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The Influence of Childhood Parental Support and Irritability on Internalizing Symptoms in Latina Girls

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ABSTRACT

Current research indicates that parental neglect and child irritability are both positively associated with internalizing symptoms. However, minoritized groups, such as preadolescent Latina girls, remain underrepresented in this area of the scientific literature. The present study extends prior research by examining associations among parental support, irritability, and internalizing symptoms in a sample of 27 Latina girls aged 8–13. Multiple linear regression models independently assessed the associations between parental support and irritability with internalizing symptoms, controlling for age and for socioeconomic status via parental income and education. Results indicated a positive association between child irritability and internalizing symptoms. Though our findings are limited due to our small sample size, the association between irritability and internalizing symptoms highlights the importance of further examining child irritability in relation to the development of internalizing symptoms in Latina preadolescent girls.

KEYWORDS: Latina Girls, Parental Support, Irritability, Internalizing Symptoms, Inland Empire

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INTRODUCTION

Sensitive, responsive caregiving is essential for forming strong parent-child bonds and has lasting psychological consequences. Beyond meeting physical needs, parental support plays a critical role in children's social development, such that positive, mutually engaged interactions are associated with better self-regulation in early childhood and fewer behavioral and mental health issues in adolescence (Lunkenheimer et al., 2020). Conversely, when parental support is inadequate, the resulting social deprivation is linked to increased risk for internalizing symptoms (e.g., anxiety; Calaresi et al., 2025). The present study examines the concurrent association between parental support and internalizing symptoms in a sample of preadolescent Latina girls.

Individual Differences in Parental Support

Parental support may play an important role in shaping the development of internalizing symptoms. However, current research focuses on more extreme adverse experiences, such as emotional abuse and neglect (Strathearn et al., 2020), and there has been less scholarly attention on variability in everyday parental support as a developmental influence on mental health. This gap is especially important for preadolescent Latina girls, who may face immigrant-related stressors that increase susceptibility to psychopathology (Mullins et al., 2024). Despite this, relatively few studies have examined how parental support relates to internalizing symptoms in this population.

Irritability and Internalizing Symptoms

Irritability, defined as an increased proneness to anger relative to one's peers, often expressed through outbursts and reactive aggression (Henriksen et al., 2021), is a strong predictor of anxiety symptoms, and 65% of youth with General Anxiety Disorder experience persistent irritability (Stoddard et al., 2013). The association between irritability and anxiety symptoms is more commonly observed in women and younger populations (Perlis et al., 2009). Additionally, exposure to increased traumatic stressors is associated with a heightened risk of irritability in females compared to males, suggesting underlying differences in how individuals process trauma depending on their sex (Henriksen et al., 2021). Together, these studies suggest

a strong positive correlation between irritability and internalizing symptoms, such that anxiety symptoms increase as irritability increases.

Latine Adolescents and Barriers to Mental Health

Individual differences and environmental factors, such as cultural background, gender, preexisting psychological disorders, and socioeconomic status (SES), may influence irritability and internalizing symptoms. Most of the current literature examines samples consisting primarily of non-Hispanic white males, leaving a gap in research on racial and ethnic groups that develop in distinct contexts (Araújo & Borrell, 2006). Latine individuals are more likely to experience greater ethnic-racial discrimination during childhood than white/Caucasian individuals (Pole et al., 2005). Patterns of internalizing symptoms in children, including Latina girls, may be heightened by unique experiences of ethnicity-related stressors, such as discrimination and marginalization (Mullins et al., 2024).

Low-income communities with large populations of undocumented Latines face multiple barriers to accessing mental health services due to exploitation, marginalization, and isolation (Noël, 2018; Shattell et al., 2008), suggesting that youth from under-resourced neighborhoods are more likely to experience poorer emotional outcomes. Similarly, individuals with depression who face financial barriers are more likely to report more severe symptoms than those without economic barriers to medical and mental health care (Pabayo et al., 2021), as limited access restricts treatment and support. These findings suggest that lower SES is associated with receiving care in under-resourced settings, unaffordable medical costs, and increased risk for psychopathology (Abedzadeh-Kalahroudi et al., 2018). This intersectionality suggests overlapping social identities are associated with greater risk for psychopathology (Vu et al., 2019). We aim to expand the current understanding of the impact of parental involvement and irritability on internalizing symptoms in Latina girls, a historically underrepresented population in the literature despite their heightened risk for mental health challenges.

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Our Study

Our study has two primary aims: (1) to examine the relationship between Latina girls' experiences of parental support during childhood and their self-reported internalizing symptoms, and (2) to examine the relationship between irritability and internalizing symptoms.

We hypothesize that greater parental support will be associated with fewer internalizing symptoms. In contrast, we expect higher levels of irritability to be associated with more frequent internalizing symptoms.

METHODS

Participants

Our data is from an ongoing longitudinal study that began in 2016 and was approved by the Institutional Review Board (#30207). Our current sample consists of 27 Latina girls ages 8 to 13 ($M = 9.52$, $SD = 1.28$) from the Inland Empire in Southern California, and their primary caregivers. Participants were recruited from the University of California, Riverside REDCap participant database and contacted via phone and email as part of a larger longitudinal study on socioemotional development.

Parental Support

Latina girls completed 10 items ($\alpha = 0.72$) from the Parenting Involvement subscale of the 42-item Alabama Parenting Questionnaire (APQ; Shelton et al., 1996), which assessed perceived parental support from their primary caregiver (e.g., "You have a friendly talk with your [parent]"). This measure uses a 5-point Likert scale (1–5; 1 = *Almost Never*, 5 = *Always*). Items were summed to create a total score.

Irritability

Participants completed the 7-item Affective Reactivity Index (ARI; Stringaris, 2012), a self-reported measure assessing irritability (e.g., "I am easily annoyed by others"). The ARI uses a three-level response scale (0 = *not true*, 1 = *somewhat true*, and 2 = *certainly true*), and total scores were calculated as the sum of the first six items ($\alpha = 0.73$).

Internalizing Symptoms

Internalizing symptoms were measured using the 41-item Screen for Child Anxiety Related Disorders (SCARED; Birmaher et al., 1999), a self-report measure of anxiety symptoms (e.g., "I worry about things working out for me"). Items are rated on a 3-point Likert scale (0 = *Not True/Hardly Ever True*, 2 = *Very True/Often True*), and total scores were summed ($\alpha = 0.94$).

Analysis Plan

To test our first and second hypotheses, we created two multiple linear regression models, regressing APQ and ARI scores onto SCARED scores, respectively.

All models included age, parental income, and mothers' educational attainment as covariates to control for any influence they may have on the association between our variables of interest, as these SES variables may influence available parental support. Maternal educational attainment ($M = 4.41$, $SD = 1.15$) was measured using a 6-point Likert scale (1 = "No School," 6 = "Graduate Professional Training (Master's or above)"). Family income ($M = 4.93$, $SD = 1.88$), was reported on an 8-point Likert Scale (1 = "under \$5,000," 8 = "over \$180,000"). Each of these measures was treated as a continuous variable. To correct for multiple comparisons, we applied the Benjamini-Hochberg procedure to all significance values. All analyses were conducted using the R statistical programming language (R Core Team, 2025).

RESULTS

Bivariate correlations for all variables are reported in Table 1. Given the small sample size of $N = 27$, we conducted a sensitivity analysis to determine the minimum detectable effect size with $\alpha = 0.05$ and 80% power. The analysis determined the study was powered to detect a large effect, with a minimum $R_p^2 = 0.23$ ($f^2 = 0.30$).

Parental Support and Internalizing Symptoms

We observed no significant association between the APQ Involvement subscale ($M = 67.93$, $SD = 11.89$) and SCARED total scores ($M = 32.33$, $SD = 15.72$), $b = 0.208$, 95% CI [-0.46, 0.87], $SE = 0.322$, $t(22) = 0.644$, $p = 0.526$.

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Irritability and Internalizing Symptoms

We observed a significant association between the ARI ($M = 3.30$, $SD = 2.54$) and SCARED total scores, $b = 3.639$, 95% CI [1.23, 6.04], $SE = 1.159$, $t(22) = 3.139$, $p = 0.004$, such that irritability positively predicted internalizing symptoms. This finding held after Benjamini-Hochberg corrections were applied ($p_{adj} = 0.019$) and exceeded the minimum threshold determined by the sensitivity analysis, $R^2_p = 0.31$ ($f^2 = 0.45$).

Correlations with confidence intervals

Variable	1	2	3	4	5	6
1. Age	--					
2. Maternal Education	-.52* [-.81, -.01]	--				
3. Income	-.31 [-.71, .24]	.42 [-.12, .77]	--			
4. APQ	.45 [-.08, .78]	-.88** [-.96, -.66]	-.39 [-.75, .15]	--		
5. ARI	.21 [-.34, .65]	.08 [-.45, .57]	-.45 [-.78, .08]	-.23 [-.66, .32]	--	
6. SCARED	.10 [-.44, .58]	-.02 [-.52, .50]	-.38 [-.75, .16]	-.04 [-.54, .48]	.67** [.23, .88]	--

Table 1. Correlations with confidence intervals

DISCUSSION

We found no association between parental support and anxiety, leaving our first hypothesis unsupported. However, our results revealed a significant association between irritability and anxiety symptoms, indicating that irritable children may exhibit higher levels of anxiety.

Parental Support and Internalizing Symptoms

Contrary to prior research, we found no significant association between parental support and internalizing symptoms in Latina girls. Strathern and colleagues (2020) reported higher levels of psychopathology among individuals who experienced emotional neglect from caregivers during childhood. Similarly, Calaresi and colleagues (2025) found that social deprivation was associated with internalizing symptoms. These discrepancies may be due to differences in sample populations. Our sample was drawn from the Inland Empire in Southern California, whereas prior studies included individuals from European (Calaresi et al., 2025) or Australian (Strathern et al., 2020) backgrounds. Differences in regional practices or culturally-specific coping strategies among Latina preadolescent girls may help explain these differences (Pierro et al., 2022). Understanding such groups may help inform more culturally responsive mental health services and caregiving practices.

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Irritability and Internalizing Symptoms

In line with prior research, we found a positive association between irritability and internalizing symptoms, specifically anxiety. This aligns with past literature, which found an association between irritability and anxiety, particularly among women and younger populations (Perlis et al., 2009) and that exposure to stressors is linked to anxiety (Henrickson et al., 2021). Notably, prior studies have largely focused on White samples. Additionally, immigrant-related stressors, such as discrimination, may shape these associations in Latine populations (Mullins et al., 2024). Our study extends these findings to Latina girls in the Inland Empire, a population that remains underrepresented in the literature, suggesting that Latina girls may be susceptible to co-occurring irritability and anxiety symptoms.

Implications

Our findings suggest that anxiety and irritability are positively associated in Latina girls. This association may shed light on the possible importance of how internalizing symptoms uniquely develop in this population. Gaining a better understanding of this relationship could aid in developing methods to reduce irritability in Latina girls. While we did not find associations between parental support and anxiety, future researchers should continue to examine how parenting practices operate within specific cultural contexts. Additionally, immigration-related experiences may influence both parenting and mental health, highlighting the need for more culturally-informed research. Continuing to explore these possible effects in larger Latine samples may allow parental and mental health support systems to better adjust to meet the needs of Latina adolescent and adult women. Future research has the potential to inform practitioners of early intervention strategies, targeting parenting styles and irritability to reduce mental health risks in Latina girls.

LIMITATIONS AND FUTURE DIRECTIONS

This study had a few limitations. First, our sample size was small ($N = 27$), limiting statistical power and the ability to detect small or moderate effects. Future research should gather larger samples to investigate the uniqueness of the present study's population. Finally, all measures were self-reported measures, which may lead to biased responses

due to social desirability or limited self-awareness. Future research should incorporate additional objective measures, such as behavioral or physiological measures, or use multi-informant measures to improve validity.

REFERENCES

1. Abedzadeh-Kalahroudi, M., Razi, E., & Sehat, M. (2018). The relationship between socioeconomic status and trauma outcomes. *Journal of Public Health*, 40(4). <https://doi.org/10.1093/pubmed/fdy033>.
2. Araújo, B.Y., & Borrell, L.N. (2006). Understanding the link between discrimination, mental health outcomes, and life chances among Latinos. *Hispanic Journal of Behavioral Sciences*, 28(2), 245–266. <https://doi.org/10.1177/0739986305285825>.
3. Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): A replication study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(10), 1230–6. <https://doi.org/10.1097/00004583-199910000-00011>.
4. Calaresi, D., Verrastro, V., Giordano, F., & Saladino, V. (2025). The long-term effects of emotional neglect on family functioning and anxiety symptoms in adolescents. *Journal of Family Violence*, <https://doi.org/10.1007/s10896-025-01011-y>.
5. Ma, C., Huang, Z., Feng, X., Memon, F. U., Cui, Y., Duan, X., Zhu, J., Tettamanti, G., Hu, W., & Tian, L. (2024). Selective breeding of cold-tolerant black soldier fly (*Hermetia illucens*) larvae: Gut microbial shifts and transcriptional patterns. *Waste Management*, 177, 252–265. <https://doi.org/10.1016/j.wasman.2024.02.007>.
6. Henriksen, M., Skrove, M., Hoftun, G. B., Sund, E. R., Lydersen, S., Kalvin, C. B., & Sukhodolsky, D. G. (2021). Exposure to traumatic events poses greater risk for irritability in girls than in boys. *Journal of Affective Disorders Reports*, 6, 100204. <https://doi.org/10.1016/j.jadr.2021.100204>.

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7. Lunkenheimer, E., Hamby, C. M., Lobo, F. M., Cole, P. M., & Olson, S. L. (2020). The role of dynamic, dyadic parent-child processes in parental socialization of emotion. *Developmental Psychology*, 56(3), 566–577. <https://doi.org/10.1037/dev0000808>.
8. Mullins, J. L., Díaz, D. E., Firat, R. B., & Michalska, K. J. (2024). Ethnic-racial discrimination exposure and anxiety in Latina girls: Amygdala volume as an indirect neurobiological pathway. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 76(3), 627–648. <https://doi.org/10.1007/s11577-024-00946-2>.
9. Noël, R. A. (2018). U.S. Bureau of Labor Statistics. (Spotlight on Statistics, May 2018). *Race, economics, and social status*. <https://www.bls.gov/spotlight/2018/race-economics-and-social-status/pdf/race-economics-and-social-status.pdf>.
10. Pabayo, R., Benny, C., Liu, S. Y., Grinshteyn, E., & Muennig, P. (2021). Financial barriers to mental healthcare services and depressive symptoms among residents of Washington Heights, New York City. *Hispanic Health Care International*, 20(3), 154041532110575. <https://doi.org/10.1177/15404153211057563>.
11. Pierro, R., Ember, C. R., Pitek, E., & Skoggard, I. (2022). Local knowledge and practice in disaster relief: A worldwide cross-cultural comparison of coping mechanisms. *International Journal of Disaster Risk Reduction*, 76, 102988. <https://doi.org/10.1016/j.ijdrr.2022.102988>.
12. Perlis, R. H., Fava, M., Trivedi, M. H., Alpert, J., Luther, J. F., Wisniewski, S. R., & John Rush, A. (2009). Irritability is associated with anxiety and greater severity, but not bipolar spectrum features, in major depressive disorder. *Acta Psychiatrica Scandinavica*, 119(4), p. 282–289. <https://doi.org/10.1111/j.1600-0447.2008.01298.x>.
13. Pole, N., Best, S. R., Metzler, T., & Marmar, C. R. (2005). Why are Hispanics at greater risk for PTSD? *Cultural Diversity and Ethnic Minority Psychology*, 11(2) 144–161. <https://doi.org/10.1037/1099-9809.11.2.144>.
14. R Core Team. (2025). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. <https://www.R-project.org/>.
15. Shattell, M. M., Hamilton, D., Starr, S. S., Jenkins, C. J., & Hinderliter, N. A. (2008). Mental health service needs of a Latino population: A community-based participatory research project. *Issues in Mental Health Nursing*, 29(4), 351–370. <https://doi.org/10.1080/01612840801904316>.
16. Shelton, K. K., Frick, P. J., & Wootton, J. (1996). Assessment of parenting practices in families of elementary school-age children. *Journal of Clinical Child Psychology*, 25(3), 317–329. https://doi.org/10.1207/s15374424jccp2503_8.
17. Stoddard, J., Stringaris, A., Brotman, M. A., Montville, D., Pine, D. S., & Leibenluft, E. (2013). Irritability in child and adolescent anxiety disorders. *Depression and Anxiety*, 31(7), 566–573. <https://doi.org/10.1002/da.22151>.
18. Strathearn, L., Giannotti, M., Mills, R., Kisely, S., Najman, J., & Abajobir, A. (2020). Long-term cognitive, psychological, and health outcomes associated with child abuse and neglect. *Pediatrics*, 146(4). <https://doi.org/10.1542/peds.2020-0438>.
19. Stringaris, A., Goodman, R., Ferdinando, S., Razdan, V., Muhrer, E., Leibenluft, E., & Brotman, M.A. (2012). The Affective Reactivity Index: A concise irritability scale for clinical and research settings. *Journal of Child Psychology and Psychiatry*, 53, 1109–1117. <https://doi.org/10.1111/j.1469-7610.2012.02561.x>.
20. Vu, M., Li, J., Haardörfer, R., Windle, M., & Berg, C. J. (2019). Mental health and substance use among women and men at the intersections of identities and experiences of discrimination: Insights from the intersectionality framework. *BMC Public Health*, 108(19). <https://doi.org/10.1186/s12889-019-6430-0>.