

Exploring The Impact of Interoception-Related Parenting on Social, Emotional, and Behavioral Skills: The Mediating Role of Positive Self-Concept

Xiaotao Wang*

Canadian International School, Singapore, Singapore

*Taotao080326@outlook.com

Abstract

Social, Emotional, and Behavioral (SEB) skills refer to an individual's ability to maintain interpersonal relationships, regulate emotions, and manage goal-directed behaviors. These skills are influenced by foundational social cognitive abilities and emotional functioning. Recent studies suggest that interoception is shaped by parent-child interactions. This study explored whether interoception-related parenting affects SEB skills through the mediating variable of positive self-concept. A total of 160 Chinese participants ($M_{age} = 23.55$, 83 females) completed the Recollected Interoception-Related Parenting Questionnaire (RIPQ), the Behavioral, Emotional, and Social Skills Inventory (BESSI), and the Oxford Positive Self Scale (OPSS). Results indicated that positive interoception-related parenting was significantly associated with higher levels of SEB skills. A partial mediation analysis, controlling for negative parenting, found that positive self-concept played a significant mediating role (Indirect Effect = 3.49, $p < .001$, 95% CI [1.94, 5.03]) between positive parenting and SEB skills. This suggests that positive parenting practices may enhance self-beliefs, thereby promoting socioemotional and behavioral abilities.

Keywords

Interoception; Parenting; Social-Emotional Skills; Self-Concept; Mediation.

1. Exploring The Impact of Interoception-Related Parenting on Social, Emotional, and Behavioral Skills: The Mediating Role of Positive Self-Concept

Interoception, defined as the perception and integration of internal bodily signals such as heartbeat, respiration, and visceral sensations, is increasingly recognized as a foundational component of emotional and social functioning. Traditionally viewed as an individual, internally-driven process, contemporary research emphasizes the social and relational origins of interoceptive awareness. From early infancy, caregiver responsiveness to a child's physiological and emotional cues shapes the development of interoceptive capacities, embedding bodily perception within dyadic interaction patterns (Feldman et al., 2024). This interpersonal tuning continues into adolescence, a critical period marked by heightened neurobiological plasticity and socioemotional reorganization, during which parenting behaviors that acknowledge and validate internal experiences may play a pivotal role in fostering adaptive self-regulation and social competence.

Social, Emotional, and Behavioral (SEB) skills encompass a broad range of competencies necessary for interpersonal effectiveness, emotional equilibrium, and goal pursuit. These skills, which include cooperation, empathy, self-management, and resilience, are predictive of long-term academic, occupational, and psychological outcomes (Soto et al., 2022). While genetic,

temperamental, and educational factors contribute to SEB development, the family environment-particularly parenting practices that scaffold emotional understanding-remains a central influence. Positive interoception-related parenting, characterized by behaviors such as labeling bodily states, linking sensations to emotions, and guiding adaptive coping, may enhance an adolescent's ability to interpret and utilize interoceptive signals in social contexts, thereby strengthening SEB skills.

A crucial psychological mechanism that may bridge supportive parenting and SEB competencies is positive self-concept. Defined as a multidimensional construct encompassing self-worth, self-efficacy, and a coherent positive self-view (Freeman et al., 2023), positive self-concept provides the internal foundation for engagement in social relationships, persistence in challenging tasks, and effective emotion regulation. When parents respond sensitively to a child's internal states, they communicate that the child's experiences are valid and meaningful, fostering a sense of self-trust and mastery. This, in turn, may empower the child to navigate social interactions and emotional challenges with greater confidence and flexibility.

Despite theoretical linkages, empirical research has yet to examine whether positive self-concept mediates the relationship between interoception-related parenting and SEB skills. Previous studies have largely focused on either parenting and socioemotional outcomes or self-concept and adjustment, without integrating interoception as a relational process. This study aims to address this gap by investigating the hypothesis that positive interoception-related parenting is associated with higher SEB skills, and that this relationship is partially mediated by positive self-concept. By testing this model, we seek to contribute to a more integrative understanding of how relational bodily awareness supports the development of the social-emotional self.[1-5].

2. Method

2.1. Participants

A total of 160 volunteers were recruited through online postings. Eligibility criteria included being of Chinese nationality and being 18 years or older. The sample included 83 females (51.9%) and 77 males (48.1%), with a mean age of 23.55 years. All participants provided informed consent, were informed of the study's purpose, and were aware that they could withdraw at any time. The collected data were used exclusively for academic research.

2.2. Measures

Recollected Interoception-Related Parenting Questionnaire (RIPQ). Participants completed the RIPQ (Lin et al., manuscript in preparation) to assess their recollections of their parents' interoception-related behaviors during childhood and adolescence. This study utilized the positive parenting subscale (RIPQ-Pos; $M = 26.73$, $SD = 5.99$) and the negative parenting subscale (RIPQ-Neg; $M = 30.62$, $SD = 5.10$). In the current sample, the positive parenting subscale showed good internal consistency ($\omega = .87$), as did the negative parenting subscale ($\omega = .79$).

Oxford Positive Self Scale (OPSS). The OPSS (Freeman et al., 2023) is a 20-item self-report scale used to assess positive self-concept ($M = 24.63$, $SD = 5.16$). It covers three dimensions: self-worth (e.g., "I believe I have value as a person"), self-efficacy (e.g., "I believe I can handle difficult tasks"), and positive self-perception (e.g., "I am satisfied with my identity"). Responses are scored on a 1 (Does not fit me at all) to 5 (Fits me extremely well) scale. The scale demonstrated high reliability in this sample ($\omega = .95$, $\alpha = .93$).

Behavioral, Emotional, and Social Skills Inventory (BESSI). The BESSI (Soto et al., 2021) was used to measure participants' global SEB skills ($M = 696.93$, $SD = 102.19$). The total score from

this inventory was used as the primary outcome variable. The scale showed good internal consistency in this study ($\omega = .87$).

2.3. Data Analysis

Descriptive statistics and Pearson correlation analyses were conducted to examine the relationships between variables. To test the primary hypothesis, a partial mediation analysis was conducted using JASP 0.19.2, with positive interoception-related parenting (RIPQ-Pos) as the predictor variable, positive self-concept (OPSS) as the mediator, and SEB skills (BESSI) as the outcome variable. Negative interoception-related parenting (RIPQ-Neg) was included as a covariate to isolate the specific effect of positive parenting.

2.4. Results

(1) Descriptive and Correlational Analyses

Preliminary analyses were conducted to examine the relationships between the key study variables. As hypothesized, positive interoception-related parenting was significantly and positively correlated with positive self-concept ($r = .47$, $p < .001$) and with SEB skills ($r = .56$, $p < .001$). Positive self-concept was also strongly and positively correlated with SEB skills ($r = .67$, $p < .001$).

(2) Mediation Analysis

We tested the hypothesis that positive self-concept (OPSS) would mediate the relationship between positive interoception-related parenting (RIPQ-Pos) and SEB skills (BESSI), while controlling for negative interoception-related parenting (RIPQ-Neg).

The analysis revealed a significant total effect of positive parenting on SEB skills, $b = 8.72$, $SE = 1.22$, $z = 7.17$, $p < .001$. Deconstructing this effect, positive parenting had a significant positive effect on the mediator, positive self-concept (a path), $b = 0.34$, $SE = 0.06$, $z = 5.25$, $p < .001$. Positive self-concept, in turn, significantly predicted SEB skills (b path), $b = 10.33$, $SE = 1.25$, $z = 8.24$, $p < .001$.

Crucially, the indirect effect of positive parenting on SEB skills through positive self-concept (a*b path) was significant, Estimate = 3.49, $SE = 0.79$, $z = 4.43$, $p < .001$, 95% CI [1.94, 5.03]. Because the 95% confidence interval does not contain zero, this confirms a significant mediation effect. The direct effect of positive parenting on SEB skills (c' path) also remained significant after accounting for the mediator, $b = 5.24$, $SE = 1.10$, $z = 4.75$, $p < .001$.

These results support a partial mediation model. This suggests that while positive parenting has a direct association with SEB skills, a significant portion of this relationship is explained by its positive influence on an individual's self-concept.

3. Discussion

This study verified the hypothesis that positive interoception-related parenting promotes the development of SEB skills, and that positive self-concept plays a key partial mediating role in this relationship. The findings show that positive parenting behaviors recalled by participants (e.g., validating bodily sensations, guiding the use of interoception) were directly associated with higher SEB skills. This is consistent with existing research conclusions that supportive parenting can foster an individual's social engagement, cooperation, and emotional regulation skills (Collie & Ryan, 2025).

Theoretically, this study is the first to confirm the mediating role of positive self-concept between interoception-related parenting and SEB skills. This expands the research perspective on the psychological mechanisms of socioemotional development, suggesting that parenting focused on internal states helps build a foundation of self-belief (e.g., self-worth and self-

efficacy). This positive self-concept then supports the confidence and resilience needed for effective social interaction and emotional management.

Practically, the study suggests that improving adolescents' SEB skills can be approached from two aspects. On one hand, parents and caregivers should be encouraged to pay attention to and validate their children's interoceptive experiences. On the other hand, such supportive parenting can be framed as a method for cultivating a child's positive self-concept, which ultimately promotes their long-term socioemotional adaptation.

4. Limitations

This study has several limitations. First, the cross-sectional design cannot infer causality between variables. Future longitudinal studies are needed to track how parenting behaviors influence positive self-concept and SEB skills over time. Second, participants recalled parenting experiences from childhood and adolescence, which may be affected by memory bias (e.g., idealizing or downplaying past experiences). Third, the sample consisted of Chinese adults, and these findings may not generalize to other cultural contexts or to current adolescents.

5. Conclusion

This study provides novel empirical support for the role of interoception-related parenting in shaping socioemotional development, highlighting positive self-concept as a key explanatory mechanism. The findings demonstrate that recollections of positive parenting behaviors-such as validating internal sensations and guiding their application in emotional and social contexts-are not only directly associated with higher levels of SEB skills but also indirectly linked through the cultivation of a positive self-view. These results align with developmental theories that emphasize the embodied and relational nature of self-regulation and social competence, suggesting that parental attunement to a child's interoceptive experiences fosters both self-understanding and interpersonal skills.

Theoretically, this study advances the integration of interoceptive science with developmental and social psychology. By identifying positive self-concept as a mediator, we offer a plausible psychological pathway through which bodily-awareness socialization translates into broader behavioral and emotional competencies. This underscores the importance of considering self-representational processes in models of parenting and socioemotional outcomes, particularly during adolescence-a period characterized by identity formation and increasing autonomy.

From a practical perspective, these findings have implications for parenting education, school-based socioemotional learning programs, and clinical interventions aimed at enhancing youth well-being. Encouraging caregivers to adopt interoception-supportive practices-such as mindful listening, emotion coaching, and body-awareness dialogues-may promote not only immediate emotional co-regulation but also long-term self-concept development. Similarly, interventions designed to strengthen positive self-beliefs may amplify the benefits of supportive parenting, creating a reinforcing cycle of self-confidence and social adeptness.

Several limitations warrant consideration, including the cross-sectional design, reliance on retrospective self-report, and a culturally homogeneous sample of Chinese adults. Future research should employ longitudinal designs to establish temporal precedence, incorporate multi-informant and observational methods to reduce recall bias, and examine these relationships across diverse cultural and developmental contexts. Additionally, experimental or intervention studies could test whether enhancing interoception-related parenting leads to improvements in self-concept and SEB skills.

In summary, this study illuminates how parenting that honors the internal world of the child contributes to the growth of a resilient, socially skilled individual. By nurturing interoceptive

awareness and, in turn, positive self-concept, caregivers may equip adolescents with the inner resources needed to thrive in complex emotional and social landscapes. These insights reinforce the value of embodied, relationally grounded approaches to fostering human development.

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