Published in final edited form as:

J Fam Issues. 2008 December 1; 29(12): 1574–1599. doi:10.1177/0192513X08318968.

Mediating Mechanisms for the Intergenerational Transmission of Constructive Parenting: A Prospective Longitudinal Study

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Abstract

Based on a prospective longitudinal panel data set that was collected at three developmental stages—early adolescence, young adulthood, and middle adulthood—this study investigates marital satisfaction and educational attainment as mediating mechanisms as well as gender's moderating effect for the intergenerational transmission of constructive parenting ($N = 1,560$). The results show that perceived satisfying experiences with parents during early adolescence are positively related to marital satisfaction and educational attainment in young adulthood, which, in turn, are positively related to individuals' utilization of constructive parenting in middle adulthood. The two mediating mechanisms account for most of the direct effect of the intergenerational transmission of constructive parenting. Furthermore, the mediating effect of marital relationship is stronger for current fathers than for mothers because of a stronger association between marital satisfaction and constructive parenting for men. The implications are discussed.

Keywords

marital satisfaction; intergenerational; parenting; gender; longitudinal

Numerous studies have investigated intergenerational continuity of parenting behavior. Present-day parents tend to use parenting strategies or practices that they themselves experienced in their childhood (see reviews by Belsky & Jaffee, 2006; Putallaz, Constanzo, Grimes, & Sherman, 1998; van Ijzendoorn, 1992). It is suggested that early exposure to harsh or abusive parenting is probably the most consistent predictor of the subsequent adoption of coercive parenting practices toward one's own children (Steinmetz, 1987). This relationship does not disappear after controlling for socioeconomic status, personality, psychological well-being, and parenting beliefs (Simons, Beaman, Conger, & Chao, 1993; Simons, Whitbeck, Conger, & Wu, 1991). Much of the research on the intergenerational transmission of parenting has exclusively relied on the recollections of the respondents regarding their early upbringing experiences (Belsky, Youngblade, Rovine, & Volling, 1991; Meyer, 1988; Simons et al., 1993). Because recalled history is subject to mental distortion and is likely influenced by current perceptions and emotional states, an increasing number of prospective studies on the intergenerational transmission of parenting practices have emerged in recent years (Belsky,

Authors' Note: This study was supported by Research Grants R01 DA 02497 and R01 DA 10016 and Research Scientist Award K05 DA 00136 to the third author from the National Institute on Drug Abuse and by a Summer Research Fellowship and Mini-Grant to the first author from California State University, San Bernardino.

Sligo, Jaffee, Woodward, & Silva, 2005; Capaldi, Pears, Patterson, & Owen, 2003; Chen & Kaplan, 2001; Conger, Nell, Kim, & Scaramella, 2003; Elder, Caspi, & Downey, 1986; Smith & Farrington, 2004; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003).

Existing research on the transmission of parenting across generations has a number of limitations. First, the major focus of researchers has been on the continuity of abusive or harsh parenting (Belsky, 1984; Capaldi et al., 2003; Conger et al., 2003; Straus, Gelles, & Steinmetz, 1980). Studies on the intergenerational transmission of supportive parenting, especially in the prospective design, are surprisingly rare in comparison (Belsky et al., 2005; Chassin, Presson, Todd, Rose, & Sherman, 1998; Chen & Kaplan, 2001). Second, the mediating mechanisms of the intergenerational transmission of parenting are not fully understood. A number of studies have investigated mediating processes and reported such mechanisms as depression, parenting beliefs, satisfaction with the child (Simons et al., 1993), antisocial behavior (Simons, Wu, Johnson, & Conger, 1995), negative affects, and the quality of relationships (Belsky et al., 1991; Meyer, 1988). However, the reported intervening pathways, especially for supportive parenting, have not substantially accounted for the direct effect of early upbringing on later utilization of similar parenting strategies, with some studies interpreting the substantial remaining direct effect as direct modeling (Chen & Kaplan, 2001; Simons et al., 1993). Third, the effect of gender in the intergenerational transmission of parenting needs further investigation. Past studies using gender as a moderator have produced inconsistent results, with some studies reporting the transmission being stronger for men than women (Belsky et al., 1991; Furstenberg & Harris, 1992), and other studies reporting vice versa (Belsky et al., 2005; Simons et al., 1991).

The primary focus of our investigation is to identify major mediating mechanisms that can account for the direct effect of the intergenerational transmission of constructive or supportive parenting. Our study addresses several limitations of the existing research. Guided by a life-course perspective that early experiences are linked to later outcomes (Caspi, Moffitt, Wright, & Silva, 1998; Elder, 1998; Shanahan, 2000), our study investigates that experiences of supportive parenting received during adolescence in the parental home is a developmental process that has long-term consequences in influencing life-course trajectories of marital relations and educational attainment at the transition to adulthood, which in turn will influence individuals' later utilization of similar parenting strategies at midlife. Furthermore, to avoid bias from retrospective recollection of early experiences that is largely subject to current mental state, our study is based on a prospective longitudinal panel data set that was collected at three developmental stages: early adolescence, young adulthood, and middle adulthood. Because the measures are all contemporaneous reports rather than recollections from the memory, the possibility of retrospective distortion is precluded. Finally, our study will provide additional evidence on how gender moderates the intergenerational transmission of parenting via the mediating process of marital satisfaction.

Theoretical Framework

Theoretically, youths' early experiences of their parents' behaviors are expected to influence their own parenting behavior at a later stage via their life-course trajectories. Wheaton and Gotlib (1997) define a trajectory as "the stable component of a direction toward a life destination and is characterized by a given probability of occurrence" (p. 2), implying that early experiences have important impacts on individuals' social outcomes later in the life cycle. We identify two mechanisms in the transition to adulthood as mediating pathways through which youths' early experiences with parents forecast their own parenting behavior patterns in middle adulthood. Marital relationship is recognized as a major mediating mechanism. Another mediating process in early adulthood implicates conventional social participation as reflected in educational attainment.

Marital Satisfaction as a Mediating Mechanism

Marital satisfaction as a hypothetical mediating mechanism for the intergenerational transmission of constructive parenting is informed by the attachment literature. The development of attachment theory is originally based on the parent–infant relationship. The basic premise of the theory posits that the primary goal of an infant–attachment behavioral system is to obtain and keep the caregiver at the time of need. Felt security of an infant is a result of a caregiver's availability and responsiveness. Children's repeated interactions with the attachment figures or caregivers lead to a construction of an internal working model or representation about attachment, which is supposed to be incorporated into the personality and forms the prototype to guide future relationships (Bowlby, 1969/1982/1988). Subsequent research has confirmed the importance of the attachment relationship beyond infancy. Attachment ties with parents during adolescence continue to provide a supportive foundation for adolescents' psychological well-being (Armsden & Greenberg, 1987). The concept of attachment patterns is also extended to adults (Main, Kaplan, & Cassidy, 1985), which is followed by a growing adult–attachment literature (Feeney & Noller, 1996; Hazan & Shaver, 1987). Hazan and Shaver (1987) argue that childhood relationship with parents has a significant effect on adult attachment styles that are parallel to those originally identified among infants. Adults who are rated as secure tend to rate themselves as easier to get to know and to be liked, having fewer self-doubts, and trusting others as generally well intentioned and good-hearted. Adult attachment styles are proposed to relate to romantic relationship processes, because differences in attachment styles reflect basic differentiation in the internal working models of how to perceive the self and others (Hazan & Shaver, 1987). Adults with secure attachment styles are expected to experience higher romantic relationship quality not only because of their tendency to behave more constructively themselves but also because of their higher probability to pair with other securely attached individuals (Feeney, 2002; Senchak & Leonard, 1992), to elicit the best in partners (Cohn, Silver, Cowan, Cowan, & Pearson, 1992; Feeney, 2002), and to perceive partners' behavior in more positive terms (Collins & Read, 1994; Feeney, 2002). Abundant empirical findings confirm that securely attached adults report higher satisfaction in romantic relationships (Alexandrov, Cowan, & Cowan, 2005; Cohn et al., 1992; Feeney, 1999, 2002). Thus it is expected that an early satisfying experience with parents will have a positive effect on marital satisfaction in a late stage of the life course.

Marital satisfaction, in turn, is expected to influence an individual's parenting behavior. Family researchers generally view a family as a social system, with marital, parent–child, and sibling interdependent subsystems (Erel & Burman, 1995; Minuchin, 1974). Marital relationship, among the three subsystems, is believed to be the leading factor affecting the quality of family life (Erel & Burman, 1995). In particular, the literature treats the marital relationship as a determinant of parenting experience (Belsky, 1984; Easterbrooks & Emde, 1988; Erel & Burman, 1995).

The association between marital quality and parenting behavior, theoretically, can be positive or negative. The “spillover hypothesis,” which proposes a positive association, suggests that moods, emotions, or behaviors are directly transferred from the marital situation to the parent–child context (Engfer, 1988; Erel & Burman, 1995). Thus a satisfactory marriage is likely to enhance parental constructive behavior, whereas a poor marital relationship tends to hinder parenting performance. The “compensatory hypothesis,” a competing model linking marital quality and parenting, predicts a negative association between marital quality and parenting. Parents in a poor marital relationship may invest more in the parent–child relationship to make up for either their own lack of satisfaction in the marriage or children's negative experience with the other parent (Erel & Burman, 1995). Although the compensatory hypothesis has found some empirical support (Belsky et al., 1991; Brody, Pellegrini, & Sigel, 1986), the predominant empirical evidence has been in the direction proposed by the spillover hypothesis (Erel &

Burman, 1995). Reviews (e.g., Belsky, 1984; Belsky & Jaffee, 2006; Simons & Johnson, 1996) confirm that most studies have found a significant positive relationship between the marital and the parent–child subsystems. Furthermore, this positive association has been reported for studies of infants, toddlers, and preschoolers; for mother and fathers; and in the United States as well as other countries (Belsky, 1990).

The mechanism for the spillover hypothesis has received fewer consensuses in part because of the differences in definition, study design, and measurement of the marital relationship. The mechanisms hypothesized to spill over the negative affect in marital discord to parenting include “detouring” (Minuchin, Rosman, & Baker, 1978) and “scapegoating” (Vogel & Bell, 1960). Parents in a conflicting relationship put children's faults as the center of attention, which serves to reduce marital tension or distract the family from the marital discord. Sociological perspectives on role strain also argue that a strained marital relationship may make parents more preoccupied with their own problems and less likely to be available to children, whereas a satisfying marital relationship will make parents more sensitive and responsive to children's needs (Easterbrooks & Emde, 1988). Thus, it is expected that early satisfying experiences in the parent–child relationships will have a positive effect on individuals' marital satisfaction, which in turn will have a positive effect on their own adoption of constructive parenting practices.

Gender Differences in the Mediating Process of Marital Relations

We expect gender may moderate the strength of the mediating process of marital relations in the intergenerational transmission of parenting, with the effect being stronger for fathers than for mothers. Traditionally, childbearing and child rearing are expected tasks for married women, although traditional socialization orientations may have changed somewhat after the women's movement in the 1960s and 1970s. Women still bear the primary responsibility for raising children, whereas men are generally ascribed a secondary role in this arena (Ehrensaft, 1983; LaRossa, 1986). A mother's involvement in child care is obligated, whereas a father's participation is relatively a matter of choice (Simons & Johnson, 1996). Women are more likely to invest their identity in motherhood than men in fatherhood. Becoming a mother is regarded as a significant transition—“perhaps *the* most significant transition”—in a woman's life (LaRossa, 1986, p. 42). Compared to men, women tend to have a richer and a more complex relationship with their children (Umberson, 1989). Fathers are more likely than mothers to regard parenting as merely “something you do rather than someone you are” (Ehrensaft, 1983).

A number of empirical studies have compared mothers' and fathers' involvement with children. Three components of paternal involvement are proposed: paternal engagement, accessibility, and responsibility (Lamb, Pleck, Charnov, & Levine, 1985). Although there has been remarkable improvement in paternal involvement in recent decades, a substantial gap still exists when fathers' and mothers' levels of involvement are compared (see Pleck, 1997, for a review). The average of fathers' accessibility in the 1980s and 1990s was only two thirds of mothers'. Fathers' engagement with children is only a little more than 40% of mothers', and fathers' share of responsibility is even much lower. That has already been an improvement compared to the 1970s and early 1980s, when fathers' accessibility was only one half of mothers', and their engagement was only one third of mothers' (Lamb et al., 1985; Pleck, 1997).

Because women are expected to take the primary role in parenting children, the parental role for a woman may be as salient as, if not more than, her marital role. Greater salience in women's identity as mothers may make them more capable than men to psychologically compartmentalize between marital and parental domains (Belsky et al., 1991). Therefore, marital relations and parent–child relationships for women are to some extent independent or

differentiated (Belsky et al., 1991). The parental role for men, on the other hand, may be subordinate to their marital role because of men's expected peripheral role in parenting. Men's average lower level of involvement in child rearing may make them derive less intense satisfaction or dissatisfaction from their parental role. Their affective state in the family domain may be more dominated by the marital relationship, which is their primary relationship. Thus, compared to a mother–child relationship, a father–child relationship may be more susceptible to the marital relationship quality. Indeed, marital quality is reported more closely related to fathers' parenting behavior than to mothers' (Belsky & Jaffee, 2006; Furstenberg & Harris, 1992). Goldberg and Easterbrooks's study (1984) on toddlers finds that marital quality is significantly associated with fathers' sensitivity but not with mothers'. Belsky and his associates' study (1991) on 3-year-olds reports an association between deteriorated marriage and more negative and intrusive parenting behavior for fathers, regardless of the gender of the child, whereas a same relationship is not observed for mothers. Similarly, a meta-analysis of 39 studies by Krishnakumar and Buehler (2000) reports a stronger linkage between interparental conflict and parenting behavior for fathers than for mothers. A review by Doherty, Kouneski, and Erickson (1998) also concludes that compared to the mother–child relationship, the father–child relationship is much more strongly associated with coparental relationship. Thus, it is expected that the magnitude of the mediating effect of marital satisfaction for the intergenerational transmission of constructive parenting will be stronger for men than for women.

Although marital satisfaction in early adulthood is considered a major mediator between early parental upbringing and later adoption of similar parenting strategies, there are indications in the literature that other factors, independent of those associated with marital relations, may also mediate this relationship. One of the major factors is conventional social participation as reflected in educational attainment.

Conventional Social Participation (Educational Attainment) as a Mediating Mechanism

Attachment theory not only provides a theoretical basis for the hypothesis regarding the mediating mechanism of marital relationship, but it may also inform the mediating process of conventional social participation. We conceptualize conventional social participation at the transition to adulthood as the extent to which one strives to become part of the conventional social order, manifested in educational attainment. The attachment literature demonstrates that attachment to caregivers would provide a supportive milieu for children's exploration of their surroundings and coping with challenges (Ainsworth, 1982). This relationship is not confined to early childhood. Studies find attachment ties with parents continue to provide a supportive base for adolescent children in their exploration of the environment (Armsden & Greenberg, 1987; Wong, Wiest, & Cusick, 2002). Whereas attachment literature, originally based on parent–infant relationships, focuses on parental responsiveness, studies of older children and adolescence propose the optimal parenting style, called authoritative parenting, as a combination of high responsiveness and high demandingness (Baumrind, 1966). Darling and Steinberg (1993) further specify parenting style as a context (emotional climate), which moderates the effect of parenting practices such as monitoring, involvement, and so on. Thus a same parenting practice, such as monitoring, would have a different effect on adolescents if it is conducted with a warm and responsive style as compared to a cold and unsympathetic style. Empirically, the reported linkage between parenting styles and the offspring's educational attainment has been consistent and robust. Authoritative parenting style has long been documented to predict better academic achievement among adolescents (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Glasgow, Dornbusch, & Troyer, 1997; Lamborn, Mounts, Steinberg, & Dornbusch 1991; Spera, 2005; Steinberg, Lamborn, Dornbusch, & Darling, 1992). This relationship holds across various conceptualizations and operationalizations of authoritative parenting (Dornbusch et al., 1987; Lamborn et al., 1991)

and across different socioeconomic statuses, ethnic groups, and family structures (Dornbusch et al., 1987).

Educational attainment is the strongest predictor of socioeconomic status attainment (Caspi et al., 1998). Socioeconomic status, in turn, is one of the major structural factors that predict parenting practices (Burgess & Youngblade, 1988; Straus et al., 1980). Limited resources add pressure and stress to a family's daily life. Studies have reported higher rates of child abuse among families of lower levels of education, in poverty, or of blue-collar occupations (Straus et al., 1980). Levels of education also influence one's effort to improve parenting performance. An individual's educational status is positively related to the likelihood of participation in child-rearing educational programs (Harman & Brim, 1980). Higher parental education is reported to be a good predictor of authoritative parenting (Dornbusch et al., 1987).

The early attachment bonds formed in a healthy family environment should also make an individual more positive in his or her outlook and thus promote a more active conventional social participation. Traditional social-control literature contends that it is the social bonds that keep individuals on the conventional paths (Hirschi, 1969). Attachments to parents and conventional institutions such as education, according to Hirschi (1969), are important components of social bonds. A satisfying early experience with parents may make an individual more oriented toward the conventional social structure. Participation in conventional social institutions should, in turn, function as a social-control mechanism, promoting constructive parental-role performance and constraining deviant parenting behaviors. Constructive parenting is thus a result of a well-developed and well-informed life experience within conventional social structures. Thus, it is predicted that early satisfying experiences with parents will have a positive effect on individuals' educational attainment, which in turn will have a positive effect on their own adoption of constructive parenting patterns.

Background Factors

Existing literature has also documented the effects of gender (Wille, 1995), socioeconomic status, and family structure (Dornbusch et al., 1987) on parenting practices. Therefore, the hypotheses are offered net of the influence of those sociodemographic variables, which are specified as control variables that could have common effects on early experiences with parents, the mediating mechanisms in early adulthood, and utilization of similar parenting strategies in middle adulthood. The purpose of specifying the effects of background variables is to mitigate the possibility that conclusions regarding causal effects of earlier parenting experiences in the family of socialization on individuals' later parenting practices are the consequence of common antecedents of the independent, mediating, and dependent variables.

Method

Sample

The present study uses three waves of a prospective longitudinal data set. The first wave of data (Time 1) was obtained from self-administered questionnaires responded to by the students in the seventh grade (9,335 participants) in a random 50% of the 36 high schools in the Houston Independent School District in 1971 (Kaplan, 1980). The response rate was 81.6%, with 7,618 students returning usable questionnaires (age mode = 13, mean = 12.8, standard deviation = .76, range = 11 or under to 14 or older). The next wave of panel data was derived from the follow-up household interviews of 5,097 of the original Time 1 participants (67% response rate), who were in their 20s or early 30s (mean = 26.2, standard deviation = 2.5, range = 21 to 37) between 1980 and 1988 (Time 2). The third wave of panel data was derived from follow-up household interviews of 4,594 of those participants who were present at both Time 1 and

Time 2 (90% response rate), between 1993 and 1998 (Time 3), when the respondents were in their mid-30s to early 40s (mean = 37.1, standard deviation = 1.1, range = 35 to 43).

Because this study involved longitudinal follow-ups that spanned nearly three decades, one of the important issues to be addressed is sample attrition. The means and standard deviations of the sociodemographic variables and other variables relevant to this study measured at Time 1 are compared for those who were present for all three waves of the survey (4,594) with those who were not present for all three waves (3,024). Compared to the latter, the former reported a somewhat higher percentage of females and Whites, lower percentage of Mexican Americans, higher parental education, higher percentage from intact families, lower percentage from families in poverty, and higher scores on the satisfying experiences with parents. Apparently, those who dropped out of the study generally are in more socially disadvantaged circumstances. Furthermore, structural equation modeling is employed to compare those who did and did not remain in the study with regard to the structural effects among the Time 1 variables that were relevant to this study. A multisample analysis is performed to compare the two samples on a model that uses the background measures as exogenous variables to predict early satisfying experiences with parents, which in turn predict self-reported school performance. For both groups, earlier satisfying experiences with parents are consistently related to higher levels of school performance, without a statistically significant difference in magnitude. It is concluded that sample attrition will not greatly bias the structural effects of the proposed models.

Because this study is concerned with the intergenerational transmission of parenting, the final sample selected includes only those respondents who had at least one child of 6 to 18 years old in the third wave to be eligible to answer the parenting questions. The sample is also restricted to those who were married at Time 2 and so could provide information on the marital relationship during early adulthood. We have decided to exclude those who lived together without marriage at Time 2, because we are not able to differentiate those who were in a serious, long-term relationship from those cohabited for other reasons, and a separate analysis among this group of respondents fails to reveal any consistent pattern for the proposed model. Finally, the available data do not allow us to separate those who ended up in a different marital relationship at Time 3. Nevertheless, it is our belief that these limitations would be likely to make our estimation of the association between marital satisfaction at Time 2 and parenting practices at Time 3 more conservative. That is, any error would be in the direction of underestimation rather than overestimation. Listwise deletion of cases with missing data results in a sample of 1,560 for the estimation of the structural equation models.

Measures

Exogenous variables—A number of background variables are modeled as exogenous control variables, including gender, parental education, family poverty, and family structure, all measured at Time 1. Parental education averages the highest level of schooling reported for the two parents (mother or stepmother and father or stepfather). If only one parent is available, the measure reflects the value for that parent. For those who did not provide the information for parental education at Time 1, the values for the same variable at Time 2 are substituted. Family poverty is a dichotomized variable, “My family was poor” (1 = *yes*, 0 = *no*), an admittedly unsatisfactory measure dictated by the availability of measures in the existing data set. Family structure is also a dichotomized variable, signifying whether the respondent is currently living with his or her “two real parents.” The control variables are modeled as having direct or indirect influence on the independent, mediating, and dependent variables.

Endogenous variables—The major independent variable, early satisfying experiences at parental home, is derived from the Time 1 data and is modeled as a latent construct reflected in three additive indices: (a) two items reflecting whether the respondent is happy at home

($\alpha = .58$), such as “At home I have been more unhappy than happy” (reverse coded); (b) six items describing the perception of parenting received at home ($\alpha = .52$), such as “Sometimes my parents will punish me for doing something that at another time they didn't mind me doing” (reverse coded); and (c) three items indicating the extent of perceived parental acceptance and love ($\alpha = .60$), such as “My parents do not like me very much” (reverse coded). The construct validity of these three indicators is supported by previous research (Chen & Kaplan, 2001).

The intervening variables were measured at Time 2, when the respondents were in their 20s. Marital satisfaction constitutes a latent construct reflected in three additive indices: (a) six items describing a good relations with the spouse ($\alpha = .82$), such as “I can rely on him/her for things that are important to me”; (b) five items describing the feelings about the spouse in terms of how often they felt “dissatisfied,” “unsure” of themselves, “bored,” “angry,” or “bothered or upset,” respectively ($\alpha = .78$); and (c) one item asking the respondents to compare their relationship to that of most other people like themselves, with the answering categories being “better than most,” “about the same as most,” or “worse than most.” The construct validity of each index is tested by correlating it with the respondents' own report of depressive symptoms and anxiety. All three indicators are negatively correlated with depressive symptoms (correlation coefficients ranging from $-.19$ to $-.47$) and anxiety (ranging from $-.10$ to $-.37$) at a statistical significance level of .001. Another intervening variable, educational attainment, is measured by a report of years of formal schooling completed.

The dependent variable, constructive parenting, was measured at Time 3, when the respondents were in their mid-30s to early 40s. This latent construct is reflected in five additive indices: (a) four items about monitoring children ($\alpha = .54$), such as “How often would you say you know where they are and who [*sic*] they are with when they are away?”; (b) two items relating to communication ($\alpha = .66$), such as “How often would you say children discuss things that happened at school with you?”; (c) six items describing their involvement in children's education ($\alpha = .73$), such as “How often would you say you help these children with school work?”; (d) two items regarding how often they and children show affection to each other ($\alpha = .69$); and (e) four items relating to discipline, such as how often they talk to children when they did something wrong and praise them when they were good ($\alpha = .56$). Previous research has supported construct validity of these indicators (Chen & Kaplan, 2001).

Analysis

The structural equation modeling analysis is performed using LISREL 8 (Joreskog & Sorbom, 1993) to assess the measurement models and the structural models simultaneously via maximum likelihood estimates. The variances of the exogenous control variables are allowed to be correlated. The within-wave covariation among the residuals for the equations of the intervening variables is also permitted. The measurement errors of the observed indicators are assumed to be random and thus uncorrelated in the estimation.

Results

Table 1 provides a matrix of intercorrelations among the 16 study variables, their means (proportions for the dichotomized variables), and standard deviations. The estimation of the measurement models and the structural models is based on the covariance matrix of these 16 observed variables. Table 1 shows that without controls, the indicators of satisfying experiences with parents at Time 1 are significantly correlated with the indicators of marital satisfaction at Time 2 in 7 of 9 coefficients. They also have significant positive correlations with educational attainment at Time 2 in all coefficients and with constructive parenting at Time 3 in 12 of 15 coefficients.

Hierarchical analyses are performed to compare three nested structural equation models to test the two mediation hypotheses. Nested models are created so that only certain higher order paths (the structural effects among latent constructs) are either fixed or estimated. Model comparison is conducted by examining the change in chi-square between models based on the change in degrees of freedom. Figure 1 and Figure 2 present Model 1, the baseline model, and Model 3, the final mediation model. For visual simplicity, the paths from the sociodemographic variables are omitted. The detailed report of the structural effects for the three nested models is presented in Table 2.

Figure 1 presents Model 1, in which the sociodemographic variables predict the perception of satisfying experiences with parents in early adolescence at Time 1, which in turn predicts individuals' own constructive parenting in middle adulthood at Time 3. After the effects of the sociodemographic variables are taken into account, the perception of satisfying experiences with parents during adolescence has a significant positive effect on the individuals' own constructive parenting in middle adulthood, with a standardized coefficient of .12, $\chi^2(85) = 473.82$. Model 2 frees two statistically significant paths: The perception of satisfying experiences with parents at Time 1 predicts higher marital satisfaction at Time 2, which in turn predicts a higher level of constructive parenting at Time 3, $\chi^2(83) = 352.89$. Model 2 yields a reduction of 120.93 in χ^2 with 2 degrees of freedom ($p < .05$), with the standardized effect from early satisfying experiences with parents on the individuals' own constructive parenting decreasing to .06 ($t = 1.77$), which is a substantial reduction in magnitude, although it is still statistically significant for a one-tail test. Model 3 frees two more statistically significant paths: The perception of satisfying experiences with parents at Time 1 predicts higher educational attainment at Time 2, which in turn predicts a higher level of constructive parenting at Time 3, $\chi^2(81) = 307.04$. Model 3 results in a reduction of 45.85 in χ^2 with 2 degrees of freedom ($p < .05$). After the two mediating processes are taken into account, the direct effect from satisfying experiences with parents during adolescence on the respondents' own constructive parenting in middle adulthood is reduced to .05, which is not statistically significant. The results confirm the predictions regarding the mediating processes of marital satisfaction and educational attainment. Furthermore, the two mediating variables explain most of the direct effect from early satisfying experiences with parents to later adoption of constructive parenting practices.

Thus Model 3 is selected as the final mediation model that is presented in Figure 2. It loses some advantage of parsimony compared to the baseline model, yet it is theoretically informed and fits the data best by identifying significant mediating mechanisms.

Table 2 presents the complete report of the path coefficients, including those from the sociodemographic variables for the three nested models. Being a female is associated with lower scores in marital satisfaction at Time 2 but higher scores in constructive parenting in Time 3. Parental education is related to more satisfying experiences with parents at Time 1, higher marital satisfaction and higher educational attainment at Time 2, and higher scores in constructive parenting at Time 3. Family poverty in the parental household is negatively related to satisfying experiences with parents at Time 1, whereas growing up from an intact family is positively related to it. Intact family is also positively related to educational attainment at Time 2.

Finally, Model 4, a moderation model, is estimated to test gender differences regarding the structural parameters of the mediation model using the multisample analysis technique. A multisample analysis assumes that the two groups are neither exactly the same nor extremely different (Bentler, 1989). It usually starts from a baseline model that constrains all the parameter estimates to be equal for the subgroups. Next, based on the Modification Indices from the LISREL output, some structural coefficient may be released to allow group-specific effects if

this release is suggested to result in a significant increase in model fit. Our baseline model initially starts from Model 3, which constrains all the structural parameter estimates to be equal for men and women, $\chi^2(182) = 559.67$. Based on the Modification Indices provided in the LISREL output, group-specific estimations are made on several factor loadings: Time 1's Parental Acceptance, Time 2's Good Relations, and Time 3's Discipline under the situation of "partial factorial invariance" (Byrne, Shavelson, & Muthen, 1989). This results in an improved fit as reflected in $\chi^2(179) = 472.46$, which is a reduction of 87.21 in χ^2 with 3 degrees of freedom ($p < .05$). Next, group-specific estimations are also allowed on error variances for the indicators of marital satisfaction at Time 2 and constructive parenting at Time 3, $\chi^2(172) = 313.01$, which yields a reduction of 159.45 in χ^2 with 7 degrees of freedom ($p < .05$). Next, the equal constraint on the structural path from marital satisfaction at Time 2 to individuals' own parenting at Time 3 is released to allow a group-specific estimate, $\chi^2(171) = 308.68$, which results in a further reduction of 4.33 in χ^2 with 1 degree of freedom ($p < .05$). Finally, a last constraint is released from intact family to early experience of parenting, $\chi^2(170) = 304.46$, which is a further reduction of 4.22 in χ^2 with 1 degree of freedom (root mean square error of approximation = .03, goodness-of-fit index = .98, normed fit index = .93). There is no further release of the equality constraints on the structural effects because Modification Indices indicate that their release is not significant in increasing the model fit.

The final result of Model 4 using the multisample analysis is presented graphically in Figure 3. Because it is inappropriate to compare the standardized coefficients across different groups, only unstandardized coefficients are presented. The regular arrows in Figure 3 represent the estimates that are justified to be constrained equal for both men and women because the parameters are not significantly different between the two groups. The arrows printed in bold represent the parameters allowed to be differentially estimated between the two groups, and the differences are statistically significant. The results show that the two groups are very similar in the general prediction patterns and the magnitudes of most of the path coefficients. The only significant difference among the structural effects between men and women is the strength of the association between marital satisfaction and constructive parenting. The significant positive effect of marital satisfaction at Time 2 on constructive parenting at Time 3 is stronger for men than for women (.39 vs. .23, unstandardized coefficients). It confirms the prediction that marital satisfaction is a stronger intervening process for the intergenerational transmission of parenting for men than for women.

Discussion

The primary goal of our study is to investigate the mediating mechanisms of the intergenerational transmission of constructive parenting practices. The life-course literature has been increasingly viewing the transition stage to adulthood as "an integral part of a biography that reflects the early experiences of youth and also that shapes later life" (Shanahan, 2000, p. 667). Using a three-wave prospective longitudinal sample that spanned nearly three decades, three nested models are tested. Our Model 3, the full mediation model that specifies marital satisfaction and education attainment in young adulthood as mediating processes, is theoretically informed and fits the data best. The model accounts for most of the effect of early satisfactory experiences with parents on later utilization of constructive parenting in middle adulthood for married people. The findings of this study are consistent with the developmental view of the life course that early negative experiences have cumulative effects in a number of dimensions in the transition to adulthood, which in turn influence individuals' behavior at a later life stage.

Our study also examines gender as a moderator in the intergenerational transmission of constructive parenting. The results indicate that the mediating effect of marital satisfaction is stronger for men than for women because of a stronger effect from marital satisfaction on

constructive parenting among men. The findings are consistent with the rationale that the marital role may be more salient than the parental role for men. Thus men's interaction styles in the marital role would be more likely to be reproduced in (that is, serve as a template for) other roles, notably, the parental role. Compared to women, a satisfying marital relationship for men may more likely lead to constructive parenting behaviors, whereas distress in men's marital role may more likely be reflected in dysfunctional acting-out parenting patterns. Men's secondary role in raising children apparently makes them even less capable of compartmentalizing emotions in different family domains and thus makes them less resilient than women in a dysfunctional marriage to perform their parental role. Our findings are consistent with a large number of studies regarding gender's moderating effect in the relationship between marital quality and parent-child relations (Belsky et al., 1991; Doherty et al., 1998; Furstenberg & Harris, 1992; Goldberg & Easterbrooks, 1984; Krishnakumar & Buehler, 2000). The results, however, contradict two other studies (Belsky et al., 2005; Simons et al., 1991) that reported the relationship between marital satisfaction and parenting to be stronger for women than for men.

Many studies on the linkage of marital relations and parental relations are cross-sectional, which renders causal conclusions less convincing. From a family-system perspective, the influence between the two subsystems, marital relations and parent-child relations, is by no means unidirectional. Whereas marital relations affect parental interaction with children, negative parent-child relationships are likely to add fuel to marital discord (Belsky et al., 1991; Rogers & White, 1998). Our three-wave longitudinal study establishes a temporal order that measures early upbringing in adolescence, marital relationship in early adulthood, and individuals' parenting behavior in middle adulthood. The data structure adds validity to the hypothetical causal direction of our model.

Previous studies of intergenerational transmission of parenting using other mediation models without marital relations were not able to fully decompose the direct effect from early experiences with parents to later adoption of similar parenting strategies. The remaining direct effect was typically interpreted as reflecting the underlying process of social learning or role-specific modeling (Chen & Kaplan, 2001; Simons et al., 1991, 1993). In our current study, which narrows the scope condition to people who were married in young adulthood and adds marital satisfaction as an intervening mechanism, this direct transmission effect is no longer significant. Apparently, a large portion of the learning process of parenting proposed by social-learning theorists has already taken place through the spousal role before it extends to the parental role.

To test if the same pattern holds for the partner relationship among unmarried people, we performed a separate analysis for those respondents who were not married but were living together at Time 2 ($N = 147$). The construct of partner satisfaction at Time 2 (same survey items as marital satisfaction) did not have any mediating effect for their early experiences with parents at Time 1 to their own parenting behavior at Time 3. As mentioned in the Method section, we were not able to differentiate those who were truly in a serious relationship from those who were cohabiting for other reasons even if they themselves perceived the relationship as "long term" at the time of the interview. That might explain why the reported partner relationship quality did not work in the same pattern as those who were married at Time 2.

The phenomenon of perceived marital satisfaction is more complex than what we are able to specify with our data set. Instead of being affected by one individual's attribute and experiences, perceived marital satisfaction depends at a minimum on two persons' social, economic, personal, or even political characteristics and experiences. A self-report of marital satisfaction can be influenced by the attachment patterns of either the respondent or the spouse or both. For example, a woman with excellent early upbringing may have a high capacity for a loving

marital relationship. But she could conceivably marry a man with numerous personality problems. Thus her low levels of marital satisfaction may reflect attachment patterns of her husband rather than those of her own. Consequently, it is the negative early experiences of her spouse rather than her own that disrupt her attachment patterns and the continuity of constructive parenting across generations. Also, our current data do not allow us to differentiate those who were in an unhappy marital relationship at Time 2 but ended up in a different and satisfactory marital relationship by Time 3 or vice versa. Further investigation is needed to account for different conditions under which the association of marital satisfaction and utilization of constructive parenting will be observed.

As a longitudinal study that spanned nearly three decades, the resulting sample, because of sample attrition, leans toward more socially advantaged respondents. Although our attrition analyses described in the Method section demonstrate that sample attrition should not greatly bias the structural effects of our proposed models, readers are advised to be cautious in generalizing the results beyond the current sample. We acknowledge the inadequacy of some measures from the existing data set, such as family poverty in the first wave. Also, the lack of a symmetric design of using identical items for early experiences in the parental home at Time 1 and parenting constructs at Time 3 throws doubts on the conclusion regarding the mediating mechanisms. Nor are we able to differentiate the Time 3 parents with children of different developmental stages, which could have some impact on age-specific parenting strategies. As children grow into adolescent stage with increased autonomy, a natural trend for parenting seems to be a gradual decline in supervision and parental involvement. Another limitation of our study pertains to the possibility that the reported effect of satisfying experiences at parental home during adolescence is actually derived from a continuation of an earlier established parent-child relationship. It could also be possible that ongoing parental support through early and middle adulthood predicts marital satisfaction and individuals' own constructive parenting rather than a longitudinal direct effect from early upbringing. Additionally, the effect of marital satisfaction at Time 2 on individuals' parenting at Time 3 may have been mediated by their own parenting behavior at Time 2. Our current data are not able to clear these doubts, but a future study should include relevant items at the design stage. Finally, a total reliance on a single source of self-report and shared variance among variables might have artificially inflated proposed associations.

In sum, based on a three-wave longitudinal sample, the present study extends the existing research on the intergenerational continuity of parenting by identifying the mediating mechanisms of marital satisfaction and educational attainment that are able to explain most of the influence from early upbringing reported during adolescence on later utilization of similar parenting practices in middle adulthood. The investigation of gender as a moderator also contributes to our understanding of the gender-specific mediating effect of marital relationship. It is suggested that men's culturally expected secondary role in parenting may make them more susceptible to the emotional state of their primary marital role in the family system and thus may make them more vulnerable to adverse effects on their parenting behavior than women in an unhappy marital relationship.

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Figure 1. Model 1, the Baseline Model, on the Intergenerational Transmission of Constructive Parenting, With Standardized Coefficients

Note: $N = 1,560$.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed tests).

Figure 2. Model 3, the Full Mediation Model, on the Intergenerational Transmission of Constructive Parenting, With Standardized Coefficients

Note: $N = 1,560$.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed tests).

Figure 3. Model 4, the Moderation Model, on the Intergenerational Transmission of Constructive Parenting for Men and Women, With Unstandardized Coefficients

Note: N (male) = 586; N (female) = 974.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed tests).

Table 1
Means (or proportions for dichotomized variables), Standard Deviations, and Correlation Coefficients Among 16 Observed Variables Included in the Structural Equation Models

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Female	—															
2. Parent education	.02	—														
3. Poverty	.01	-.10*	—													
4. Intact	.02	.06*	-.08*	—												
5. Happy	-.06*	.03	-.20*	.10*	—											
6. Good parenting	.02	.12*	-.16*	.09*	.48*	—										
7. Parent acceptance	.04	.06*	-.21*	.09*	.51*	.40*	—									
8. Good relation	-.12*	.06*	-.01	.03	.10*	.10*	.07*	—								
9. Satisfied	-.15*	.08*	-.03	.04	.12*	.13*	.09*	.55*	—							
10. Better than most	-.01	.06*	-.02	.01	.03	.07*	.01	.41*	.38*	—						
11. Education	-.00	.36*	-.08*	.12*	.11*	.13*	.11*	.14*	.18*	.11*	—					
12. Monitor	.21*	.14*	-.06*	.08*	.07*	.06*	.10*	.16*	.15*	.11*	.14*	—				
13. Communication	.20*	.09*	-.03	.02	.05*	.04	.06*	.10*	.11*	.08*	.07*	.34*	—			
14. Affection	.09*	.10*	-.06*	.05*	.09*	.04	.07*	.19*	.20*	.14*	.10*	.33*	.43*	—		
15. Involvement	.29*	.15*	-.05	.06*	.06*	.06*	.08*	.07*	.11*	.09*	.17*	.43*	.37*	.34*	—	
16. Discipline	.19*	.07*	-.07*	.04	.06*	.05	.05*	.11*	.08*	.10*	.07*	.32*	.38*	.48*	.35*	—
<i>M</i>	.63	3.03	.07	.73	.81	.65	.90	.92	.249	.263	.25	.278	.262	.287	2.53	2.91
<i>SD</i>	.48	.81	.25	.44	.33	.26	.22	.18	.044	.52	.26	.030	.048	.030	0.39	0.19

Note: *N* = 1,560.

* *p* < .05 (two-tailed tests).

Table 2
Standardized Path Coefficients for the Three Nested Models

Variable	Model 1				Model 2				Model 3			
	Early experience (T1)	Marital (T2)	Educ (T2)	Current construc. par. (T3)	Early experience (T1)	Marital (T2)	Educ (T2)	Current construc. par. (T3)	Early experience (T1)	Marital (T2)	Educ (T2)	Current construc. par. (T3)
Female (T1)	-.02	-.17***	-.01	.31***	-.02	-.17***	-.01	.36***	-.02	-.17***	-.01	.36***
Parents' educ (T1)	.05 [^]	.09**	.35***	.16***	.05 [^]	.09**	.35***	.13***	.05 [^]	.09**	.35***	.08***
Poverty (T1)	-.26***	-.01	-.03	-.03	-.26***	.03	-.03	-.05	-.26***	.04	.00	-.04
Intact (T1)	.11***	.04	.09***	.05	.11***	.03	.09***	.04	.11***	.03	.08***	.03
Early experience (T1)	—	—	—	.12**	—	.15***	—	.06 [^]	—	.18***	.12***	.05
Marital (T2)	—	—	—	—	—	—	—	.33***	—	—	—	.29***
Educ (T2)	—	—	—	—	—	—	—	—	—	—	—	.16***
χ^2/df		473.82/85				352.89/83				307.04/81		
Sig. ($\Delta\chi^2$ on Δdf)					$p < .05$				$p < .05$			
GFI		.96			.97				.98			
AGFI		.94			.95				.96			
RMSEA		.054			.046				.043			

Note: N = 1,560; T1 = Time 1; T2 = Time 2; T3 = Time 3; educ = education; construc. par. = constructive parenting; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMSEA = root mean square error of approximation.

[^] $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$ (two-tailed tests).