



Caregiver Socialization of Reappraisal and Children's Cognitive Flexibility Jointly Predict Latinx Children's Anxiety

Laura E. Quiñones-Camacho^{1,2} · Elizabeth L. Davis³

Accepted: 19 October 2021 / Published online: 13 January 2022

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2022

Abstract

Anxiety disorders are among the most common forms of psychopathology in childhood and represent a particularly concerning issue for Latinx children. Research on adults and children with anxiety suggests that the effective regulation of emotion is associated with fewer symptoms. The current study used data from 78 Latinx (predominantly Mexican American) 8- to 11-year-old children ($M = 9.91$; $SD = 1.14$; 50% girls) and one caregiver to explore regulatory processes that may characterize emerging psychopathology in Latinx families. Caregivers reported on their use of reappraisal and their child's anxiety symptoms. Children completed a cognitive flexibility task and self-reported their anxiety symptoms. More extensive caregiver use of reappraisal was associated with fewer child anxiety symptoms (an average of caregiver- and child-report). As expected, this effect was qualified by children's cognitive flexibility. Caregiver reappraisal was associated with anxiety symptoms only for children with greater cognitive flexibility, highlighting the importance of individual differences in cognitive skills underlying children's mastery of sophisticated cognitive strategies. Findings suggest the importance of considering both caregiver and child regulatory processes to improve understanding of anxiety symptoms among Latinx children.

Keywords Self-regulation · Cognitive flexibility · Anxiety symptoms · Reappraisal · Latinx

Highlights

- This study investigated whether caregiver and child regulatory processes jointly predict Latinx children's anxiety symptoms.
- Greater use of reappraisal by a caregiver was associated with fewer symptoms for Latinx children high in cognitive flexibility.
- Findings suggest the importance of considering caregiver and child processes to understand anxiety symptoms among Latinx children.

Supplementary information The online version contains supplementary material available at <https://doi.org/10.1007/s10826-021-02145-5>.

✉ Laura E. Quiñones-Camacho
laura.quinonescamacho@austin.utexas.edu

¹ Department of Psychiatry, Washington University in St. Louis, St. Louis, MO, USA

² Department of Educational Psychology, The University of Texas at Austin, Austin, TX, USA

³ Department of Psychology, University of California Riverside, Riverside, CA, USA

Anxiety symptoms are one of the most common forms of psychopathology in childhood and adolescence, with a higher prevalence than disorders like depression and attention-deficit hyperactivity disorder (Polanczyk et al., 2015). Anxiety symptoms in childhood predict anxiety symptoms as well as depression, conduct disorders, ADHD, among other mental disorders (Bittner et al., 2007), as well as more medical problems across the lifespan (Bardone et al., 1998). Although most research has focused on European American/white children, growing evidence suggests that minority children, especially Latinx children, have a heightened risk for anxiety symptoms (McLaughlin et al., 2007). Latinx youth often report more symptoms of separation anxiety (Ginsburg & Silverman, 1996), somatic

complaints (Pina & Silverman, 2004), and worry (Varela et al., 2004) than non-Latinx white youth. Given the heightened risk for anxiety and other related disorders, it is imperative that we identify strengths and protective factors that can enhance healthy development and decrease risk for later psychopathology among Latinx youth.

There is evidence that children learn to regulate their emotions in part from observation of and exposure to adults' (often, parents' or other caregivers') emotion expression and regulation attempts (Bariola et al., 2012; Eisenberg et al., 1998; Gunzenhauser et al., 2014). Caregivers' emotion socialization, including both overt and covert behaviors, have been consistently linked with better socioemotional development (Eisenberg et al., 2001; Meyer et al., 2014). In a study with 4–7-year-olds, parental emotion expression was associated with children's internalizing and externalizing problems, an effect that was mediated by children's regulatory abilities (Eisenberg et al., 2001). Adults' use of cognitive emotion regulation strategies has also been associated with more positive parenting behaviors and less negative emotional expression in disciplinary contexts in primarily European-American samples (Gunzenhauser et al., 2014; Meyer et al., 2014). This is particularly true for reappraisal, an advanced cognitive emotion regulation strategy that involves changing how one thinks about an event in order to change how one feels about it (Gross & Thompson, 2007), for example by thinking how a bad grade is not as significant as initially thought. These findings that caregiver use of strategies such as reappraisal is associated with more positive parenting behaviors suggests that parents' emotion regulation promotes a positive emotional climate in which adaptive strategies are indirectly modeled for children, at least for European-American children. Adults' strategies for assisting and shaping children's emotion regulation become more sophisticated as children develop, with caregivers modeling reappraisal and related cognitive strategies more often in late childhood (Eisenberg & Morris, 2002). These developmental patterns of parental emotion regulation socialization are likely to be present in Latinx samples as well, but have yet to be examined empirically.

A growing body of research on strengths within Latinx cultures highlights the positive effects of Latinx's focus on family, the social support derived from family, and active participation in family dynamics (Sabogal et al., 1987) on health and well-being despite the increased socioeconomic risks faced by this group (e.g., difficulties meeting basic needs; Campos et al., 2014; Hernandez et al., 2005). This is exemplified in cultural values like *simpatía* – valuing social interactions by being agreeable, respectful, friendly, and polite (Ramírez-Esparza et al., 2008; Rodríguez-Arauz et al., 2019) – and *familism* (or *familismo*) – valuing family relationships that are warm, close, and supportive, and

viewing the family as a source of instrumental support – (Campos et al., 2014; Lugo Steidel & Contreras, 2003). Although much of this work has focused on adults, family relationships play an important positive influence for Latinx children and are essential for understanding Latinx children's outcomes (García Coll & Szalacha, 2004). There is growing evidence that children from Latinx cultures, especially those of Mexican heritage, are particularly likely to learn through observation of caregivers and other adults compared to other groups (López et al., 2010; Rogoff et al., 2003). Although these findings concern learning broadly and are not specific to emotion socialization, they suggest that Latinx children are likely to benefit from observing their caregivers engaging in their own emotion regulation processes, even if these regulatory behaviors are not being explicitly modeled to them.

Limited prior research, primarily with young children, suggests that caregivers in at least some subgroups of the Latinx community, such as Mexican-American caregivers, socialize children's expression of emotions differently when compared to other racial and ethnic groups (Ispa et al., 2004; Lugo-Candelas et al., 2015; Perez Rivera & Dunsmore, 2011). This is not surprising as socialization experiences occur within sociocultural contexts, making it likely that emotion expression and socialization is also influenced by the cultural context (Matsumoto et al., 2008; Mesquita, 2007). In a study with primarily Puerto Rican 3-year-olds, mothers minimized or did not respond to their child's negative affect (considered by European American standards to be a form of negative parenting), however, this had no consequences for children, suggesting that parental emotion socialization practices might work differently for this group (Lugo-Candelas et al., 2015). In another study on emotion socialization in Mexican and Dominican 5-year-olds and their mothers, supportive responses were associated with greater child expressive emotion knowledge, consistent with previous work on primarily European American samples (Pintar Breen et al., 2018). However, nonsupportive responses were not associated with child expressive emotion knowledge as would be expected based on studies with European American samples. Other studies on emotion discussions between Mexican American mothers and other ethnic groups suggest that while Mexican American mothers do not differ in the frequency with which they discuss emotions with their children, they do differ in the nature of their conversations (Eisenberg, 1999; Flanagan & Perese, 1998). Mexican American mothers are less likely to talk about the child's emotions and more likely to talk about the mother's and others' emotions than European American mothers (Eisenberg, 1999), and discuss emotions in relation to interpersonal relationships more often than African American mothers (the pattern was similar but not significant for European American mothers) (Flanagan &

Perese, 1998). Thus, while a growing body of research suggests that parental emotion socialization in Latinx families differs in some ways from European American families, it is unclear how Latinx caregivers' use of emotion regulation strategies like reappraisal would relate to Latinx children's emerging anxiety symptoms, a link that has been previously established in non-Latinx samples. Thus, in the current study we explored links between caregivers' use of reappraisal—an advanced cognitive emotion regulation strategy for reframing a situation to change how one feels about it—and Latinx children's anxiety symptoms. By doing this, we hoped to assess whether caregiver use of this strategy might serve an important but unexplored role in protecting against the emergence of symptoms in these children.

Adults' modeling of emotion expression and regulation has been identified as a mechanism through which caregivers increase risk for anxiety symptoms in their children (Lieb et al., 2000; Rapee, 2012). For example, caregiver modeling of fearful behaviors seems to be an essential pathway for children's acquisition of over-general fear responses (Dubi et al., 2008; Gerull & Rapee, 2002). Children's difficulties in the use of emotion regulation strategies, such as reappraisal, have been linked to anxiety symptoms in late childhood (Cisler et al., 2010; Quiñones-Camacho & Davis, 2019a). Thus, caregivers' engagement in (and thus modeling of) behaviors like cognitive inflexibility and the use of maladaptive emotion regulation strategies may be particularly consequential for the emergence of anxiety during this phase of development. One of the few studies to examine associations between caregiver use of reappraisal and child anxiety found that mothers of clinically anxious 10- to 17-year-old Israeli youth were less able to implement reappraisal and reported using reappraisal less in their everyday life (Wald et al., 2018). Moreover, mothers' use and ability to implement reappraisal were both inversely associated with youth anxiety, highlighting associations between caregiver reappraisal and youth anxiety.

Children become increasingly adept at managing their emotions in part because of improvements in executive functions (Garon et al., 2008). Executive functions refer to cognitive processes necessary for higher order goal-directed behavior, such as inhibitory control, working memory, and cognitive flexibility. Cognitive flexibility—the ability to shift one's thoughts based on contextual demands (Garon et al., 2008; Huizinga et al., 2006), for example, by thinking about other options when something you tried did not work—is thought to be somewhat dependent on the other two processes, resulting in a slightly protracted developmental trajectory well into late childhood (Chevalier et al., 2012; Lehto et al., 2003). Work on executive functions and emotion regulation has demonstrated that more advanced executive functions are associated with better emotion

regulation (Carlson & Wang, 2007), including greater use of cognitive strategies such as reappraisal (Lantrip et al., 2016). Because of the complexity of cognitive flexibility, including the need for working memory and inhibitory control, this construct is likely to serve as a prerequisite for the use of more cognitively demanding strategies such as reappraisal, as it would facilitate shifting the interpretation of a negative event. Moreover, theoretical accounts of parental emotion socialization posit that children's regulatory capacities are likely to serve as moderators of parental emotion socialization (Eisenberg Cumberland & Spinrad, 1998). Lastly, there is also evidence that anxiety symptoms in childhood are linked with poorer cognitive flexibility even when temperament and other executive functions are considered (Affrunti & Woodruff-Borden, 2015; Toren et al., 2000). Thus, late childhood represents a developmental period in which cognitive inflexibility may carry especially strong consequences for children's emerging anxiety symptoms. Caregiver modeling of reappraisal and children's cognitive flexibility can both be viewed as antecedent regulatory processes to children's use of complex emotion regulation strategies. Though this has not been tested in Latinx families, considering these regulatory precursors in Latinx children will provide important information about individual differences in risk for anxiety within this community. This investigation builds on Wald and colleagues' (2018) finding that caregiver use of reappraisal was associated with child anxiety symptoms by examining whether the positive effects of caregiver reappraisal on child anxiety are evident in Latinx families and whether they depend on Latinx children's cognitive flexibility. We reasoned that Latinx children would benefit from caregiver modeling of reappraisal only if they already possess the cognitive skills—like the flexibility to change their interpretations of negative events—needed to engage in reappraisal.

The goal of this study was to assess the role of caregiver and child regulatory processes on anxiety symptoms in a sample of 8–11-year-old Latinx children. We focused on late childhood as this time represents a particularly important period when children have already learned strategies such as reappraisal but are still developing mastery in these strategies. This period also represents a time when anxiety symptoms become more prevalent. First, we assessed whether caregivers' use of reappraisal was negatively associated with child anxiety in a sample of Latinx children. We expected more extensive caregiver use of reappraisal to be associated with fewer child anxiety symptoms. Second, we assessed children's cognitive flexibility as a putative moderator of the expected relation between caregiver reappraisal and child anxiety symptoms. We expected children to have fewer anxiety symptoms if caregivers modeled reappraisal more extensively and children showed greater cognitive flexibility.

Method

Participants

Seventy-eight Latinx children (39 girls; primarily Mexican-American and 2nd or 3rd generation) participated in a study on Latinx children's emotional development (age range: 8.00–11.92 years; $M_{age} = 9.91$; $SD_{age} = 1.14$). Participants were recruited from a departmental database of families interested in research and from community events in inland Southern California (please see Supplementary Material 1 for the phone script). Inclusion criteria included caregivers identifying their children as Latinx or part Latinx, and children being between the ages of 8 and 11 years. All children were endorsed by their caregivers as being Latinx. Out of the entire sample, 58 (74%) children were endorsed by their caregivers as being Latinx only, and 20 (26%) were reported as being Latinx as well as another ethnic/racial group. Sixty-three children were born in California, one was born in Chile, two were born in other states, and twelve were missing data on this question. Of the participating caregivers, 39 were born in California, five indicated being born in other states, 23 indicated being born in Mexico, one in Guatemala, one in Japan, the remaining nine did not indicate place of birth.

Given that these children were likely to be bilingual, and that bilingualism has been associated with more advanced executive functions (Bialystok, 1999), we assessed children's bilingualism through parent report and a verbal fluency task. Nineteen children were reported by the participating caregiver as being monolingual English speakers, 11 children were missing data on this. Out of the 48 who were reported to be bilingual, 28 learned Spanish before English, and the other 20 learned English before Spanish. When completing the Spanish and English verbal fluency task, children were asked about Spanish first as they were, in general, expected to perform better in English than in Spanish. Each language section was subdivided in three parts which lasted 60 sec each. In the first part, children were asked to say any word in Spanish, in the second minute they were asked to say only animals, and in the third minute they were asked to say only feeling and emotion words. Similar approaches using verbal fluency tasks have been used in studies with bilingual children (e.g., Bialystok & Shorbagi, 2021; Pino Escobar et al., 2018). The same procedure and order were used for the English part. We used the total number of unique words mentioned throughout the three minutes for each language as an index of verbal fluency. Two trained research assistants counted the total unique words mentioned in the appropriate language with excellent reliability (30% of cases; percent agreement Spanish = 96%; percent agreement English = 92%). Fluency in both languages varied greatly, for both

Spanish (Total unique words: 0–109; $M = 15.34$, $SD = 13.88$) and English (Total unique words: 6–72; $M = 27.64$, $SD = 10.77$). Fluency in either language was not related to performance on the cognitive flexibility task or child anxiety symptoms ($r < -0.156$, $p > 0.183$). Moreover, there were also no differences based on caregiver's report of the child's bilingualism (t 's < 0.758 , p 's > 0.451). Thus, children's bilingualism was not considered further.

Consistent with the demographics of the region, families reported being low- to middle-income; 16% reported an annual household income $< \$15,000$, 28% reported an income between $\$15,000$ – $\$30,000$, 19% reported an income between $\$30,000$ – $\$50,000$, and 37% reported an income $> \$50,000$. Most children (65%) lived with both biological parents, and 24% lived with only one biological parent. Seventy mothers, six fathers, one grandfather, and one grandmother (both grandparents were legal guardians) participated in the study. The participating caregiver (most often the biological mother) reported educational attainment for themselves and for one other primary caregiver (most often the biological father). Male caregivers did not finish high school (24%), earned a high school diploma (24%), completed some college (37%), earned a college degree (4%), or had some graduate training or completed a graduate degree (7%). Education data were not available for 4%. In the case of female caregivers, 22% did not finish high school, 12% completed high school, 31% completed some college, 9% earned a college degree, and 15% had some graduate training or earned a graduate degree. Education data were not available for 11%.

Procedure

The study was approved by the university's institutional review board (*institution blinded for review*). Families visited the laboratory one time for a 3-hour session. Undergraduate research assistants were trained to administer the study procedures by the first author. Research assistants (all women) identified as Latinx and had grown up in the Southern California region. English and Spanish versions of all the procedures, tasks, and questionnaires were available, and families were given the option to complete their part of the study in the language they felt more comfortable speaking and reading. All children completed the study procedures in English. For the caregiver procedures, 21% of caregivers chose to complete the study in Spanish. Caregivers gave written consent and children provided written and verbal assent to participate. Caregivers completed a battery of questionnaires about their child, themselves, and their family. Children completed computerized tasks, including the cognitive flexibility task of interest in this report, and self-reported on their anxiety symptoms using an age-validated questionnaire. At the end of the study,

families were debriefed, compensated, and children chose a prize to take home.

Measures

Child cognitive flexibility

Children completed a 60-card version of the Wisconsin Card Sorting Task (WCST) to assess cognitive flexibility. This task involves sorting cards according to different rules (i.e., color, shape, or number). Children were asked to sort cards, but were not told the initial rule to use. Instead, they sorted cards until they discerned the correct rule (they received feedback about the accuracy of their guess after every trial) and continued to sort cards based on that rule. The sorting rule changed every 10 cards. A computerized version of this task was presented in PsyToolkit (Stoet, 2010; 2017), which includes a library of pre-programmed tasks including the WCST. Participants' perseverative errors were of interest (e.g., continuing to sort cards using a rule even after getting feedback that the rule was wrong). We calculated the percentage of trials in which the child made this type of perseverative error for analyses, so higher scores indicate poorer cognitive flexibility.

Caregiver reappraisal

The Emotion Regulation Questionnaire (Gross & John, 2003) consists of 10 items: 6 measure reappraisal, 4 measure expressive suppression. The reappraisal items include statements like, "*When I am faced with a stressful situation, I make myself think about it in a way that helps me stay calm.*" Caregivers reported their endorsement of the items on a 7-point scale (7 = *strongly agree*; 1 = *strongly disagree*). This questionnaire has successfully been used with US-Latinx samples in the past (Juang et al., 2016). We focused on the reappraisal subscale given our hypotheses ($\alpha = 0.78$). Responses to the items were averaged; higher scores indicate greater use of reappraisal.

Anxiety symptoms

Children's anxiety was measured using the Screen for Child Anxiety Related Disorders (SCARED; Birmaher et al., 1997). Caregivers and children completed the caregiver- and child self-report versions of this measure. The SCARED consists of 41 items yielding a total score and five subtypes of anxiety subscales. Participants indicated how true each statement was of their child/themselves (3-point scale; 2 = *very true or often true*; 0 = *not true or hardly ever true*). The total score, which was of interest here, was

computed by summing all the item responses. Higher scores indicate more anxiety symptoms, and scores above 25 indicate clinically meaningful levels of anxiety (Birmaher et al., 1997). Based on this threshold, 39 children self-reported clinically meaningful levels of anxiety symptoms, as did 26 caregivers. Only ten children were both self- and caregiver-reported as scoring above 25. The total score had good reliability, for both the child ($\alpha = 0.88$) and caregiver ($\alpha = 0.93$) versions. Cross-ethnic measurement invariance for this questionnaire has been previously demonstrated (Skriner & Chu, 2014; Wren et al., 2007). We averaged the total scores for caregiver-reported and child self-reported anxiety symptoms ($r = -0.068$, $p = 0.556$) for use in analyses, to account for multiple aspects of functioning related to children's anxiety (Achenbach et al., 1987). We chose to use a multi-informant approach by averaging across reporters, as this allows us to account for both changes in anxious phenotype as well as varying manifestations of anxious symptoms across contexts and is considered optimal (Achenbach, 2006; De Los Reyes, 2011). This averaged multi-informant perspective reduces potential biases from either parent or child report while decreasing the number of statistical tests we conducted given our small sample. In addition, this approach is consistent with several studies using the same SCARED questionnaire (Bourdon et al., 2019; Buzzell et al., 2017; Lahat et al., 2014; Roy et al., 2013; Shechner et al., 2014).

Data Analysis

Analyses were conducted in SPSS 25. First, we addressed issues with missing data. Ten participants were missing income data. Additionally, three children were missing cognitive flexibility data (one of whom was also missing income). No other data were missing. To address missing data in our variables of interest we used multiple imputation to retain all participants for analyses; this approach has been recommended over listwise deletion (Royston, 2004). Ten imputed datasets were computed using SPSS 25.0, and pooled estimates are reported in analyses. After this, we conducted correlations and *t* tests to assess general patterns and associations in our data. Finally, to address our research questions, our primary analyses used hierarchical linear regressions with the imputed datasets. These regressions tested (1) whether caregivers' use of reappraisal related to children's anxiety symptoms and (2) whether children's cognitive flexibility interacted with caregivers' use of reappraisal to qualify this relation. Child gender, household income, and child age were entered as covariates. Children's cognitive flexibility and caregiver reappraisal were entered in step 2. The third and final step included the interaction of child cognitive flexibility and caregiver reappraisal.

Results

Preliminary Analyses

Means, standard deviations, and correlations are presented in Table 1. Based on the averaged caregiver- and child-reports of child anxiety, 29 children (37% of the sample) were above the clinical threshold (>25 symptoms). Girls ($M = 23.97$; $SD = 7.72$) reported higher anxiety symptoms than boys ($M = 19.51$; $SD = 8.33$), $t_{76} = 2.449$, $p = 0.014$, $d = 0.56$. As expected, child anxiety was negatively associated with caregiver use of reappraisal ($r = -0.331$, $p = 0.003$). Child anxiety was also correlated with family income ($r = -0.247$, $p = 0.034$). Children’s age was not correlated with any variable ($r_s < -0.204$, $p_s > 0.080$).

Primary Analyses

Child gender was a significant covariate (Step 1; $b = 4.360$, $p = 0.015$, 95% CI [0.855, 7.864]). Family income was marginally associated with child anxiety ($b = -0.697$, $p = 0.058$, 95% CI [-1.418, 0.024]; Table 2). As hypothesized, caregivers’ use of reappraisal (Step 2) was negatively

associated with child anxiety ($b = -1.895$, $p = 0.014$, 95% CI [-3.405, -0.385]). The interaction of reappraisal and cognitive flexibility (Step 3) was significant ($b = 0.270$, $p = 0.005$, 95% CI [0.081, 0.458]; Fig. 1). Simple slopes were probed at $\pm 1SD$ from the mean (Aiken et al., 1991) and revealed that greater caregiver use of reappraisal was associated with less anxiety for children who were higher in cognitive flexibility ($b = -3.627$, $t = -3.831$, $p < 0.001$). In contrast, caregiver reappraisal was not related to child anxiety for children who were lower in cognitive flexibility ($b = 0.680$, $t = 0.586$, $p = 0.559$).

Discussion

The current study examined the link between caregiver use of reappraisal and Latinx children’s anxiety symptoms in a cross-sectional sample of 8- to 11-year-old children. Additionally, we considered children’s cognitive flexibility as an important potential moderator of this association. Results supported our expectations: we found that caregiver use of reappraisal was inversely associated with Latinx children’s anxiety symptoms, and cognitive flexibility moderated this

Table 1 Mean, standard deviations, and correlations among variables

Variable of interest	Mean	SD	1	2	3	4	5
1. Child anxiety	21.740	8.289	–				
2. Caregiver reappraisal	5.404	1.159	-0.331**	–			
3. Child cognitive flexibility	22.467	7.976	0.026	-0.072	–		
4. Household income	4.471	2.465	-0.247*	0.131	-0.119	–	
5. Child age	9.907	1.139	-0.164	0.011	-0.204	0.068	–

Note. Correlations represent the pooled results with the 10 imputed data sets

* $p < 0.05$; ** $p < 0.01$

An income of 4 corresponds to \$31–40k a year

Clinical cutoff for child anxiety = 25; boys = 0

Table 2 Regression model predicting child anxiety

	R ²	ΔR ²	ΔF	p	b	SEb	T	p
Step 1	0.152	0.152	4.427	0.007				
Gender					4.360	1.788	2.438	0.015
Age					-1.248	0.792	-1.576	0.115
Income					-0.697	0.368	-1.896	0.058
Step 2	0.219	0.067	3.059	0.054				
Child cognitive flexibility					-0.030	0.113	-0.267	0.790
Caregiver reappraisal					-1.895	0.771	-2.459	0.014
Step 3	0.240	0.021	8.139	0.006				
Child cognitive flexibility X caregiver reappraisal					0.270	0.096	2.799	0.005

Note. Steps include variables in previous steps of the model

Results with imputed datasets

Bold = $p < 0.05$

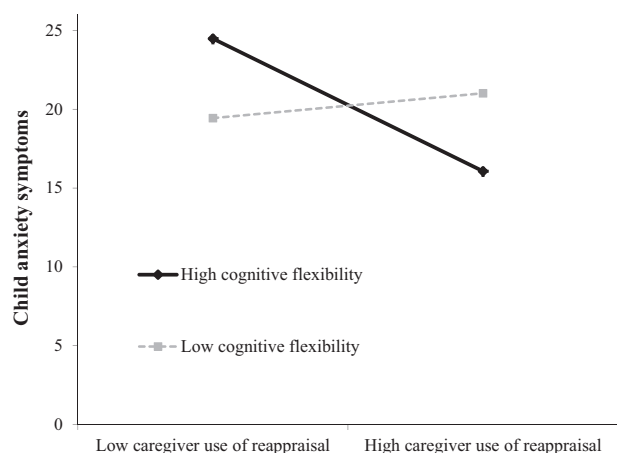


Fig. 1 Two-way interaction of caregiver reappraisal and child cognitive flexibility predicting child anxiety (average of caregiver and child scores). Simple slope high cognitive flexibility: $b = -3.627$, $t = -3.831$, $p < 0.001$. Simple slope low cognitive flexibility: $b = 0.680$, $t = 0.586$, $p = 0.559$

effect. Specifically, children with the dual regulatory strengths of better cognitive flexibility (a putative prerequisite for using complex emotion regulation strategies like reappraisal) whose caregivers endorsed more extensive use (and likely modeling) of reappraisal had fewer concurrent anxiety symptoms. Thus, both caregiver and child regulatory processes are important to contextualize Latinx children's anxiety during the late childhood period. Moreover, our study is part of a growing body of work moving away from using Latinx-White comparisons to understand Latinx children's development (e.g., Quiñones-Camacho & Davis, 2019b; Updegraff et al., 2012) to a more focused exploration of strengths and individual differences within the Latinx community. This approach is more useful for understanding ways to potentiate Latinx children's healthy development by exploring factors that might be unique to this group (Fuller & Coll, 2010). Future work can capitalize on this approach to assess how characteristics of Latinx families, such as an increased focus on social networks and social support may serve as particularly important resilience and protective factors for the Latinx community. For example, an extension of the current study could focus on how familism influences children's learning of emotion regulation strategies from their parents more broadly.

Although we examined these processes in a community sample, 37% of the children in this study had disorder levels of anxiety symptoms. This percentage is higher than the 5–15% prevalence rates of anxiety disorders among youth described by epidemiological and cohort studies (e.g., Heimberg et al., 2000; Polanczyk et al., 2015). Our findings align with previous studies with community samples that have also shown elevated levels of anxiety symptoms in Latinx youth (Hernandez et al., 2005; McLaughlin et al., 2007).

Interestingly, although Latinx have a higher prevalence of anxiety disorders, this vulnerability appears to be offset (and potentially buffered) by notable interpersonal strengths. For instance, Latinx tend to have higher quality and more satisfying interpersonal relationships than do European American/White participants (Hernandez et al., 2005). One way in which Latinx ethnicity has been found to result in greater well-being, at least for Latina mothers compared to European American mothers, is through differences in conversational styles, with Latina mothers engaging in more substantive conversations (instead of just small talk; Ramírez-Esparza et al., 2019). Given the importance of interpersonal relationships for this group, caregiver modeling of emotion regulation might continue to be an important and influential source of socialization for Latinx children even into late childhood.

Of note, girls in this study had more anxiety symptoms than boys, which is consistent with previous research using similarly-aged samples (Wren et al., 2007) and underscores that Latinx girls may be at particularly high risk for the lifetime prevalence of internalizing symptoms like anxiety. This is particularly meaningful as we identified two important regulatory processes that exacerbate risk for anxiety in these children and that might be particularly strong predictors of later risk for Latina girls. Because our study focused on the late childhood period, results provide novel evidence that these gender differences in risk are evident in Latinx communities even before puberty and adolescence, when most of the gender differences have been documented (McLaughlin et al., 2007; Piccinelli & Wilkinson, 2000). This is a noteworthy contribution to our understanding of the emergence of symptoms in Latinx children as it suggests that Latina girls might be at a higher risk for anxiety disorders from an earlier age than their non-Latinx counterparts. Given this heightened risk for anxiety symptoms, future prevention and intervention efforts may wish to focus their efforts on Latina girls as an especially at-risk population. The current study offers suggestions for how these efforts might be particularly useful for Latina girls. Specifically, intervention and prevention efforts should capitalize on the interpersonal strengths of this Latinx community and target both intrapersonal (e.g., cognitive flexibility) and interpersonal (e.g., caregiver modeling of ER) processes.

We replicated and extended the pattern of results reported by Wald and colleagues (2018) to a sample of Latinx children growing up in the US. Both studies found caregiver use of reappraisal was inversely related to child anxiety. We extended this pattern by examining a community sample of Latinx participants, specifically in late childhood. In addition, we have identified the importance of considering both child-specific as well as parent-specific factors for understanding risk for anxiety. While we are unable to say for certain that caregivers who reported using reappraisal more

often in our study openly discuss reappraisal strategies with their children or even coach them through reappraising negative events, research on how Latinx children are more likely to learn from observation (López et al., 2010; Rogoff et al., 2003), and how Latina mothers are more likely to talk about their emotions than their child's emotions (Eisenberg, 1999), suggests that these children are likely being at least indirectly socialized with respect to emotion regulation strategies such as reappraisal. Moreover, given what is known about the cultural values of familism and simpatía, it is likely that Latinx children are not only being indirectly socialized advanced emotion regulation strategies, but that they are prioritizing this indirect learning from their caregivers.

Our findings suggest that addressing caregiver modeling of sophisticated cognitive emotion regulation strategies could be a simple yet powerful way of addressing problems with anxiety symptoms in late childhood for this population. This, along with efforts to help Latinx children develop proficient cognitive flexibility skills at a time when children are starting to shift most of their regulatory efforts towards cognitive strategies (Reijntjes et al., 2007) could help reduce risk for clinical levels of symptoms in this group.

The strengths of this study include the fact that children's anxiety symptoms ranged from no symptoms to clinical levels. Additionally, looking at these links in Latinx children is a strength, as Latinx children represent about 1/4 of children in the US (as of 2016; retrieved from childtrends.org) and are more likely to experience psychopathology in their lifetime. Another notable strength is the incorporation of multiple reporters for child anxiety symptoms. But some limitations should be noted. Although the use of an averaged multi-informant measure of child anxiety symptoms is a strength of the study, there is still debate on what is the best approach to combining multi-informant data. However, there is some evidence that an average of informant reports is a stronger predictor of concurrent and longitudinal impairment compared to other approaches (Martel et al., 2021). Nonetheless, it is possible that this approach resulted in lost nuance and more work should carefully assess the impact of various forms of multi-informant measures on concurrent and longitudinal outcomes. Although research on cognitive flexibility and other executive functions has often found that bilingual children outperform monolingual children in these tasks, bilingualism was not associated with cognitive flexibility in our study. It is likely that this is due to the fact that most children appeared to be at least somewhat bilingual. Another limitation was that we had only a self-report measure of caregiver reappraisal (which we used as a proxy for caregiver modeling of reappraisal) and no observed measures. However, given that our results are consistent with Wald and colleagues' (2018) findings, caregiver-report of the use of this strategy still provides meaningful information on how caregiver emotion

regulation influences child outcomes. Future studies should explore caregiver implementation and modeling of reappraisal during interactions with their children to further clarify the impact of various regulatory processes on anxiety development in late childhood. Additionally, our sample was cross-sectional, limiting our ability to make inferences about the true directionality of these associations. Future studies should use longitudinal designs that can better assess the role of caregiving and child regulatory processes on child symptoms over time. Lastly, while the focus on Latinx children is a strength of this study, it is possible that the children who participated in the study differed in important ways from Latinx children who did not take part in the study. Given how little is known about developmental trajectories of Latinx children in the US, future studies should collect more information on how representative children included in analyses are to the broader characteristics of the communities from which they are recruited.

Conclusion

This study sought to explore the regulatory processes that characterize emerging psychopathology in Latinx families. Findings contribute to a growing body of knowledge about Latinx children's heightened anxiety symptoms and factors that might influence risk for anxiety in this population. This knowledge also carries important implications for our understanding of normative and atypical child development more broadly. The regulatory processes we focused on in this investigation highlight the importance of considering both interpersonal (caregiver emotion regulation) and intrapersonal (child executive function) factors to enhance understanding of anxiety in childhood.

Acknowledgements We thank the families who participated in the study, and the research assistants who helped collect these data.

Funding This study was supported in part by a Diversity Grant of the Psychological Science Research Grant – APA and by an APF/COG-DOP Dr. Judy Kuriensky Scholarship to the first author. The first author was supported by a National Science Foundation Graduate Research Fellowship (NSF DGE-1326120) during data collection and by a National Institute of Mental Health training grant (NIMH T32 MH0100019-06; PIs: Barch and Luby) during paper writing.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Ethical Approval The study was approved by the IRB at the University of California Riverside (Protocol ID: HS-17-124).

Informed Consent Informed consent was obtained from all caregivers and children who participated in the study.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

- Achenbach T.M. (2006). As others see us: Clinical and research implications of cross-informant correlations for psychopathology. *Current Directions in Psychological Science*, 15, 94–98. <https://doi.org/10.1111/j.0963-7214.2006.00414.x>.
- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/Adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, 101(2), 213–232. <https://doi.org/10.1037/0033-2909.101.2.213>.
- Affrunti, N. W., & Woodruff-Borden, J. (2015). The associations of executive function and temperament in a model of risk for childhood anxiety. *Journal of Child and Family Studies*, 24(3), 715–724. <https://doi.org/10.1007/s10826-013-9881-4>.
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: California: SAGE Publications, Inc.
- Bardone, A. M., Moffitt, T. E., Caspi, A., Dickson, N., Stanton, W. R., & Silva, P. A. (1998). Adult physical health outcomes of adolescent girls with conduct disorder, depression, and anxiety. *Journal of the American Academy of Child & Adolescent Psychiatry*, 37(6), 594–601. <https://doi.org/10.1097/00004583-199806000-00009>.
- Bariola, E., Hughes, E. K., & Gullone, E. (2012). Relationships between parent and child emotion regulation strategy use: a brief report. *Journal of Child and Family Studies*, 21(3), 443–448. <https://doi.org/10.1007/s10826-011-9497-5>.
- Bialystok, E. (1999). Cognitive complexity and attentional control in the bilingual mind. *Child Development*, 70(3), 636–644. <https://doi.org/10.1111/1467-8624.00046>.
- Bialystok, E., & Shorbagi, S. H. (2021). Subtle increments in socioeconomic status and bilingualism jointly affect children's verbal and nonverbal performance. *Journal of Cognition and Development*, 22(3), 467–490. <https://doi.org/10.1080/15248372.2021.1901711>.
- Birmaher, B., Khetarpal, S., Brent, D., Cully, M., Balach, L., Kaufman, J., & Neer, S. M. (1997). The screen for child anxiety related emotional disorders (SCARED): Scale construction and psychometric characteristics. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(4), 545–553. [https://doi.org/10.1016/S0005-7916\(98\)00023-8](https://doi.org/10.1016/S0005-7916(98)00023-8).
- Bittner, A., Egger, H. L., Erkanli, A., Jane Costello, E., Foley, D. L., & Angold, A. (2007). What do childhood anxiety disorders predict? *Journal of Child Psychology and Psychiatry*, 48(12), 1174–1183. <https://doi.org/10.1111/j.1469-7610.2007.01812.x>.
- Bourdon, J. L., Savage, J. E., Verhulst, B., Carney, D. M., Brotman, M. A., Pine, D. S., & Hettema, J. M. (2019). The genetic and environmental relationship between childhood behavioral inhibition and preadolescent anxiety. *Twin Research and Human Genetics*, 22(1), 48–55. <https://doi.org/10.1017/thg.2018.73>.
- Buzzell, G. A., Troller-Renfree, S. V., Barker, T. V., Bowman, L. C., Chronis-Tuscano, A., Henderson, H. A., & Fox, N. A. (2017). A neurobehavioral mechanism linking behaviorally inhibited temperament and later adolescent social anxiety. *Journal of the American Academy of Child & Adolescent Psychiatry*, 56(12), 1097–1105. <https://doi.org/10.1016/j.jaac.2017.10.007>.
- Campos, B., Ullman, J. B., Aguilera, A., & Dunkel Schetter, C. (2014). Familism and psychological health: the intervening role of closeness and social support. *Journal of Cultural Diversity and Ethnic Minority Psychology*, 20, 191–201. <https://doi.org/10.1037/a0034094>.
- Carlson, S. M., & Wang, T. S. (2007). Inhibitory control and emotion regulation in preschool children. *Cognitive Development*, 22(4), 489–510. <https://doi.org/10.1016/j.cogdev.2007.08.002>.
- Chevalier, N., Sheffield, T. D., Nelson, J. M., Clark, C. A., Wiebe, S. A., & Espy, K. A. (2012). Underpinnings of the costs of flexibility in preschool children: The roles of inhibition and working memory. *Developmental Neuropsychology*, 37(2), 99–118. <https://doi.org/10.1080/87565641.2011.632458>.
- Cisler, J. M., Olatunji, B. O., Feldner, M. T., & Forsyth, J. P. (2010). Emotion regulation and the anxiety disorders: an integrative review. *Journal of Psychopathology and Behavioral Assessment*, 32(1), 68–82. <https://doi.org/10.1007/s10862-009-9161-1>.
- De Los Reyes, A. (2011). Introduction to the special section: more than measurement error: Discovering meaning behind informant discrepancies in clinical assessments of children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, 40(1), 1–9. <https://doi.org/10.1080/15374416.2011.533405>.
- Dubi, K., Rapee, R. M., Emerton, J. L., & Schniering, C. A. (2008). Maternal modeling and the acquisition of fear and avoidance in toddlers: influence of stimulus preparedness and temperament. *Journal of Abnormal Child Psychology*, 36, 499–512.
- Eisenberg, A. R. (1999). Emotion talk among Mexican American and Anglo American mothers and children from two social classes. *Merrill-Palmer Quarterly*, 45(2), 267–284.
- Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry*, 9(4), 241–273. https://doi.org/10.1207/s15327965pli0904_1.
- Eisenberg, N., & Morris, A. S. (2002). Children's emotion-related regulation. In H. Reese & R. Kail (Eds.), *Advances in child development and behavior* 30, (189–229). San Diego, CA: Academic Press.
- Eisenberg, N., Gershoff, E. T., Fabes, R. A., Shepard, S. A., Cumberland, A. J., Losoya, S. H., Guthrie, I. K., & Murphy, B. C. (2001). Mother's emotional expressivity and children's behavior problems and social competence: Mediation through children's regulation. *Developmental Psychology*, 37(4), 475–490. <https://doi.org/10.1037/0012-1649.37.4.475>.
- Escobar, G. P., Kalashnikova, M., & Escudero, P. (2018). Vocabulary matters! The relationship between verbal fluency and measures of inhibitory control in monolingual and bilingual children. *Journal of Experimental Child Psychology*, 170, 177–189. <https://doi.org/10.1016/j.jecp.2018.01.012>.
- Flanagan, D., & Perese, S. (1998). Emotional references in mother-daughter and mother-son dyads' conversations about school. *Sex Roles: A Journal of Research*, 39(5–6), 353–367. <https://doi.org/10.1023/A:1018866908472>.
- Fuller, B., & Coll, C. G. (2010). Learning from Latinos: Contexts, families, and child development in motion. *Developmental Psychology*, 46(3), 559–565. <https://doi.org/10.1037/a0019412>.
- García Coll, C., & Szalacha, L. A. (2004). The Multiple Contexts of Middle Childhood. *Future of Children*, 14(2), 81–97.
- Garon, N., Bryson, S. E., & Smith, I. M. (2008). Executive function in preschoolers: a review using an integrative framework. *Psychological Bulletin*, 134(1), 31–60. <https://doi.org/10.1037/0033-2909.134.1.31>.
- Gerull, F. C., & Rapee, R. M. (2002). Mother knows best: effects of maternal modelling on the acquisition of fear and avoidance behaviour in toddlers. *Behaviour Research and Therapy*, 40, 279–287. [https://doi.org/10.1016/S0005-7967\(01\)00013-4](https://doi.org/10.1016/S0005-7967(01)00013-4).
- Ginsburg, G. S., & Silverman, W. K. (1996). Phobic and anxiety disorders in Hispanic and Caucasian youth. *Journal of Anxiety Disorders*, 10(6), 517–528. [https://doi.org/10.1016/S0887-6185\(96\)00027-8](https://doi.org/10.1016/S0887-6185(96)00027-8).
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of Personality and Social*

- Psychology*, 85(2), 348–362. <https://doi.org/10.1037/0022-3514.85.2.348>.
- Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–24). New York, NY: The Guilford Press.
- Gunzenhauser, C., Fäsche, A., Friedlmeier, W., & von Suchodoletz, A. (2014). Face it or hide it: parental socialization of reappraisal and response suppression. *Frontiers in Psychology*, 4, 992. <https://doi.org/10.3389/fpsyg.2013.00992>.
- Heimberg, R. G., Stein, M. B., Hiripi, E., & Kessler, R. C. (2000). Trends in the prevalence of social phobia in the United States: a synthetic cohort analysis of changes over four decades. *European Psychiatry*, 15, 29–37. [https://doi.org/10.1016/S0924-9338\(00\)00213-3](https://doi.org/10.1016/S0924-9338(00)00213-3).
- Hernandez, A., Plant, E. A., Sachs-Ericsson, N., & Joiner, Jr, T. E. (2005). Mental health among Hispanics and Caucasians: risk and protective factors contributing to prevalence rates of psychiatric disorders. *Journal of Anxiety Disorders*, 19(8), 844–860. <https://doi.org/10.1016/j.janxdis.2004.11.002>.
- Huizinga, M., Dolan, C. V., & van der Molen, M. W. (2006). Age-related change in executive function: developmental trends and a latent variable analysis. *Neuropsychologia*, 44(11), 2017–2036. <https://doi.org/10.1016/j.neuropsychologia.2006.01.010>.
- Ispa, J. M., Fine, M. A., Halgunseth, L. C., Harper, S., Robinson, J., Boyce, L., & Brady-Smith, C. (2004). Maternal intrusiveness, maternal warmth, and mother–toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development*, 75(6), 1613–1631. <https://doi.org/10.1111/j.1467-8624.2004.00806.x>.
- Juang, L. P., Moffitt, U., Kim, S. Y., Lee, R. M., Soto, J. A., Hurley, E., & Whitbourne, S. K. (2016). Cognitive reappraisal and expressive suppression: Links to racial-ethnic discrimination and adjustment among Latino/a and Asian-heritage college students. *Journal of Adolescence*, 53, 21–33. <https://doi.org/10.1016/j.adolescence.2016.08.012>.
- Lahat, A., Lamm, C., Chronis-Tuscano, A., Pine, D. S., Henderson, H. A., & Fox, N. A. (2014). Early behavioral inhibition and increased error monitoring predict later social phobia symptoms in childhood. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(4), 447–455. <https://doi.org/10.1016/j.jaac.2013.12.019>.
- Lantrip, C., Isquith, P. K., Koven, N. S., Welsh, K., & Roth, R. M. (2016). Executive function and emotion regulation strategy use in adolescents. *Applied Neuropsychology: Child*, 5(1), 50–55. <https://doi.org/10.1080/21622965.2014.960567>.
- Lehto, J. E., Juujärvi, P., Kooistra, L., & Pulkkinen, L. (2003). Dimensions of executive functioning: evidence from children. *British Journal of Developmental Psychology*, 21(1), 59–80. <https://doi.org/10.1348/026151003321164627>.
- Lieb, R., Wittchen, H. U., Höfler, M., Fuetsch, M., Stein, M. B., & Merikangas, K. R. (2000). Parental psychopathology, parenting styles, and the risk of social phobia in offspring: a prospective-longitudinal community study. *Archives of General Psychiatry*, 57(9), 859–866. <https://doi.org/10.1001/archpsyc.57.9.859>.
- López, A., Correa-Chávez, M., Rogoff, B., & Gutiérrez, K. (2010). Attention to instruction directed to another by US Mexican-heritage children of varying cultural backgrounds. *Developmental Psychology*, 46(3), 593–601. <https://doi.org/10.1037/a0018157>.
- Lugo-Candelas, C. I., Harvey, E. A., & Breaux, R. P. (2015). Emotion socialization practices in Latina and European-American mothers of preschoolers with behavior problems. *Journal of Family Studies*, 21(2), 144–162. <https://doi.org/10.1080/2F13229400.2015.1020982>.
- Martel, M. M., Eng, A. G., Bansal, P. S., Smith, T. E., Elkins, A. R., & Goh, P. K. (2021). Multiple informant average integration of ADHD symptom ratings predictive of concurrent and longitudinal impairment. *Psychological Assessment*, 33(5), 443–451. <https://doi.org/10.1037/pas0000994>.
- Matsumoto, D., Yoo, S. H., & Nakagawa, S. (2008). Culture, emotion regulation, and adjustment. *Journal of Personality and Social Psychology*, 94(6), 925–937. <https://doi.org/10.1037/0022-3514.94.6.925>.
- McLaughlin, K. A., Hilt, L. M., & Nolen-Hoeksema, S. (2007). Racial/ethnic differences in internalizing and externalizing symptoms in adolescents. *Journal of Abnormal Child Psychology*, 35(5), 801–816. <https://doi.org/10.1007/s10802-007-9128-1>.
- Mesquita, B. (2007). Emotions are culturally situated. *Social Science Information*, 46(3), 410–415. <https://doi.org/10.1177/2F05390184070460030107>.
- Meyer, S., Raikes, H. A., Virmani, E. A., Waters, S., & Thompson, R. A. (2014). Parent emotion representations and the socialization of emotion regulation in the family. *International Journal of Behavioral Development*, 38(2), 164–173. <https://doi.org/10.1177/0165025413519014>.
- Perez Rivera, M., & Dunsmore, J. C. (2011). Mothers’ acculturation and beliefs about emotions, mother–child emotion discourse, and children’s emotion understanding in Latino families. *Early Education and Development*, 22(2), 324–354. <https://doi.org/10.1080/10409281003702000>.
- Piccinelli, M., & Wilkinson, G. (2000). Gender differences in depression: critical review. *The British Journal of Psychiatry*, 177(6), 486–492. <https://doi.org/10.1192/bjp.177.6.486>.
- Pina, A. A., & Silverman, W. K. (2004). Clinical phenomenology, somatic symptoms, and distress in Hispanic/Latino and European American youths with anxiety disorders. *Journal of Clinical Child and Adolescent Psychology*, 33(2), 227–236. https://doi.org/10.1207/s15374424jccp3302_3.
- Pintar Breen, A. I., Tamis-LeMonda, C. S., & Kahana-Kalman, R. (2018). Latina mothers’ emotion socialization and their children’s emotion knowledge. *Infant and Child Development*, 27(3), e2077. <https://doi.org/10.1002/icd.2077>.
- Polaczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual Research Review: a meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56(3), 345–365. <https://doi.org/10.1111/jcpp.12381>.
- Ramírez-Esparza, N., Garcia-Sierra, A., Rodríguez-Arauz, G., Ikizer, E. G., & Fernández-Gómez, M. J. (2019). No laughing matter: Latinas’ high quality of conversations relate to behavioral laughter. *PloS one*, 14(4), e0214117. <https://doi.org/10.1371/journal.pone.0214117>.
- Ramírez-Esparza, N., Gosling, S. D., & Pennebaker, J. W. (2008). Paradox lost: Unraveling the puzzle of Simpatía. *Journal of Cross-Cultural Psychology*, 39(6), 703–715. <https://doi.org/10.1177/2F0022022108323786>.
- Rapee, R. M. (2012). Family factors in the development and management of anxiety disorders. *Clinical Child and Family Psychology Review*, 15(1), 69–80. <https://doi.org/10.1007/s10567-011-0106-3>.
- Reijntjes, A., Stegge, H., Terwogt, M. M., & Hurkens, E. (2007). Children’s depressive symptoms and their regulation of negative affect in response to vignette depicted emotion-eliciting events. *International Journal of Behavioral Development*, 31(1), 49–58. <https://doi.org/10.1177/0165025407073541>.
- Rodríguez-Arauz, G., Ramírez-Esparza, N., García-Sierra, A., Ikizer, E. G., & Fernández-Gómez, M. J. (2019). You go before me, please: Behavioral politeness and interdependent self as markers of Simpatía in Latinas. *Cultural Diversity and Ethnic Minority Psychology*, 25(3), 379–387. <https://doi.org/10.1037/cdp0000232>.
- Rogoff, B., Paradise, R., Arauz, R. M., Correa-Chávez, M., & Angelillo, C. (2003). Firsthand learning through intent

- participation. *Annual Review of Psychology*, 54(1), 175–203. <https://doi.org/10.1146/annurev.psych.54.101601.145118>.
- Roy, A. K., Fudge, J. L., Kelly, C., Perry, J. S., Daniele, T., Carlisi, C., & Ernst, M. (2013). Intrinsic functional connectivity of amygdala-based networks in adolescent generalized anxiety disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 52(3), 290–299. <https://doi.org/10.1016/j.jaac.2012.12.010>.
- Royston, P. (2004). Multiple imputation of missing values. *The Stata Journal*, 4, 227–241. <https://doi.org/10.1177/1536867X0400400301>.
- Sabogal, F., Marin, G., Otero-Sabogal, R., VanOss Marin, B., & Perez-Stable, E. J. (1987). Hispanic familism and acculturation: what changes and what doesn't? *Hispanic Journal of Behavioral Sciences*, 9, 397–412. <https://doi.org/10.1177/07399863870094003>.
- Shechner, T., Rimon-Chakir, A., Britton, J. C., Lotan, D., Apter, A., Bliese, P. D., & Bar-Haim, Y. (2014). Attention bias modification treatment augmenting effects on cognitive behavioral therapy in children with anxiety: randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(1), 61–71. <https://doi.org/10.1016/j.jaac.2013.09.016>.
- Skriner, L. C., & Chu, B. C. (2014). Cross-ethnic measurement invariance of the SCARED and CES-D in a youth sample. *Psychological Assessment*, 26(1), 332–337.
- Steidel, A. G. L., & Contreras, J. M. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences*, 25(3), 312–330. <https://doi.org/10.1177/2F0739986303256912>.
- Stoet, G. (2010). PsyToolkit: a software package for programming psychological experiments using Linux. *Behavior Research Methods*, 42(4), 1096–1104. <https://doi.org/10.3758/BRM.42.4.1096179>.
- Stoet, G. (2017). PsyToolkit: a novel web-based method for running online questionnaires and reaction-time experiments. *Teaching of Psychology*, 44(1), 24–31. <https://doi.org/10.1177/0098628316677643>.
- Toren, P., Sadeh, M., Wolmer, L., Eldar, S., Koren, S., & Weizman, R., et al. (2000). Neurocognitive correlates of anxiety disorders in children: a preliminary report. *Journal of Anxiety Disorders*, 14, 239–247. [https://doi.org/10.1016/S0887-6185\(99\)00036-5](https://doi.org/10.1016/S0887-6185(99)00036-5).
- Quiñones-Camacho, L. E., & Davis, E. L. (2019a). Emotion regulation strategy knowledge moderates the link between cumulative stress and anxiety symptoms in childhood. *International Journal of Behavioral Development*, 43(4), 369–374. <https://doi.org/10.1177/2F0165025419833821>.
- Quiñones-Camacho, L. E., & Davis, E. L. (2019b). Children's awareness of the context-appropriate nature of emotion regulation strategies across emotions. *Cognition and Emotion*, 1–9. <https://doi.org/10.1080/02699931.2019.1687426>.
- Updegraff, K. A., Umaña-Taylor, A. J., McHale, S. M., Wheeler, L. A., & Perez-Brena, N. J. (2012). Mexican-origin youth's cultural orientations and adjustment: Changes from early to late adolescence. *Child Development*, 83(5), 1655–1671. <https://doi.org/10.1111/j.1467-8624.2012.01800.x>.
- Varela, E. R., Vernberg, E. M., Sanchez-Sosa, J. J., Riveros, A., Mitchell, M., & Mashunkashey, J. (2004). Anxiety reporting and culturally associated interpretation biases and cognitive schemas: a comparison of Mexican, Mexican-American, and European American Families. *Journal of Clinical Child and Adolescent Psychology*, 33(2), 237–247. https://doi.org/10.1207/s15374424jccp3302_4.
- Wald, N., Carthy, T., Shenaar-Golan, V., Tadmor-Zisman, Y., & Ziskind, M. (2018). Influence of maternal negative emotion reactivity and cognitive reappraisal on child anxiety disorder. *Depression and Anxiety*, 35(4), 353–359. <https://doi.org/10.1002/da.22745>.
- Wren, F. J., Berg, E. A., Heiden, L. A., Kinnamon, C. J., Ohlson, L. A., Bridge, J. A., & Bernal, M. P. (2007). Childhood anxiety in a diverse primary care population: parent-child reports, ethnicity and SCARED factor structure. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46(3), 332–340. <https://doi.org/10.1097/chi.0b013e31802f1267>.