

# The Effects of Delivery Method on Perceived Parental Bonding

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## Abstract

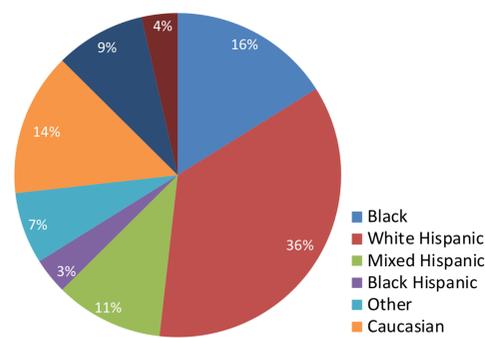
**Objective:** To elucidate the relationship between delivery method on Parental Bonding Instrument Scores.

**Methods:** Mothers of children participating in a 36M assessment (n=54) were administered the Parental Bonding Instrument (PBI) to measure aspects of maternal care and protection towards offspring. Mothers were grouped dependent upon delivery method: mothers who have given birth vaginally (N=39), and mothers who gave birth via C-section (N=15).

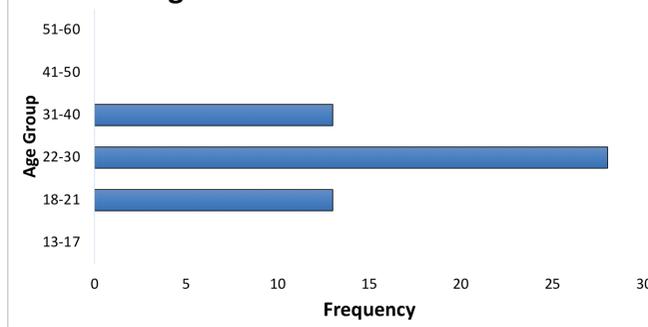
**Results:** No significant difference in PBI score was found between mothers who differed in delivery method on maternal care behaviors at 36M.

**Conclusion:** Further research is necessary to determine whether the delivery method has an effect on perceived parental bonding.

Race Distribution



Age Distribution of Mothers



## Background

**Aim:** To determine the relationship between delivery method and perceived parental bonding.

- Studies have shown that perception of maternal care varies greatly dependent upon presence and levels of oxytocin.<sup>1</sup>
- During vaginal delivery, oxytocin levels increase in a positive feedback loop to increase uterine contractions, while mothers who undergo C-section delivery do not produce the same spike in oxytocin levels.<sup>2</sup>
- Mothers have also been shown to be more responsive to the cries of their child if they delivered vaginally versus c-section.<sup>3</sup>

## Methods

### Sample Population:

- 54 pregnant women (n=54) receiving prenatal care at Mount Sinai Hospital or New York Presbyterian Queens (NYPQ) were recruited to participate in the SIP Study (PI: Yoko Nomura).
- As part of their participation in the parent study, participants completed a battery of self-report questionnaires at baseline, and annual follow-up visits to assess a wide range of factors that impact child development, including child rearing practices and an array of demographic information.

### Measures:

- Parental Bonding Instrument (PBI), a self-report questionnaire, administered at postpartum (M=36 months) was used to measure maternal care and protection towards offspring.
- Mothers were asked to report demographic information including age, race, and method of delivery

### Methods:

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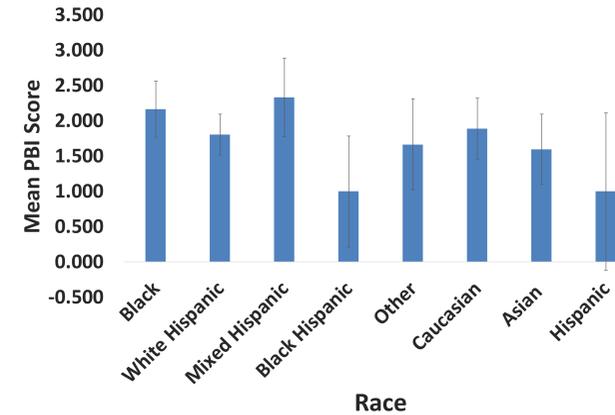
### Data Analysis:

- A Factorial ANOVA was conducted to investigate the association between birth delivery method, age, and race on maternal PBI scores of care and protection

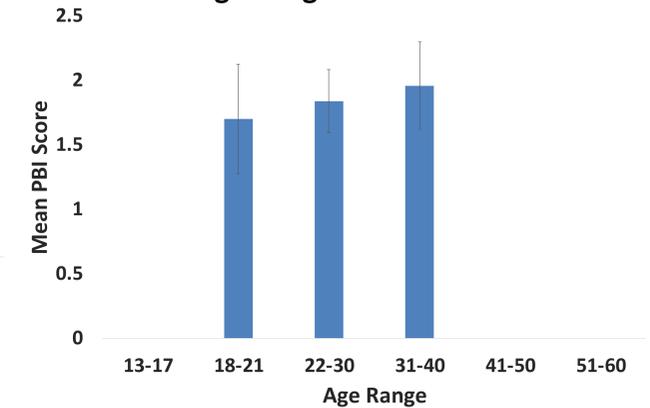
## Results

No significant difference in PBI scores was found between mothers who delivered vaginally (M=1.93) and mothers who delivered via C-section (M=1.79).  $F(1,28) = 0.135$ ,  $p = .716$ . Race was also found to not contribute to PBI score.  $F(7,28) = 0.500$ ,  $p = .826$ . The analysis showed no significant difference between the age groups.  $F(2,28) = 0.116$ ,  $p = .891$ .

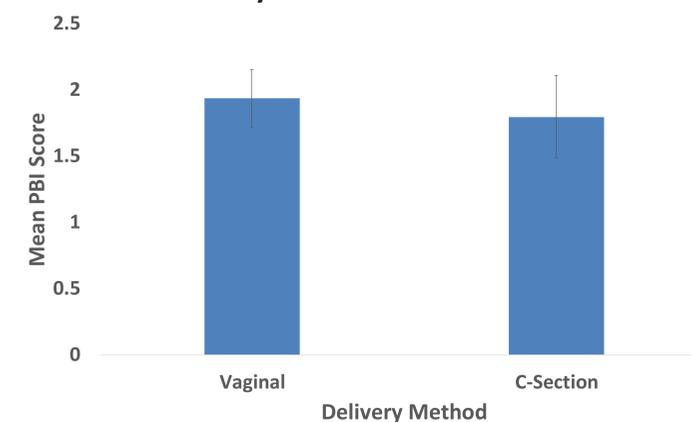
Race and PBI Score



Age Range and PBI Score



Delivery Method and PBI Score



## Discussion

- The present findings indicate that there is no causal relationship between delivery method and the perceived parental bonding.
- There was no significant difference between mothers who delivered their children vaginally versus C-section.
- These findings contribute to the discussion of how a C-section may affect the development of a child.
- Further research is necessary to elucidate whether or not there is a relationship between perceived parental bonding and delivery method.
- Future research may include looking at oxytocin levels at time of birth and administering Parental Bonding Instruments at an earlier age of 6 months.
- Limitations of the study include a skewed distribution, small sample size, and a lack of data for earlier age assessments.
- Future research may also benefit from a larger sample size and a greater control of variables.

## References

1. Bartz, J. A., Zaki, J., Ochsner, K. N., Bolger, N., Kolevzon, A., Ludwig, N., & Lydon, J. E. (2010). Effects of oxytocin on recollections of maternal care and closeness. *PNAS*, 107 (50), 21371-21375.
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