



# Co-Parenting Quality and Parenting Stress as Predictors of Child Behavioral Adjustment

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### ABSTRACT

**Objective:** This study aimed to investigate the predictive roles of co-parenting quality and parenting stress in relation to child behavioral adjustment among parents in Morocco.

**Methods:** A correlational descriptive design was employed involving a sample of 396 parents selected based on Krejcie and Morgan's sampling table. Participants completed three standardized instruments: the Child Behavior Checklist (CBCL) to assess child behavioral problems, the Parenting Stress Index–Short Form (PSI-SF) to measure perceived parenting stress, and the Co-parenting Relationship Scale (CRS) to evaluate co-parenting quality. Data were analyzed using SPSS version 27. Pearson correlation coefficients were computed to examine the bivariate associations between the dependent variable and each independent variable. Multiple linear regression was then conducted to evaluate the joint predictive power of parenting stress and co-parenting quality on child behavioral adjustment, with all assumptions for regression analysis thoroughly checked and confirmed.

**Findings:** Results showed a significant positive correlation between parenting stress and child behavioral problems ( $r = .56, p < .01$ ), and a significant negative correlation between co-parenting quality and child behavioral problems ( $r = -.42, p < .01$ ). Multiple regression analysis revealed that parenting stress ( $\beta = .48, t = 8.60, p < .01$ ) and co-parenting quality ( $\beta = -.31, t = -6.75, p < .01$ ) were both significant predictors of child behavioral adjustment. The overall model was significant ( $F(2, 393) = 129.72, p < .01$ ), explaining 40% of the variance in child behavioral outcomes ( $R^2 = .40, \text{Adjusted } R^2 = .39$ ).

**Conclusion:** The findings highlight the critical roles of both relational and psychological parenting factors in child development. Interventions aiming to reduce parenting stress and enhance co-parenting quality may be effective in improving behavioral outcomes in children, especially in non-Western cultural contexts like Morocco.

**Keywords:** co-parenting quality, parenting stress, child behavioral adjustment, family functioning.

## 1. Introduction

Co-parenting refers to the way in which parental figures coordinate and support one another in their shared responsibilities toward the child. It encompasses the extent to which parents communicate, cooperate, and show consistency in their parenting approaches (Cederbaum et al., 2024). A high-quality co-parenting relationship is typically marked by mutual respect, problem-solving cooperation, emotional support, and shared goals, which foster a stable caregiving environment conducive to healthy child development (Park & Lee, 2024). Conversely, co-parenting relationships marred by conflict, undermining, or disengagement have been associated with increased child maladjustment, particularly externalizing behaviors such as aggression, defiance, and impulsivity (Qiao et al., 2024). Such dysfunction can directly disrupt the child's emotional security and indirectly affect them through impaired parental practices or elevated parental distress (Kuswara et al., 2024). Recent studies highlight the pivotal role of co-parenting in shaping not only the child's immediate behavior but also long-term social competence and psychological resilience (Belanger et al., 2023).

Research also indicates that the protective effects of positive co-parenting are evident across various family structures. For example, cooperative co-parenting has been shown to mitigate the effects of socioeconomic adversity and parental separation, especially when parental alignment on child-rearing remains strong (Dai et al., 2022). In a similar vein, a growing body of literature points to the critical influence of father involvement in co-parenting dynamics, suggesting that emotionally engaged fathers enhance the overall co-parenting alliance and thereby reduce behavioral problems in children (Khawaja et al., 2022). The psychosocial benefits of strong co-parenting are not limited to intact families but extend to diverse cultural and socio-economic contexts, including families navigating child welfare systems and those managing intergenerational or blended family roles (Ammerman et al., 2025; Szepsenwol, 2020).

Alongside the structure of co-parenting, the subjective psychological experience of parenting—particularly parenting stress—is a salient factor influencing children's behavioral outcomes. Parenting stress refers to the emotional strain and burden perceived by parents in the context of fulfilling their parenting role. Elevated parenting stress often stems from daily caregiving demands, child behavior difficulties, lack of support, or mismatched expectations, and

it has been consistently linked to less effective parenting practices and poor child adjustment (Damen et al., 2020; Kamody & Lydecker, 2021). Parents under high stress may exhibit less warmth, harsher discipline, and inconsistent behavior management, all of which increase the likelihood of behavioral issues in children (Sumargi et al., 2020). This stress-behavior cycle often becomes reciprocal, as children's externalizing behaviors exacerbate parental stress, forming a feedback loop detrimental to both parent and child.

Studies have shown that parenting stress not only mediates the relationship between adverse environmental conditions and child outcomes but also moderates the influence of co-parenting dynamics. For instance, when parenting stress is high, even cooperative co-parenting may be insufficient to buffer against child maladjustment (Yoo & Han, 2022). On the other hand, interventions targeting stress reduction among caregivers have yielded promising outcomes for both parenting practices and child behavioral functioning (Ha et al., 2022). The psychological regulation and emotional availability of parents play an essential role in scaffolding children's self-regulatory skills and reducing behavioral dysregulation (Armstrong-Carter et al., 2021; Hoyniak et al., 2021). Given this bidirectional and multifactorial nature of stress within the parent-child system, it is crucial to assess parenting stress not in isolation but in conjunction with the structural components of parenting—such as co-parenting quality.

Emerging interdisciplinary approaches, including neuroscience and affective computing, also underscore the physiological and emotional synchrony between parents and children as a determinant of behavior (Chen et al., 2023; MacNeill et al., 2021). These findings reinforce the need to move beyond individual parenting variables and examine how co-regulation processes between caregivers and children are shaped by broader familial and psychological dynamics. Furthermore, the integration of real-time behavioral data and observational methods has highlighted how discrepancies in co-parenting styles can disrupt parent-child attunement, ultimately impairing emotional development and behavioral regulation (Marceau, 2023; Wu et al., 2023).

Cross-cultural studies provide additional evidence for the universality of these associations, while also emphasizing the importance of contextually adapting frameworks for understanding co-parenting and stress. For instance, in collectivist cultures where extended families are often involved in caregiving, the definition and boundaries of co-parenting may differ, influencing both the expression of

parenting stress and its effects on children (Kruse et al., 2024). Furthermore, studies in Asian and Middle Eastern contexts indicate that cultural values regarding obedience, parental authority, and emotional restraint may shape the way parenting stress is experienced and how co-parenting quality is interpreted (Xerxa et al., 2024; Zhong et al., 2021). These cultural nuances underscore the need to examine parenting processes within their ecological context, particularly in underrepresented populations such as Moroccan families.

The ecological systems theory offers a valuable lens for examining how co-parenting and parenting stress collectively influence child behavioral adjustment. It posits that child development is shaped by multiple interacting systems, including family processes and parental well-being (Cederbaum et al., 2024; Dai et al., 2022). Within this framework, co-parenting functions as a relational process within the microsystem, while parenting stress reflects both microsystemic and exosystemic pressures. Disruptions in either domain may compromise the developmental support a child receives, potentially resulting in maladaptive behaviors such as withdrawal, inattention, or defiance.

Given the complex interplay between co-parenting quality, parenting stress, and child behavioral outcomes, it is imperative to investigate these constructs together to obtain a more integrated understanding of family dynamics. While numerous studies have examined these variables independently, relatively few have explored their combined predictive value on child adjustment in non-Western, collectivist societies. In particular, empirical evidence from North African contexts such as Morocco remains scarce, despite the unique cultural and socioeconomic factors that may influence parenting dynamics in this region.

To address this gap, the current study aims to examine the predictive roles of co-parenting quality and parenting stress in relation to child behavioral adjustment among Moroccan parents.

## 2. Methods

### 2.1. Study Design and Participants

This study employed a correlational descriptive research design to examine the relationship between co-parenting quality, parenting stress, and child behavioral adjustment. The sample consisted of 396 parents from Morocco, selected using a simple random sampling method. The sample size was determined based on Krejcie and Morgan's (1970) sample size determination table, ensuring representativeness

of a larger population with an acceptable margin of error. Participants were eligible to participate if they had at least one child between the ages of 6 and 12 and were actively engaged in a co-parenting arrangement, either within the same household or through shared parenting after separation or divorce. Participation was voluntary, and all individuals provided informed consent prior to completing the questionnaires.

### 2.2. Measures

#### 2.2.1. Child Behavior

The Child Behavior Checklist (CBCL), developed by Thomas Achenbach in 1991, is a widely used standardized instrument for assessing behavioral and emotional problems in children aged 6 to 18 years. It includes 113 items that parents rate on a 3-point Likert scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). The CBCL yields scores across several empirically derived syndrome subscales, including Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior, and Aggressive Behavior, which further combine into Internalizing Problems, Externalizing Problems, and a Total Problems score. The CBCL has demonstrated strong psychometric properties, with extensive studies confirming its construct validity, criterion validity, and high internal consistency ( $\alpha > 0.80$  across most subscales) in diverse populations (Curci, 2023; Griffith et al., 2023; Jones, 2023).

#### 2.2.2. Parenting Stress

The Parenting Stress Index – Short Form (PSI-SF) was developed by Abidin (1995) to measure the level of stress parents experience in the parenting role. This tool contains 36 items rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) and is divided into three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. The total score provides an overall index of parenting stress. The PSI-SF has been extensively validated, with studies supporting its construct validity, criterion-related validity, and reliability, with Cronbach's alpha coefficients typically exceeding 0.90. It is suitable for use in both clinical and research settings and has been adapted across various cultures and child development contexts (Zhou et al., 2024; Zhu et al., 2024).

2.2.3. *Co-parenting*

The Co-parenting Relationship Scale (CRS), developed by Feinberg, Brown, and Kan in 2012, is a validated self-report measure designed to assess the quality of co-parenting dynamics. The CRS includes 35 items, covering seven subscales: Co-parenting Agreement, Co-parenting Support, Co-parenting Undermining, Division of Labor, Joint Family Management, Exposure to Conflict, and Endorsement of Partner’s Parenting. Responses are provided on a 7-point Likert scale ranging from 0 (not true of us) to 6 (very true of us). Higher scores reflect more positive perceptions of the co-parenting relationship. The CRS has demonstrated excellent internal consistency (with alpha values ranging from 0.72 to 0.92 for subscales) and construct validity, and its psychometric properties have been confirmed in both community and clinical samples (Lim, 2022; Thullen & Bonsall, 2017).

2.3. *Data Analysis*

Data were analyzed using SPSS version 27. Descriptive statistics were first calculated to summarize participant characteristics and variable distributions. To examine the bivariate associations between the dependent variable (child behavioral adjustment) and each independent variable (co-parenting quality and parenting stress), Pearson correlation

coefficients were computed. In the next step, linear regression analysis was conducted to determine the predictive value of co-parenting quality and parenting stress on child behavioral adjustment. Assumptions of normality, linearity, multicollinearity, and homoscedasticity were checked prior to conducting the regression analysis to ensure the validity of the results.

**3. Findings and Results**

The sample consisted of 396 parents from various regions of Morocco. Of these, 234 participants (59.1%) were mothers and 162 (40.9%) were fathers. In terms of age, 48 participants (12.1%) were between 20 and 29 years old, 178 (44.9%) were between 30 and 39, 122 (30.8%) were between 40 and 49, and 48 (12.1%) were 50 years or older. Regarding educational background, 102 participants (25.8%) had a high school diploma or less, 189 (47.7%) held a bachelor's degree, and 105 (26.5%) had completed graduate-level education. The majority of participants (267; 67.4%) reported living in urban areas, while 129 (32.6%) resided in rural regions. Additionally, 312 participants (78.8%) were living in intact two-parent households, whereas 84 (21.2%) were co-parenting from separate households following separation or divorce.

**Table 1**

*Descriptive Statistics for Study Variables (N = 396)*

Variable	Mean (M)	Standard Deviation (SD)
Child Behavioral Adjustment (CBCL)	61.47	10.82
Parenting Stress (PSI-SF)	89.63	14.29
Co-Parenting Quality (CRS)	148.22	17.65

In Table 1, the descriptive statistics show that the mean score for child behavioral problems was 61.47 (SD = 10.82), indicating a moderate level of behavioral issues among the sample. Parenting stress had a mean of 89.63 (SD = 14.29), suggesting moderate to high perceived stress levels. Co-parenting quality had a relatively high mean of 148.22 (SD = 17.65), reflecting generally positive co-parenting experiences among participants.

Prior to conducting the linear regression analysis, all necessary assumptions were examined and confirmed. Normality of residuals was assessed using the Shapiro-Wilk test, which yielded a non-significant result (p = .087),

indicating no violation of normality. Linearity was visually confirmed through scatterplot inspection, and the Durbin-Watson statistic was 1.91, suggesting no significant autocorrelation. Homoscedasticity was checked through standardized residual plots and no pattern was detected. To test for multicollinearity, Variance Inflation Factor (VIF) values were calculated and found to be 1.34 for co-parenting quality and 1.41 for parenting stress, both well below the commonly accepted threshold of 5. These results confirm that the data met all necessary assumptions for linear regression.

**Table 2**

*Pearson Correlations Between Study Variables (N = 396)*

Variables	1	2	3
1. Child Behavioral Adjustment	—		
2. Parenting Stress	.56** (p < .01)	—	
3. Co-Parenting Quality	-.42** (p < .01)	-.47** (p < .01)	—

As shown in Table 2, child behavioral problems were positively correlated with parenting stress ( $r = .56, p < .01$ ) and negatively correlated with co-parenting quality ( $r = -.42, p < .01$ ). Additionally, parenting stress and co-parenting

quality were negatively correlated ( $r = -.47, p < .01$ ), indicating that as stress increased, perceptions of co-parenting support decreased. All correlations were statistically significant at the 0.01 level.

**Table 3**

*Summary of Regression Analysis: Child Behavioral Adjustment Predicted by Parenting Stress and Co-Parenting Quality*

Source	Sum of Squares	df	Mean Square	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	p
Regression	14873.65	2	7436.83	.63	.40	.39	129.72	< .01
Residual	22352.41	393	56.86					
Total	37226.06	395						

Table 3 presents the overall regression model predicting child behavioral adjustment from parenting stress and co-parenting quality. The model was significant ( $F(2, 393) = 129.72, p < .01$ ) and explained approximately 40% of the

variance in child behavioral adjustment ( $R^2 = .40$ , adjusted  $R^2 = .39$ ). This indicates a moderately strong model fit, with both predictors jointly contributing significantly to the variance in behavioral outcomes.

**Table 4**

*Multivariate Regression Coefficients for Predicting Child Behavioral Adjustment*

Predictor	B	SE	$\beta$	t	p
Constant	35.18	3.24	—	10.86	< .01
Parenting Stress	0.43	0.05	.48	8.60	< .01
Co-Parenting Quality	-0.27	0.04	-.31	-6.75	< .01

In Table 4, both parenting stress ( $B = 0.43, \beta = .48, p < .01$ ) and co-parenting quality ( $B = -0.27, \beta = -.31, p < .01$ ) significantly predicted child behavioral adjustment. The direction of effects suggests that higher stress is associated with more behavioral problems, while higher co-parenting quality is associated with fewer behavioral problems. Parenting stress emerged as the stronger predictor, consistent with the correlation analysis. The constant (intercept) value was 35.18, indicating the expected CBCL score when both predictors are zero.

The results indicated that both co-parenting quality and parenting stress were significantly associated with child behavioral outcomes. Specifically, higher levels of co-parenting quality were associated with fewer child behavioral problems, while higher levels of parenting stress were associated with more behavioral difficulties in children. Moreover, the regression analysis revealed that both variables jointly and significantly predicted child behavioral adjustment, with parenting stress emerging as the stronger predictor. These findings underscore the importance of examining both relational and psychological components of the parenting environment when considering children’s behavioral development.

**4. Discussion and Conclusion**

The present study examined the predictive roles of co-parenting quality and parenting stress in relation to child behavioral adjustment among a sample of Moroccan parents.

The significant negative correlation between co-parenting quality and child behavioral problems aligns with a growing body of research that highlights the protective role



of coordinated and supportive co-parenting. When caregivers share responsibilities, communicate effectively, and present a unified front, children are more likely to feel secure and develop better self-regulation and social behaviors (Cederbaum et al., 2024; Park & Lee, 2024). The current findings support the notion that co-parenting functions as a relational infrastructure that facilitates emotional consistency and behavioral stability in the home environment (Kuswara et al., 2024). These results are consistent with findings from Qiao et al., who reported that paternal co-parenting involvement reduces children's problem behaviors, particularly when maternal burnout is low (Qiao et al., 2024). In our study, the quality of the co-parenting relationship served as a buffer against externalizing behaviors in children, confirming the multidimensional value of parental collaboration in child development.

Similarly, the significant positive association between parenting stress and child behavioral problems reflects existing literature that conceptualizes stress as both a cause and consequence of behavioral maladjustment (Damen et al., 2020; Kamody & Lydecker, 2021). Parents experiencing heightened stress often exhibit less warmth, more punitive discipline, and inconsistent parenting strategies—all of which contribute to emotional and behavioral dysregulation in children (Sumargi et al., 2020). The predictive strength of parenting stress in the regression model supports the hypothesis that psychological strain within the parenting role has a more direct and immediate effect on children's behavior than relational dynamics alone. This aligns with findings by Hoyniak et al., who demonstrated that adversity-related stress among parents reduced behavioral and neural synchrony with their children, ultimately affecting emotional attunement and behavioral outcomes (Hoyniak et al., 2021).

It is noteworthy that while both co-parenting quality and parenting stress were significant predictors, parenting stress had a comparatively stronger impact on child behavioral adjustment. This may be due to the internalized and individualized nature of stress, which directly shapes day-to-day parent-child interactions. Parents under stress may find it more difficult to maintain consistent behavioral expectations or to respond empathetically to their child's needs (Armstrong-Carter et al., 2021). These findings resonate with the results of Belanger et al., who found that interventions targeting caregiver emotional responsiveness—especially among parents with histories of maltreatment—were effective in improving child behavior

outcomes (Belanger et al., 2023). Stress compromises a parent's capacity to regulate their own emotions, thereby limiting their ability to model appropriate emotional and behavioral responses for their children.

Interestingly, the findings also reinforce the interactive nature of parenting factors. Although co-parenting quality and parenting stress were examined independently, their conceptual and functional overlap suggests that they may interact in influencing child behavior. For instance, a supportive co-parenting relationship may mitigate the effects of parenting stress by providing emotional and practical support (Ha et al., 2022). Dai et al. noted that couples experiencing financial distress and conflict were better able to support each other—and consequently their children—when co-parenting support was high (Dai et al., 2022). Conversely, conflictual or disengaged co-parenting may exacerbate stress levels, creating a compounding effect on the caregiver's psychological well-being and the child's behavioral adjustment.

The cultural context of the study also adds nuance to these findings. In Morocco, family structures are often embedded in collectivist values, where extended family involvement and community expectations shape parenting dynamics. Although most existing co-parenting research is rooted in Western frameworks, the results of this study suggest that the fundamental principles of coordinated caregiving and stress regulation are universally relevant. This echoes the findings of Khawaja et al., who emphasized the role of father involvement and co-parenting quality in predicting child behavioral outcomes in the Pakistani cultural context (Khawaja et al., 2022). Similarly, Kruse et al.'s scoping review emphasized that parental attitudes—shaped by culture, tradition, and family norms—play a vital role in determining caregiving behaviors and their impact on children (Kruse et al., 2024).

Further, the results align with neurodevelopmental and affective research highlighting the importance of parent-child synchrony and emotional availability in promoting behavioral health. For example, studies using real-time data from eye-tracking and affective computing methodologies have demonstrated how emotional cues from parents influence children's attention and affective responses (Chen et al., 2023; MacNeill et al., 2021). Such findings underscore the subtle but powerful ways that parenting behaviors—and by extension, parenting stress—can influence children's behavioral outcomes through moment-to-moment interactions.

In addition to behavioral implications, the findings of this study contribute to broader theoretical discussions about the ecological nature of child development. As suggested by Marceau's bioecological systems model, parenting does not occur in isolation but is shaped by multiple levels of environmental interaction, including co-parenting alliances and psychological stressors (Marceau, 2023). Thus, our results support a systemic perspective, where the convergence of interpersonal (co-parenting) and intrapersonal (stress) factors collectively determines behavioral trajectories in children. Moreover, the predictive model observed in this study affirms the importance of including both structural and psychological variables in assessments and interventions aimed at improving child outcomes.

The importance of examining co-parenting and parenting stress together is further emphasized by research into child risk perception and behavioral sensitivity. For example, Zhong et al. found that parent-child attachment and parenting strategies significantly influenced children's perception of environmental risks, suggesting that parental responsiveness can shape both behavioral and cognitive development (Zhong et al., 2021). Similarly, Xerxa et al. reported that hostile parental interactions were associated with neurobiological correlates of externalizing behaviors in children, emphasizing the physiological imprint of relational dysfunction (Xerxa et al., 2024). Such findings highlight that the behavioral manifestations observed in children may have both environmental and neurological underpinnings, all of which are sensitive to the parenting climate.

In sum, the findings of this study reinforce the dual importance of supportive co-parenting and manageable levels of parenting stress in promoting favorable behavioral adjustment in children. These results offer both theoretical and practical contributions, especially in underrepresented cultural contexts such as Morocco. They align with a large body of international research while also pointing toward the need for culturally adapted models that reflect the realities of non-Western family systems.

## 5. Suggestions and Limitations

Despite the valuable insights generated, this study has several limitations that should be acknowledged. First, the cross-sectional design limits the ability to draw causal inferences. Although co-parenting quality and parenting stress were found to predict child behavioral adjustment, the directionality of these relationships cannot be definitively

established. It is possible that children's behavioral problems also contribute to increased parenting stress and strained co-parenting relationships. Second, all data were collected using self-report measures, which may be influenced by social desirability bias or individual differences in perception. Future research would benefit from incorporating observational methods or multi-informant approaches to provide a more comprehensive and objective view. Additionally, while the study offers valuable insights into the Moroccan context, its generalizability to other cultural settings may be limited. Family dynamics are deeply shaped by socio-cultural norms, and replication in other regions is necessary to establish broader applicability.

Future research should adopt longitudinal designs to better understand the causal and developmental pathways linking co-parenting, parenting stress, and child behavioral adjustment. Tracking these variables over time would provide insight into how family dynamics evolve and how early parenting interventions may alter developmental trajectories. Moreover, research could explore the potential moderating or mediating variables that influence these relationships. For instance, the role of parental mental health, child temperament, or socioeconomic status may clarify when and how co-parenting and stress exert their influence. Future studies should also include more diverse samples, incorporating different family structures such as single-parent, blended, or same-gender parent households to expand the scope of current findings. Finally, there is a need to develop and test culturally sensitive interventions that specifically target co-parenting support and stress reduction in family systems within non-Western societies.

Based on the findings, it is recommended that parenting programs include components that strengthen co-parenting collaboration, such as communication skills, joint problem-solving, and emotional support between caregivers. These efforts can promote a unified caregiving approach that benefits children's behavioral development. Additionally, intervention programs should integrate strategies for managing parenting stress, such as stress-reduction techniques, self-care practices, and access to community support networks. Professionals working with families—such as educators, psychologists, and social workers—should be trained to recognize signs of co-parenting conflict and elevated stress and to provide targeted support or referrals. Culturally responsive practices are especially crucial, ensuring that interventions resonate with families' values, traditions, and lived experiences. Supporting both the structural and emotional dimensions of parenting is

essential for fostering well-adjusted children and resilient family systems.

### Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. The design of this research has been approved by the Ethics Committee of Islamic Azad University, Shiraz Branch, under ethics code IR.IAU.SHIRAZ.REC.1402.153. All participants were fully informed that participation in this research was voluntary, and they had the option to withdraw at any time without penalty.

### References

Ammerman, R. T., Zion, C., Cleary, O. M., Bignall, W. J. R., Mara, C. A., Theuerling, A. M., Offenbacher, E. J., Triplett, T. A., Mitchell, M. J., Brokamp, C., Smith, R. R., & Stark, L. J. (2025). Community Implementation and Evaluation of the Chicago Parent Program. *Journal of Community Psychology*, 53(1). <https://doi.org/10.1002/jcop.23176>

- Armstrong-Carter, E., Miller, J. G., & Obradović, J. (2021). Parent-child Physiological Synchrony: Concurrent and Lagged Effects During Dyadic Laboratory Interaction. *Developmental Psychobiology*, 63(7). <https://doi.org/10.1002/dev.22196>
- Belanger, K., Gennis, H., Ottenbreit, N. D., & Racine, N. (2023). Enhancing Attachment-Based Aspects of PCIT for Young Children With a History of Maltreatment. *Frontiers in psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1229109>
- Cederbaum, J. A., Saldade, A., Rodman, J., Monro, W., Parker, K., & Mennen, F. E. (2024). The Effects of a Fatherhood Intervention on the Co-Parenting Behaviors of Hispanic and Non-Hispanic Black Fathers. *Journal of Family Issues*. <https://doi.org/10.1177/0192513x241299420>
- Chen, H., Alghowinem, S., Jang, S. J., Breazeal, C., & Park, H. W. (2023). Dyadic Affect in Parent-Child Multimodal Interaction: Introducing the DAMI-P2C Dataset and Its Preliminary Analysis. *Ieee Transactions on Affective Computing*, 14(4), 3345-3361. <https://doi.org/10.1109/taffc.2022.3178689>
- Curci, S. G., Somers, Jennifer A, Winstone, Laura K, Luecken, Linda J. (2023). Within-dyad bidirectional relations among maternal depressive symptoms and child behavior problems from infancy through preschool. *Development and Psychopathology*, 35(2), 547-557. <https://doi.org/10.1017/S0954579421001656>
- Dai, Y., Futris, T. G., Stanford, W. D., Richardson, E., & Koss, K. J. (2022). The Association Between Financial Distress, Conflict Management, and Co-Parenting Support for Couples Receiving Child Welfare. *Journal of Social and Personal Relationships*, 39(11), 3329-3350. <https://doi.org/10.1177/02654075221096783>
- Damen, H., Veerman, J. W., Vermulst, A. A., Westerdijk, I., & Scholte, R. H. J. (2020). Parental Empowerment and Child Behavioral Problems in Single and Two-Parent Families During Family Treatment. *Journal of Child and Family Studies*, 29(10), 2824-2835. <https://doi.org/10.1007/s10826-020-01795-1>
- Griffith, G. M., Saville, C. W., Halstead, E. J., & Hastings, R. P. (2023). Mindfulness as a Potential Moderator Between Child Behavior Problems and Maternal Well-Being. *American Journal on Intellectual and Developmental Disabilities*, 128(6), 411-424. <https://doi.org/10.1352/1944-7558-128.6.411>
- Ha, A. S., He, Q., Lubans, D. R., Chan, C. H. S., & Ng, J. Y. Y. (2022). Parent-Focused Online Intervention to Promote Parents' Physical Literacy and Support Children's Physical Activity: Results From a Quasi-Experimental Trial. *BMC public health*, 22(1). <https://doi.org/10.1186/s12889-022-13739-z>
- Hoyniak, C. P., Quiñones-Camacho, L. E., Camacho, M. C., Chin, J., Williams, E. M., Wakschlag, L. S., & Perlman, S. B. (2021). Adversity Is Linked With Decreased Parent-Child Behavioral and Neural Synchrony. *Developmental Cognitive Neuroscience*, 48, 100937. <https://doi.org/10.1016/j.dcn.2021.100937>
- Jones, S. L. (2023). Longitudinal Associations Between Paternal Mental Health and Child Behavior and Cognition in Middle Childhood. *Frontiers in psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1218384>
- Kamody, R. C., & Lydecker, J. A. (2021). Parental Feeding Practices and Children's Disordered Eating Among Single Parents and <scp>co-parents</Scp>. *International Journal of Eating Disorders*, 54(5), 812-820. <https://doi.org/10.1002/eat.23490>



- Khawaja, M., Malik, T. A., & Masood-ul-Hassan, S. (2022). Role of Father Involvement, Co-Parenting Relationship Quality, and Father's Work Hours in Social-Emotional Behavioral Outcomes of Children in the Pakistani Cultural Context. <https://doi.org/10.21203/rs.3.rs-1902643/v1>
- Kruse, S. P., D'Souza, L., Tuncer, H. G. G., & Stewart, S. E. (2024). Sources of Attitudes Towards Parent-child Co-sleeping and Their Effects: A Systematic Scoping Review. *Family Process*, 63(4), 2484-2504. <https://doi.org/10.1111/famp.13022>
- Kuswara, K., Shrewsbury, V. A., Macdonald, J. A., Chung, A., & Hill, B. (2024). Sharing the Motherload: A Review and Development of the CO-Parent Conceptual Model for Early Childhood Obesity Prevention. *Obesity Reviews*, 26(2). <https://doi.org/10.1111/obr.13853>
- Lim, Y. (2022). Structural Relationships Among Dual-Earner Parents' Work-Family Conflict, Co-Parenting Quality, Children's Executive Function Difficulties, and School Adjustment: An Application of the Actor-Partner Interdependence Model. *Family and Environment Research*, 60(4), 507-520. <https://doi.org/10.6115/fer.2022.034>
- MacNeill, L. A., Fu, X., Buss, K. A., & Pérez-Edgar, K. (2021). Do You See What I Mean?: Using Mobile Eye Tracking to Capture Parent-child Dynamics in the Context of Anxiety Risk. *Development and Psychopathology*, 34(3), 997-1012. <https://doi.org/10.1017/s0954579420001601>
- Marceau, K. (2023). The Role of Parenting in Developmental Trajectories of Risk for Adolescent Substance Use: A Bioecological Systems Cascade Model. *Frontiers in psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1277419>
- Park, E. K., & Lee, H. S. (2024). The Effect of Mother's Family Interaction on Children's Social Competence: The Dual Mediating Effect of Mother's Co-Parenting and Warmth Parenting Behavior. *Korean Association for Learner-Centered Curriculum and Instruction*, 24(8), 859-872. <https://doi.org/10.22251/jlcci.2024.24.8.859>
- Qiao, T., Wang, L., Chang, J., Huang, X., Wang, X., & Ye, P. (2024). The Effect of Paternal Co-Parenting on Preschool Children's Problem Behaviors: The Chain-Mediating Role of Maternal Parenting Burnout and Psychological Aggression. *Psychology research and behavior management*, Volume 17, 187-200. <https://doi.org/10.2147/prbm.s451878>
- Sumargi, A. M., Prasetyo, E., & Ardelia, B. W. (2020). Parenting Styles and Their Impacts on Child Problem Behaviors. *Jurnal Psikologi*, 19(3), 269-285. <https://doi.org/10.14710/jp.19.3.269-285>
- Szepsenwol, O. (2020). The Effect of Childhood Unpredictability on Co-Parenting Relationships During the Transition to Parenthood: A Life History Approach. *Journal of Social and Personal Relationships*, 37(8-9), 2438-2458. <https://doi.org/10.1177/0265407520918670>
- Thullen, M., & Bonsall, A. (2017). Co-Parenting Quality, Parenting Stress, and Feeding Challenges in Families With a Child Diagnosed With Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 47(3), 878-886. <https://doi.org/10.1007/s10803-016-2988-x>
- Wu, Y. P., Tercyak, K. P., Wankier, A. P., Brunsgaard, E. K., Parsons, B. G., Devine, K. A., Stump, T. K., Boucher, K. M., & Hay, J. L. (2023). Moderating Influences on Parents' Fatalistic Beliefs About Cancer and Their Association With Sun Safety Behaviors Among Children of Melanoma Survivors: Implications for Treatment. *Journal of Health Psychology*, 29(5), 481-491. <https://doi.org/10.1177/13591053231209167>
- Xerxa, Y., Lamballais, S., Muetzel, R. L., Ikram, M. A., & Tiemeier, H. (2024). It Takes Three: Parental Hostility, Brain Morphology, and Child Externalizing Problems in a Parent-Offspring Neuroimaging Trio Design. *Journal of Neuroscience*, 44(50), e2156232024. <https://doi.org/10.1523/jneurosci.2156-23.2024>
- Yoo, D., & Han, S. Y. (2022). Effects of Co-Parenting and Infant Emotional Self-Control on the Externalized Problem Behavior of Infants. *Korean Journal of Child Studies*, 43(2), 95-110. <https://doi.org/10.5723/kjcs.2022.43.2.95>
- Zhong, S., Cheng, Q., Jia, G., & Ngok, K. (2021). Creating a Safe Haven for Children: The Effect of Parent-Child Attachment and Parenting Strategy on Children's Risk Perceptions to Climate Change. <https://doi.org/10.21203/rs.3.rs-285242/v1>
- Zhou, T., Luo, Y., Xiong, W., Meng, Z., Zhang, H., & Zhang, J. (2024). Problem-Solving Skills Training for Parents of Children With Chronic Health Conditions: A Systematic Review and Meta-Analysis. *JAMA Pediatrics*, 178(3), 226-236. <https://doi.org/10.1001/jamapediatrics.2023.5753>
- Zhu, J., Xiang, S., & Li, Y. (2024). Mothers' Perceived Co-Parenting and Preschooler's Problem Behaviors: The Mediating Role of Maternal Parenting Stress and the Moderating Role of Family Resilience. *Psychology research and behavior management*, Volume 17, 891-904. <https://doi.org/10.2147/prbm.s451870>