sessions were intentionally held in a community-based child care center that had no stigmatized affiliation, such as could be the case with a mental health center. In addition, as has been done in other ST studies (Halford, Bernoth-Doolan, & Eadie, 2002), the therapist for MIST was a nurse, which may have been perceived as less stigmatizing. Scheduling was flexible and MIST sessions were approximately 2 h each which was well received by patients perhaps because it provided women with sufficient time to express themselves with great detail if needed, without being cut off due to a time limit.

A limitation of this pilot study was the small size of this convenience sample which was self-selected. Thus, the diversity of all Latinas in the US was not represented. Also, the absence of a non-interventional control group means that the customized therapeutic intervention was not compared to usual care. In addition, all the therapy was conducted by the same therapist who was particularly well suited for this work. While unavoidable in a pilot study of this kind, it is difficult to judge whether the effectiveness of the treatment was an effect of the therapy or of the therapist.

Future research is needed to replicate this pilot study with a larger sample and a control group. In addition to the assessment of early maladaptive schemas through a focused life history, imagery exercises, and the therapeutic relationship (Thimm, 2010), the use of the Schema Questionnaire (Young & Brown, 1990) will be crucial for gaining a broad understanding of the specific schema types for this understudied population. Future research questions should investigate the extent of the influence of MIST and collaborative-mapping on the cognitive organization of interpersonal content (Dozois et al., 2009), conceptual processing (Kindt, Buck, Arntz, & Soeter, 2007), or interference control for individuals in relation to rumination and depression (Zetsche & Joormann, 2010).

In conclusion, this short-term intervention was the first to combine MI and ST in psychotherapy research. A focus on resilience and the addition of collaborative-mapping as a treatment strategy created a powerful therapeutic program. The results showed MIST to be feasible, desirable, accessible, and effective for the treatment of depression in this sample of the severely understudied group of low income, second generation Latinas in the US.

Declaration of interest

The authors report no conflicts of interest.

The authors alone are responsible for the content and writing of this paper.

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References

Alegria, M., Canino, G., Shrout, P. E., Woo, M., Duan, N., Vila, D., et al. (2008). Prevalence of mental illness in immigrant and non-immigrant U.S. Latino groups. *American Journal of Psychiatry, 165*, 359–369.

American Psychiatric Association. (1994). *Diagnostic and Statistical manual of mental disorders: DSM-IV* (4th ed.). Washington, D.C.: American Psychiatric Association.

Arntz, A., & van Genderen, H. (2009). *Schema therapy for borderline personality disorder*. Malden, MA: Wiley-Blackwell.

Arntz, A., & Weertman, A. (1999). Treatment of childhood memories: theory and practice. *Behavior Research & Therapy, 37*, 715–740.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *BDI–II manual* (2nd ed.). San Antonio, TX: Pearson.

Beck, J. S. (1995). *Cognitive therapy: Basics and beyond*. New York: The Guilford Press.

Butler, G., & Holmes, E. A. (2009). Imagery and the self following childhood trauma: observations concerning the use of drawings and external images. In L. Stopa (Ed.), *Imagery and the threatened self: Perspectives on mental imagery and the self in cognitive therapy* (pp. 166–180). New York: Routledge.

Cook, B. L., McGuire, T., & Miranda, J. (2007). Measuring trends in mental health care disparities, 2000–2004. *Psychiatric Services, 58*, 1533–1540.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297–334.

Dozois, D. J. A., Bieling, P. J., Patelis-Siotis, I., Hoar, L., Chudzik, S., McCabe, K., & Westra, H. A. (2009). Changes in self-schema structure in cognitive therapy for major depressive disorder. *Journal of Consulting and Clinical Psychology, 77*, 1078–1088. doi:10.1037/a0016886.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1997). *Structured clinical interview for DSM-IV Axis 1 disorders (SCID – I/P, Verion 2.0, 4/97 revision)*. New York: New York State Psychiatric Institute.

Gallo, L. C., Penedo, F. J., Espinosa de los Monteros, K., & Arguelles, W. (2009). Resiliency in the face of disadvantage: do Hispanic cultural characteristics protect health outcomes? *Journal of Personality, 77*, 1707–1746.

Giesen-Bloo, J., van Dyck, R., Spinhoven, P., van Tilburg, W., Dirksen, C., van Asselt, T., et al. (2006). Outpatient psychotherapy for borderline personality disorder. *Archives of General Psychiatry, 63*, 649–658.

Gil, R. M., & Vazques, C. I. (1996). *The maria paradox: How Latinas can merge old world traditions with new world self-esteem*. New York: Berkley.

Grote, N. K., Zuckoff, A., Swartz, H., Bledsoe, S. E., & Geibel, S. L. (2007). Engaging women who are depressed and economically disadvantaged in mental health treatment. *Social Work, 52*, 295–308.

Halford, W. K., Bernoth-Doolan, S., & Eadie, K. (2002). Schemata as moderators of clinical effectiveness of a comprehensive cognitive behavioral program for patients with depression or anxiety disorders. *Behavior Modification, 26*, 571–593. doi:10.1177/014544502236651.

Heilemann, M. V., Lee, K. A., & Kury, F. S. (2002). Strengths and vulnerabilities of women of Mexican descent in relation to depressive symptoms. *Nursing Research, 51*, 175–181.

Heilemann, M. V., Lee, K. A., & Kury, F. S. (2005). Strength factors among women of Mexican descent. *Western Journal of Nursing Research, 27*, 949–965.

Holmes, E. A., Arntz, A., & Smucker, M. R. (2007). Imagery rescripting in cognitive behavior therapy: images, treatment techniques and outcomes. *Journal of Behavior Therapy and Experimental Psychiatry, 38*, 297–305.

Huang, Z. J., Wong, F. Y., Ronzio, C. R., & Yu, S. M. (2007). Depressive symptomatology and mental health-seeking patterns of U.S. and foreign-born mothers. *Maternal and Child Health Journal, 11*, 257–267.

Interian, A., Martinez, I., Iglesias Rios, L., Krejci, J., & Guarnaccia, P. J. (2010). Adaptation of a motivational interviewing intervention to improve antidepressant adherence among Latinos. *Cultural Diversity & Ethnic Minority Psychology, 16*, 215–225. doi:10.1037/a0016072.

Kanter, J. W., Santiago-Rivera, A. L., Rusch, L. C., Busch, A. M., & West, P. (2010). Initial outcomes of a culturally adapted behavioral activation for Latinas diagnosed with depression at a community clinic. *Behavior Modification, 34*, 120–144.

Kindt, M., Buck, N., Arntz, A., & Soeter, M. (2007). Perceptual and conceptual processing as predictors of treatment outcome in PTSD. *Journal of Behavior Therapy and Experimental Psychiatry, 38*, 491–506. doi:10.1016/j.jbtep.2007.10.002.

Laired, N. M., & Ware, J. H. (1982). Random-effects models for longitudinal data. *Biometrics, 38*, 963–974.

Lagomasino, I. T., Dwight-Johnson, M., Miranda, J., Zhang, L., Liao, D., Duan, N., & Wells, K. B. (2005). Disparities in depression treatment for Latinos and site of care. *Psychiatric Services, 56*, 1517–1523.

Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change* (2nd. ed.). New York: Guilford Press.

Miranda, J., Azocar, F., Organista, K. C., Dwyer, E., & Areane, P. (2003). Treatment of depression among impoverished primary care patients from ethnic minority groups. *Psychiatric Services, 54*, 219–225.

Miranda, J., Azocar, F., Organista, K. C., Muñoz, R. F., & Lieberman, A. F. (1996). Recruiting and retaining low-income Latinos in Psychotherapy research. *Journal of Consulting and Clinical Psychology, 64*, 868–874.

Miranda, J., Bernal, G., Lau, A., Kohn, L., Hwang, W., & LaFromboise, T. (2005). State of hte science on psychosocial interventions for ethnic minorities. *Annual Review of Clinical Psychology, 1*, 113–142. doi:10.1146/annurev.clinpsy.1.102803.143822.

Miranda, J., Chung, J. Y., Green, B. L., Krupnick, J., Siddique, J., Revicki, D. A., & Belin, T. (2003). Treating depression in predominantly low-income young minority women: a randomized controlled trial. *JAMA, 290*, 57–65. doi:10.1001/jama/290.1.57.

Miranda, J., Lagomasino, I., Lau, A., & Kohn, L. (2009). Robustness of psychotherapy for depression. *Psychiatric Services, 60*, 283.

Nadeem, E., Lange, J. M., Edge, D., Fongwa, M., Belin, T., & Miranda, J. (2007). Does stigma keep poor young immigrant and US-born black and Latina women from seeking mental health care? *Psychiatric Services, 58*, 1547–1554.

Nadort, M., Arntz, A., Smit, J. H., Giesen-Bloo, J., Eikelen-Boom, M., Spinhoven, P., et al. (2010). Implementation of outpatient schema therapy for borderline personality disorder with versus without crisis support by the therapist outside office hours: a randomized trial. In M. Nadort (Ed.), *Psychotherapy development and research. Symposium conducted at the meeting of the International Society of schema therapy, Berlin, Germany*.

Pieters, H. C., & Heilemann, M. V. (2010). "I can't do it on my own": motivation to enter therapy for depression among low income, second generation Latinas. *Issues in Mental Health Nursing, 31*, 279–287.

Ramirez, R. R., & de la Cruz, P. (2002). *The Hispanic population in the United States: March 2002*. Current Population Reports, P20-545. Washington, D.C.: US Census Bureau.

Sabogal, F., Marin, G., Otero-Sabogal, R., Marin, B., & Perez-Stable, E. (1987). Hispanic familism and acculturation: what changes and what doesn't? *Hispanic Journal of Behavioral Sciences, 9*, 397–412.

Santos, J. R. A. (1999). Cronbach's Alpha: a tool for assessing the reliability of scales. *Journal of Extension, 37*, 2.

Steer, R. A., Ball, R., Ranieri, W. F., & Beck, A. T. (1999). Dimensions of the Beck depression inventory-II in clinically depressed outpatients. *Journal of Clinical Psychology, 55*, 117–128.

Swartz, H. A., Frank, E., Zuckoff, A., Cyranowski, J., Houck, P., Cheng, Y., et al. (2008). Brief interpersonal psychotherapy for depressed mothers whose children are seeking psychiatric treatment. *American Journal of Psychiatry, 165*, 1155–1162.

Thimm, J. C. (2010). Personality and early maladaptive schemas: a five-factor model perspective. *Journal of Behavior Therapy and Experimental Psychiatry, 41*, 373–380. doi:10.1016/j.jbtep.2010.03.009.

Vega, W., Rodriguez, M. A., & Ang, A. (2010). Addressing stigma of depression in Latino primary care patients. *General Hospital Psychiatry, 32*, 182–191. doi:10.1016/j.genhosppsych.2009.10.008.

Vega, W. A., Sribney, W. M., Aguilar-Gaxiola, S., & Kolody, B. (2004). 12-month prevalence of DSM-III-R psychiatric disorders among Mexican-Americans: nativity, social assimilation, and age determinants. *The Journal of Nervous and Mental Diseases, 192*, 532–541. doi:10.1097/01.nmd.0000135477.57357.b2.

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement, 1*, 165–178.

World Health Organization. (2010). *Gender and women's mental health*. http://www.who.int/mental_health/prevention/genderwomen/en/ Retrieved from.

Young, J. E. (1990). *Cognitive therapy for personality disorders: A schema-focused approach*. Sarasota, FL: Professional Resources Press.

Young, J. E. (1999). *Cognitive therapy for personality disorders: A schema-focused approach* (rev. ed.). Sarasota, FL: Professional Resources Press.

Young, J. E., & Brown, G. (1990). *Young schema questionnaire*. New York: Cognitive Therapy Center of New York.

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2003). *Schema therapy: A practitioner's guide*. New York: The Guilford Press.

Zetsche, U., & Joormann, J. (2010). Components of interference control predict depressive symptoms and rumination cross-sectionally, and at six months follow-up. *Journal of Behavior Therapy and Experimental Psychiatry*, . doi:10.1015/j.jbtep.2010.06.001.

Zuckoff, A., Swartz, H. A., & Grote, N. K. (2008). Motivational interviewing as a prelude to psychotherapy of depression. In H. Arkowitz, H. A. Westra, W. R. Miller, & S. Rollnick (Eds.), *Motivational interviewing in the treatment of psychological problems* (pp. 109–144). New York: The Guilford Press.