Adolescent mothers display less frequent, accepting, and involved interaction with their children than do older mothers. Yet the role of the young mothers' psychosocial immaturity in these phenomena remains unexplained. This project explores the validity of Newberger's model of Parental Awareness (PA) which outlines hierarchical stages in the structural development of social thought in the domain of parents' conceptions of their children and their role as parents. This cross-sectional study drew an age-stratified sample of 193 adolescent mothers from two inner-city programs. The subjects were 15-20 years of age and fell into two groups: Parents, whose eldest child was aged 9-27 months (N=136) and Non-Parents, who were pregnant or had recently delivered their first child (N=57). Interviews were tape recorded in the home and were scored blind. PA was found to increase with age independently of the effects of social status, vocabulary acquisition, social support, recent negative life changes, or length of parental experience. Older adolescent mothers showed greater flexibility in their thought and a greater capacity for considering complex circumstances when making judgments about child rearing than did younger mothers. These findings support the potential of PA as a developmental dimension to be considered when providing care to young mothers. (Author/ABL)
The Developmental Nature of Parental Awareness in Adolescent Mothers

Louise H. Flick, Dr. P.H.

and

Maryellen McSweeney, Ph.D.

Saint Louis University
School of Nursing
3525 Caroline Street
St. Louis, Missouri 63104

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Louise Flick"

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

Paper presented at the Annual Conference of the American Nurses' Association Council of Nurse Researchers San Diego, California December 4-7, 1985

The authors are indebted to the following for supporting this work:
The National Institute of Mental Health, Grant #1-R01-MH-36915, The Office of Adolescent Pregnancy Programs, DHHS, Grant #1-R01-PG00136, and Sigma Theta Tau.
Adolescent mothers display less frequent, accepting, and involved interaction with their children than do older mothers. Yet, the role of the young mothers' psychosocial immaturity in these phenomena remains unexplained. This project explores the validity of Newberger's model of Parental Awareness (PA) which outlines hierarchical stages in the structural development of social thought in the domain of parents' conceptions of their children and their role as parents. The PA model derives from the work of Piaget, Selman & Kohlberg. Among adults, PA increases with parental experience and distinguishes dysfunctional parents from non-dysfunctional, as indicated by abuse or neglect reports. However, the model has not been applied to a population of young parents among whom significant social cognitive development can be predicted. This study tests the hypothesis that, among adolescents, maternal age is positively associated with PA, independent of experience as a parent.

This cross-sectional study drew an age-stratified sample of 193 adolescent mothers from two inner-city programs. The subjects were 15-20 years of age and fell in two groups: Parents whose eldest child was aged 9-27 months (n=136) and Non-Parents who were pregnant or had recently delivered their first child (n=57). Interviews, tape recorded in the home, were scored blind. Multiple regression analyses controlled for the effects of potentially confounding variables prior to hypothesis testing.

PA was found to increase with age independently of the effects of social status, vocabulary acquisition (PPVT), social support, recent negative life changes, or length of parental experience. Older adolescent mothers show greater flexibility in their thought and a greater capacity for considering complex circumstances when making judgements about child rearing than do younger mothers. These findings support the potential of PA as a developmental dimension to be considered when providing care to young mothers and their children. When teaching or supporting parenting skills, caregivers can either promote development of PA in the young parent, or accommodate their methods to the client's achieved level of awareness.
INTRODUCTION

Adolescent mothers now account for 17% of U.S. births. While the data are not entirely consistent the evidence suggests that adolescent mothers display lower quality interaction with their children than do their adult counterparts. Younger mothers appear less able to teach their young children (Levine, Garcia and Coll Oh, 1985), are less accepting and less likely to show positive interaction (Ragozin et al., 1982, McLaughlin, et al., 1979, Sandler, 1980, Flick, Schaefer & Siegel, 1979). Socioeconomic circumstances clearly influence these phenomena but cannot entirely account for them. The role of young mothers' psychosocial immaturity in these phenomena remains unexplained.

Social cognition, one aspect of psychosocial development, refers to the structure of thought applied to conceptualize human social relationships. The work of Kohlberg and Selman in this area shows that significant development in social cognition continues into late adolescence (Kuhn, Langer, & Kohlberg, 1974, Dulit, 1972). Theoretically, such development directly influences the behavioral and emotional characteristics of adolescents and therefore would influence the quality of interaction between an adolescent mother and her child.

This project explores the validity of Carolyn Newberger's model of Parental Awareness. Her model outlines hierarchical stages in the structural development of social thought in the domain of parents' conceptions of their children and their role as parents (Newberger, 1977; Newberger, 1986). Among adults, Parental Awareness increases with parental experience and distinguishes dysfunctional parents from non-dysfunctional as indicated by abuse or neglect reports (Newberger, 1977). However, the model has not been previously applied to a population of young parents among whom significant social cognitive development can be predicted. Furthermore, the relationship of Parental Awareness to the actual behavior of parents remains unexplored.
This research project tests two hypotheses: That among adolescent mothers, maternal age is positively associated with Parental Awareness and that Parental Awareness is positively associated with the quality of mother–child interaction. The current paper reports the test of the first hypothesis while the test of the second hypothesis has been reported elsewhere (Flick & McSweney, 1985).

The significance of the model explored by this project lies in its potential as a guide for influencing the quality of parent behavior via fostering flexible thought or by adapting methods of intervention to the parental awareness level achieved.

LITERATURE REVIEW

Newberger (1977) extended the work of Selman (1980), and Kohlberg (1958) to identify stages in the development of a parent’s conception of the child and the parental role. In Newberger’s model each progressive stage brings increased flexibility of thought and a greater capacity to integrate information from a variety of sources. At the most complex level a parent views him or herself and the child in the context of individual characteristics, given environmental circumstances, and their respective developmental stages.

Like Selman (1980), and Kohlberg (1958), Newberger (1977) began by identifying a set of issues which would elicit the level of understanding achieved. The issues included: authority, trust, discipline, affection, resolution of conflict, and meeting of needs. Using hypothetical situations and direct questions, she interviewed 55 parents with a variety of social and family backgrounds and classified their responses by level of awareness. From her results she developed a scoring manual and refined her four a priori stages of development (Appendix I).
Newberger (1977) assumes that since biomaturation is not so obviously present among adults, experience as a parent is the primary catalyst for development of parental awareness. Her position appears to be that interaction with the broad social environment and subsequent steady development in general social cognitive skills exert little impact on parents' thoughts. Newberger's assumption denies evidence that the development of formal thought and general social cognition can continue into the mid-twenties, well after completion of biomaturation (Rest, Davison and Robbins, 1978, Panowitsch, 1975).

Newberger demonstrates in her adult sample that awareness about parent issues increases with length of experience as a parent and, when measured in children, that awareness increases with children's age. The current study tests the hypothesis that important developmental (i.e., age-dependent) changes in the organization of general social thought occur in adolescence and that these changes influence the perception of experiences with a child and conceptualization of the parent role. Early adolescents react to their perception of the social world in the context of a new and relatively untried organization of concepts. While completion of the biomaturation that precedes that reorganization may have occurred by age 15 or 16, the consequences of testing and re-testing new structures of thought may well continue in age-related fashion into early adulthood (Rest et al, 1978). Differences in the general facility with which the subject applies formal thought to interpersonal situations may influence the perceptions and reactions of mothers to their experiences with their child.

As stated previously, this project's long-term significance lies in the potential for influencing the quality of parent behavior. There exist few empirical studies of the relationship between the complexity of social thought
and actual behavior. Nevertheless, a number of relationships between moral maturity and behavior in social situations have been demonstrated (Saltzstein, Diamond & Belenky 1972, Haan, Smith & Block 1968, Turiel & Rottman 1972). Flick (Halstead, 1977), demonstrated in an exploratory study of 16 adolescent mothers that moral maturity correlates positively with observations of maternal behavior. Later work (Flick, 1980) with 36 low-income mothers indicated moral maturity to be positively associated with mother-child interaction independent of verbal achievement, education of household head, and race.

Selman et al. (1977) found children with interpersonal problems had achieved lower levels of interpersonal awareness than matched controls. Selman (1980) also reports an association between interpersonal awareness and classroom ratings of behavior. Newberger (1977) and Cook (1979) reported Parental Awareness scores differentiate abusive or neglectful parents from matched controls. Previously reported results from the current study show adolescents with higher PA scores display more positive interaction with their children (Flick & McSweeney, 1985). These findings support the theory that parents who display greater complexity in the structure of thought applied to child-related issues than their peers provide a more flexible and nurturant environment for the child because they can integrate greater numbers of situational variables.

Extension of the work of Selman et al. suggests Parental Awareness increases with age in an adolescent sample. That is, that Parental Awareness represents an important dimension of normal adolescent development and consequently part of a developmental explanation of adolescent parental behavior.
METHODOLOGY

Sampling

An age-stratified sample was drawn from the population of young women referred to two voluntary programs within the St. Louis Public Schools. Neither program applies any criteria for admission other than being a pregnant adolescent or an adolescent parent. Both programs provide educational support and some preparation for parenthood. Eighty-five percent of those referred to either program attend school and 90% are non-white. Sampling was limited to mothers whose first born child would be between the ages of 9 to 27 months at the time of the second visit or who was pregnant with a first child or had delivered within 3 months. Only subjects whose child weighed at least 2500 grams and was without significant health problems at birth were accepted. Subjects were contacted in the order they were identified until the cells were filled with volunteers or until no more eligibles were identified. Table 1 summarizes the age distribution of the final sample. As Table 1 indicates, 15 year olds are underrepresented. To have a child within the required age-range these mothers had to have been 12-13 at conception. Consequently, they were difficult to find.

Insert Table 1

Measures

Parental Awareness: Newberger's Parental Concepts Interview was used to measure Parental Awareness (PA). It consists of open ended questions and three hypothetical child care dilemmas. Interviewers draw out the complexity of respondents reasoning by probing what they mean by concepts mentioned such as love, authority, or trust. For example, parents often indicate that love
is what a child needs most from its parents. The interviewer then probes what is meant by love, why it is important, how it is expressed to a young child and what happens when a child is not loved. Training to conduct this interview and probe for the respondent's reasoning took nearly 10 weeks and consisted of classroom work and critiques of tape recorded interviews.

Average issue scores derived from transcripts of the Parental Concepts Interview indicate PA. Scoring followed the procedures specified in Newberger's scoring manual (1977). Newberger examined the internal consistency reliability of the average issue score by calculating scores separately for the two parts of the interview: the personal questions and the dilemmas. She found the two sections to be highly correlated ($r = .81$). She reported only 16% of the issues were unscorable by reason of insufficient information or ambiguity. Interrater reliability based on two $r$ s achieved a Pearson's $r$ of .96. Cook (1979) reports interrater reliability, also for two raters, to be .88 based on the intraclass correlation.

Evidence regarding the construct validity of three concepts central to parental awareness follows: These are structured wholeness, (the clustering of responses in an interview around one level as evidence of distinct logical structures), developmental sequence and the influence of parental awareness on behavior. Newberger's study and two subsequent studies (Cook 1979, Newberger 1977, Partoll 1980) provide this evidence. Newberger's study, however, was used to construct the scoring manual and so her findings must be viewed cautiously.

Newberger (1977) reports 72% of reasoning levels fell at the individual's major level and 24% fell at the adjacent minor level, indicating structured wholeness, with 4% at a third level. However, Cook (1979) in a study of 16 parents found a 3 level spread to be characteristic and questioned the scoring procedure.
The presence of a developmental sequence has been explored by examining the relationship between PA and both age and length of experience as a parent. Newberger (1977) reports PA correlates positively with experience as a parent when family size is partialled out. Partoll (1980) finds a similar result among 31 middle class white mothers, but Cook (1979) finds no association.

PA increases with age among Newberger's school-age sample (1977) and among Cook's (1979) sample when the two adolescents are included. When testing only adults no relationship with age has been demonstrated to date. However, Partoll (1978) finds a strong positive relationship between PA and mother's Ego Identity Status, a developmental construct. These findings support the developmental nature of PA.

While no prior study observed actual behavior, Cook's (1979) results validate Newberger's finding that when matching abusive parents with non-abusive controls, the non-abusive parents display greater parental awareness.

An important issue for this study is the validity of the PA interview for a black inner-city adolescent population. Newberger's sample of 51 parents consisted of 35% blacks from a wide range of social classes. Her analyses reveal no significant differences in scores by race when controlling for social class. Cook's (1979) study sample consisted of poorly educated residents of a rural, economically depressed, area of Maine and the measure proved to discriminate abusive and non-abusive parents. These findings suggest the PA interview is valid for the study population.

Peabody Picture Vocabulary Test-Revised

Since performance on the Parental Concepts Interview could be influenced by the mother's verbal achievement, a shortened version of form L of the Peabody Picture Vocabulary Test-Revised (Dunn & Dunn, 1981) was included to control confounding. This revision reduces racial, sexual and regional biases.
Vocabulary words of graduated difficulty are read to subjects who then choose the one picture out of four which illustrates the word. The Peabody Picture Vocabulary Test-Revised (PPVT) is easy to administer and requires no reading skills making it attractive for use with a population with little education. Administering every second word reduced administration time. Scoring of such a modified version is described elsewhere (Flick, 1980).

Test-retest and alternate form reliability have been reported to be high, .52 to .9', over a variety of age ranges, with test-retest intervals of up to one month (Dunn & Dunn, 1981). The revised test appears slightly more reliable than the original. The authors of the test (Dunn & Dunn, 1981) report a mean internal consistency for ages 14-18 of .80.

Hunt concluded that there was ample evidence of content and item validity on the original version, that the vocabulary words were a representative selection, and that the progressive difficulty matched age patterns in vocabulary acquisition. But, he also cites studies indicating limited validity as a measure of learning capacity. Concurrent validity, correlations with verbal and non-verbal measures of intelligence have been reported at approximately .60 and correlation with school achievement, indicative of predictive validity is about .50 (Frankenberg & Camp, 1975). Validity data are not available on the revised PPVT but the authors predict that the results will be comparable to those for the original based on studies comparing the two versions (Dunn & Dunn, 1981).

For the current study the raw scores were transformed according to the 'IQ' tables provided. These scores are considered to be more valid as age-standardized indicators of vocabulary comprehension than as an equivalent to general intelligence test scores.
Stressful Life Events

Stressful life events have been found to be negatively associated with the quality of mother-child interaction (Halstead, 1977), and theoretically could inhibit a parent's use of the highest level of achieved social-cognitive development. Consequently, the sum of negative events on Johnson and McCutcheon's Recent Life Events Checklist (1980), was used to control potential confounding. This measure was developed for an adolescent population. Several items were added to make the scale relevant to an inner city population.

Johnson and McCutcheon report that negative life changes are significantly correlated with measures of anxiety, depression, and general maladjustment (1980), which supports the construct validity of the scale. The absence of a significant relationship between negative life change scores and a measure of social desirability gives evidence of discriminant validity. That is, the life events scores appear to be independent of subjects desire to be seen in a socially acceptable light.

Data Collection

Data collection began in October 1982 and was completed in December of 1983. The data were collected during two visits to subjects' homes. On the first visit, following collection of brief background information, Newberger's Parent Concepts Interview was administered with replacement of one dilemma with a situation which is particularly relevant to the experience of mothers with young children. The interview took from 45-60 minutes and was tape-recorded for later transcription. Also during this visit, the Peabody Picture Vocabulary Test-Revised (PPVT) was administered to the mothers. Mother-child interaction was observed during a second home visit for the parent sample.
DATA ANALYSIS & RESULTS

Table 2 summarizes the sample characteristics. The young mothers were 94% black and averaged 10 years of schooling. Most report having a boyfriend (4%) while the majority live with one or both parents (77%). Ratings of social status were based on the education and occupation of the head of household when the young mother was fourteen. Although primarily low income (Class IV, 45%; Class V, 38%), the heads of households had social status rankings at all but the highest level (Class III, 15%; Class I, 2%) on the five level Hollingshead two-factor index of social class. The average head of household had 10-11 years of high school and had an occupation ranked with semi-skilled workers such as nurses aides or truck drivers.

Insert Table 2

Associates of Newberger contracted to score the PA interviews from verbatim transcripts. All four PA levels are represented in the single issue-concept scores. The average issue scores range from 100 to 291 out of a maximum possible score of 400 (Table 2). This represents a good range for a young disadvantaged population.

The PA interviews were scored blind by one scorer through an arrangement with Newberger. To test scoring reliability 10 randomly selected interviews were cut into the issue-concept segments identified by the original scorer. Coded and mixed, the segments were sent back to the original scorer and a second scorer for scoring. The scorer was then unable to identify the interview from which any one of the 93 segments came. The original scorer had scored the entire interview as much as 8 months before. After each scorer scored the segments separately, the second scorer scored the 10 interviews as wholes.
This allowed 3 tests of reliability: within scorer agreement on segments vs. wholes, and between scorer agreement on the whole interview, and on the segments. The results are summarized below in Table 3.

Insert Table 3

Segment by segment agreement within scorer as opposed to Average Issue Score agreement was calculated for the scorer of the entire sample as well. In 78% of segments she agreed with her previous assignment of the Issue addressed and in 84% of cases with assignment of an Issue Concept Score that was the same or less than a full level different from her previous score. Three percent of segments were eliminated because the segment was rated unscoreable either at the first or the second scoring, but not both.

These results indicate a high level of reliability particularly for the Average Issue Score. Reliability declines when the individual issue concept scores, from which the Average Issue Score is derived, are examined.

To test the hypothesis that PA continues to develop into adolescence, the relationship between maternal age and performance on the PA measure was explored while controlling for potential confounders via multiple regression analyses. The entire sample (n=173), parent and non/new-parent, was used for these analyses. Control variables included SES, the child's age, receptive vocabulary (PPVTR), recent negative life events, the presence or absence of a boyfriend and whether or not the young mother was living with one, both or neither parent(s). Race was not included because of the large proportion of black subjects (94%), however, analyses to explore the influence of race on the results will be described.
The first born child's age, included to control for experience as a parent, is a continuous variable but it is not evenly distributed in each sample. The children in the parent sample have a mean age of 15.9 months. Those in the new/non-parent sample are either not yet born or are under 3 months old. Consequently, the mean age for this group is much younger (0.3 months). To explore the accuracy of extrapolation across this uneven distribution in child's age, the regression analyses were performed once with child's age entered as a continuous variable and again replacing child's age with a dummy variable indicating whether in the parent or new/non-parent sample. Since the results were essentially identical, use of child's age as continuous was judged acceptable.

To test the hypothesis that PA is positively associated with maternal age, PA was regressed on age and while holding constant the effects of seven potentially confounding variables. Regressing PA on the main effects model including all two variable interaction terms and then without the interaction terms indicates that the interactions do not significantly increase the variance explained by the main effects model. Consequently, the interaction terms were dropped. Next, PA was regressed on the main effects model with and without the variable mother's age. The partial $R^2$ calculated from tables 4a and 4b indicates that mother's age accounts for a significant, if small, proportion of the variance explained by the model (partial $R^2 = .05$, $p < .01$). Table 5 shows the direction of this association. PA awareness increases with age.

\[^1\text{Multiple partial } R^2 = \frac{R^2 \text{ (whole model)} - R^2 \text{ (reduced model)}}{1 - R^2 \text{ (reduced model)}}\]  

(Kleinbaum & Kupper, 1978).
These findings support acceptance of the study hypothesis and the developmental nature of PA. The small proportion of variance explained by maternal age (5%) is not unexpected since by the time children reach adolescence the impact of individual differences in development considerably reduces the direct relationship between age and developmental characteristics.

Table 5 also indicates that receptive vocabulary, as measured by the age-adjusted Peabody Picture Vocabulary Test (Revised), achieves the only other significant relationship with PA besides the young mother's age. PA does not appear significantly related to SES, recent life events, the presence of a boyfriend or the young woman's living arrangements. This suggests that while maturity and verbal achievement are independently associated with PA, characteristics of the environment such as stressors or supports are not associated with performance on the PA measure.

Race was not included in the regression model as a potential confounder because the largely black sample results in a greatly unbalanced distribution for this variable. In order to explore whether inclusion of the few white cases substantially altered the results, the above analyses were repeated excluding the 12 white subjects. The results were virtually identical to those obtained for the entire sample. For example, PPVT(R) and mother's age represented the only significant variables and mother's age again accounted for 5% of the variance in PA ($B = 0.3700$, $S.E. = 0.1216$, partial $F = 9.25$, $p < .01$). Based on these analyses, the retention of 12 white cases in the largely black sample was judged acceptable.
IMPLICATIONS AND CONCLUSIONS

These results clearly support the notion that social cognitive development in the domain defined by Parental Awareness continues during adolescence and early adulthood. The thought of younger adolescent mothers about their children appears more concrete, more conventional, and less influenced by complexities such as the child's individual differences or the extenuating circumstances of a given situation than is the thought of older adolescents. Older adolescents appear better able to understand the behavior of children in the context of the child's personality, developmental stage, and other circumstances that influence needs and responses unique to a given parent-child pair. As adolescent mothers mature, their ability to see the world through the eyes of a child increases. This relationship obtains beyond the effect due to experience as a parent, although the range of experience in this sample is limited (0-26 months of experience as a parent). But, as expected, the range of individual differences in development that appears by the time adolescence has been reached produces a small correlation between mother's age and PA (partial R = .05, p < .01). That is, while PA increases with age among adolescents, a given individual's age is not a reliable predictor of their achieved PA.

Results from this study reported previously (Flick & McSweeney, 1985), suggest that PA shows promise as a dimension which influences the quality of the relationship between a young mother and her child. As PA increases, mothers appear to provide more encouraging and positive stimulation, to display more accepting behavior, to be more socially stimulating, to respond more readily to distress and to have a child who is more likely to respond and less likely to withdraw from their approach.
The practical importance of these findings are two-fold. There is evidence that intervention can enhance social-cognitive development in a particular domain to a limited degree. Of greater impact is the potential value of designing interventions that are consistent with parents' achieved level of parental awareness.

It is natural to teach or explain from the context of one's own structure of concepts. For most professionals this would be PA level 3 or 4. Yet many adolescents operate at level 1 or 2. While young parents can learn material inconsistent with their structure of thought by rote, they cannot apply it because it doesn't fit with their understanding of the world. For example, it is often assumed that the knowledge that a two year old's negativism and contrariness expresses normal development will help a parent respond in an appropriate and less punishing manner, and it often does. But this assumes an understanding of the child from the context of his development. For the concrete thinker, the same goal, less punishing behavior, may be better attained by emphasizing particular techniques to positively contain and channel the two year old's behavior and consequently to help the parent see herself as competent and the child as a "good" child. That is to tailor the approach to the developmental level of the parent.

Intuitive clinicians adapt their approach in this way automatically. But research must articulate further how the young mother's normal maturation process effects her relationship with her child and consequently how interventions can most effectively support the parent-child relationship. The need is profound. Nearly 1 out of 5 children born in the United States has an adolescent mother. In addition, the health needs of this population of children dictate that they and their parents represent an even greater proportion of the children served by the health system.
References


Levels of Parental Awareness

Level 1

Egoistic Orientation
- child understood as projection of parents experience
- parental role organized around parental wants and needs

Level 2

Conventional Orientation
- child understood in terms of external definitions (tradition, culture, authority)
- parental role organized around socially-defined correct practices and responsibilities

Level 3

Subjective-Individualistic Orientation
- child viewed as unique and understood through the parent-child relationship rather than by external definitions of children
- parental role organized around meeting the needs of this child rather than fulfillment of predetermined role obligations.

Level 4

Process or Interactional Orientation
- child understood as complex and changing psychological self-system
- parent and child grow in their roles
- parent views relationship as built on meeting child's needs but also tries to balance own needs
Table 1

Age Distribution of Adolescent Mothers

<table>
<thead>
<tr>
<th>Sample</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>'5-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent*</td>
<td>12</td>
<td>26</td>
<td>27</td>
<td>24</td>
<td>24</td>
<td>23</td>
<td>136</td>
</tr>
<tr>
<td>Non-Parent/New Parent**</td>
<td>13</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>6</td>
<td>0</td>
<td>57</td>
</tr>
<tr>
<td>TOTAL</td>
<td>25</td>
<td>38</td>
<td>39</td>
<td>38</td>
<td>30</td>
<td>23</td>
<td>193</td>
</tr>
</tbody>
</table>

* Child aged 9-27 months

** Infant ≤ 3 months
Table 2
Descriptive Statistics for the Non-Parent/New Parent and the Total Sample

A) Continuous Variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>Non/New Parent (n = 57)</th>
<th>Parent (n = 136)</th>
<th>Total (n = 193)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby's Age in Mos. (1st H.V.)</td>
<td>Mean 0.3 S.D. 0.6 Range 0-2</td>
<td>Mean 15.9 S.D. 5.5 Range 2-26</td>
<td>Mean 11.3 S.D. 8.5 Range 0-26</td>
</tr>
<tr>
<td>SES1</td>
<td>Mean 59.5 S.D. 9.7 Range 37-77</td>
<td>Mean 59.1 S.D. 10.6 Range 30-77</td>
<td>Mean 59.2 S.D. 10.3 Range 30-77</td>
</tr>
<tr>
<td>PPVT(R)</td>
<td>Mean 77.1 S.D. 18.2 Range 39-129</td>
<td>Mean 75.8 S.D. 16.4 Range 42-118</td>
<td>Mean 76.2 S.D. 16.9 Range 39-129</td>
</tr>
<tr>
<td>Number of Recent Negative Life Events</td>
<td>Mean 5.0 S.D. 3.6 Range 0-19</td>
<td>Mean 5.2 S.D. 3.5 Range 0-16</td>
<td>Mean 5.2 S.D. 3.6 Range 0-19</td>
</tr>
<tr>
<td>Mother's Age in Years</td>
<td>Mean 16.8 S.D. 1.3 Range 15-19</td>
<td>Mean 17.7 S.D. 1.6 Range 15-20</td>
<td>Mean 17.4 S.D. 1.6 Range 15-20</td>
</tr>
<tr>
<td>Parental Awareness Score</td>
<td>Mean 158.3 S.D. 28.9 Range 100-238</td>
<td>Mean 159.4 S.D. 29.3 Range 100-291</td>
<td>Mean 159.1 S.D. 29.1 Range 100-291</td>
</tr>
<tr>
<td>Mother's Education</td>
<td>Mean 10.0 S.D. 1.1 Range 8-12</td>
<td>Mean 10.4 S.D. 1.3 Range 7-13</td>
<td>Mean 10.3 S.D. 1.2 Range 7-13</td>
</tr>
</tbody>
</table>

Table 2 Continued on Next Page
Table 2 (Continued)

B) Categorical Variables

<table>
<thead>
<tr>
<th>Living Situation</th>
<th>Non/New Parent (No.)</th>
<th>%</th>
<th>Parent (No.)</th>
<th>%</th>
<th>Total (No.)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living With 1 Parent</td>
<td>(32)</td>
<td>57</td>
<td>(61)</td>
<td>45</td>
<td>(93)</td>
<td>48</td>
</tr>
<tr>
<td>Living With 2 Parents</td>
<td>(14)</td>
<td>25</td>
<td>(44)</td>
<td>32</td>
<td>(58)</td>
<td>30</td>
</tr>
<tr>
<td>Other</td>
<td>(10)</td>
<td>18</td>
<td>(31)</td>
<td>23</td>
<td>(41)</td>
<td>21</td>
</tr>
<tr>
<td>Missing</td>
<td>(1)</td>
<td>--</td>
<td>(0)</td>
<td>--</td>
<td>(1)</td>
<td>--</td>
</tr>
<tr>
<td>TOTAL</td>
<td>(57)</td>
<td>100</td>
<td>(136)</td>
<td>100</td>
<td>(193)</td>
<td>99</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>(55)</td>
<td>97</td>
<td>(126)</td>
<td>93</td>
<td>(181)</td>
<td>94</td>
</tr>
<tr>
<td>White</td>
<td>(2)</td>
<td>3</td>
<td>(10)</td>
<td>7</td>
<td>(12)</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>(57)</td>
<td>100</td>
<td>(136)</td>
<td>100</td>
<td>(193)</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boyfriend</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Has</td>
<td>(39)</td>
<td>68</td>
<td>(84)</td>
<td>62</td>
<td>(122)</td>
<td>64</td>
</tr>
<tr>
<td>Does Not Have</td>
<td>(18)</td>
<td>32</td>
<td>(52)</td>
<td>38</td>
<td>(70)</td>
<td>36</td>
</tr>
<tr>
<td>TOTAL</td>
<td>(57)</td>
<td>100</td>
<td>(136)</td>
<td>100</td>
<td>(193)</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex of Baby</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>(11)</td>
<td>55</td>
<td>(67)</td>
<td>49</td>
<td>(78)</td>
<td>50</td>
</tr>
<tr>
<td>Female</td>
<td>(9)</td>
<td>45</td>
<td>(69)</td>
<td>51</td>
<td>(78)</td>
<td>50</td>
</tr>
<tr>
<td>Not Yet Born</td>
<td>(37)</td>
<td>0</td>
<td>(0)</td>
<td>0</td>
<td>(37)</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>(57)</td>
<td>100</td>
<td>(136)</td>
<td>100</td>
<td>(193)</td>
<td>100</td>
</tr>
</tbody>
</table>

1The Hollingshead two-factor index of social position. Based on the education and occupation of the head of household when the young mother was fourteen.

Class I = 11-17
Class II = 18-31
Class III = 32-47
Class IV = 48-63
Class V = 64-77
Table 3
Inter and Intra Scorer Reliability on the Parental Awareness Interview, Pearson Correlations Between Average Issue Scores (n=10)

<table>
<thead>
<tr>
<th>Within Scorer Agreement (Segments with Whole)</th>
<th>Between Scorer Agreement (Whole with Whole)</th>
<th>Between Scorer Agreement (Segments with Segments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample scorer: ( r = .96 )</td>
<td>( r = .94 )</td>
<td>( r = .94 )</td>
</tr>
<tr>
<td>Second Scorer: ( r = .86 )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4
Regressing Parental Awareness on Potential Confounders
With and Without Mother's Age

A) Model with Mother's Age

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>8</td>
<td>32567.87</td>
<td>4070.98</td>
<td>5.76***</td>
<td>.20</td>
</tr>
<tr>
<td>Residual</td>
<td>183</td>
<td>129312.11</td>
<td>706.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>191</td>
<td>161879.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B) Model Without Mother's Age

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7</td>
<td>25709.91</td>
<td>3672.85</td>
<td>4.96***</td>
<td>.16</td>
</tr>
<tr>
<td>Residual</td>
<td>184</td>
<td>136170.07</td>
<td>740.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>191</td>
<td>161879.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01
***p < .001

Potential confounders include SES, number of recent negative life events, presence or absence of a boyfriend, whether living with one, both or neither parent (expressed as two dummy variables), the child's age and score on the Peabody Picture Vocabulary Test (Revised).
Table 5

Statistics for the Model Regressing Parental Awareness on Maternal Age Controlling for Potential Confounders (n=192)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B Value</th>
<th>Std Error</th>
<th>Partial F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>68.1174</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td>-0.2784</td>
<td>0.1932</td>
<td>2.08</td>
</tr>
<tr>
<td>Number of Negative Life Events</td>
<td>-0.6958</td>
<td>0.5662</td>
<td>1.51</td>
</tr>
<tr>
<td>Boyfriend (Yes or No)</td>
<td>0.4508</td>
<td>4.0704</td>
<td>0.01</td>
</tr>
<tr>
<td>Lives With at Least One Parent (Yes or No)</td>
<td>-9.6573</td>
<td>5.1191</td>
<td>3.56</td>
</tr>
<tr>
<td>Lives With Both Parents (Yes or No)</td>
<td>-2.6757</td>
<td>4.6114</td>
<td>0.34</td>
</tr>
<tr>
<td>PPVT-R (Age Adjusted)</td>
<td>0.5254</td>
<td>0.1144</td>
<td>21.08***</td>
</tr>
<tr>
<td>Child's Age</td>
<td>-0.0710</td>
<td>0.2537</td>
<td>0.08</td>
</tr>
<tr>
<td>Mother's Age</td>
<td>0.3722</td>
<td>0.1195</td>
<td>9.71**</td>
</tr>
</tbody>
</table>

**p < .01
***p < .001