

**What it feels like to be a mother:
Variations by children's developmental stages**

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What it feels like to be a mother: Variations by children's developmental stages

Abstract

The central question we addressed was whether mothers' adjustment might vary systematically by the developmental stages of their children. In an internet-based study of over 2,200 mostly well-educated mothers with children ranging from infants to adults, we examined multiple aspects of mothers' personal well-being, parenting, and perceptions of their children. Uniformly, adjustment indices showed curvilinear patterns across children's developmental stages, with mothers of middle-schoolers faring the most poorly, and mothers of adult children and infants faring the best. Findings based on children in mutually exclusive age groups -- e.g., mothers with only (one or more) infants, preschoolers, etc. -- had larger effect sizes than those based on the age of the mothers' oldest child. In contrast to the recurrent findings based on children's developmental stages, mothers' adjustment dimensions showed few variations by their children's gender. Collectively, results of this study suggest that there is value in preventive interventions involving mothers not just in their children's infancy and preschool years, but also as their children traverse the developmentally challenging years surrounding puberty.

Keywords: Motherhood, middle school, affluence, resilience, parenting

Our goal in this article is to explore well-being of mothers in a sample of mostly well-educated women, with this central question: does maternal adjustment vary substantially by children's developmental stage? The literature on parenting is rife with studies of how mothers affect their children, yet there is little systematic effort to understand factors associated with mothers' own distress or well-being, and how this might vary from their children's birth through adulthood.

There are at least two reasons to focus on these issues among samples of well-educated mothers, the first being that despite their affluence, these women can be at high risk for stress. Motherhood in general entails hard work, with ongoing demands on time, emotional and physical energy, and conflicts with other roles and relationships (Balaji et al., 2007; Luthar & Ciciolla, in press). Furthermore, there have been increasing reports of elevated parenting stress among upper middle class mothers in particular. In terms of sheer time commitments, cohort data between 1993 and 2008 show that college-educated mothers increased time spent on childrearing from 12 hours per week to more than 20 (Ramey & Ramey, 2010); parallel increases for less-educated mothers were from 10 to 16 hours, and for college-educated fathers, four to ten hours per week. In other analyses of patterns spanning 2003 to 2007, college-educated mothers reportedly invested 130 percent more time than their less educated counterparts in managing their school-age children's activities, including planning, organizing, attending, and traveling to and from events (Kalil, Ryan, & Corey, 2012). Additionally, Lareau's sociological research on concerted cultivation (Lareau, 2003; Lareau & Weininger, 2008) has established that mothers shoulder much more of the "invisible labor" required by children's organized activities than do fathers, with the associated stresses of managing packed schedules with several commitments, often with inflexible deadlines, and for more than one child on a given day.

Besides the potential stress from role overload, a second reason to study this group of women is because like mothers in general, they are likely to react strongly to major perturbations in their children's well-being. That mothers generally experience 'contagion of stress' from their children is evident in biological evidence on women deeply affected by distress in their offspring (see Barrett & Fleming, 2011; Swain, Lorberbaum, Kose, & Strathearn, 2007). Studies have shown that mothers and fathers both experience early preoccupation with their infants -- that is, a "deep focus on the infant to the near exclusion of all else" -- but the intensity of this preoccupation is greater among mothers (Leckman et al., 2004; Feldman, Weller, Leckman, Kvint, & Eidelman, 1999), and mothers tend to be more sensitive to the cries of their newborn infants than are fathers (De Pisapia et al., 2013). Later in development, emotional distance from teenagers affects both fathers and mothers but again, there are greater ramifications for the latter as their identities are more closely tied to the parenting role (Collins & Russell, 1991).

Risks experienced by mothers: Variations by children's developmental stage

In considering how mothers' well-being might vary across their children's developmental stages -- that is, the years of infancy, preschool, elementary school, middle school, high school, and adulthood --

we anticipated, first, that the middle school years would be the most challenging. This period marks the time of transition to adolescence with major changes in physical, hormonal, and cognitive development, along with increasing efforts to separate from parents and develop personal identities (Smetana, 2011; Steinberg & Silk, 2002, for reviews). At the same time, unfortunately, children have to cope with adjusting to large, relatively impersonal school environments, “mismatched” to their developmental-stage needs (Eccles et al., 1993) and engendering high stress for many. With increasing freedom from home, this is also a time when youth generally begin to experiment with risk-taking behaviors including substance use, rule-breaking, and sexual activity (Steinberg, 2008). In parallel with their children’s significant stressors, mothers of middle schoolers themselves confront several new developmental challenges. Many contend with confusion from the rapid changes in their children’s personas; distress around their moodiness or rebelliousness; hurt as a result of behaviors seen as rejecting of parents; and concerns about engagement in high-risk behaviors (see Lareau & Weininger, 2008; Smetana, 2011; Steinberg & Silk, 2002).

Second to the middle school years, we expected maternal distress to be elevated during their children’s infancies. The birth of a child is a major life transition that brings with it significant stressors including high demands on personal time and energy (Kluwer, 2010), with mothers often affected more than fathers, and potential spillover effects on quality of marriages. Reviewing research on the transition to parenthood, Nelson (2003) reported that it is generally mothers who shoulder the bulk of the burden for both household duties and caring for the newborn, and this can become a source of frustration and in turn, potentially, conflict with their partners. Similarly, Keizer and Schenk (2012) report that following the birth of a child, mothers, more so than fathers, devote much energy and time to taking care of the household and the infant, and the attendant reduction in time shared as a couple can exacerbate marital dissatisfaction. That well-educated mothers of infants may be particularly vulnerable is seen in evidence of somewhat greater marital dissatisfaction among these mothers than other groups of parents (e.g., fathers of infants, or less educated mothers), possibly because of the likelihood, for many in this subgroup, of having had to scale back on desirable careers with the birth of a child (Twenge, Campbell, & Foster, 2003).

Finally, across developmental stages, we expected the lowest levels of stress, and the most satisfaction with life, among mothers of adult children. When adult children do not live in the home, women do not have to experience the immediacy of witnessing (and being affected by) their children’s everyday life stressors, ranging from a romantic breakup to a bout of minor illness. The few degrees of separation may well bring some relief to mothers, who for two decades or more “are consumed with doing for (their) children in mind and soul and body”, and as a result are left personally depleted (Warner, 2005, p. 116).

Operationalization of constructs: Maternal well-being

Maternal adjustment was operationalized here in terms of aspects of personal well-being as well as experiences in the parenting role. In the former category, we considered diverse negative and positive dimensions including four that are commonly examined: anxiety, depression, stress, and satisfaction with life. We also considered two new indices that seemed especially critical for well-educated women: feelings of emptiness and fulfillment in their everyday lives. These dimensions reflect subjectively experienced overall dissatisfaction as opposed to gratification at the pursuit of meaningful personal aspirations, thought to correspond to advanced educational degrees (Green & Hill, 2003; Löve, Hagberg, & Dellve, 2011; Luthar et al. 2013; Warner, 2005). With multiple outcomes examined, our goal was to base our central inferences on predictors found to show consistent, recurrent links across conceptually related sets of outcomes (see Maner, 2014).

In the parenting role, similarly, we considered both positive and negative dimensions. These included frequently studied indices such as satisfaction in the parenting role as well as guilt associated with parenting, and role overload (Morris & Coley, 2004; Rotkirch & Janhunen, 2010). Additionally, women reported on rejecting behaviors toward the target (oldest) child, perceived adjustment problems in this child, as well as the child’s behaviors directed specifically at the mother, both positive and negative (Eckstein, 2004; Prinz, Rosenblum, & O’Leary, 1978; Rohner, Saavedra, & Granum, 1978). The last two dimensions were included given the plausibility that over and above general feelings of satisfaction or stress in the parenting role, mothers of early teens, more so than others, could perceive their offspring as being low on affectionate and thoughtful gestures toward them, and at the same time, high on distancing behaviors in everyday interactions (Eisenberg et al., 2008; Heatherington, Tolejko, McDonald, & Funk, 2007).

Distinct approaches in analyzing developmental stages and gender effects

In examining mothers' adjustment across children's developmental stages, we used two distinct analytic strategies, the first considering the age of their oldest child, in line with what has been done in prior research (Kerestes, Brkovic, & Jagodic, 2012; Nomaguchi, 2012). In a second set of analyses, we used mutually exclusive groups defined by developmental stages, including only those mothers whose oldest child and younger siblings fell in the same developmental period. This was done to remove potential "contamination" of effects associated with more than one age group. To illustrate, positive effects associated with having an elementary school child might offset, in part, the negative effects of living with a teenager (Nomaguchi, 2012). In order to avoid any such dilution of stage-specific effects, our second set of analyses entailed comparisons of mothers with children (one or more) *only in one* of the five developmental categories of infancy, preschool, elementary school, middle school, high school, and adulthood. We expected group differences to be larger in the second set of analyses as compared to the first.

Aside from children's developmental stages, we also examined potential effects associated with child gender. This decision was guided by commonly held beliefs that conflict between mothers and daughters tends to be higher than problems with sons, especially around the teen years (Eisenberg et al., 2008; Panfile, Laible, & Eye, 2012). In considering this issue we examined child gender both as a main effect and in an interaction with child developmental stage.

Summary

In this study of largely well-educated mothers, we addressed the following questions. First, are the middle school and infancy years of their children especially challenging for these women, considering negative and positive indices of mothers' personal adjustment; feelings in the parenting role; and perceptions of their children? Relatedly, are their children's adult years the least challenging for mothers, with other developmental stages falling in between the two sets of extremes? Second, are identified differences consistent when considering the age bracket of just the oldest child, versus considering the age bracket encompassing *all* children in the family? Third, might the child's gender be associated with variations in maternal adjustment, as a main effect or in interaction with the child's developmental stage?

Methods

Sample and Procedure

Data were collected through the "Moms As People" study, an online survey designed to examine how mothers feel about various aspects of their lives, with the intention to oversample for relatively well-educated women. Women were recruited for the study by word-of-mouth, flyers, media reports (Warner, 2006a; 2006b; 2009) and lectures, and between 2005 and 2010, a total of 2,247 American women completed the survey. No incentives were offered. (Note: A much smaller group had responded to an earlier version of the survey that included several rights-managed scales (e.g. the Beck Depression Inventory) that became prohibitively expensive. Those respondents are not included in the current sample). Across the various online measures in the package, 88% of mothers who began the survey completed it; only 11.8% discontinued before the end.

Demographic details are provided in Table 1. As shown there, 46% of the sample had a graduate degree and an additional 37% had a college degree. The remaining 16% had at least a high school education, described by Wilcox (2010) as "moderately educated". Most women in this sample (85%) were legally married; of the women who reported having a partner or spouse, 2029 (97.5%) had male partners and 50 (2.5%) had female partners.

Also shown in Table 1 is the number of mothers by children's developmental stages, separately by the age of the oldest child and by exclusive age groups. In general, mothers of middle and high school youth were less well represented than those with younger and older children.

----- Insert Table 1 and Table 2 about here -----

Measures

All measures used had good psychometric properties, with alpha coefficients, reported in Table 2, ranging from .78 to .95 (median .86). Furthermore, evidence for convergent and discriminant validity is seen in the patterns of correlations among conceptually related constructs in Table 2. To illustrate,

mothers' personal distress indices had intercorrelations ranging from .50 to .77; these values much higher than their correlations with variables reflecting perceptions of the child, in the range of .15 to .30.

In descriptions that follow, those questionnaires that were created specifically for the Moms as People study (given copyright issues, as noted earlier) are listed with an asterisk next to the construct; for the specific items in these, please see Luthar & Ciciolla (in press). In all measures utilized, high scores represent high levels of the construct being assessed.

Maternal Adjustment. *Anxiety* was measured by the Zung Self-Rating Anxiety Scale (Zung, 1971) with 20 items rated on 4-point Likert scale. *Depression* was assessed by the Zung Self-Rating Depression Scale (Zung, 1965), also with 20 items rated on a 4-point Likert scale. Mothers' levels of *stress* were measured by 10-item Perceived Stress Scale-10 (Cohen, Kamarck, & Mermelstein, 1983), with ratings on a 5-point scale. *Emptiness** was assessed by four items rated on a 5-point scale, reflecting women's feelings of malaise and dissatisfaction with their everyday lives. *Fulfillment** was assessed by 5 items, also rated on a 5-point scale, indicating a sense of gratification and pursuit of meaningful life goals (see Luthar & Ciciolla, in press). *Loneliness* was measured by the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978), with 20 items rated on a 4-point scale. Finally, overall *Life Satisfaction* was assessed by the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), with 5 items measuring global cognitive judgments of satisfaction with one's life, rated on a 5-point scale.

Parenting Experiences. *Satisfaction with Parenting**, *Parenting Guilt**, and *Parenting Role Overload** were assessed via scales with eight, six, and seven items respectively, each rated on a 5-point scale (see Luthar & Ciciolla, in press). In addition, *Rejection of the child* was measured by the Undifferentiated Rejection subscale of the Mother version of the Parental Acceptance-Rejection Questionnaire (PARQ; Rohner et al., 1978). This subscale consists of 10 items measuring parents' self-perceptions of rejecting behaviors toward their child rated on a 4-point scale, such as, "I tell my child he/she gets on my nerves."

Perceptions of child. Mothers responded to 14 items rated on a 5-point scale assessing their perceptions of their child's *Maladjustment**, including ratings of child's mood and behavior. Six and five items (each rated on a five point scale) respectively assessed the degree to which mothers saw their child as behaving in positive and respectful ways towards them as opposed to manifesting rude or distancing behaviors (see Luthar & Ciciolla, in press). These scales are referred to as *Child Positive to me** and *Child Negative to me**, respectively. (Note that all three of these subscales had "Not Applicable" as one of the response choices, to account for possible developmental inapplicability, e.g., "Child is argumentative" for mothers with only infants).

Results

Data Analytic Approach and Missing Data Handling

As this is among the first known studies of mostly well-educated mothers, we considered it optimal to conduct in-depth exploration of different domains rather than attempting *a priori* data reduction via factor analyses (as combining measures can obscure important differences existing in reality; see Sheldon & Hoon, 2007). At the same time, to reduce Type I errors, we conducted multivariate analyses of variance (MANOVAs) on conceptually related subscales (e.g., personal adjustment vs. parenting dimensions). Furthermore, in follow-up ANOVAs, stringent Bonferroni corrections were used in applying thresholds for statistical significance.

Due to changes in the online survey (i.e. the addition of some items) across multiple waves of data collection, as well as the possibility of respondents skipping questionnaire items, missing values were examined for the extent of missing data using IBM SPSS Statistics 22. No more than 15% of outcome values were missing from any single variable. Multiple Imputation (MI) analysis was conducted using Multiple Imputation in IBM SPSS Statistics 22, which uses a Markov Chain Monte Carlo (MCMC) algorithm known as fully conditional specification (FCS). The imputation model included all of the variables used in the current study, as well as additional variables from the larger data set that may add importantly to the imputation (e.g. personality variables, psychiatric diagnoses). Only data for continuous variables were imputed as child developmental stage and child gender had complete data. Twenty separate data sets were imputed with the number of between-imputation iterations set to 100 (Enders, 2010). Analyses were then run on all 20 imputed data sets and the statistics automatically pooled.

Multivariate Analyses

Multivariate Analyses of Variance (MANOVA) were used to examine differences in maternal adjustment, parenting experiences, and perceptions of child across child age-based categories, first using data according to the age of the oldest (target) child, and then using data according to families with one or more children that fell into exclusive age groups (i.e., only infants, only preschoolers, etc.). In both instances, we controlled for the number of children.

Results using the age of the oldest child showed significant effects for personal adjustment, $F(35, 9173) = 6.46, p < .001$; Wilks' $\Lambda = 0.90, \eta^2 = .02$ (partial η^2 s are reported throughout); parenting experiences, $F(20, 7241) = 24.96, p < .001$; Wilks' $\Lambda = 0.80, \eta^2 = .05$; and perceptions of child, $F(15, 6029) = 30.70, p < .001$; Wilks' $\Lambda = 0.82, \eta^2 = .07$. Follow-up univariate ANOVAs using Bonferroni corrections of $p < .0125$ showed significant differences for all maternal adjustment, parenting, and perception of child variables, with the exception of fulfillment. In general, effect sizes were small (.03) or less than small for personal adjustment indices; effect sizes at least twice as large were seen on parenting experiences (Role Overload and Rejecting of Child) and perceptions of the child (Child Positive and Negative; see Table 3).

-----Insert Table 3 about here -----

Similarly, comparisons based on exclusive child age groups showed significant overall differences for maternal adjustment, $F(35, 5378) = 5.32, p < .001$; Wilks' $\Lambda = 0.87, \eta^2 = .03$; parenting experiences, $F(20, 4249) = 19.67, p < .001$; Wilks' $\Lambda = 0.75, \eta^2 = .07$; and perceptions of child, $F(15, 3539) = 23.87, p < .001$; Wilks' $\Lambda = 0.77, \eta^2 = .08$. Follow-up univariate ANOVAs using Bonferroni corrections showed significant differences for all maternal adjustment, parenting, and perception of child variables, again with the exception of fulfillment. In general, effect sizes were higher than those in the previous analyses based on age of the oldest child. In these analyses, results for Role Overload, Child Positive, and Child Negative met or surpassed the threshold of $\eta^2 = .10$ for medium effect sizes (see Table 3).

-----Insert Figures 1 and 2 about here -----

Figures 1 and 2 present the means for outcomes across the age-based categories for maternal adjustment (Figure 1), and for parenting experiences and perceptions of child (Figure 2). In these figures, the darker lines represent results from exclusive age groups (of central interest) and the lighter gray lines represent results according to the age of the oldest child. For the former set of comparisons, also displayed are standard errors of means across developmental stages, as well as subscripts showing which pairs of means were significantly different. Means with the same subscript do not differ significantly from each other.

Overall, the patterns of results were similar across analyses but (as was implicit in the previously noted findings on effect sizes) mean values showed more pronounced peaks and valleys in the analyses using exclusive age groups, versus the age of oldest child (see Figure 1 and 2).

For mothers with children in exclusive age categories, middle school was the time when difficulty peaked across several dimensions including emptiness, (low) life satisfaction, (low) parenting satisfaction, maternal rejection, child maladjustment, (low) child positive, and child negative behaviors. It should be noted, however, that in Bonferroni comparisons of means, it was only on one dimension – parenting satisfaction – that the mean value for middle school was significantly different from mean values in *all* other age groups. In addition, as seen in Figures 1 and 2, within-group variability in scores was higher for the middle school period (e.g., standard errors for middle schoolers ranged from .11 to .13 across outcome variables, whereas values for mothers of adults, preschoolers, and infants ranged from .04 to .06).

With regard to patterns in infancy, our findings were contrary to expectations. Mothers of infants did not report lower well-being than other groups on any of the indices examined – in fact, in comparisons of means, they reported significantly *lower* levels than all other groups on rejection of child and child negative behaviors, and significantly higher levels of life satisfaction than all other groups, across both sets of analyses (i.e. oldest child and exclusive age groups).

Consistent with hypotheses, mothers with adult children reported relatively low levels of maladjustment across negative personal and parenting indices. In pairwise comparisons, their mean scores on role overload and on child negative were significantly lower than all other groups. Additionally, they fared significantly better than mothers of middle schoolers on stress, loneliness, parenting satisfaction, parenting guilt, and child negative behaviors (see Figures 1 and 2).

Distress of mothers of middle schoolers: A function of conflict with child? To explore whether the apparently high distress of mothers around their children's middle school years might have been a function of mother-child conflict, we re-ran our central analyses on personal adjustment and parenting experiences, compared across mutually exclusive child age groups, covarying for Child is Negative to me and Child Maladjustment (as in prior analyses, number of children was retained as a covariate). The MANOVAs remained statistically significant but with smaller effect sizes for personal adjustment, $F(35, 5370) = 4.61, p < .001$; Wilks' $\Lambda = 0.88, \eta^2 = .02$; and parenting experiences, $F(20, 4243) = 14.97, p < .001$; Wilks' $\Lambda = 0.80, \eta^2 = .05$. Similarly, the univariate group comparisons all remained significant but with smaller η^2 values across outcomes, with the exception of Emptiness, which was no longer statistically significantly different across age groups. Considered together, these findings suggest that negative interactions with the child only partially explain why maternal distress seems to peak during their children's middle school years.

Gender effects. MANOVA analyses were conducted to examine whether effects of child developmental stage might be offset by child gender (in main or interaction effects), again, controlling for number of children. In analyses according to the age of the oldest child, we considered the gender of that child, whereas in analyses using exclusive age groups, we separately examined (a) the gender of the oldest child, as well as (b) a gender variable that indicated whether mothers had only boys, only girls, or a mix of boys and girls (all within the exclusive age categories). No significant main effects or interactions with gender were found in the latter set of analyses, so only the results according to the oldest child are presented here.

In analyses of variance considering the oldest child's gender, child developmental stage retained identical main effect findings as in those previously reported in Table 3, with η^2 values ranging from .00 to .03 for maternal adjustment variables, from .02 to .14 for parenting experiences, and from .01 to .09 for perceptions of child. MANOVA main effects for target child's gender were found for parenting experiences, $F(4, 2177) = 3.03, p < .05$; Wilks' $\Lambda = 0.99, \eta^2 = .01$, and perceptions of the child, $F(3, 2178) = 4.03, p < .01$; Wilks' $\Lambda = 0.99, \eta^2 = .01$, with mothers of girls, in follow up ANOVAs, reporting significantly more parenting satisfaction, $F(1, 2180) = 7.18, p < .01$, and perceiving their girls as significantly more positive towards them than mothers of boys, $F(1, 2180) = 11.44, p < .01$.

----- Insert Figure 3 about here -----

The MANOVA also showed a significant [Age X Gender] interaction effect for perceptions of the child, $F(14, 6013) = 2.19, p < .01$; Wilks' $\Lambda = 0.98, \eta^2 = .00$, and follow up ANOVAs showed a single significant effect, with child maladjustment as the outcome. As shown in Figure 3, this interaction effect was based in somewhat greater variability across developmental stages among boys than for girls. Mothers of sons reported elevations of about +.2 of a standard deviation (SD) in the preschool and elementary school years versus -.28 SD in adulthood. Conversely, among girls, there was a slight elevation from elementary to middle school (0 to +.1 of a standard deviation), but scores from preschool through adulthood generally remained closer to the group average (zero) across time.

Discussion

Just as middle school encompasses the most trying developmental period for children (Eccles et al., 1993), our findings suggest that this is also the most challenging time for their mothers. Analyses by children's stages generally showed an inverted "V" for maternal distress indices and a "V" shaped curve for dimensions of well-being, with middle school representing the lowest point across multiple constructs assessed. Importantly, this does not mean that middle school scores were significantly worse than all other age groups (in fact, they were often similar to adjacent age groups, with the exception of parenting satisfaction). Our data simply reflect gradual but consistent increases in maternal distress that peak when children are in middle school, just as well-being indices reach their lowest point at that period.

As suggested at the outset of this paper, these findings probably rest in part on puberty and associated perturbations in children's adjustment, and in their relationships with parents. Besides hormonal changes, early adolescence is a time when children begin to test limits and experiment with rule-breaking behaviors such as alcohol and drug use (Steinberg, 2008). Increasingly, youth seek independence from parents and this often plays out in behaviors that seem detached, sullen or

obstreperous (Smetana, 2011; Steinberg & Silk, 2002). When we compared groups of mothers after controlling for their reports of child behaviors of concern, as well as negative behaviors directed toward them, differences by child age remained significant but were reduced in magnitude. This suggests that the peak of maternal distress during middle school is only partly explained by perceptions of their early adolescents' overall adjustment difficulties, as well as their rude or hurtful behaviors in dyadic interactions.

Aside from early adolescent angst and parent-child dynamics, also possibly implicated is the "contagion of stress" to mothers as their children struggle to adjust to the middle school environment. As Eccles et al. (1993, p. 94) summarized in their seminal review article, this developmental transition is especially difficult because junior high schools bring decreased personal, positive relationships with teachers at a time when youth particularly need connections with supportive adults. Given ability groupings and public evaluations, they also tend to emphasize competition and social comparisons at a time when early adolescents are highly concerned about their status relative to peers. It is entirely plausible, therefore, that as their children struggle to work through this "developmentally mismatched" school environment, mothers become increasingly bewildered about how best to shield, support, and protect them, eventually becoming anxious and distressed themselves.

A third possibility is that the developmental trends we documented partly arise from challenges that the mothers themselves experience, as they are transitioning to midlife. This is the time of heightened introspection and increased awareness of mortality, as women first recognize declines in their physical and cognitive functioning (Lachman 2004; 2015). It is also a period when marital satisfaction tends to be lowest and strife the highest (Kerestes et al. 2012; Steinberg & Silk, 2002). As parents are having children later in today's generation, contemporary mothers are likely to experience these "midlife crises" around the time of their children's pre-adolescence.

The overrepresentation of highly educated mothers suggests another set of contributing factors, and that is, the elevated distress documented among youth in upper middle class contexts. In the sample of this study, 85% of the women had college degrees and almost half had graduate degrees (proportions comparable to those in studies described as being on "affluent populations"; see Luthar et al., 2013). Across geographic regions and in both private and public schools, youth in affluent communities have been found to manifest higher levels of substance use, as well as higher rates of serious psychological symptoms, as compared with national norms, with these elevations first documented in middle school (Luthar et al., 2013). In part, these problems are attributed to the approaching pressures of college admissions, and children's drive to distinguish themselves in academics as well as in extracurriculars.

Assuming that these college-related pressures are implicated, why would distress peak during the middle school years? In upwardly mobile settings, the pressures for "resume-building" have increasingly encroached into junior high schools. This is starkly reflected in the rapid spread of formal college preparation programs such as, "Naviance", a subscription service that permits students to input data on their grades, awards, extracurricular activities, volunteer work and more, to get a sense of the type of college they might get into (Pappano, 2015). Originally designed for high schools, this program is now reportedly used in over 1,700 middle schools in the U.S., representing nearly 1.1 million youth. With this concerted, early resume-building comes a significant increase in time pressures for young adolescents, and concomitantly, for their mothers, who as noted earlier, are the parent most likely to manage and coordinate their various after-school commitments (Kalil et al., 2012; Lareau & Weininger, 2008).

Children's infancy and adult years

With data spanning mothers of infants through adults, our findings contradict prior suggestions that it is the earliest years of parenthood that are the most difficult and demanding. Previous studies have shown that parental strains in demands of caring for an infant or very young child are great, and often coincide with marital conflict, work-family conflict, and feelings of constrained personal freedom (see Nomaguchi, 2012 for a review). Satisfaction with the partner relationship also has shown linear declines at the time of birth (Keizer & Schenk, 2012; Kluwer, 2010; Twenge et al., 2003), with some rebounding when the child started elementary school.

The difference between these earlier findings and our own may lie in the span of developmental periods encompassed as well as the breadth of domains assessed. Data on middle and high school were not available in these prior studies, so that it remains plausible that the initial dips in relationship satisfaction documented at the child's birth would recur during the pre-teen years. Similarly, our findings across diverse maternal feelings suggest that children's infancy may in fact be trying for mothers in some respects, but rewarding in others. To illustrate, role overload was higher among mothers of infants (and

preschoolers) than mothers of teens, but so was parenting satisfaction. Collectively, our findings suggest the value of examining, via future prospective research, whether there are in fact pronounced dips in maternal well-being as children move from infancy and early childhood through elementary school to puberty, followed then by gradual improvements through their children's adult years.

Socioeconomic factors might also be implicated in the varying findings on infancy in this study versus others. It is possible, for instance, that families in our sample generally had the financial means to allow mothers greater flexibility in childcare options, allowing some to leave paid employment and stay home with their infants, and others to stay employed with the backup of high-quality and expensive childcare. Thus, the birth of a child may in fact be among the most stressful developmental periods for mothers in general, but is less so -- at least as compared to their children's early adolescence -- among relatively affluent mothers.

Regarding the later years of motherhood, our findings support suggestions that the "empty nest" syndrome is largely a myth. Mothers of adult children reported the least role overload, and on measures of stress, parenting experiences, and negative perceptions of child, they fared significantly better than mothers of middle-schoolers. As Bouchard (2014) notes, the cumulative evidence shows that "the consequences of children's departure on their parents is relatively positive or at least not highly negative". Internationally, the effect of having adult, non-resident children on life satisfaction tends to be near-zero, and sometimes even significantly positive (Hansen, 2012).

Equally, however, our findings could be viewed as supporting suggestions that the "cluttered nest", too, is a myth (see Boyd & Pryor, 1989). More so than in previous generations, contemporary young adults tend to remain in the family home, or return to it, because of under/unemployment, rising college enrollment, and delayed marriage; rates for 18-31 year olds were estimated to be 32% in 2007 and 36% in 2012 (Pew Research Center, 2013). At the same time, extant evidence indicates that when adult children *do* return home (with or without co-dependents), their co-residence is not associated with decreased parental well-being (Aquilino & Supple, 1991; Boyd & Pryor, 1989; Ward & Spitze, 2004). In this study, we did not specifically ascertain adult children's residence status, but given all the aforementioned findings, it is likely that mothers with co-resident adult children, like their empty nest counterparts in this study, were generally more well-adjusted as compared to other age groups we examined.

Child gender: Main effects and moderating child developmental stage

In contrast to the high consistency of findings in comparisons based on children's developmental stages, findings based on child gender were significant in very few cases. Gender based differences were not significant for the five mothers' personal adjustment indices as a group. On the four dimensions of parenting and three of child perceptions, a single significant effect was found in each case: mothers reported greater satisfaction in parenting daughters than sons, and higher levels of positive behaviors toward them. Finally, in a lone interaction effect, mothers reported somewhat greater variability in child adjustment over time among sons than among daughters. Considering the sparse significant findings across the various analyses conducted, our findings suggest that subjective experiences associated with motherhood are likely to show fewer variations by gender of child(ren) that they do by children's developmental stages, from infancy through adulthood.

Limitations, strengths, and future directions

Given the cross-sectional nature of this work, bidirectional associations are entirely plausible, as are effects of unmeasured third variables. As noted earlier, for example, mothers' concerns about their own mid-life transitions may have contributed, partially, to their relatively low well-being manifested starting at around their children's pubertal years.

There remains a possibility of some sampling biases given our web-based data-collection (Bethlehem, 2010), but at least one major source of such bias -- lack of access to computers -- is unlikely to have been a serious problem given our targeted sample of upper middle class mothers. It should be noted, additionally, that web-based sampling is increasingly and effectively used not just for research in psychology in general (Mason & Suri, 2012), but specifically for research on the experiences of parenthood (Ashton-James et al., 2013; Rizzo, Schiffrin, & Liss, 2013). These considerations notwithstanding, our findings definitely warrant re-examination in random representative samples.

The sole reliance on self-reports may be considered a limitation but this was a design feature appropriate to our *a priori* goal of understanding mothers' own experiences in their roles as mothers and as women. As Spencer has cogently argued in any study of risk and resilience, it is essential to incorporate individuals' own reports -- or their phenomenological experiences -- of dimensions of distress and of well-

being (Spencer & Swanson, 2013; see also Rutter, 2013).

Mothers of middle- and high-schoolers were less well-represented in our sample than others age groups. Their less frequent participation may partly be because of high time demands on these mothers given youths' multiple after-school activities, as we have discussed earlier. This said, there is a need for replicative evidence on the patterns documented across the pre-teen and adolescent years. Also needed is examination of patterns among diverse samples of mothers, including those of very low SES and among relatively affluent samples, subgroups such as women from different ethnic backgrounds, single versus partnered mothers, and those with same- versus opposite-sex partners.

Offsetting potential limitations are several strengths of this work, including a sample size large enough to illuminate mothers' adjustment across mutually exclusive categories of children's developmental stages (i.e., with no dilution of effects deriving from children across multiple age groups in any given family). As we expected, between-group differences on maternal adjustment had larger effect sizes when comparing exclusive child age groups, than in comparisons based on the age of the oldest child in the family, suggesting the value of using exclusive age groups in future research in this area.

Additional strengths of this study are that survey completion rates were high, and that our methods entailed sophisticated multivariate analyses involving multiple imputation for missing values. With findings "replicated" across multiple conceptually related variables (Maner, 2014) spanning mothers' personal well-being, facets of parenting, and perceptions of the children, findings showed that the challenges of motherhood increased steadily from infancy through the middle and high school years, and then showed a decline once the children were adults.

In future research, we urge more concerted attention by developmental psychologists to factors that affect maternal adjustment. Too often, there is an implicit assumption that "developmental" implies a focus restricted to children and adolescents (with work on older adults being in the domain of gerontology). This assumption is at odds with the incontrovertible fact that that motherhood is a stage that spans several decades, and to use Havighurst's (1948) terms, necessitates discrete -- and arguably among the most weighty -- "stage-salient" developmental tasks. Critical indices of maternal well-being must, therefore, be systematically examined as "dependent variables" (Luthar, 2015; Luthar, Crossman, & Small, 2015).

Our findings also carry implications for future interventions. Most existing, widely used parent-based interventions are focused on early childhood, addressing children's developmental needs and capacities from zero to three, and concomitant directions for parents. The challenges of the preteen and teen years are not nearly as systematically addressed. Results of this study suggest that across sociodemographic contexts, there is value in working with mothers as their children traverse the major transitional period of entry into middle school. Research-based knowledge could help women to prepare for forthcoming stressors not just within their own families, but also collectively as a school community, offering mutual help and support. A corollary and equally useful message to disseminate would be that things will probably get a great deal easier with time. Simply knowing research findings of high well-being among mothers with grown children could help assuage the distress that peaks around children's early adolescence.

In conclusion, results of this study underscore the need for systematic attention to the well-being of mothers. We hope that this initial exploration, showing distinct, patterns of equanimity versus distress by children's developmental stages, will spark further research on mothers as people, and not just as caregivers. For the sakes of mothers themselves and the children whom they must nurture and guide, developmental scientists must afford more concerted attention to what might help women best negotiate the prolonged, challenging life stage of motherhood.

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Table 1.

Sample characteristics: Demographics

Variable	<i>n</i>	%	Variable	<i>n</i>	%
Education			Mother's age (yrs)		
High school	366	16.3	21 to 30	301	13.5
College	587	26.2	31 to 40	875	39.1
Some grad school	244	10.9	41 to 50	685	30.6
Master's	644	28.8	51 to 60	283	12.7
Doctorate	399	17.8	61 or older	92	4.1
Family income			Marital status		
Less than \$50,000	277	12.5	Legally married	1915	85.7
\$50,000 to \$75,000	344	15.5	Not married	319	14.3
\$75 -100,000	416	18.7	Partner: Male	2029	97.5
\$100-200,000	678	30.5	Female	50	2.5
\$200-500,000	366	16.5	No. of Children		
>\$500,000	118	5.3	1	782	34.8
Ethnicity			2	926	41.2
Black	84	3.9	3+	536	23.9
White	1917	88.3	Age Oldest Child		
Hispanic	87	4	Infant	230	10.2
Asian	84	3.9	Preschool	619	27.5
Employed	1488	67	Elementary	407	18.1
Not Employed	738	33	Middle	191	8.5
Community			High School	253	11.3
City	665	29.7	Adult	493	21.9
Suburb	1358	60.6	Age of Child (exclusive groups)		
Rural	211	9.4	Infant	228	10.1
Region			Preschool	456	20.3
Northeast	647	55.8	Elementary	185	8.2
Midwest	161	13.9	Middle	64	2.8
South	155	6.9	High School	87	3.9
West	196	8.7	Adult	271	12.1

Note. Total number of survey respondents, *n* = 2,247. Across demographic data, *n*'s ranged from 2,172 to 2,236. For the subset of the sample from whom we collected regional data (about half-way through overall data collection), *n* = 1159.

Table 2.

Cronbach's alphas and Pearson product-moment correlations for variables examined in relation to maternal adjustment

	α	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Anxiety	.83	--												
2. Depression	.85	.77	--											
3. Stress	.90	.68	.73	--										
4. Emptiness	.84	.55	.67	.60	--									
5. Loneliness	.95	.50	.58	.51	.62	--								
6. Fulfillment	.83	-.36	-.53	-.41	-.58	-.47	--							
7. Life Satisfaction	.91	-.46	-.59	-.58	-.62	-.54	.50	--						
8. P-Satisfaction	.87	-.27	-.35	-.31	-.37	-.30	.34	.37	-					
9. P-Guilt	.83	.43	.45	.51	.44	.38	-.27	-.33	-.26	-				
10. P-Role Overload	.89	.38	.40	.46	.36	.40	-.18	-.27	-.26	.45	--			
11. Rejecting Child	.78	.27	.28	.31	.30	.24	-.21	-.21	-.43	.38	.27	--		
12. Child Positive	.90	-.15	-.21	-.15	-.16	-.13	.21	.21	.29	-.12	.04 ^a	-.23	--	
13. Child Negative	.84	.25	.27	.28	.27	.22	-.19	-.25	-.27	.28	.16	.54	-.30	--
14. Child Maladjustment	.89	.25	.27	.31	.24	.25	-.19	-.23	-.28	.29	.25	.48	-.22	.67

Note. $n = 2247$. ^a With this exception, all values are significant at $p < .05$.

Table 3.
Developmental trends in maternal adjustment, parenting experiences, and perceptions of child: Comparisons by age of child in one of six developmental groups according to (a) age of oldest child and (b) exclusive age groups

	Age of oldest child		Exclusive child age groups	
	<i>F</i> Age	η^2 Age	<i>F</i> Age	η^2 Age
Personal adjustment				
Stress	4.78**	0.01	5.75**	0.02
Emptiness	3.95**	0.01	5.02**	0.02
Loneliness	3.46**	0.01	5.27**	0.02
Life Satisfaction	13.14**	0.03	9.51**	0.05
Fulfillment	0.71	0.00	1.82	0.01
Parenting experiences				
Parenting Satisfaction	8.05**	0.02	9.55**	0.04
Parenting Guilt	13.25**	0.03	10.08**	0.04
Role Overload	71.23**	0.14	52.87**	0.17
Rejecting of Child	28.33**	0.06	23.60**	0.08
Perceptions of child				
Child Maladjustment	6.59**	0.01	7.22**	0.03
Child positive to me	41.59**	0.09	29.10**	0.10
Child negative to me	30.71**	0.07	32.73**	0.11

Note. Partial η^2 of .03, .10, and .30 reflect small, medium, and large effect sizes respectively (Cohen, 1988). * $p < .05$; ** $p < .01$.

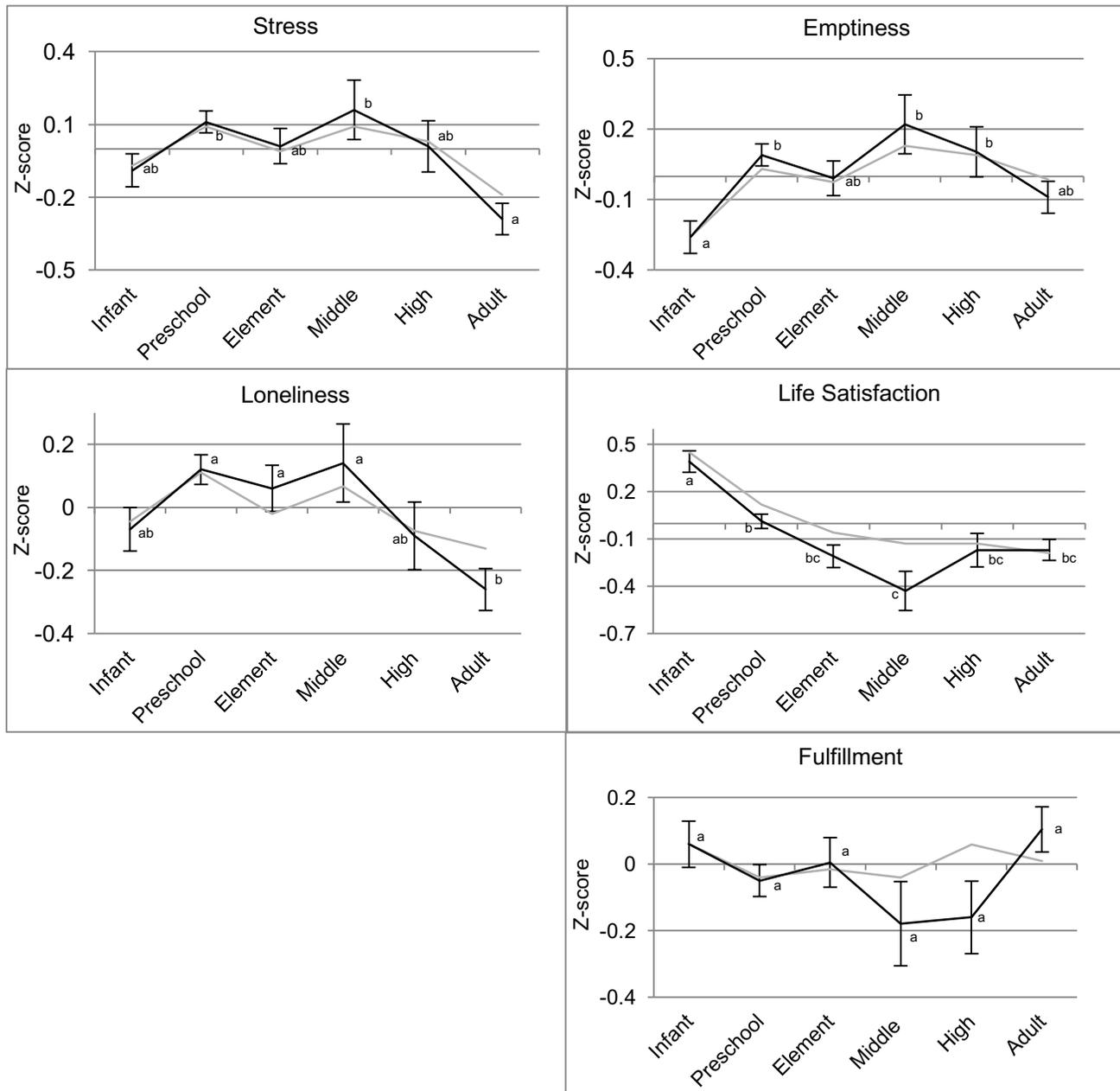


Figure 1. Mother's Personal Adjustment by children's developmental level: Mean scores with standard errors. Note: The darker line represents results from exclusive age groups and the lighter gray line represents results according to the age of the oldest child. Standard errors of means are shown for the former as well as pairwise comparisons; means with the same subscript do not differ significantly from each other. X-Axis labels represent Infancy, Preschool, Elementary School, Middle School, High School, and Adulthood.

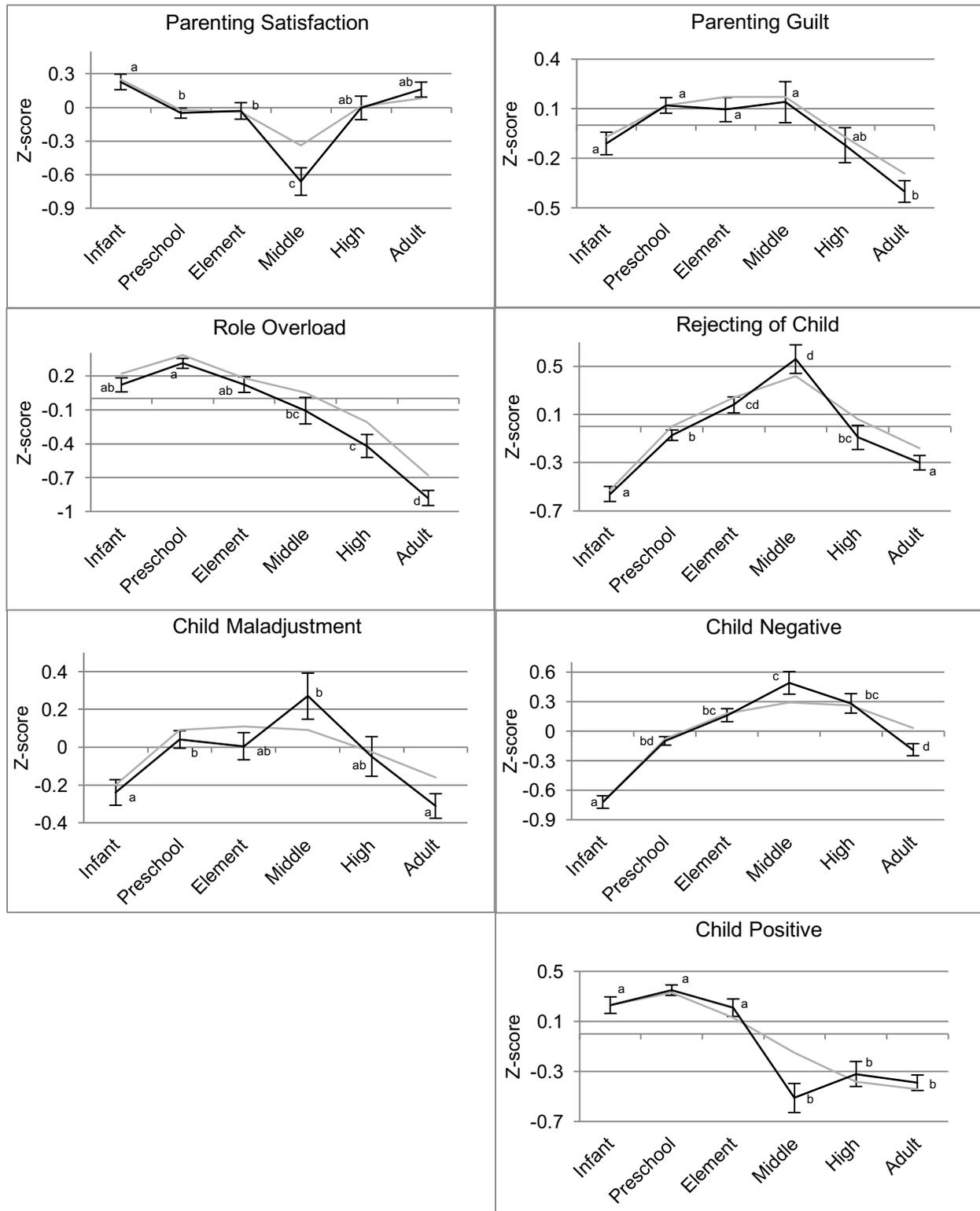


Figure 2. Mother's Parenting Experiences and Perceptions of Child, by children's developmental level: Mean scores with standard errors. Note: The darker line represents results from exclusive age groups and the lighter gray line represents results according to the age of the oldest child. Standard errors of means are shown for the former as well as pairwise comparisons; means with the same subscript do not differ significantly from each other. X-Axis labels represent Infancy, Preschool, Elementary School, Middle School, High School, and Adulthood.

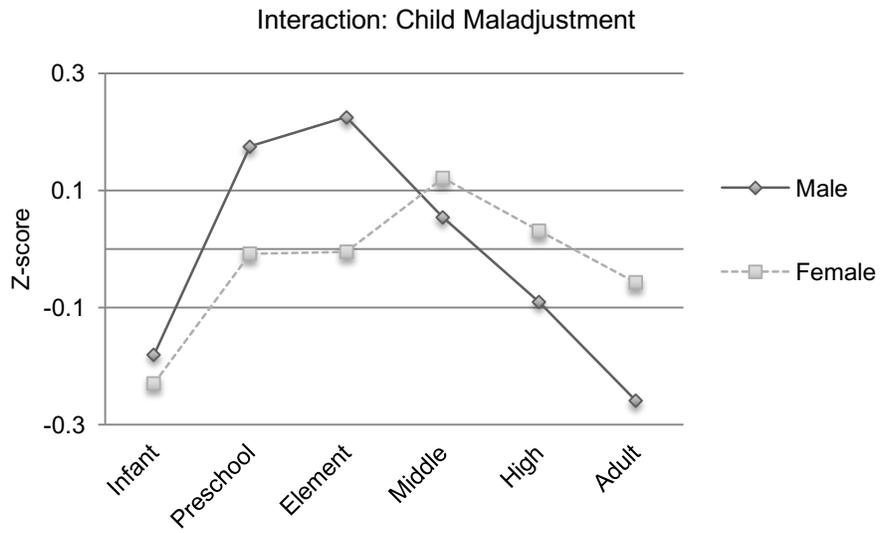


Figure 3. Interaction effects between children's developmental period and gender of children.