Published in final edited form as:
*Dev Psychol*. 2010 July ; 46(4): 805–814. doi:10.1037/a0019817.

# Resilience to Maternal Depression in Young Adulthood

**Rebecca Cristina Malvar Pargas, B.A.**,
Emory University

**Patricia A. Brennan, Ph.D.**,
Emory University

**Constance Hammen, Ph.D.**, and
University of California, Los Angeles

**Robyne Le Brocque, Ph.D.**
University of Queensland

## Abstract

Using a prospective longitudinal design this study investigated factors associated with resilience in 20-year old offspring of depressed mothers (n=648). Resilient youth were operationally defined as those whose mothers were depressed, but who themselves had no history of recurrent depression, and currently evidenced adequate academic/work and romantic functioning, no Axis I psychopathology, and no clinically significant internalizing behavior problems. Low levels of perceived maternal psychological control ($p$=.02), and high child IQ ($p$<.01) acted as protective factors in the context of maternal depression. Low paternal psychological control ($p$=.02), high maternal warmth ($p$<.01), high self esteem ($p$<.01), and healthy peer social functioning ($p$<.01) all acted as resource factors predicting high functioning outcomes for young adults, regardless of mother depression status. Notably, high child IQ acted as a protective factor predicting resilient outcomes that persisted from adolescence to adulthood ($p$<.01), and low maternal psychological control acted as a protective factor predicting resilient outcomes that emerged in early adulthood ($p$=.03). Interventions focused on these two protective factors might yield the strongest benefits for offspring of depressed mothers as they transition to early adulthood.

### Keywords

maternal depression; resilience; young adulthood

Offspring of depressed mothers are at risk for a wide variety of maladaptive cognitive, socioemotional, and behavioral outcomes, beginning in early infancy and continuing into adulthood (for review, see Beardslee, Versage, & Gladstone, 1998; Downey & Coyne, 1990). However, not all children exposed to maternal depression develop problems later in life, and some of these children function better than expected, given the level of exposure to risk factors that they have experienced (Luthar & Zigler, 1991; Masten, Best, & Garmezy, 1990; Rutter, 1985). Findings to date suggest that both cognitive and social capabilities of the youth, as well as positive family relationships, act as protective factors for children of depressed mothers. Intelligence has been found to be a protective factor for these children (Radke-Yarrow & Sherman, 1990), as has the specific cognitive skill of maintaining a psychological identity and sense of self that is separate from the depressed parent (Beardslee

Address for correspondence: Patricia Brennan, Psychology Department, 532 N. Kilgo Circle, Emory University, Atlanta, GA 30322, Phone: 404-727-7458, pbren01@emory.edu.

& Podorefsky, 1988). In addition, high levels of social competence have been found to protect adolescent children of depressed mothers from psychopathology (Conrad & Hammen, 1993). By far, however, the protective factor that has received the most empirical support to date is mother-child relationship quality. This particular protective factor has been noted in children of depressed mothers from early childhood through adolescence (Brennan, LeBrocque & Hammen, 2003; Garber & Little 1999; NICHD Early Child Care Research Network, 1999; Radke Yarrow & Sherman, 1990).

The developmental phase of early adulthood marks a transitional period as individuals assume roles involving greater responsibilities and attain greater independence from their families of origin. Relevant developmental tasks during early adulthood include the establishment of successful careers and the pursuit of long-term romantic relationships. Therefore, youth cognitive and social characteristics that enable independent functioning in the domains of work and romance may be particularly important predictors of outcome during this phase of development. To our knowledge no study has yet explored what factors protect offspring of depressed mothers from deleterious outcomes at the developmental stage of young adulthood.

## The Concept of Resilience

Resilience has been conceptualized in the literature through both variable-focused and person-focused approaches (Masten & Powell, 2003). The *variable-focused* approach examines links among competence, adversity, and a variety of potential factors indexed by variables that describe differences among individual offspring, the nature of their relationships, and their respective interactions with the world. In contrast to variable-focused strategies, *person-focused* approaches seek to identify and study particular *individuals* who meet definitional criteria for resilience (Masten & Powell, 2003); while this approach is less sensitive for identifying processes related to specific domains of competence, some argue that it has the advantage of better reflecting actual naturally occurring patterns of resilience. The current study employed the person-focused approach to identify individuals who meet the criteria for resilience during two particular developmental periods of interest—adolescence and early adulthood.

In a theoretical paper concerning the construct of resilience and its implications for interventions and social policies, Luthar and Cicchetti (2000) outline a few cautionary notes related to this area of study. The first is that research on resilience should both include a clear operational definition of the construct and emphasize that resilience is a *process*, or a *phenomenon*, rather than a personal characteristic of an individual. On a related note, the second caution is that, as much as is possible, the word “resilient” should not be used as an adjective to characterize children in researchers’ reports; rather, the adjective should be applied to profiles or trajectories of adaptation. A third caution presented by these researchers is that articles on resilience should include precautionary statements that these attributes are not “indelibly implanted in children” but that these attributes are strongly shaped by life circumstances.

Luthar, Cicchetti and Becker (2000) also noted that because “resilience” is operationally defined in a number of different ways in the literature, it is important that researchers are clear in their conceptualization and operationalization of this term. As stated above, the current study used a person-focused approach to define resilience. Because offspring of depressed mothers are at an increased risk of negative outcomes across several domains of functioning, we used a composite measure of resilience, rather than examining resilience in each domain of functioning independently. As noted in more detail below, maternal depression had to be related to a higher risk for the negative outcomes in question, and

resilience was defined as adequate outcomes across these areas of functioning, despite exposure to this risk.

Recently Luthar and colleagues (Luthar, Sawyer & Brown, 2006) presented guidelines for the selection of potential predictors of resilience. Specifically they suggested that factors that are particularly relevant to the specific risk context, malleable and yet relatively enduring, and generative of other protective processes would be those that would be the most beneficial to study in terms of predicting resilience, Rutter (2006) also suggested the importance of considering "turning points" later in development that might alter the course of risk and protection—a central concept in the current study.

## Transition to Young Adulthood

As noted previously, the transition from adolescence to adulthood marks a critical transition in context and social roles (Schulenberg, Sameroff & Cicchetti, 2004). A key question to consider is whether psychopathology is continuous or discontinuous during this transition. Rutter (1996) notes that major life experiences may accentuate, rather than alter, individual characteristics, and that the effects of turning points represent a heterogeneous range of lasting changes in psychological functioning. With respect to mental health outcomes, Schulenberg and colleagues (2004) note that groups of "off diagonals" – that is, "troubling" adolescents who become well-functioning adolescents or, conversely, well-functioning adolescents who "fall apart" during transition – may represent the most interesting groups of study.

A recent study by Masten and colleagues (Masten, Burt, Roisman, Obrradovic, Long, & Tellegen, 2004) examined patterns of continuity and change in resilience over the transition to adulthood in relationship to adversity (potential risk factors) and psychosocial resources (potential protective factors) using the Project Competence sample, a longitudinal school cohort followed over 20 years. Using both variable-focused and person-focused analyses, Masten and colleagues (2004) found that success in developmental tasks during emerging adulthood and young adulthood was related to factors such as IQ, parenting quality, socioeconomic status, planfulness (or future motivation), autonomy, adult support, and coping skills. The factors relating to adaptive personal characteristics (planfulness, autonomy, adult support, and coping skills) were particularly relevant for the small group of individuals who experienced a dramatic shift from maladaptive to competent outcomes in young adulthood (the positive "off-diagonals"). The researchers emphasize the possibility that the transition to adulthood may present a window of opportunity for changing the life course in which adaptive personal characteristics can play an especially important role.

## The Current Study

There are a number of notable gaps in the literature that this study sought to address. The first is that, to our knowledge, no study to date has looked specifically at resilience to maternal depression during young adulthood, a critical transition period in development. Two strengths of the data set used in the current study were the prospective design and the utilization of a community sample rather than a clinical, treatment-seeking sample (in which treatment-seeking itself may be affected by the family's overall circumstances, including maternal depression).

The second gap in the literature that this study sought to address is whether multiple levels of factors might contribute to resilient outcome. Specifically, we examined a variety of factors including cognitive, social, and family functioning measures as possible predictors of resilience. For offspring of depressed mothers, we also examined whether peer interpersonal competence acted as a stronger predictive factor of resilience in young adulthood than

family functioning factors, or youth IQ and self esteem. Because interpersonal impairment appears to be a primary mechanism through which depression is transmitted from one generation to the next (Hammen, Shih, Altman & Brennan, 2003), it would seem to follow that the opposite, that is, interpersonal skill, might be the most potent predictive factor for positive outcomes in young adult children of depressed mothers.

Some researchers in the field (Conrad & Hammen, 1993) make a distinction between a protective factor, which interacts with a risk factor such that it has an effect on those at high risk but no to little effect on those at low risk, and a resource factor, which has a positive effect on both groups. As noted by Luthar and colleagues (2000), there is utility in examining both resilience in the context of risk and positive outcomes in general. Our sample contained both children of depressed and children of nondepressed women, which allowed us to examine our predictive factors as potentially resource or protective in nature.

The third gap in the literature that this study sought to address was the question of change in resilient outcome between adolescence and adulthood. This study examined whether similar or different factors predicted resilience that persisted over time from adolescence to adulthood ("persistent resilience") as well as resilience that only became apparent when the offspring reached adulthood ("late emerging resilience").

We predicted that: (1) A positive parent-child relationship, high IQ, high self esteem, and healthy peer social functioning at age 15 would act as resource and protective factors in the context of maternal depression, predicting resilient or high functioning young adult outcome at age 20. And, (2), positive peer functioning at age 15 would be the strongest predictor of resilient outcome at age 20 in children of depressed mothers. In addition, exploratory analyses were conducted to investigate factors associated with "late-emerging" resilience, that is, those subjects who were not resilient at age 15 who met the classification of resilient at age 20, as well as persistent resilience, that is, resilience at both the ages of 15 and 20.

## Methods

### Participants

Participants in the current analyses consisted of women and their young adult offspring selected from a prospective birth cohort study of children (N=7,223) born between 1981 and 1984 at the Mater Misericordiae Mother's Hospital in Brisbane, Australia (Keeping, Najman, Morrison, Western, Andersen & Williams, 1989). The original cohort was predominantly Caucasian and of lower middle and working class socioeconomic status (SES). The Mater-University of Queensland Study of Pregnancy (MUSP) was originally devised to investigate the children's physical, cognitive, and psychological health as a function of pregnancy and obstetric conditions, birth weight, and psychosocial conditions, and to predict age 5 health, development, and behavior. Mothers in the sample were recruited and interviewed at their first prenatal clinic visit (mean gestation 18 weeks) and provided additional details about their infants 3–4 days after delivery, when the child was ages 6 months, 5 years, and 13 years old.

Sample selection at youth age 15 was based on mothers' depression scores on the Delusions-Symptoms States Inventory (DSSI) of Bedford and Foulds (1977) that had been given by the previous investigators on four occasions between pregnancy and child's age 5, as noted above. These scores were used to identify women varying in level and frequency of elevated depression histories (or never depressed), using specific algorithms (e.g., elevated scores on two or more occasions, elevated scores on only one occasion). After sample selection for the age 15 follow up (predominantly high risk for mother depression but with a low risk control group incorporated), maternal diagnostic information was collected as described below.

A total of 991 families were targeted for inclusion in the high-risk (and control) subsample. Of the 991, 816 consented and were included in the age-15 follow up (82%); 68 families could not be located; 103 declined to participate; 3 could not participate due to the child's hearing or visual impairment; and 1 child had died.

The current study was focused on the youth from the age-15 follow up who also provided complete questionnaire and diagnostic interview outcome data at age 20. This sample included 648 20-year-old youths (48% male) and their mothers (fathers were included where available). The overall sample was 91.5% white, and 8.5% minority (Asian, Pacific Islander, and Aboriginal). Median family income at the 20-year follow-up indicated lower/middle SES, and median mothers' education was grade 10 (equivalent to U.S. high school graduation).

The sample for the current study contained significantly more girls (52% vs. 48%; $\chi^2$= 5.54, $p$<.05), a lower percentage of ethnic minorities (8% vs. 11%; $\chi^2$= 4.08, $p$<.05), and families with a higher level of income ($t$=2.74, $p$<.01) than the original birth cohort. Those lost to follow up at age 20 were not significantly different from those interviewed at age 15 in terms of gender (53% vs. 52%; $\chi^2$= 1.39, $p$=.58), ethnic minority representation (8% in both samples; $\chi^2$= 1.16, $p$=.76) or family income ($t$=.26, $p$=.80).

## Procedures

Interviews with the mother, father, and 15-year-old child were conducted in the family homes. When the child was 20 years of age, interviews with mother and youth were conducted at the family homes if the adult child was still living with the mother, or at each party's respective home. Interviewers were blind to the mother's depression status or history, and a team of two interviewers conducted the parent and youth interviews separately and privately. The parents and youths gave written informed consent and were paid for their participation

The team of interviewers was trained by Dr. Hammen to conduct the diagnostic evaluations and life stress interviews. All interviewers were advanced graduate students in clinical psychology predominantly from the University of Queensland and had prior clinical and research interview experiences. They were trained to proficiency and were closely supervised by means of audiotape and periodic visits by Dr. Hammen.

## Measures—Risk

**Maternal depression—**Maternal depressive diagnoses in the current study were based on the Structured Clinical Interview for *DSM-IV* (First, Spitzer, Gibbon & Williams, 1995) administered when the child was 15 years of age. The presence of lifetime and current diagnoses were ascertained blind to the woman's previous scores on the DSSI. Ratings by independent judges yielded weighted Kappa values of 0.87 for current diagnoses of major depressive episode, dysthymic disorder, and subsyndromal depression and Kappa values of 0.84 for past depressive diagnoses or symptoms.

In the current study maternal depression was operationalized as major depression or dysthymia that occurred during the child's lifetime (up to the age of 15 years). A total of 265 women (41 percent of the sample) were classified as depressed according to these criteria. Offspring of these mothers should be particularly vulnerable to negative outcomes, given the genetic and environmental risks of maternal depression to which they were exposed.

## Measures—Resource/Protective Factors

**Child IQ estimate—**The measure of child IQ was estimated from selected sections of the WISC-III (Wechsler, 1991) administered when the child was 15 years of age. The subtests administered included the Vocabulary section, a measure of Verbal intelligence; and the Digit Span section (comprised of a Digits Forward and a Digits Backwards components), a measure of Working Memory. All WISC–III protocols were administered and scored according to standardized procedures, which have been found to be highly reliable (Wechsler, 1991). Age-scaled scores were used in all analyses. To create an intelligence composite score for the purposes of this study, the Vocabulary section scaled score (M=8.9) and the Digit Span section scaled score (M=9.1) were summed.

**Self esteem—**At the age of 15, children were administered the Self-Perception Profile for Adolescents (Harter, 1985). For each item on the Harter, the youth participant was given a description of two children, one doing well and another who was not. Participants were then asked which of the two children they most resembled and whether the child's description was "really true for me" or "sort of true for me." Each item was then scored from 1 to 4, with higher scores indexing more positive self-perceptions. In this study Global Self Worth was used as the measure of self-esteem (M=14.88, SD=3.24). The Global Self Worth subscale consisted of 5 items and obtained an alpha of .78 in this sample.

**Perceived parent-child relationship quality—**At the age 15 follow up, the youths completed the Children's Report of Parental Behavior Inventory (CRPBI; Schludermann & Schludermann, 1970). This measure was used to evaluate participants' perceptions of their mothers' and fathers' behavior along three dimensions: acceptance (e.g., "enjoys doing things with me"), psychological control (e.g., "tells me all of the things that she has done for me," "is always telling me how I should behave"), and firm control (e.g., "insists that I must do exactly as I am told," "is very strict with me"). Alphas, means, and SDs for subscales in this sample were as follows: maternal acceptance (Alpha=.90, M=23.61, SD=4.63), paternal acceptance (Alpha=.93, M=20.78, SD=5.42), maternal psychological control (Alpha=.82, M=16.78, SD=4.12), paternal psychological control (Alpha=.86, M=15.87, SD=4.31), maternal firm control (Alpha=.78, M=20.40, SD=3.64), and paternal firm control (Alpha=. 80. M=21.33, SD=3.95). A participant in the sample could choose not to complete CRPBI items for his or her father if the father had not been in significant contact with the child. Analyses on father child relationship measures were restricted to a lower N of 583.

Youth reports of the mother's warmth and hostility were also obtained at the age 15 follow up on a 24 item questionnaire developed by the Iowa Youth and Families Project on the basis of their observational measures using the same constructs (Ge, Best, Conger & Simons, 1996). In the present study, the warmth items were reverse-scored and combined with the hostility items to create an overall measure of maternal warmth/lack of hostility with a mean of 130.50 (SD=21.92). This scale was found to be internally consistent in this sample (Alpha=.93).

**Child peer relationships/social functioning—**A semistructured interview for adolescents was developed from earlier versions of chronic strain/functioning for adults and children of the UCLA Life Stress Interview (e.g., Hammen, 1991) and was administered to children at the age 15 follow up. The adolescent version used in the current study consisted of ongoing (past 6 months) conditions in six domains: social life (peer functioning), close friendship, romantic relationships or dating interest, relations with family members, academic performance, and school behavior. Each domain was scored on a 5-point scale with behaviorally specific anchors such that 1 represented superior functioning and 5 represented severe difficulties. Reliabilities were based on independent judges' ratings of

audiotaped interviews (n=88–96) with the peer functioning scale obtaining an intraclass correlation of .63. In this sample, the mean peer functioning score was 2.29 (SD=0.48). Higher scores indicate worse functioning.

## Measures— Age 20 Outcomes

The first step in operationalizing the resilient outcome indices was to determine maladaptive outcomes at age 20 which were significantly related to the risk variable of maternal depression. We tested maladaptive outcomes that were consistent with those used to define resilient outcomes at age 15 years in a previous study of this cohort (Brennan et al., 2003: internalizing and externalizing behavior problems, current Axis I disorders, history of depression, and role functioning deficits). Role functioning at age 15 consisted of peer social relationships and academic functioning. Role functioning at age 20 consisted of romantic relationships and academic and/or work functioning.

**Internalizing and externalizing behavior problems—**The Young Adult Self-Report (YASR; Achenbach, 1997) was completed by the youth in the sample at age 20. The YASR can be scored on syndrome scales similar to those of the Youth Self Report (Achenbach's child self report measure). The syndrome scales represent two broad-band groupings of syndromes: Internalizing (consisting of the Anxious/Depressed and Withdrawn scales; alpha=.92) and Externalizing (consisting of the Intrusive Behavior, Delinquent Behavior, and Aggressive Behavior scales; alpha=.88).

In this sample, 116 youth scored above the clinical cutoff on internalizing problems and 95 youth were above the clinical cutoff on externalizing problems.

**Youth Axis I diagnoses—**The presence of current (age 20) Axis I disorders was ascertained by the Structured Clinical Interview for the DSM (SCID), administered to the youth at age 20. All diagnostic decisions were made by the research rating team. Kappas based on 55 cases reviewed by independent judges were .83 for current diagnoses of depression, .94 for current anxiety disorders, .79 for current substance use disorders, and 1.0 for other (a category that included eating disorders and externalizing disorders). A total of 275 youth had current Axis I diagnoses (excluding specific phobia).

**Youth recurrent depression or dysthymia—**The presence of depression or dysthymia in the child cohort members prior to age 15 was ascertained using the Schedule for Affective Disorders and Schizophrenia in School-Aged Children (K-SADS; Orvaschel, 1995) administered to the mother and the child at age 15. Best estimate diagnoses were assigned by the clinical interview team, giving most weight to information, if discrepant across mother and child informants, from the most credible source (Leckman, Sholomskas, Thompson, Belanger, & Weissman, 1982). The presence of depressive disorders (dysthymia or major depression) between ages 15 and 20 was ascertained by the SCID, administered to the youth at age 20. Kappas were .73 for past K-SADS (prior to age 15) depressive disorders and .89 for past SCID (ages 15–20) depressive disorders.

We defined recurrent depression or dysthymia as diagnoses of depression before the age of 15 as well as diagnoses of depression *after* the age of 15). We have previously found that this early onset, recurrent pattern of depression in children is indicative of poor functioning in many domains (Hammen, Brennan, Keenan-Miller & Herr, 2008). We therefore considered the absence of this pattern of depression history as an indicator of resilience (we also used a similar rationale in defining resilient outcomes at age 15; Brennan et al, 2003). A total of 45 youth in the sample evidenced a history of recurrent depression or dysthymia.

**Youth romantic and academic/job functioning—**The youth's current (age 20) levels of romantic, academic (when applicable), and job (when applicable) functioning were assessed from the UCLA Life Stress Interview using a semi-structured interview designed to assess functioning and strain across several important life domains (Hammen, 1991). The romantic, academic, and job functioning domains were all scored on a 5-point scale with behaviorally specific anchors (1=superior functioning, 5=severe difficulties). Intraclass correlation values were 0.84 for romantic, 0.83 for academic, and 0.80 for work functioning.

For youth currently in romantic relationships, interviewers rated quality of that relationship while for youth not currently in romantic relationship(s), interviewers rated the individual's current level of satisfaction with his/her romantic status. In this sample the mean score on romantic functioning was 2.56 (SD=0.84).

Youth in this sample were rated on academic functioning if they were currently in school and were rated on work functioning if they were currently in the workplace; the maximum of these two scores was used to determine overall work/academic functioning. In the sample the mean academic/work functioning score was 2.77 (SD=0.81).

### Measures— Youth Resilient Outcomes

We operationalized the resilient outcome indices such that maternal depression had to be significantly related to a higher risk for the negative outcome in question, and resilient children had to show no evidence of any of those negative outcomes.

**Resilience age 15—**The criteria for resilience at age 15 was defined as all of the following: (1) no current Axis I diagnoses, (2) no history of depressive disorders, (3) mean T-scores below the clinical cut-off of the Child Behavior Checklist internalizing scale (age 15), and (4) a score of 2.5 or less (indicating a good to exceptionally good social life) on age 15 social functioning. We did not include the absence of externalizing problems or academic functioning problems in our age 15 resilience measure, as maternal depression was unrelated to these outcomes in the youth. A total of 435 (67%) youth in the sample were operationalized as resilient at age 15.

**Resilience age 20—**A resilient outcome at age 20 was defined as all of the following: no current Axis I diagnosis (excluding specific phobia); no clinically significant internalizing problems, no current academic or work functioning difficulties, no current romantic relationship functioning difficulties, and no history of early onset/recurrent depression or dysthymia. We did not include the absence of externalizing problems in our age 20 resilience measure, as maternal depression was unrelated to this outcome in young adulthood (see Table 1 for relationships between maternal depression and age 20 functioning variables). The standard clinical cut-off score on the YASR was used as the threshold for clinical significance. A score of 2.5 or less (indicating good functioning) was used as the cutoff for good romantic relationship and work/academic functioning. At age 20 there were 266 (41%) individuals who met criteria for resilient outcome (or were considered high functioning regardless of maternal depression status).

## Results

### Data Analysis Strategy and Potential Confounds

Logistic regression analyses were performed to test whether individual or family level variables at age 15 acted as resource or protective factors for resilient outcome at age 20. The dependent measure in these analyses was resilient/not resilient at age 20. In the analyses of potential resource factors, the variable being tested was entered on its own in the first

block of the analyses. In the analyses of potential protective factors, the main effect variables (maternal depression and protective factor variable) were entered into the first step of the analyses, and the interaction term (maternal depression × protective factor variable) was entered into the second step. All statistical tests were two-tailed and alpha levels were set at 0.05.

Males and females did not differ in their rates of resilient outcomes and gender did not moderate any of the findings in this study. Two socioeconomic variables were assessed for potential confounding effects on outcomes: family income at entry to the study (pregnancy) and maternal education. Both were unrelated to youth resilient outcome at age 20. Missing data resulted in a different sample size for analyses on father child relationship data.

### Correlations among Resource/Protective Factors

Correlations among the proposed resource/protective factors are presented in Table 2. Both IQ and self esteem were correlated with several of the perceived parenting variables, as well as with one another. In addition, many of the perceived parenting variables were correlated with one another, as would be expected.

### Parent-Child Relationship and Young Adult Outcome

Table 3 presents the results of logistic regression analyses that examined whether parent-child relationship qualities acted as resource and/or protective factors for the youth in this sample. As can be seen from the table, perceived maternal warmth and paternal psychological control acted as *resource* factors, but not as protective factors in this sample. In other words, these parenting factors predicted to resilient outcomes across the whole sample, and their effects were not moderated by maternal depression status. Only one parent-child relationship factor at age 15 acted as a *protective* factor at age 20: low perceived maternal psychological control. To interpret the interaction effect with maternal depression for this parent-child relationship variable, a median split was performed on maternal psychological control and rates of resilient outcome were plotted for youths with and without maternal depression and with and without this protective factor. As can be seen in Figure 1, the presence of a more positive mother child relationship resulted in a level of functioning in the young adult offspring of depressed mothers that was similar to that noted in controls.

### IQ, Self Esteem, and Peer Social Functioning at 15 and Young Adult Outcome

As can be seen in Table 3, higher IQ, positive self esteem, and positive peer functioning at age 15 acted as resource factors for the youth in this sample. IQ additionally acted as a protective factor for children of depressed mothers. As Figure 2 demonstrates, adult children of depressed mothers who had high IQ scores had outcomes similar to the adult children of nondepressed women in this sample.

### Relative Strength of Factors Predicting to the Resilient Outcome Index

We predicted that positive peer functioning at age 15 would be the strongest predictor of resilient outcome at age 20 in children of depressed mothers. Analyses testing this hypothesis were conducted for offspring of depressed mothers only. Because the six parenting variables in this study were conceptually similar to one another in terms of their hypothesized effect on resilience, and because each of the other domains of resource/protection were only represented by one variable, we selected maternal psychological control as the single parenting variable for inclusion in these analyses. Like the variables in the other domains under study, maternal psychological control showed initial promise as a resource/protective factor (see Table 3). So that odds ratios (ORs) would be comparable

across these predictors, all measures were converted to standardized scores, and all standardized scores were calculated such that a higher level of the predictor variable led to a greater likelihood of a resilient outcome. Contrary to our hypothesis, when peer social functioning, IQ, self esteem, and mother psychological control were all entered together, peer social functioning did not yield the highest OR. Instead, all the predictor variables yielded highly similar ORs, and peer social functioning was not found to be a significant predictor of resilience (see Table 4).

### Temporal Stability of Resilience

Preliminary analyses were conducted to investigate the stability and change of resilience over the time period between ages 15 and 20. Chi-square analyses revealed 160 youths who were resilient at neither time point, 53 who were not resilient at age 15 but became resilient at age 20, 222 who were resilient at age 15 but were no longer resilient at age 20, and 213 who were resilient at both ages. Of the subjects who were resilient at age 15, 49% remained resilient at age 20 ("persistent resilience"). Of the subjects who were not resilient at age 15, 25% were resilient at age 20 ("late-emerging resilience").

### Factors Associated with "Persistent Resilience"

A series of logistic regression tests were conducted to determine which factors at age 15, if any, predicted "persistent resilience" (positive outcome across ages 15 and 20). The comparison group in these analyses was the youth who were resilient at age 15, but did not evidence resilience at age 20. Preliminary analyses revealed no significant differences between the two comparison groups according to gender, parent education, or family income.

One factor—maternal warmth—was associated with continued high functioning (or resilience) regardless of maternal depression status (Wald (N=435) = 5.70, $p$=.02; OR=1.01 (1.01–1.02)). As can be seen in Figure 3, youth intelligence interacted with maternal depression status to predict persistent resilience (Wald(N=435) = 7.13, $p$<.01; OR=1.14 (1.04–1.26)). No other factors were found to have interaction effects. Children of depressed mothers who had higher IQ had similar rates of functioning through adolescence *and* adulthood as children of nondepressed mothers in the sample. No other parenting, peer, or individual level factors predicted persistent resilience.

### Factors Associated with Late Emerging Resilience

A series of logistic regression tests were conducted to determine which factors at age 15, if any, predicted "late-emerging resilience" (poor functioning at age 15 followed by resilient functioning at age 20) as compared to persistent maladaptive functioning (poor outcome across both ages 15 and 20). Preliminary analyses revealed no significant differences between the two comparison groups according to gender, parental income upon entry to study, or highest level of education completed by the parent. Logistic regression analyses revealed that youth self esteem during adolescence predicted to a shift from low to high functioning/resilience in young adulthood in both the children of depressed and non-depressed mothers (Wald (N=213) = 7.15, $p$<0.01; OR=1.15(1.04–1.26)). Maternal psychological control (Wald (N=213) = 4.50, $p$=.03; OR=.84(.72–.98)) interacted with mother depression status to predict late emerging resilience. As can be seen in Figure 4, for children of depressed mothers, lower levels of maternal psychological control predicted better youth outcome as they transitioned to adulthood. No other parenting, peer, or individual level factors predicted late emerging resilience.

## Discussion

In the context of maternal depression, select perceived parenting qualities of the mother and child intelligence acted as protective factors. Regardless of mother depression status, perceived parenting qualities of both the mother and father, high self esteem, and healthy peer social functioning acted as resource factors predicting positive outcomes in young adults. High child IQ acted as a protective factor predicting resilient outcomes that persisted from adolescence to young adulthood, and low maternal psychological control predicted resilience that emerged in young adulthood.

### Parent-Child Relationship as a Resource or Protective Factor

Our results suggest that the parent-child relationship acts as both a resource and a protective factor for young adult outcomes. These findings, particularly regarding the warmth and control dimensions, are perhaps unsurprising; much literature has evidenced that these two constructs (Baumrind, 1991; Darling & Steinberg, 1993; Fine, Voydanoff, & Donelly, 1993) are important for children's well being. Perceptions of warmth from, and closeness to, parents are associated with adaptive outcome (Cowen, Wyman, Work, Kim, Fagen, & Magnus, 1997; Furstenberg & Harris, 1993; Luthar & Becker, 2002; Zimmerman, Salem, & Maton, 1995). Perceptions of parental control have as well found to be associated with maladaptive outcome (Rapee, 1997).

It should be noted that while a number of parenting qualities emerged as protective at age 15 (Brennan et al., 2003), much fewer were protective for outcome at age 20. One possible interpretation of this finding is that parenting factors are less important for outcome at the age of 20 than they are for outcome at the age of 15 due to the developmental tasks and contexts at each of the two ages. Whereas adolescent children of depressed mothers may be especially reliant on positive parenting styles to counteract maternal illness effects, young adult offspring of depressed mothers may not evidence this same need. It could be the case that the quality of nonfamilial relationships or other intra-individual and environmental contextual factors are of greater importance during this time period than style of parenting. Another possibility, however, is that this discrepancy is due to measurement issues; concurrent measurements of parenting qualities at 20 might better elucidate the effect of parenting on children at the age of 20.

### Child IQ, Self Esteem and Peer Relationships

Childhood IQ scores received strong empirical support act as a protective factor against maladaptive young adult outcomes in the context of maternal depression. Studies on a number of risk groups highlight that individuals with a high IQ usually experience better outcome than other individuals within the risk group (Masten, 2001; Luthar, 2003). In this study, it was hypothesized that ratings of self esteem by the adolescent at the age of 15 would act as a protective factor predicting resilient outcome in the individuals exposed to a history of maternal depression. This hypothesis was not supported. Rather, high self esteem was found to be a resource factor, which predicted adaptive young adult functioning at the age of 20 in both the high-risk and the normative samples.

Quality of peer relationships during adolescence was also found to be a potent predictor of young adult outcomes in the overall sample. But when analyses were confined to the offspring of depressed mothers, peer social functioning was not a stronger predictor of resilience than self-esteem or parent child relationship quality. Whereas interpersonal impairment has been found to predict the intergenerational transmission of depression (Hammen et al., 2003), it appears that other family and individual factors work together to

ensure the success of offspring of depressed women across multiple domains of functioning in young adulthood.

## Temporal Stability of Resilience

In this study, exploratory analyses were conducted to investigate which factors predicted "persistent resilience" at both ages 15 and 20 and which factors predicted resilience that emerged only when the offspring reached adulthood. One factor was found to differentially predict "persistent resilience" in children of depressed mothers – child IQ. Similarly, one factor was found to differentially predict "late emerging resilience" in children of depressed mothers– perceived maternal psychological control.

It is noteworthy that youth IQ was as a consistent predictor of positive outcome; analyses of child IQ as a resource factor, protective factor, and temporally persistent protective factor all yielded significant results. Intelligence levels likely affect social problem-solving skills, acquisition of rewards for academic or other achievements, and other areas of child development which would serve to buffer against exposure to maternal depression. We also found that low perceived maternal psychological control was predictive of later resilience, suggesting that this parenting quality may be particularly relevant to long-term functioning in offspring of children of mothers with a history of depression.

## Practice and Policy Implications

Taken together, the findings from this study suggest potential areas of focus for intervention efforts focused on the promotion of healthy development in offspring of depressed mothers. Our study found the most consistent support for the protective effects of child IQ and low maternal psychological control during the developmental phase of the transition into adulthood. Further study of the processes by which IQ protects these high-risk youth might elucidate cognitive strengths that could be nurtured and promoted throughout development. For example, one avenue of the transmission of risk for psychopathology between mothers and offspring is environmental exposure to negative maternal cognitions. Regardless of whether high IQ levels are a product of genetic or environmental factors (Luthar, 2006), strong cognitive abilities in a child may act as a buffer against negative cognitive biases held by depressed mothers. Earlier findings on suggestibility (for a review, see Ceci & Bruck, 1993) evidenced a negative correlation between suggestibility and IQ levels; more recent studies support the idea that the mechanisms underlying suggestibility include memory, linguistic ability, knowledge base, and source monitoring, all of which are strongly, if not wholly, cognitive. It could be the case that children with higher IQs are more cognitively capable of handling negative maternal cognitions. For instance, a child with a high IQ may actively engage in a form of source monitoring as a coping strategy against maternal depression, effectively filtering out negative cognitive messages received from the child's mother. With regard to clinical implications, one might speculate that focusing on cognitive biases might be particularly effective in high-risk children with lower IQs as these children may not be employing effective strategies of coping which children with higher IQs have mastered, for whatever reason, without therapeutic training.

Low maternal psychological control was found to be a protective factor for young adult offspring of depressed mothers, and also predicted to cases where high-risk adolescents who had evidenced difficulties appeared to overcome them during early adulthood. This parenting factor, therefore, might be an especially promising focus in family therapy approaches with depressed mothers and their children.

### Limitations and Future Directions

While this study elucidates correlations between prospective factors and young adult outcome, what remains to be addressed in future studies is the specific dynamic processes or mechanisms underlying these seemingly stagnant “relationship” constructs. The relationship between the parent and child is not a fixed entity but rather the result of a multitude of small and large interactions over the course of a lifetime; future studies might investigate what specific behaviors on the part of the parents contribute to, or convey, warmth or low levels of control to the child.

Another issue surrounding the parent-child relationship involves the role that the child may be playing to contribute to positive parental qualities. A child with an easygoing temperament, for instance, is much more likely to elicit warm and accepting behaviors from a parent than a child with a particularly irritable temperament. Recent studies have emphasized the notion that the behavior of the child in many ways shapes the actions of the parent (Pettit & Arsiwalla, 2008). Studies on anxiety have investigated how anxious behaviors on the part of the child can lead to increases in controlling behaviors on the part of the parents. Future studies could address the ways in which parents and resilient children are creating a warm and accepting relationship together.

In this study differential factors predicted differential patterns of resilience (e.g., during adolescence, during early adulthood, during both time points, and during early adulthood only), suggesting a complex picture of the pattern of resilience over time and serving as a cautionary reminder that resilience is not an end-point state but rather a more fluid, dynamic construct which refers to adaptive functioning at differential tasks depending on age and culture.

Our study is focused on the specific risk context of maternal depression. We tested whether low levels of parent education and income might also confer related risks in our sample, and might influence patterns of resilience. Our study, however, did not address other risk factors such as exposure to stressful life events or parental conflict that may have also influenced functional outcomes for the youth in this sample.

To our knowledge, this is the first study to date that has examined protective and resource factors predicting to young adult outcome within the context of maternal depression. Future studies are needed to identify the processes that are mediating these relationships. More detailed knowledge concerning these mechanisms will better inform prevention and intervention strategies for these high-risk youth.

## Acknowledgments

We thank Professor Jake Najman of the University of Queensland and MUSP colleagues William Bor, M.D. and Gail Williams, Ph.D. This study was supported by funds from the National Health and Medical Research Council in Australia, the Mater Misericordiae Mother’s Hospital in Queensland, Australia, and NIH grant R01 MH52239.

## References

Achenbach, TM. Manual for the Young Adult Self-Report and 1997 Profiles. Burlington: University of Vermont Department of Psychiatry; 1997.

Baumrind D. The influence of parenting style on adolescent competence and substance use. Journal of Early Adolescence. 1991; 11:56–95.

Beardslee W, Podorefsky D. Resilient adolescents whose parents have serious affective and other psychiatric disorders: Importance of self-understanding and relationships. American Journal of Psychiatry. 1988; 145(1):63–69. [PubMed: 3337294]

Beardslee W, Versage E, Gladstone T. Children of Affectively Ill Parents: A Review of the Past 10 Years. Journal of the American academy of Child and Adolescent Psychiatry. 1998; 37(11):1134–1141. [PubMed: 9808924]

Bedford A, Foulds G. Validation of the Delusions-Symptoms-States Inventory. British Journal of Medical Psychology. 1977; 50:163–171.

Brennan PA, Le Broque R, Hammen C. Maternal Depression, Parent-Child Relationships, and Resilient Outcomes in Adolescence. Journal of the American Academy of Child and Adolescent Psychiatry. 2003; 42(12):1469–1477. [PubMed: 14627882]

Ceci SJ, Bruck M. Suggestibility of the child witness: A history review and synthesis. Psychological Bulletin. 1993; 113(3):403–439. [PubMed: 8316609]

Conrad M, Hammen C. Protective and resilience factors in high and low risk children: A comparison of children of unipolar, bipolar, medically ill and normal mothers. Development and Psychopathology. 1993; 5:593–607.

Cowen EL, Wyman PA, Work WC, Kim JY, Fagen DB, Magnus KB. Follow-up study of young stress-affected and stress-resilient urban children. Development and Psychopathology. 1997; 9:564–577.

Darling N, Steinberg L. Parenting style as context: An integrative model. Psychological Bulletin. 1993; 113:487–496.

Downey G, Coyne J. Children of depressed parents: an integrative review. Psychological Bulletin. 1990; 108(1):50–76. [PubMed: 2200073]

Fine MA, Voydanoff P, Donnelly BW. Relations between parental control and warmth and child well-being in stepfamilies. Journal of Family Psychology. 1993; 7:222–232.

First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JBW. Structured clinical interview for DSM-IV Axis I disorders. Washington, DC: American Psychiatric Press; 1995.

Furstenberg, FF., Jr; Harris, KM. When and why fathers matter: Impacts on father involvement on children of adolescent mothers. In: Lerman, RI.; Ooms, TJ., editors. Young unwed fathers. Philadelphia, PA: Temple University Press; 1993. p. 117-138.

Garber J, Little S. Predictors of competence among offspring of depressed mothers. Journal of Adolescent Research. 1999; 14:44–71.

Ge X, Best KM, Conger RD, Simons RL. Parenting behaviors and the occurrence and co-occurrence of adolescent depressive symptoms and conduct problems. Developmental Psychology. 1996; 32:717–731.

Hammen, C. Depression runs in families: The social context of risk and resilience in children of depressed mothers. New York: Springer-Verlag; 1991.

Hammen C, Brennan PA, Keenan-Miller D, Herr NR. Early onset recurrent subtype of adolescent depression: Clinical and psychosocial correlates. Journal of Child Psychology and Psychiatry. 2008; 49:433–440. [PubMed: 18221352]

Hammen C, Shih J, Altman T, Brennan PA. Interpersonal impairment and the prediction of depressive symptoms in adolescent children of depressed and nondepressed mothers. Journal of the American Academy of Child and Adolescent Psychiatry. 2003; 42:571–577. [PubMed: 12707561]

Harter, S. Children's Self-Perception Inventory: Manual. Denver, CO: University of Denver Press; 1985.

Keeping JD, Najman JM, Morrison J, Western JS, Andersen MJ, Williams GM. A prospective longitudinal study of social, psychological, and obstetrical factors in pregnancy: Response rates and demographic characteristics of the 8,556 respondents. British Journal of Obstetrics and Gynecology. 1989; 96:289–297.

Leckman J, Sholomskas D, Thompson W, Belanger A, Weissman M. Best estimate of lifetime psychiatric diagnoses: A methodological study. Archives of General Psychiatry. 1982; 39:879–883. [PubMed: 7103676]

Luthar, SS., editor. Resilience and vulnerability: Adaptation in the context of childhood adversities. New York: Cambridge; 2003.

Luthar, SS. Resilience in development: A synthesis of research across five decades. In: Cicchetti, Dante; Cohen, Donald J., editors. Developmental psychopathology: Risk, disorder, and adaptation. 2nd ed. Cambridge, MA: Cambridge University Press; 2006. (2006)

Luthar SS, Becker BE. Privileged but pressured: A study of affluent youth. Child Development. 2002; 73:1593–1610. [PubMed: 12361321]

Luthar SS, Cicchetti D. The construct of resilience: Implications for interventions and social policies. Development and Psychopathology. 2000; 12:857–885. [PubMed: 11202047]

Luthar SS, Cicchetti D, Becker B. The construct of resilience: A critical evaluation and guidelines for future work. Child Development. 2000; 71:543–562. [PubMed: 10953923]

Luthar SS, Sawyer JA, Brown PJ. Conceptual issues in studies of resilience: Past, present, and future research. Annals of the New York Academy of Sciences. 2006; 1094:105–115. [PubMed: 17347344]

Luthar SS, Zigler E. Vulnerability and competence: A review of the research on resilience in childhood. American Journal of Orthopsychiatry. 1991; 6:6–22. [PubMed: 2006679]

Masten AS. Ordinary Magic: Resilience Processes in Development. American Psychologist. 2001; 56(3):227–238. [PubMed: 11315249]

Masten AS, Best KM, Garmezy N. Resilience and development: Contributions from the study of children who overcome adversity. Developmental Psychopathology. 1990; 2:425–444.

Masten AS, Burt KB, Roisman GI, Obradovic J, Long JD, Tellegen A. Resources and resilience in the transition to adulthood: Continuity and change. Development and Psychopathology. 2004; 16:1071–1094. [PubMed: 15704828]

Masten, AS.; Powell, JL. A resilience framework for research, policy, and practice. In: Luthar, SS., editor. Resilience and vulnerability: Adaptation in the context of childhood adversities. Cambridge, UK: Cambridge University Press; 2003. p. 1-25.

NICHD Early Child Care Research Network. Chronicity of maternal depressive symptoms, maternal sensitivity, and child functioning at 36 months. Developmental Psychology. 1999; 35:1297–1310. [PubMed: 10493655]

Orvaschel, H. Schedule for Affective Disorder and Schizophrenia for School-Age Children Epidemiological Version—5. Ft. Lauderdale, FL: Center for Psychological Studies, Nova Southeastern University; 1995.

Pettit GS, Arsiwalla DD. Commentary on special section on “Bidirectional Parent Child Relationships”: The continuing evolution of dynamic, transactional models of parenting and youth behavior problems. Journal of Abnormal Child Psychology. 2008; 36:711–718. [PubMed: 18473161]

Radke-Yarrow, M.; Sherman, T. Hard growing: Children who survive. In: Rolf, J.; Masten, AS.; Cicchetti, D.; Nuechterlein, KH.; Weintraub, S., editors. Risk and protective factors in the development of psychopathology. Cambridge, England: Cambridge University Press; 1990. p. 97-119.

Rapee RM. Potential role of childrearing practices in the development of anxiety and depression. Clinical Psychology Review. 1997; 17:47–67. [PubMed: 9125367]

Rutter M. Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. British Journal of Psychiatry. 1985; 147:598–611. [PubMed: 3830321]

Rutter M. Transitions and turning points in developmental psychopathology: As applied to the age span between childhood and mid-adulthood. International Journal of Behavioral Development. 1996; 19603(3)

Rutter M. Implications of resilience concepts for scientific understanding. Annals of the New York Academy of Sciences. 2006; 1094:1–12. [PubMed: 17347337]

Sameroff AJ, Seifer R, Zax M, Barocas R. Early indicators of developmental risk: The Rochester Longitudinal Study. Schizophrenia Bulletin. 1987; 13:383–393. [PubMed: 3629195]

Schludermann E, Schludermann S. Replicability of factors in children’s report of parental behavior (CRPBI). Journal of Psychology. 1970; 76:239–249.

Schulenberg J, Sameroff A, Cicchetti D. The transition to adulthood as a critical juncture in the course of psychopathology and mental health. Development and Psychopathology. 2004; 16:799–806. [PubMed: 15704815]

Wechsler, DM. Manual for the Wechsler Intelligence Scale for Children—Third Edition. San Antonio, TX: Psychological Corporation; 1991.

Zimmerman MA, Salem DA, Maton KI. Family structure and psychosocial correlates among urban African-American adolescent males. Child Development. 1995; 66:1598–1613. [PubMed: 8556888]

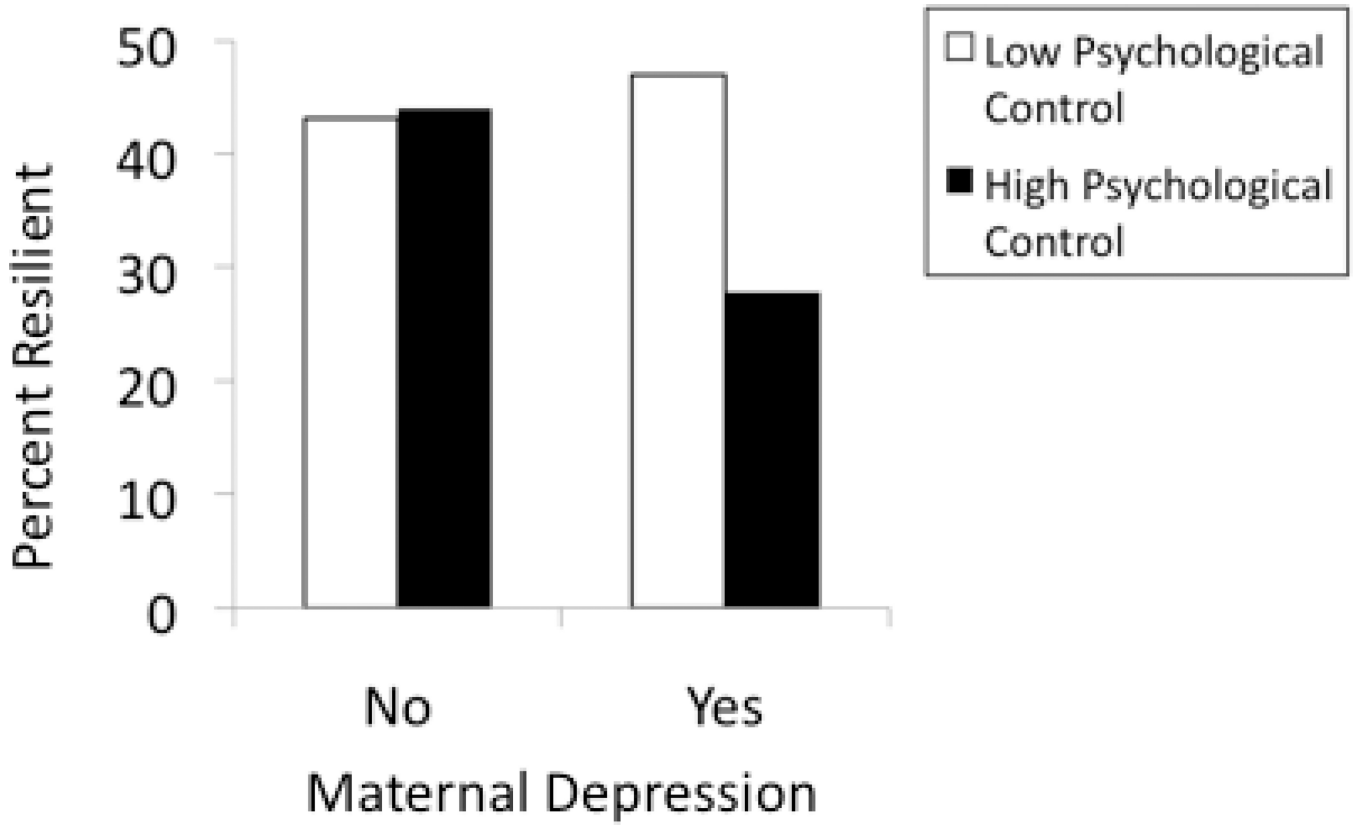


**Figure 1.**
Maternal Depression, Mother Child Relationship Quality and Resilience at Age 20

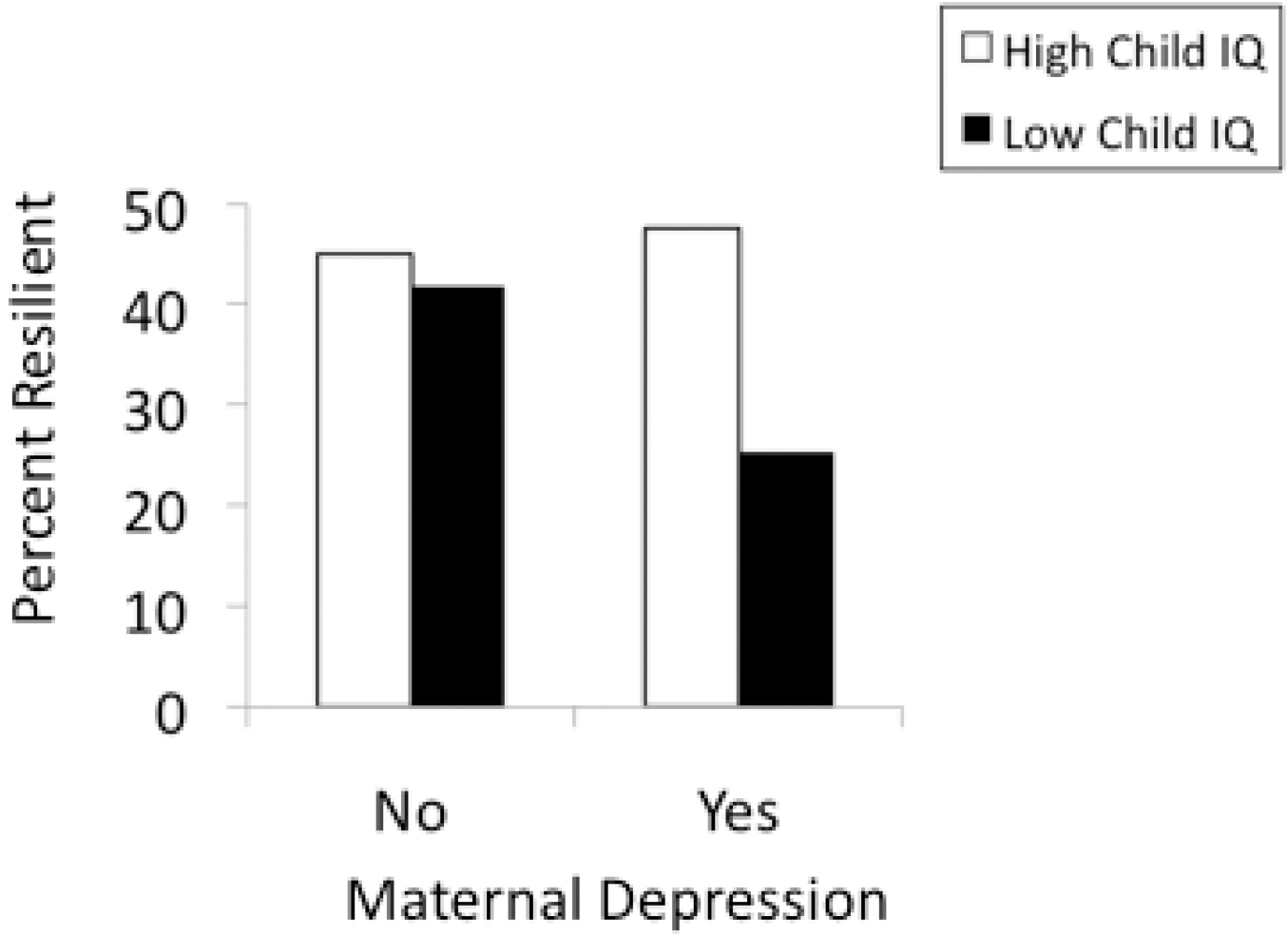


**Figure 2.**
Maternal Depression, Child IQ, and Resilience at Age 20

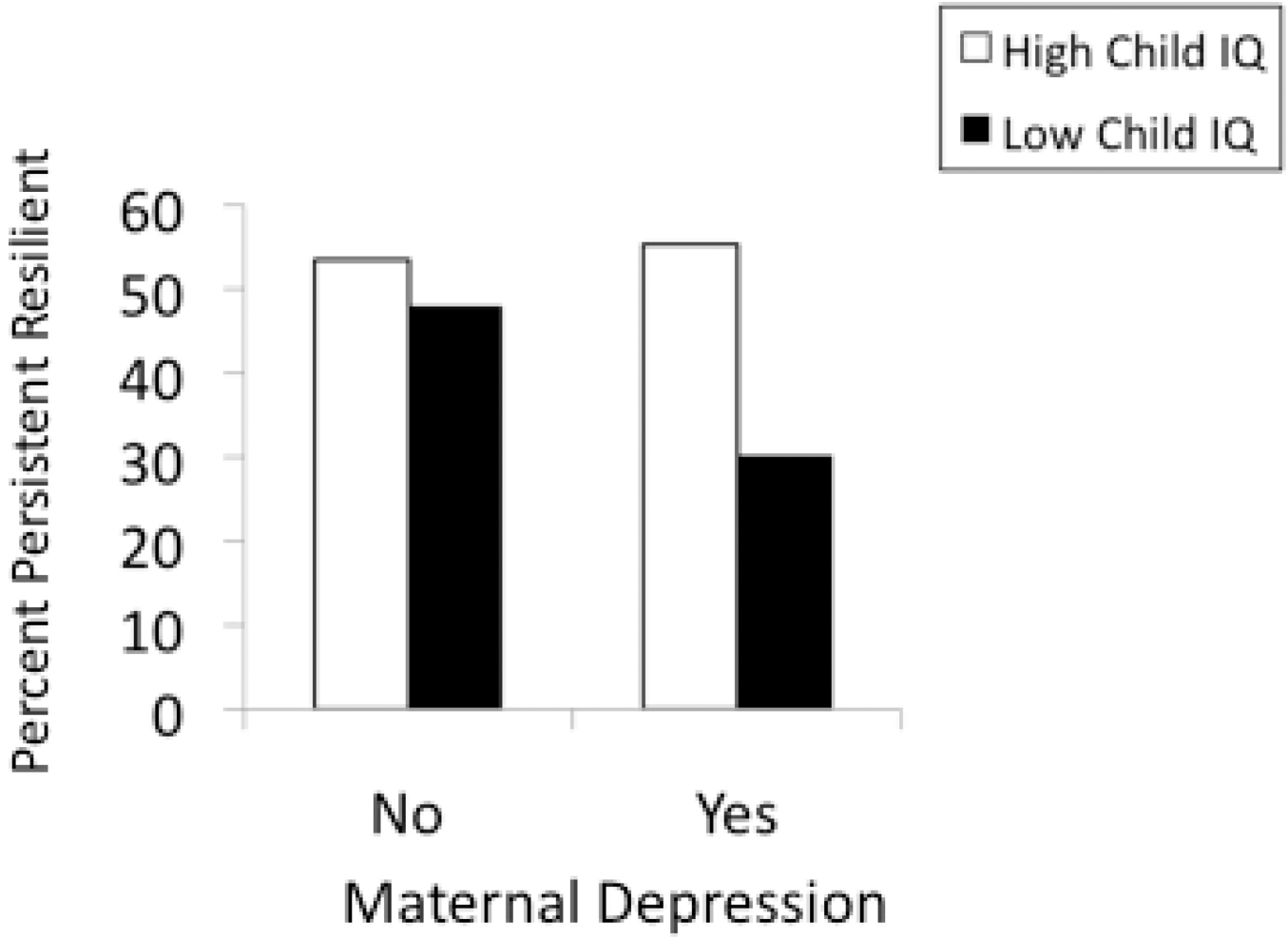


**Figure 3.**
IQ and Persistent Resilience from Adolescence to Young Adulthood

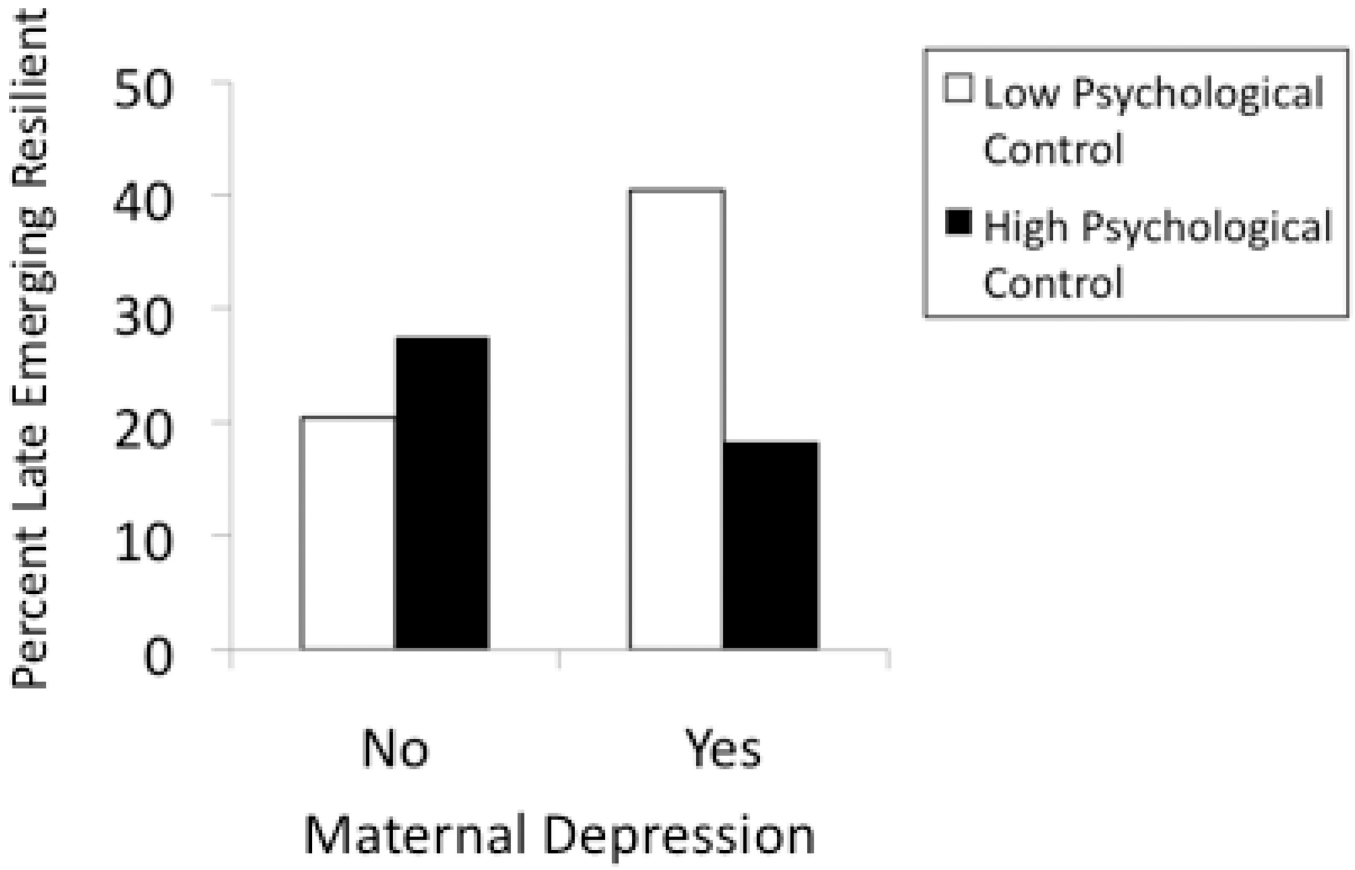


**Figure 4.**
Mother Child Relationship Quality and Late Emerging Resilience

**Table 1**

Associations Between Maternal Depression and Functional Outcomes at Age 20

| | $X^2$ | *p* | OR (CI) |
|---|---|---|---|
| Internalizing Problems Clinical Cutoff | 5.81 | .02 | 1.64(1.09–2.45) |
| Externalizing Problems Clinical Cutoff | 2.61 | .11 | 1.43(.93–2.22) |
| Current Axis I Disorders | 4.11 | .04 | 1.39(1.01–1.90) |
| History of Early Onset/Recurrent Depression | 11.59 | <.01 | 2.30(1.24–4.27) |
| | t | *p* | $Eta^2$ |
| Romantic Functioning | 2.09 | .04 | .01 |
| Academic/Work Functioning | 2.56 | .01 | .01 |

**Table 2**

Correlations Among Hypothesized Protective Factors

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1. Mother Acceptance | | | | | | | | | |
| 2. Mother Firm Control | **−.21** | | | | | | | | |
| 3. Mother Psychological Control | **−.38** | **.35** | | | | | | | |
| 4. Mother Warmth | **.75** | **−.26** | **−.61** | | | | | | |
| 5. Father Acceptance | **.42** | .04 | **−.11** | **.38** | | | | | |
| 6. Father Firm Control | −.04 | **.35** | **.08** | **−.10** | **−.26** | | | | |
| 7. Father Psychological Control | **−.10** | .07 | **.50** | **−.30** | **−.31** | **.41** | | | |
| 8. IQ | −.01 | .05 | **−.21** | **.09** | −.06 | .04 | **−.16** | | |
| 9. Self Esteem | **.33** | −.06 | **−.26** | **.39** | **.25** | −.08 | **−.21** | **.13** | |
| 10. Peer Functioning | **.09** | −.03 | **−.10** | **.14** | **.10** | **−.09** | −.08 | **.15** | **.15** |

Bold correlations are significant.

**Table 3**

Hypothesized Protective Factors at Age 15 (Parenting, IQ, Self Perception, and Peer Social Functioning) and Resilient Outcome Index at Age 20

| | | Resource Factor Test | | | Protective Factor Test | | |
|---|---|---|---|---|---|---|---|
| | *N* | OR (CI) | WALD | Sig | OR (CI) | WALD | Sig |
| Maternal Acceptance | 648 | 1.02 (.99–1.06) | 1.58 | .21 | 1.05 (.98–1.13) | 1.65 | .20 |
| Maternal Firm Control | 648 | 1.01 (.96–1.05) | 0.06 | .81 | .95 (.87–1.03) | 1.46 | .23 |
| Maternal Psych. Control | 648 | .94 (.91–.98) | 8.41 | **<.01** | .90 (.83–.98) | 5.87 | **.02** |
| Maternal Warmth | 648 | 1.02 (1.01–1.02) | 13.78 | **<.01** | 1.02 (.99–1.03) | 2.96 | .09 |
| Paternal Acceptance | 583 | 1.02 (.99–1.05) | 2.05 | .15 | 1.03 (.97–1.10) | 1.02 | .31 |
| Paternal Firm Control | 583 | 1.00 (.96–1.04) | 0.02 | .90 | 1.04 .95–1.13) | 0.79 | .38 |
| Paternal Psych. Control | 583 | .95 (.92–.99) | 5.78 | **.02** | 1.01 (.93–1.10) | 0.07 | .79 |
| IQ | 648 | 1.04 (1.01–1.08) | 5.41 | **.02** | 1.11 (1.03–1.19) | 7.38 | **<.01** |
| Self Esteem | 648 | 1.10 (1.05–1.16) | 19.82 | **<.01** | 1.09 (.98–1.21) | 2.46 | .12 |
| Peer Social Functioning | 648 | .45 (.31–.65) | 18.33 | **<.01** | 1.15 (.55–2.39) | 0.13 | .72 |

*Dev Psychol*. Author manuscript; available in PMC 2012 June 15.

**Table 4**

Comparison of Relative Strengths of Protective Factors Predicting Resilient Outcome at Age 20 In Children of Depressed Mothers

| | OR (CI) | WALD | *p* |
|---|---|---|---|
| Peer Social Functioning | 1.24 (.95–1.63) | 2.41 | 0.12 |
| IQ | 1.40 (1.02–1.92) | 4.59 | 0.03 |
| Self Esteem | 1.39 (1.04–1.84) | 5.09 | 0.02 |
| Maternal Psychological Control | 1.31 (.98–1.75) | 3.36 | 0.07 |