Quarterly Journal Fides et Ratio
Issue 61(1)2025, ISSN 2082-7067, Pages 9-19

The mediating role of stress coping styles in the relationship between maternal attachment styles and maternal-fetal attachment[1]

https://doi.org/10.34766/fer.v61i1.1336

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Abstract: The study aimed to explore the mediating role of stress coping styles in the relationship between maternal attachment styles and maternal-fetal attachment (MFA). A sample of 191 pregnant women completed three questionnaires: the Coping Inventory for Stressful Situations (CISS) to assess coping styles, the Attachment Style Questionnaire (ASQ) to measure maternal attachment, and the Maternal Fetal Attachment Scale (MFAS) to evaluate the emotional bond with the unborn child. The results showed that coping styles fully mediated the relationship between secure attachment and MFA. Mothers with secure attachment styles tended to use task-oriented coping strategies, which were associated with stronger prenatal attachment, and relied less on emotion-focused and avoidance styles, which weakened MFA. In the case of avoidant and anxious attachment, task-oriented coping fully mediated the negative impact of these attachment styles on MFA. However, emotion-focused coping did not significantly mediate the relationship between avoidant attachment and MFA, nor did avoidance coping mediate the relationship between anxious attachment and MFA. Interventions encouraging adaptive coping may benefit women with insecure attachment.
Keywords: stress coping styles, attachment styles, maternal-fetal attachment

Introduction

Pregnancy is considered a period of heightened emotional vulnerability in a woman's life, during which an internal representation of the future child begins to form (Rosa da et al., 2021). Maternal-fetal attachment (MFA) refers to the emotional bond between the mother and her unborn child, which plays a critical role in maternal well-being and fetal development during pregnancy. This is a multidimensional phenomenon, encompassing thoughts, feelings, and inclinations toward protecting the fetus, interacting with it, and meeting its needs (Condon & Corkindale, 1997). This unique bond not only reflects a mother's emotional investment in the pregnancy but also establishes the foundation for the future mother-child relationship, shaping maternal behaviors and attitudes in the postpartum period (Suzuki et al., 2022). Higher levels of maternal-fetal attachment are associated with a range of positive outcomes, including more effective maternal caregiving practices, lower levels of postpartum depression, and increased sensitivity and responsiveness to the needs of the newborn (Alhusen et al., 2013). These positive maternal behaviors are essential for fostering a secure attachment between mother and child after birth, which, in turn, promotes the child's optimal socio-emotional development (Branjerdporn et al., 2021; Cannella, 2005).

One of the key psychological factors influencing maternal-fetal attachment (MFA) is the mother's attachment style – a concept derived from attachment theory. Attachment style refers to internalized relationship patterns from early childhood that shape how individuals perceive and respond to interpersonal relationships throughout their lives (Røhder et al., 2020; Mikulincer & Shaver, 2012). Attachment theory, developed by John Bowlby (1979, 1982), posits

1 Article in Polish language: https://www.stowarzyszeniefidesetratio.pl/fer/61P_Nowi.pdf

that early interactions with primary caregivers create a foundation for internal working models – cognitive structures that shape expectations about oneself and others in relationships. These internal models form characteristic attachment styles that influence individuals' emotional and behavioral responses in close relationships. Three primary attachment styles are identified: secure, anxious, and avoidant. Individuals with a secure attachment style generally hold positive expectations of others, effectively regulate their emotions, and readily build healthy, satisfying relationships. Their sense of security in relationships allows for emotional openness and trust in others (Bartholomew & Horowitz, 1991). Conversely, individuals with an anxious-ambivalent attachment style often fear that others may not be available or responsive enough, leading to persistent worries about others' interest and commitment. Such individuals may be emotionally dependent, with their self-esteem reliant on continuous reassurances from others (Mikulincer & Shaver, 2012). Those with an avoidant attachment style have difficulty forming close emotional bonds and generally avoid excessive reliance on others (Borawski et al., 2021). In stressful situations, they tend to rely solely on themselves, avoiding external support. Self-sufficiency and avoidance of emotional closeness serve as protective mechanisms against potential rejection or hurt (Tironi et al., 2021). Each of these attachment styles influences how individuals form relationships and emotionally respond to closeness and engagement in relationships with others.

Maternal attachment styles play a particularly important role during pregnancy, as they affect how a mother emotionally engages in the relationship with her developing fetus (Siddiqui & Hägglöf, 2000). Research shows that mothers with a secure attachment style exhibit higher levels of maternal-fetal attachment (MFA), manifested in positive thoughts and feelings toward the unborn child and greater involvement in prenatal care (Kucharska, 2021; McNamara et al., 2019). Conversely, mothers with an anxious attachment style often focus excessively on relationships and may experience heightened concerns about rejection or inadequacy as future mothers (Rholes et al., 2001). Such concerns can hinder full emotional engagement in the pregnancy and relationship with the fetus, leading to lower levels of prenatal attachment. In contrast, mothers with an avoidant attachment style are characterized by emotional distance and discomfort with closeness in relationships (Branjerdporn et al., 2021). They often struggle with emotional engagement in pregnancy and may downplay the importance of the bond with the fetus as a defense mechanism against vulnerability to hurt (Simson & Rholes, 2008). This stance may hinder the development of prenatal attachment, as these mothers avoid confronting the emotional and relational demands of impending motherhood (Cruvys et al., 2024).

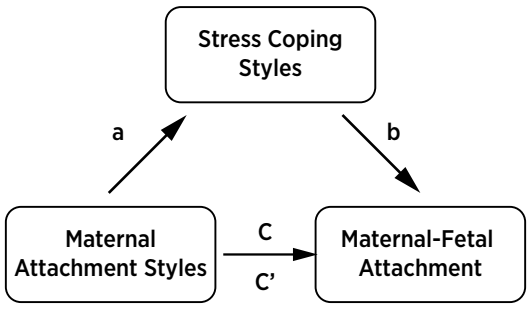

Figure 1. Mediational model for maternal attachment styles, stress coping styles and maternal- fetal attachment symptoms.
Path a reflects relation between each attachment style and stress coping styles, adjusting for all other attachment styles. Path b reflects relation between each stress coping style and maternal-fetal attachment. Path c reflects relation between each attachment style and maternal-fetal attachment, adjusting for all other attachment styles. Path c' reflects the relation between each attachment style and maternal-fetal attachment after adjusting for mediators (stress coping styles).

Coping with stress is understood as a complex adaptive process that involves cognitive and behavioral actions undertaken by individuals to manage, reduce, or tolerate internal and external demands in a stressful situation (Lazarus & Folkman, 1984). Endler and Parker (1990) distinguished three main categories of coping styles: (1) task-oriented coping, which involves directly solving the problem or changing the source of stress; (2) emotion-oriented coping, characterized by behaviors in which individuals focus on themselves and their emotional experiences in stressful situations; and (3) avoidance-oriented coping, where individuals do

not confront the problem but tend to avoid thinking and experiencing the situation. Coping styles play an essential role in shaping the prenatal attachment between mother and fetus, as the way women cope with challenges and emotions affects their ability to build a relationship with the unborn child (Suryaningsih et al., 2020). Studies indicate that mothers who use adaptive coping styles, such as task-oriented coping, are more likely to exhibit positive engagement in prenatal attachment (MFA) (Grote & Bledsoe, 2007). This style enhances a sense of control over challenging situations, supporting the mother's positive emotions toward the fetus and fostering a stronger prenatal bond (Malley et al., 2022). Conversely, mothers who use maladaptive coping styles, such as avoidance or emotion-focused coping, often encounter difficulties in developing a positive attachment to the fetus (Dunkel-Schetter & Glynn, 2011). Research shows that avoidant coping is associated with higher levels of maternal anxiety and depression, which can weaken the development of an emotional bond with the unborn child (Daglar et al., 2022). Similarly, emotion-focused coping may limit the mother's ability to form a positive mental image of future motherhood, negatively impacting MFA (Ozcan et al., 2019).

Numerous studies indicate that attachment styles significantly influence coping style selection (Stancu et al., 2020). The attachment system is activated when an individual encounters a situation perceived as threatening or challenging, which can vary considerably depending on individual experiences and subjective evaluations (Mikulincer et al., 2003). In such moments, an individual's specific attachment orientation, shaped by early relational patterns and internal working models, plays a crucial role in guiding both the interpretation of the nature and intensity of perceived threat and the emotional, cognitive, and behavioral responses aimed at coping with the situation (Shaver & Mikulincer, 2009). Although pregnancy is a natural and anticipated stage in a woman's life, it often represents a significant source of psychological stress and anxiety, primarily due to the physical, emotional, and social changes occurring during this period (Dunkel-Schetter & Tanner, 2012). Increased vulnerability to stress and uncertainty may activate the attachment system in pregnant women, making them more sensitive to relational cues and the need for support (Bianciardi et al., 2020; Marca-Ghaemmaghami & Ehlert, 2015; Wadhwa et al., 2011). According to attachment theory, different emotion regulation strategies and coping styles emerge as tools that fulfill the core objectives of the attachment system (Brenning & Braet, 2013). Individuals with a high level of attachment security tend to use task-oriented strategies and adopt a more positive and constructive evaluation of their capacity to cope with stressful situations. In contrast, individuals with high levels of attachment anxiety tend to hyperactivate the attachment system, leading to a greater reliance on emotion-focused strategies (Kural & Kovacs, 2021; Jerome & Liss, 2005). Consequently, individuals with high levels of attachment anxiety become overly vigilant, respond excessively to stressors, and tend to use maladaptive coping behaviors, such as magnifying problems and feeling ineffective in managing them (Tamannaeifar & Sanatkarfar, 2017). On the other hand, individuals with high levels of attachment avoidance are inclined to suppress responses to stressors and limit activation of the attachment system (McLeod et al., 2024).

The aim of this study is to examine the mediating role of stress coping styles in the relationship between maternal attachment styles and maternal-fetal attachment. This research aims to determine whether individual differences in coping styles can explain the relationship between mothers' early attachment patterns and the emotional bond they form with their unborn child.

1. Method

1.1. Procedure

The study was conducted online using a secure survey platform. Participants were recruited through online advertisements posted on social media platforms, pregnancy support groups, and parenting forums. The inclusion criteria required participants to be at least 18 years old, currently pregnant in either the second or third trimester, and fluent in Polish. Women were excluded if they reported a history of severe psychiatric conditions or high-risk pregnancy complications.

Interested participants were directed to an online consent form, which provided information about the study's purpose, their rights as participants, and the procedures involved. After providing electronic informed consent, participants gained access to the survey link, where they completed a series of questionnaires designed to assess maternal attachment styles, stress coping strategies, and maternal-fetal attachment (MFA). The entire data collection process took approximately 30 minutes to complete. The survey was designed to be user-friendly and accessible on multiple devices, including smartphones, tablets, and computers, allowing participants to complete it in a setting and time of their choosing. All responses were kept anonymous, and participants were assured that their data would be stored securely and used exclusively for research purposes. Ethical approval for the study was granted by the Institutional Ethics Committee of the University of Economics and Human Sciences in Warsaw, and the research was conducted in accordance with the Declaration of Helsinki.

1.2. Participants

The final sample consisted of 191 pregnant women between the ages of 20 and 39 years (M = 30.4, SD = 4.7), who were in either the second trimester (52%) or the third trimester (48%) of pregnancy. The majority of participants were married (68%), 25% were cohabiting with their partners, and 7% identified as single. In terms of education, 55% of the women held a university degree, 32% had completed secondary education, and 13% reported having vocational training.

1.3. Measurments

1.3.1. The Attachment Styles Questionnaire (ASQ; Plopa, 2008)

The Attachment Styles Questionnaire (ASQ) is an instrument designed to evaluate adult attachment styles in romantic relationships, applicable to both men and women. Developed by Plopa (2008), the ASQ is based on the attachment theory framework introduced by Hazan and Shaver (1987). It distinguishes between three attachment styles: secure, avoidant, and anxious-ambivalent. The questionnaire includes 24 items, grouped into scales that correspond to these attachment styles. Responses are provided on a seven-point scale, and the raw scores are converted into sten scores for further analysis. Reliability for the secure style equals 0.91, for the ambivalent-anxious style is 0.78, and for the avoidant style is 0.80. The Cronbach's alpha reliability coefficient equaled 0.86 for the whole scale

1.3.2. Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994)

The *Coping Inventory for Stressful Situations* was used to evaluate participants' stress coping styles. This 48-item questionnaire assesses three distinct coping styles: task-oriented coping, emotion-focused coping, and avoidance coping. Respondents rate each item on a 5-point Likert scale (1 = not at all to 5 = very much), indicating how often they use each strategy when faced with stressful situations. Task-oriented coping measures strategies directed at solving the problem or altering the situation to reduce stress, while emotion-focused coping assesses responses aimed at regulating emotional distress, such as venting emotions or seeking emotional support. Avoidance coping captures tendencies to disengage from or distract oneself from the stressor (e.g., hobbies or physical exercise). Higher scores on each subscale indicate a greater tendency to use the respective coping style. The Polish version of the questionnaire was adapted by Strelau et al. (2013).

1.3.3. Maternal–Fetal Attachment Scale (MFAS; Cranley, 1981)

A 24-item scale is a measure divided into the five following subscales: (1) Taking the parental role, (2) Treating a child as a separate being, (3) Interacting with the child, (4) Assigning characteristics to the child, (e) Being guided by the needs of the child. The questions are evaluated through Likert-type responses. The person answers by selecting one of the following terms: A–definitely yes; B–rather yes; C–I find it difficult to answer; D–probably not; E–

definitely not. The final score is obtained by the sum of all responses, which vary from 24 to 120 points. The Polish version of the questionnaire was adapted by Bielawska-Batorowicz (1995). The Cronbach's Alpha reliability coefficient for whole scale in this study equaled $\alpha = 0.78$.

1.4. Data analysis

Tables 1 and 2 present the means, standard deviations, results of the Shapiro-Wilk test, and Pearson correlations among the study variables. The mediation models specifically explored how different coping styles influence the relationship between various attachment styles and maternal-fetal attachment (MFA). Separate models were constructed for each attachment style, with each model focusing on a single coping style as a mediator, and were tested using the PROCESS macro for SPSS (Hayes, 2013). The results revealed that the impact of attachment styles on MFA varies depending on the type of coping strategy employed. The pathways are defined as follows: Path a (relationship between attachment style and stress coping style), Path b (relationship between stress coping style and MFA), Path c (total effect of attachment style on MFA), and Path c' (direct effect of attachment style on MFA after accounting for stress coping styles). The significance of indirect effects was tested using the Sobel test (z-value).

2. Results

2.1. Correlations and descriptive statistics

Table 1 and Table 2 present the means, standard deviations, Shapiro-Wilk test results, and Pearson correlations among the study variables. The analysis revealed significant correlations between attachment styles, stress coping styles, and maternal-fetal attachment. According to the results, secure attachment was positively correlated with task-oriented coping and maternal-fetal attachment, while negatively correlated with emotion-focused and avoidance coping. Anxious attachment was negatively associated with task-oriented coping and maternal-fetal attachment, but positively correlated with emotion-focused coping. Avoidant attachment showed similar patterns, being

Table 1. Means, Standard Deviation and Shapiro-Wilk Test Results

Variables	M	SD	W	P
1. Secure Attachment	3.89	0.78	0.95	0.15
2. Anxious Attachment	1.72	0.68	0.97	0.42
3. Avoidant Attachment	2.15	0.89	0.95	0.11
4. Task oriented coping	29.59	3.36	0.98	0.23
5. Emotion-focused coping	17.31	5.78	0.98	0.24
6. Avoidance coping	13.38	4.20	0.99	0.34
7. Maternal–Fetal Attachment	87.12	8.02	0.97	0.22

M – mean, SD – standard deviation, W - Shapiro-Wilk Test, p – significance level, $p < 0.05$

Table 2. Matrix Pearson correlations between variables: attachment styles, stress coping styles, and maternal-fetal attachment.

Variables	1	2	3	4	5	6	7
1. Secure Attachment	-						
2. Anxious Attachment	-0.21**	-					
3. Avoidant Attachment	-0.18**	0.15*	-				
4. Task oriented coping	0.34**	-0.29**	-0.24***	-			
5. Emotional-focused coping	-0.30*	0.19**	0.21	-0.21**	-		
6. Avoidance coping	-0.27*	0.20	0.35**	-0.18*	0.28*	-	
8. Maternal–Fetal Attachment	0.22**	-0.18**	-0.21**	-0.21*	-0.32**	-0.19*	-

p – significance level, *p < 0.05, ***p < 0.01

negatively correlated with task-oriented coping and maternal-fetal attachment, and positively correlated with avoidance coping. Furthermore, task-oriented coping was positively correlated with maternal-fetal attachment, whereas emotion-focused and avoidance coping were negatively related to maternal-fetal attachment.

2.2. Stress coping styles as mediators in the relationship between maternal attachment styles and maternal-fetal attachment

For secure attachment, the models fit the data well for task-oriented coping ($F(2, 250) = 44.11$, $p < .001$, $R^2 = 0.41$), emotion-focused coping ($F(2, 250) = 37.20$, $p < .001$, $R^2 = 0.35$), and avoidance coping ($F(2, 250) = 38.75$, $p < .001$, $R^2 = 0.38$). The total effect of secure attachment on MFA (Path c) was positive and significant ($b = 0.50$, $SE = 0.08$, $t = 6.25$, $p < .001$). In the model with task-oriented coping, secure attachment was positively associated with task-oriented coping (Path a_1; $b = 0.48$, $SE = 0.08$, $t = 6.00$, $p < .001$), and task-oriented coping positively influenced MFA (Path b_1; $b = 0.45$, $SE = 0.07$, $t = 6.43$, $p < .001$). After accounting for task-oriented coping, the direct effect of secure attachment on MFA became non-significant (Path c'_1; $b = 0.22$, $SE = 0.07$, $t = 1.72$, $p = .10$), indicating full mediation. The Sobel z test confirmed a significant indirect effect ($b = 0.22$, $SE = 0.06$, $z = 3.78$, $p < .01$). In the model with emotion-focused coping, secure attachment was negatively associated with emotion-focused coping (Path a_2; $b = -0.29$, $SE = 0.09$, $t = -3.22$, $p < .01$), and emotion-focused coping was negatively associated with MFA (Path b_2; $b = -0.25$, $SE = 0.08$, $t = -3.12$, $p < .01$). After accounting for emotion-focused coping, the direct effect of secure attachment on MFA became non-significant (Path c'_2; $b = 0.14$, $SE = 0.07$, $t = 1.45$, $p = .15$), indicating full mediation. The Sobel z test confirmed a significant indirect effect ($b = 0.07$, $SE = 0.03$, $z = 2.33$, $p < .05$). In the model with avoidance coping, secure attachment was negatively associated with avoidance coping (Path a_3; $b = -0.32$, $SE = 0.08$, $t = -4.00$, $p < .001$). On the other hand, avoidance coping was negatively associated with MFA (Path b_3; $b = -0.28$, $SE = 0.07$, $t = -3.87$, $p < .001$) . After accounting for avoidance coping, the direct effect of secure attachment on MFA became non-significant (Path c'_3; $b = 0.12$, $SE = 0.07$, $t = 1.33$, $p = .18$), indicating full mediation. The Sobel z test confirmed a significant indirect effect ($b = 0.09$, $SE = 0.04$, $z = 2.50$, $p < .05$).

For avoidant attachment, the models were well-fitted to the data across two coping styles: avoidance coping ($F(2, 250) = 42.15$, $p < .001$, $R^2 = 0.38$) and task-oriented coping ($F(2, 250) = 31.24$, $p < .001$, $R^2 = 0.31$), while the model with emotion-focused coping did not fit the data well ($F(2, 250) = 1.85$, $p = .16$, $R^2 = 0.02$). The total effect of avoidant attachment on MFA (Path c) was negative and significant ($b = -0.40$, $SE = 0.07$, $t = -5.71$, $p < .001$). In the model with task-oriented coping, avoidant attachment negatively predicted task-oriented coping (Path a_1; $b = -0.31$, $SE = 0.08$, $t = -3.88$, $p < .001$), and task-oriented coping was positively associated with MFA (Path b_1; $b = 0.32$, $SE = 0.07$, $t = 4.57$, $p < .001$). After accounting for task-oriented coping, the direct effect of avoidant attachment on MFA became non-significant (Path c'_1; $b = -0.10$, $SE = 0.07$, $t = -1.43$, $p = .15$), indicating full mediation. The Sobel test confirmed a significant indirect effect ($b = -0.10$, $SE = 0.04$, $z = -2.50$, $p < .01$). In the model with emotion-focused coping, avoidant attachment was not significantly associated with emotion-focused coping (Path a_2; $b = 0.12$, $SE = 0.09$, $t = 1.33$, $p = .19$), and emotion-focused coping negatively influenced MFA (Path b_2; $b = -0.22$, $SE = 0.08$, $t = -2.75$, $p < .01$). Since Path a_2 was not significant, the direct effect of avoidant attachment on MFA remained unchanged after accounting for emotion-focused coping (Path c'_2; $b = -0.09$, $SE = 0.08$, $t = -1.11$, $p < .01$), indicating no mediation. The Sobel test confirmed a non-significant indirect effect ($b = -0.03$, $SE = 0.03$, $z = -1.00$, $p = .32$). In the model with avoidance coping, avoidant attachment was positively associated with avoidance coping (Path a_3; $b = 0.50$, $SE = 0.08$, $t = 6.12$, $p < .001$). and avoidance coping negatively influenced MFA (Path b_2; $b = -0.22$, $SE = 0.08$, $t = -2.75$, $p < .01$). After including avoidance coping, the direct effect of avoidant attachment on MFA became non-significant

(Path c'_3; b = -0.09, SE = 0.03, t = -1.50, p = .15), indicating full mediation. The Sobel test confirmed a significant indirect effect (b = -0.09, SE = 0.03, z = -2.42, p < .01).

For anxious attachment, the overall models fit the data well for two coping styles: task-oriented coping ($F(2, 250) = 38.75$, $p < .001$, $R^2 = 0.37$) and emotion-focused coping ($F(2, 250) = 34.12$, $p < .001$, $R^2 = 0.32$), while the model with avoidance coping did not fit the data well ($F(2, 250) = 2.10$, $p = .12$, $R^2 = 0.04$). The total effect of anxious attachment on MFA (Path c) was negative and significant (b = -0.45, SE = 0.09, t = -5.00, p < .001). In the model with task-oriented coping, anxious attachment was negatively associated with task-oriented coping (Path a_1; b = -0.38, SE = 0.09, t = -4.22, p < .001), and task-oriented coping was positively associated with MFA (Path b_1; b = 0.39, SE = 0.07, t = 5.57, p < .001). After accounting for task-oriented coping, the direct effect of anxious attachment on MFA became non-significant (Path c'_1; b = -0.12, SE = 0.08, t = -1.50, p = .14), indicating full mediation. The Sobel test confirmed a significant indirect effect (b = -0.15, SE = 0.05, z = -3.22, p < .01). In the model with emotion-focused coping, anxious attachment was positively associated with emotion-focused coping (Path a_2; b = 0.55, SE = 0.09, t = 6.11, p < .001), and emotion-focused coping was negatively related to MFA (Path b_2; b = -0.19, SE = 0.08, t = -2.38, p < .05). After including emotion-focused coping, the direct effect of anxious attachment on MFA became non-significant (Path c'_2; b = -0.11, SE = 0.07, t = -1.43, p = .15), indicating full mediation. The Sobel test confirmed a significant indirect effect (b = -0.11, SE = 0.04, z = -2.65, p < .01). In contrast, in the model with avoidance coping, anxious attachment was not significantly associated with avoidance coping (Path a_3; b = 0.12, SE = 0.08, t = 1.50, p = .14), and although avoidance coping was negatively associated with MFA (Path b_3; b = -0.21, SE = 0.07, t = -3.10, p < .01), the non-significant relationship between anxious attachment and avoidance coping resulted in no mediation effect. After accounting for avoidance coping, the direct effect of anxious attachment on MFA remained significant (Path c'_3; b = -0.20, SE = 0.07, t = -2.86, p < .01), indicating a lack of mediation. The Sobel test confirmed a non-significant indirect effect (b = -0.03, SE = 0.03, z = -1.00, p = .32).

In summary, the analysis revealed a significant mediating role of coping styles in the relationship between attachment styles and maternal-fetal attachment (MFA). Task-oriented coping fully mediated the positive association between secure attachment and MFA, strengthening prenatal attachment. In the case of avoidant attachment, both task-oriented coping and avoidance fully mediated the negative impact of this attachment style on MFA – avoidantly attached mothers were less likely to use task-oriented strategies and more likely to emotionally distance themselves, which weakened prenatal attachment. Among mothers with anxious attachment styles, both task-oriented coping and emotion-focused coping fully mediated the negative relationship with MFA. Task-oriented strategies mitigated this effect, whereas emotion-focused strategies amplified it, making pregnancy engagement more difficult. Avoidant coping did not have a significant mediating effect in this group. Overall, the results confirmed that task-oriented coping strengthened MFA, whereas emotion-focused and avoidant coping strategies weakened prenatal attachment, particularly among mothers with anxious and avoidant attachment styles.

Discussion

The findings of this study provide novel insights into the complex relationship between maternal attachment styles, stress coping strategies, and maternal-fetal attachment (MFA). In particular, task-oriented coping emerged as a key mechanism supporting the development of a strong emotional bond between the mother and her unborn child, especially among mothers with secure attachment styles. A study conducted by Malley et al. (2022) confirmed that task-focused coping strategies during pregnancy mitigate the effects of stress and significantly enhance both the emotional and physical well-being of the mother. This, in turn, translates into greater maternal engagement in the pregnancy process and the development of a healthy prenatal attachment.

Other studies have demonstrated that greater use of task-oriented coping strategies in the prenatal period is associated with better cognitive development of the child at one year of age, suggesting that maternal coping styles may have long-term benefits for child development (Guardiano & Dunkel-Schetter, 2015).

A particularly significant factor in the context of attachment style is the mother's mental representations of impending motherhood and her ability to create cognitive schemas related to her future maternal role. The present study found that mothers with a secure attachment style, characterized by emotional stability and trust in themselves and others, were more likely to adopt a task-oriented coping approach. This translated into their active engagement in preparations for future motherhood. Such activities may include acquiring knowledge about prenatal development, visualizing future interactions with the child, and planning for both the physical environment and emotional readiness for the baby's arrival (Simpson & Rholes, 2015). These practices may intensify maternal emotional involvement with the fetus, foster deeper prenatal attachment, and support the transition to motherhood. By cultivating positive mental representations of future life with the child, these mothers reinforce their positive emotions toward the fetus, laying a solid foundation for the future mother-child relationship, which may, in turn, positively influence the child's socio-emotional development after birth.

The analysis also revealed that mothers with an anxious attachment style were more likely to use emotion-focused coping strategies, which significantly hinder the development of maternal-fetal attachment. An anxious attachment style is associated with excessive activation of the attachment system, leading to heightened perceived stress and stronger emotional reactions to anxiety-provoking situations (Kural & Kovacs, 2021; Jerome & Liss, 2005; Na & Moon, 2015). Emotion-focused coping during pregnancy may involve an intense focus on personal feelings and anxieties about the pregnancy, which further amplifies feelings of distress and reinforces negative emotional responses. This heightened self-focus often leads to psychological distancing from the fetus, as these mothers, instead of focusing on the child's needs, become preoccupied with their own fears. The excessive activation of the attachment system and emotional reactivity characteristic of anxious attachment styles limit these mothers' ability to effectively manage pregnancy-related stress. Studies by other researchers also suggest that mothers with an anxious attachment style have a reduced ability to mentally envision themselves in the maternal role, which affects their level of emotional and cognitive engagement with the fetus (Rholes & Paetzold, 2019). By maladaptively fixating on their own emotions, they often neglect mental preparation for their new role, weakening the potential for maternal-fetal attachment.

An interesting finding of the present study, however, was that task-oriented coping may serve a protective function, mitigating the negative effects of anxious attachment on prenatal attachment. In the context of anxious attachment, task-oriented coping may divert the mother's attention away from excessive fears, redirecting her focus toward concrete actions and pregnancy-related goals. This strategy allows these mothers to manage their anxiety more effectively, thereby facilitating the development of maternal-fetal attachment. Research by other scholars has shown that task-focused approaches enable mothers to concentrate more on practical preparations for motherhood, which fosters positive maternal representations of pregnancy and reduces excessive emotional responses (Grote & Bledsoe, 2007; Tamannaeifar & Sanatkarfar, 2017).

For mothers with an avoidant attachment style, the analysis indicated a preference for avoidance-based coping, which fully mediated the negative relationship between avoidant attachment and maternal-fetal attachment. This attachment style, characterized by withdrawal from stressful situations and avoidance of difficult emotions, hindered maternal engagement in the relationship with the unborn child. Avoidant coping strategies during pregnancy may include deliberately diverting attention away from thoughts about pregnancy and emotionally distancing themselves from aspects of motherhood. Such strategies weaken the development of prenatal attachment and limit the formation of mental representations of future interactions with the child, which could otherwise

support the transition to the maternal role. Previous studies confirm that pregnancy brings significant life changes that require the reorganization of daily priorities and the broader family system (Herzog et al., 2022).

Research on attachment styles underscores their crucial role in the transition to parenthood and in shaping relationships and bonding with the newborn. In the present study, both insecure attachment styles (anxious and avoidant) were negatively associated with maternal-fetal attachment, whereas a secure attachment style was found to be a protective factor that facilitates the development of a healthy emotional bond with the unborn child. These associations have been widely supported by previous research (Chrzan-Dętkoś & Łockiewicz, 2015; Zdolska-Wawrzkiewicz et al., 2020). However, the study by Lutkiewicz and Bidzan (2023) did not identify a statistically significant correlation between anxious or avoidant attachment styles and maternal-fetal attachment. Moreover, the authors found that prenatal attachment mediates the relationship between secure attachment style and the quality of the romantic relationship. One possible explanation for the present study's findings is that women with a secure attachment style activate their mental representation of an attachment figure during the transition to parenthood, which promotes a cognitive connection with the unborn child. In contrast, women with an anxious attachment style may focus more on the stability of their romantic relationship and seek external validation from their partners rather than fostering a direct relationship with the fetus. On the other hand, women with an avoidant attachment style, due to their fear of intimacy and tendency to suppress emotions, may refrain from engaging in emotional bonding with the unborn child.

Similar findings were reported by Rholes et al. (2001), who noted that women with an avoidant attachment style tend to suppress emotions and withdraw from relationships, particularly in situations requiring closeness. Consequently, this may lead to difficulties in developing prenatal attachment and a reduced ability to mentally represent the maternal-fetal relationship. Similarly, Tesson et al. (2022) emphasized that a lack of engagement in the changes associated with pregnancy, such as reorganizing priorities and adapting to the new maternal role, may significantly hinder the transition to motherhood. Their findings indicate that avoiding these processes is linked to greater emotional detachment from the fetus.

Furthermore, some studies suggest that the level of maternal-fetal attachment in women with an avoidant attachment style may be influenced by other factors, such as social support or prior maternal experiences. McNamara et al. (2019) found that avoidantly attached mothers who receive strong support from their partner or social network may be more emotionally engaged in pregnancy despite their initial tendency to distance themselves. In the context of the present study, this finding suggests that insecure attachment styles are not necessarily fixed mechanisms of coping and that their impact on maternal-fetal attachment may be modified by other psychological and environmental factors. Thus, analyzing stress coping styles as potential mediators in the relationship between attachment styles and prenatal attachment contributes significantly to understanding the mechanisms underlying maternal-fetal bonding.

In summary, a task-oriented coping style emerges as a key mechanism supporting MFA across all groups studied. Even among mothers with insecure attachment styles, such as anxious or avoidant, a task-oriented approach functioned as a buffer, mitigating the negative effects of these styles on prenatal attachment. The results are consistent with the literature emphasizing the importance of task-focused styles in improving mental health and the quality of the maternal-fetal relationship (Dunkel-Schetter & Glynn, 2011; Wu et al., 2020). This suggests that task-oriented coping may support a more constructive approach to motherhood even among mothers with insecure attachment styles. Focusing on concrete actions and goals related to pregnancy allows mothers to concentrate on the practical aspects of preparation, reducing anxiety levels and fostering the development of a positive bond with the unborn child (Grote & Bledsoe, 2007; Tamannaeifar & Sanatkarfar, 2017).

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