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Exploring the Development of Adolescent Mother-Infant Attachment Relationships: The Contribution of Ecological Factors

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INTRODUCTION

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- Adolescent mothers and their infants have been identified as high-risk for various challenges, including the development of non-secure attachment relationships (Broussard, 1995).
- Various risk-factors associated with adolescent motherhood may contribute to these challenges, including:
 - Lack of education and low household income (Coley & Chase-Lansdale, 1998; Jaffee et al., 2001; Tarabulsky et al., 2005).
 - Low social support and high rates of single-parenting (Jaffee et al., 2001).
 - Chaotic and stressful environments with repeated mother-infant separations, multiple caregivers and domestic violence (Davis & Cummings, 1994; De Wolff & van IJzendoorn, 1997).
- It has been proposed that these adverse ecological factors associated with adolescent motherhood may negatively impact the quality of a mother's interaction with her infant, subsequently increasing the likelihood of non-secure mother-infant attachment (Tarabulsky et al., 2005).
 - Empirical evidence suggests that adolescent mothers engage in less sensitive interactions with their infants than adult mothers (Bailey et al., 1999; Bailey et al., 2007), and low maternal sensitivity has previously been associated with the development of non-secure attachment relationships (DeWolff & van IJzendoorn, 1997).
- However, more research is necessary to identify specific risk-factors associated with adolescent motherhood that negatively impact her ability to engage in high-quality interactions with her infant.

PURPOSE OF THE CURRENT STUDY

- The current study set out to identify specific factors associated with adolescent motherhood that may reduce sensitivity and subsequently contribute to the development of non-secure mother-infant attachment relationships.

METHOD

PARTICIPANTS

| | N | Age at Birth (Mom) | Marital Status | Mothers Education (Years) | Annual Household Income |
|--------------------|----|--------------------|----------------|---------------------------|-------------------------|
| Adolescent Mothers | 60 | 18.16 (1.19) | 49% Single | 11.21 (1.18) | \$10,000 - \$19,000 |
| Adult Mothers | 48 | 30.06 (4.54) | 8.3% Single | 14.54 (2.18) | \$30,000 - \$39,000 |

MEASURES

- **Maternal Behaviour Q-Sort (MBQS; Pederson & Moran, 1995).** The MBQS consists of 90 items that represent various aspects of maternal interactive behaviour. Q-Sort methodology is used to arrange the cards into nine piles of ten cards each, ranging from pile 1 (*Least like the mother*) to 9 (*Most like the mother*). Global sensitivity was calculated as the correlation between the scores of the observers Q-sort with those of a theoretically constructed sort of a prototypically sensitive mother.
- **Parenting Stress Index. (PSI; Abidin, 1983).** This self-report measure assesses stress related to parenting, relationship with spouse, family and friends, feelings of competence, social isolation and general health. It is composed of 101 Likert scale items ranging from 1 (*Strongly Agree*) to 5 (*Strongly Disagree*) and generates an overall stress score, with higher scores indicating higher stress.
- **Strange Situation Procedure (SSP; Ainsworth et al., 1978; Main & Solomon, 1990).** Attachment relationships were measured using the standardized Strange Situation Procedure (Ainsworth et al., 1978). A continuous measure of attachment security was derived using the methods outlined by Richter, Waters and Vaughn (1988).

PROCEDURE

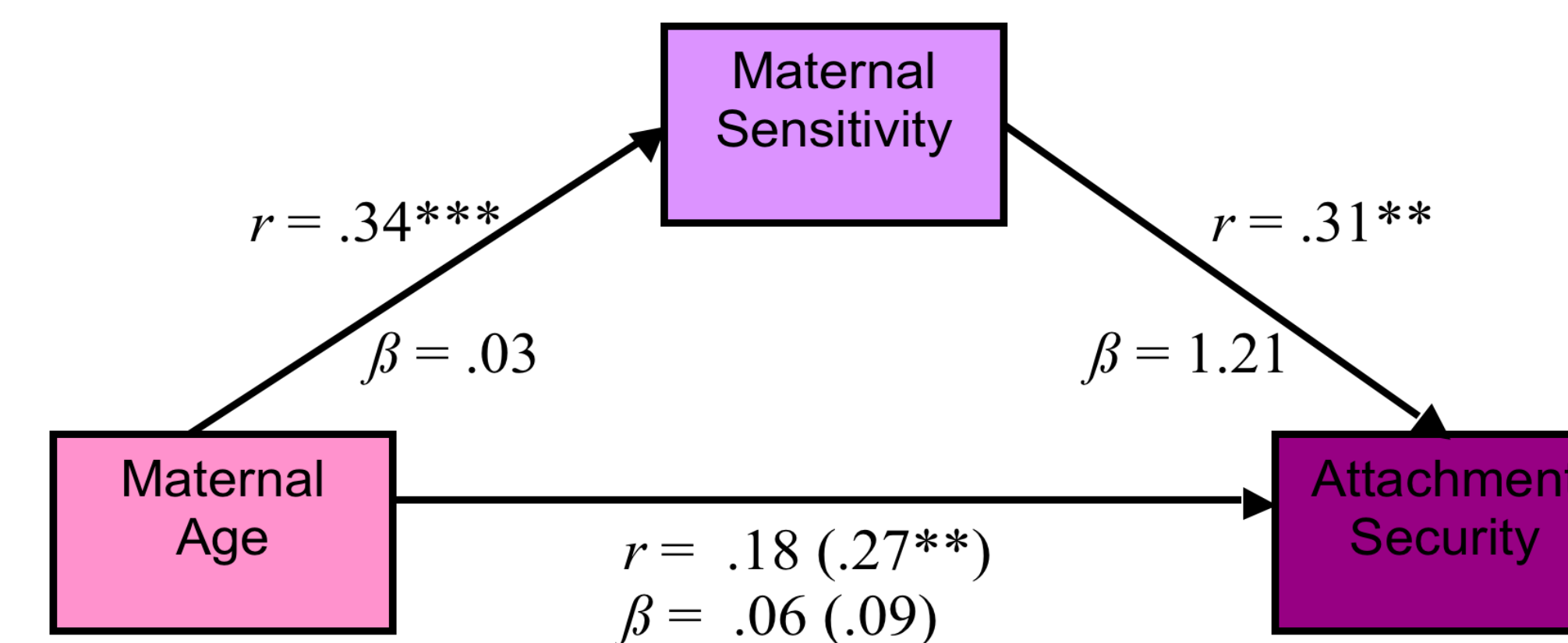
- **Home Visit:** Two hour home observations were conducted by trained visitors to assess maternal sensitivity during mother-infant interactions when the infant was 12 months old. Following this, visitors completed a sort of the 90-item MBQS.
- **Laboratory Visit:** Attachment was assessed using the Strange Situation Procedure, following procedures outlined by Ainsworth et al. (1978).

RESULTS

➤ Logistic regression was used to assess the role of maternal sensitivity as a mediator between maternal age and the quality of the attachment relationship.

➤ All components of the mediational model were supported and the inclusion of a pathway through maternal sensitivity significantly reduced the association between maternal age and attachment security ($z = 2.55, p < .05$; see Figure 1).

Figure 1. Maternal Sensitivity as a Mediator between Maternal Age and Attachment Security.



➤ This finding supports the proposal that maternal sensitivity mediates the impact of factors associated with adolescent motherhood on the quality of the attachment relationship, however, it reveals little about which factors associated with adolescent motherhood negatively impact maternal sensitivity.

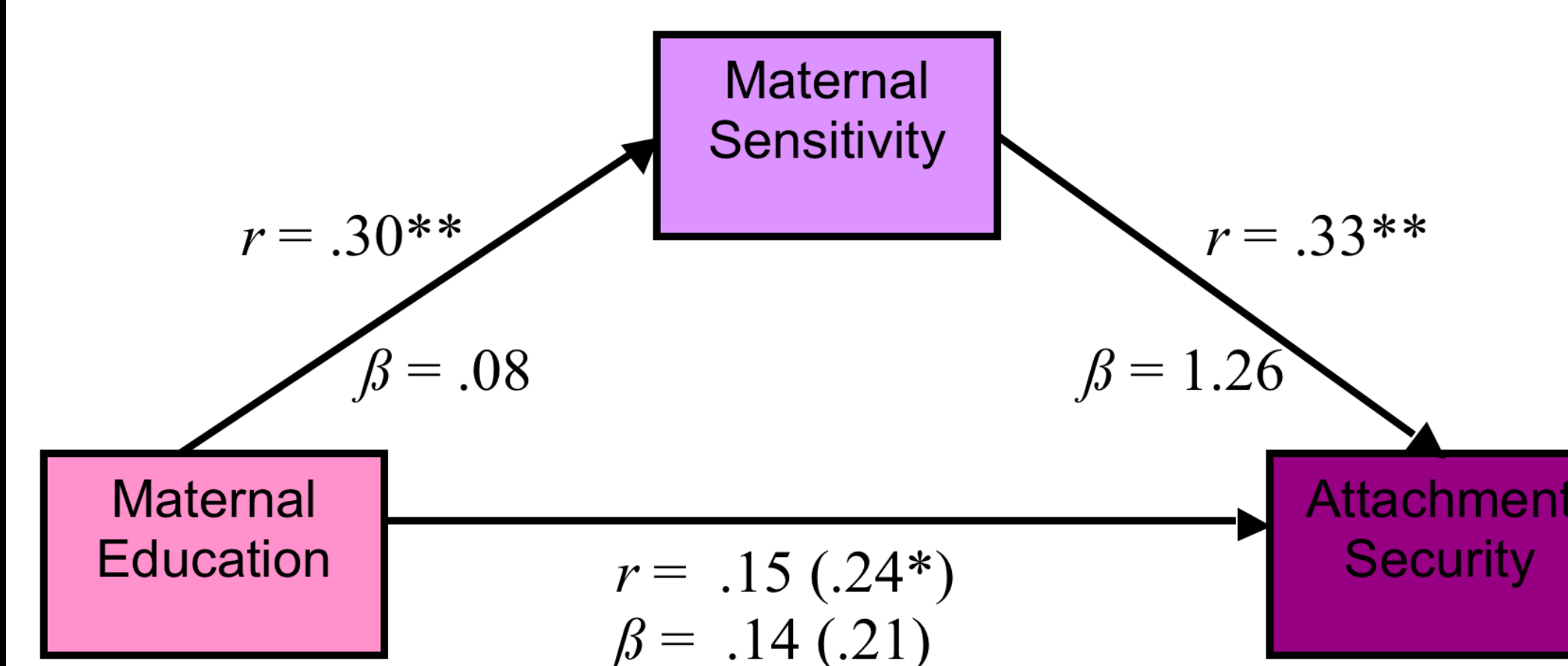
➤ Further analyses were conducted to examine the impact of specific factors associated with adolescent motherhood on maternal sensitivity, and subsequently attachment security.

➤ Mediation analyses revealed that the inclusion of a pathway through maternal sensitivity significantly reduced associations between attachment security and:

- *maternal education* ($z = 2.48, p < .05$; See Figure 2);
- *household income* ($z = 2.55, p < .05$; see Figure 3); and
- *parenting stress* ($z = 2.37, p < .05$; See Figure 4).

➤ There was no significant association between *marital status* (IV) and *maternal sensitivity* (M), so this model was not examined.

Figure 2. Maternal Sensitivity as a Mediator between Maternal Education and Attachment Security.



* $p < .05$, ** $p < .01$, *** $p < .001$

RESULTS CONT'D

Figure 3. Maternal Sensitivity as a Mediator between Household Income and Attachment Security.

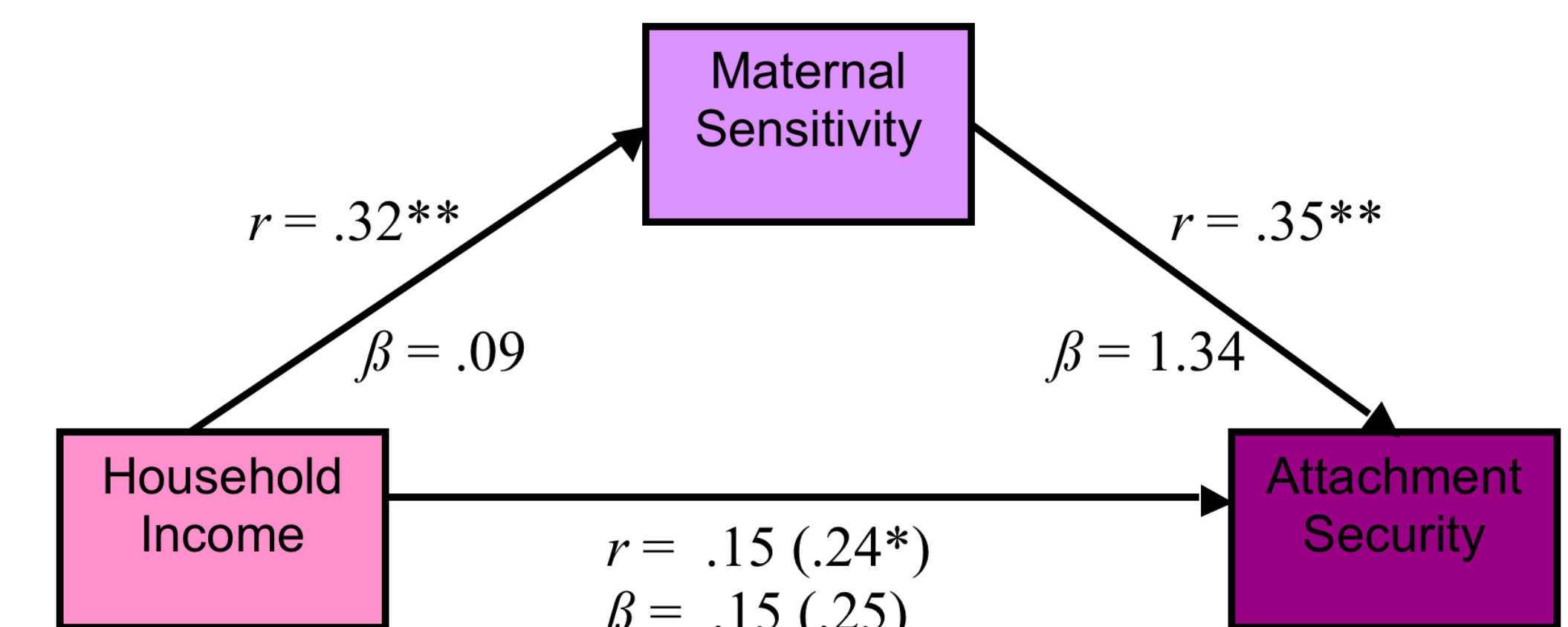
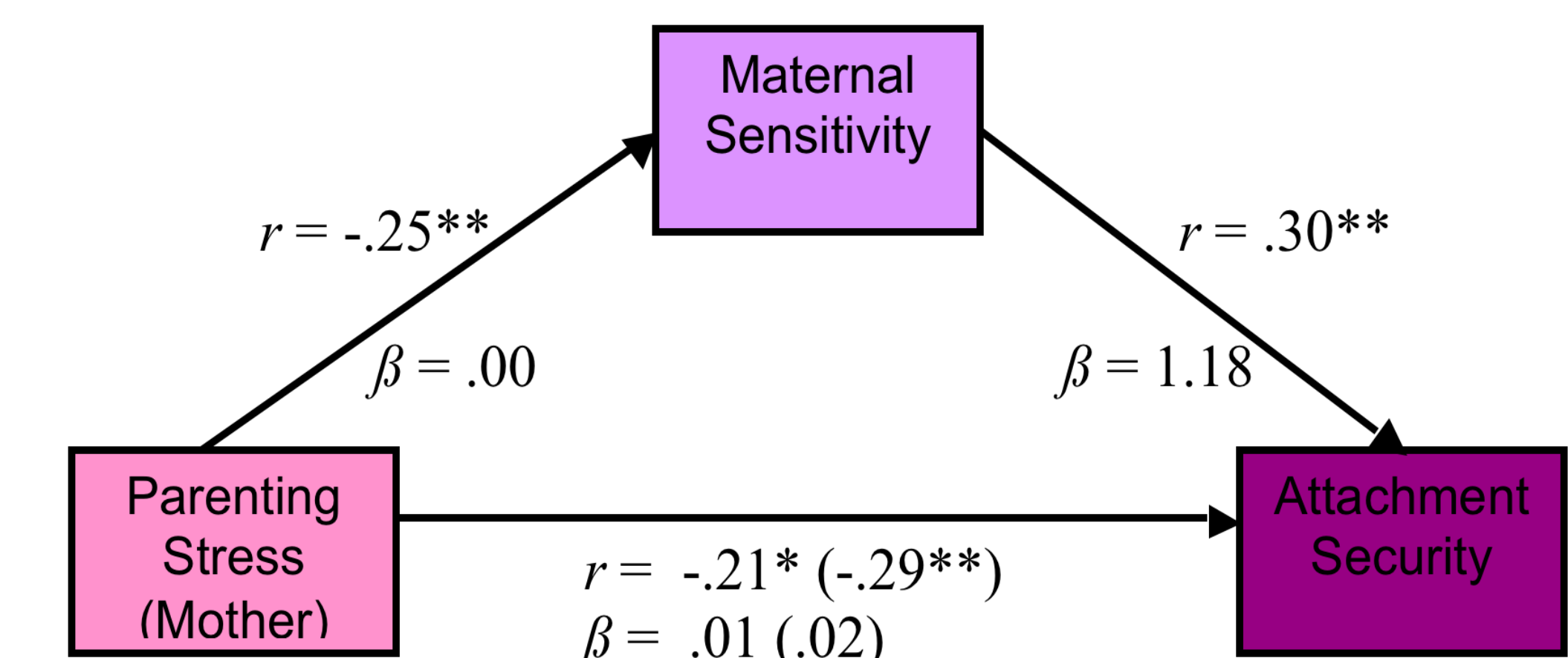


Figure 4. Maternal Sensitivity as a Mediator between Parenting Stress and Attachment Security.



DISCUSSION

➤ Maternal sensitivity appears to mediate the impact of factors associated with adolescent motherhood on attachment security.

➤ More specifically, low maternal education and household income, and high parenting stress negatively impact the quality of mother-infant interactions, contributing to low levels of attachment security.

➤ These findings are consistent with theoretical predictions that specific ecological factors associated with adolescent motherhood impact mother-infant attachment through the quality of mother-infant interactions (Tarabulsky et al., 2005).

➤ Non-significant findings for associations between marital status and maternal sensitivity may reflect differences in the impact of partner involvement on mother-infant interactions for adult and adolescent mothers (Jaffee et al., 2001; Tarabulsky et al., 2005).

➤ Further research should examine the complex interplay of these ecological variables to understand both the shared and unique impact they have on maternal sensitivity.