The Emergence of Psychosocial Engagement in Adopted Adolescents:
The Family as Context Over Time

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Psychosocial engagement of adopted adolescents was examined as a function of longitudinal patterns of stability and change in parents' perceptions of the compatibility of the child within the family. Psychosocial engagement involves the adolescent's active use of his or her inner resources to interact positively with others in family, peer, and community contexts. Participants included 177 adoptive families who were interviewed when the target child was in middle childhood and again when the child was in adolescence. Five patterns of stability and change in compatibility were identified. Parents' perceptions of their adolescent's social competence were related to patterns indicating higher compatibility, and higher reports of problem behaviors were found in families with patterns indicating lower compatibility. The same pattern of results was evident whether mothers' or fathers' scores for social competence and behavior problems were used. No main effects for adolescent gender or interaction between gender and change pattern emerged.

The transition to adolescence is characterized by physical maturation, a growing desire for autonomy and self-determination, cognitive growth that facilitates abstract thought, and occasional experiences of personal and social turmoil (Grotevant, 1998). Despite the number of positive changes that

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occur during this developmental period, research and popular characterizations alike have more typically focused on the problematic aspects of the period. Although this turmoil (albeit temporary) does influence development, most teenagers successfully navigate adolescence to become responsible adults who enjoy positive social and family relationships (Feldman & Elliott, 1990; Offer, Ostrov, & Howard, 1981; Youniss & Smollar, 1985).

Connections and compatibility with family, peer, and community resources strengthen an adolescent's sense of well-being, which in turn helps foster positive developmental outcomes, including psychosocial engagement. *Psychosocial engagement* involves the adolescent's active use of his or her inner resources to interact positively with others in family, peer, and community contexts. The goal of this study is to examine the roots of psychosocial engagement within the family context over the course of time from middle childhood to adolescence, especially as a function of the degree of compatibility perceived between parent and child. Although the literature on the development of psychopathology is expanding rapidly, less is known about the antecedents of competent functioning such as psychosocial engagement.

What must be in place for this positive development to occur? Smollar, Fairchild, MacAllum, and McLellan (1997) identified four critical factors that facilitate positive adolescent development: (a) a sense of industry and competency, (b) a sense of control over one's fate, (c) a sense of connectedness to others, and (d) a sense of identity. These factors provide a foundation from which adolescents can engage in relationships with others within family and community contexts.

A practical application of the essential components identified by Smollar et al. (1997) can be seen in the work of Benson and colleagues (Benson, Galbraith, & Espeland, 1998), who suggested that positive development is directly related to the number and type of internal and external supports afforded an adolescent in family and community environments. They identified 40 assets necessary for the development of healthy adolescents. These assets are distributed across the following categories: (a) *external assets*: support, boundaries and expectations, empowerment, and constructive use of time; and (b) *internal assets*: commitment to learning, positive values, social competencies, and positive identity. The 40 specific assets include resources

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associated with the adolescent (e.g., honesty, self-esteem, interpersonal competence), family (e.g., positive family communication, family support), and community (e.g., caring neighborhood, religious community, positive peer support).

Benson's (1998) work highlights the necessity for interconnectedness among personal, familial, and community resources to promote positive development in adolescence. This is evidenced by the powerful influence that engagement of assets can have on adolescent behavior. Adolescents with the highest number of assets available to them are less likely to participate in high-risk behaviors, such as problem alcohol use, early sexual activity, and violence, and are more likely to demonstrate positive attitudes and behaviors, such as valuing diversity and succeeding in school (Search Institute, 1999).

Psychosocial Engagement in the Context of the Family

There are multiple family influences on the development of adolescent psychosocial engagement. Parke and Buriel (1998) have constructed a comprehensive model in which the contributions of various family relationships to socialization outcomes for children, including psychosocial engagement, are recognized. These relationships are contained in the family system and related parent-child, parent-parent, sibling-child, and sibling-parent subsystems. Although we recognize the multiple pathways within the family that influence the development of psychosocial engagement for adolescents, it is the sense of connectedness, or fit, of the adolescent within the family that is the focus of this article.

Goodness-of-fit models have a rich history of emphasizing the importance of the person-environment fit for optimizing development (Caplan & Harrison, 1993). Lamb and Gilbride (1985) defined a compatible parent-child relationship as one in which the behaviors of the partners are well meshed such that communication between them is efficient and accurate. Because characteristics of parents and children change in dynamic responsiveness to one another, we define compatibility in terms of family members' ability to attain a state of goodness of fit and retain it through dynamic interaction over time (Grotevant, McRoy, & Jenkins, 1988). Eccles and colleagues have focused on the importance of the "stage-environment fit" approach (Eccles & Midgley, 1989) for adolescents transitioning to the middle or junior high school setting. Eccles et al. (1993) demonstrated that adolescents who perceived their classrooms as places where they had some control over how their classrooms functioned performed better academically. These classrooms were places where teachers, sensitive to the developmental needs of adolescents, acknowledged their students' desire for autonomy.

Eccles et al. (1993) further described how the same sensitivity applies to family functioning. From the perspective of stage-environment fit theory, families that describe a good fit among members will be able to balance the competing needs of parental control and adolescent autonomy in a way that allows all members to participate in family decision making. This shared decision making facilitates self-esteem and intrinsic motivation for adolescents (Eccles et al., 1993). Such developmentally sensitive parenting leads to a sense of connectedness and compatibility among family members, the foundation from which psychosocial engagement emerges.

Compatibility and Adolescent Outcomes in Adoptive Families

A number of studies have suggested that adopted children are at greater risk for emotional disturbance than nonadopted children. According to the literature, children placed for adoption as infants are more likely to be referred for psychological treatment than their nonadopted peers (See Wierzbicki, 1993; Haugaard, 1998; Ingersoll, 1997, for reviews). Moreover, adolescence is a developmental stage during which physical as well as cognitive changes lead these children to begin to form a mature sense of identity and to begin to answer the question, "Who am I?" The answer to this question is particularly important for adopted children because they must grapple with their relationship both to their birth families and their adoptive families as they seek to understand their own identities. The adoptive family's handling of these issues can have a significant impact on adolescents' feelings and behaviors at this time.

Compatibility is a particularly important issue to examine in adoptive families because adoptive parents are typically less similar to their adopted children than biological parents are to their children. Lamb and Gilbride (1985) noted that compatibility is related to good communication between parents and children. Adoptive families are faced with several tasks over and above those faced by biologically related families. One of the most important is scaffolding the child's emerging sense of self as an adopted person, which includes the child's understanding of how he or she fits into the adoptive family and the broader world as well as how this sense of adoptive identity is integrated with other aspects of identity (Grotevant, Dunbar, Kohler, & Esau, 2000).

In biologically related families, the genetic connection between parents and children lays the groundwork for the perception of compatibility and "fit" through the heritable components of abilities, physical characteristics, and personality. For example, the average parent-child correlations for IQ are approximately .40 and .14 in biological and adoptive families, respectively;

the average correlations for personality traits are approximately .15 and .07, respectively (Scarr & Weinberg, 1983). Thus, studying compatibility, or fit, in adoptive families is particularly important because the potential for mismatches seems to be higher than in biological families (Grotevant et al., 1988; Ross, 1995). In biological families, it is assumed that a common genetic heritage will lay a foundation for some degree of fit. However, in adoptive families, the emerging sense of compatibility must be wholly constructed. Thus, the ongoing process of communication about adoption (e.g., Wrobel, Kohler, Grotevant, & McRoy, 1998, 1999) may well be an essential aspect of the family's construction of itself as an adoptive family and the child's assessment of his or her connection with the adoptive parents.

Families in which parents feel a sense of security that they have the legal and emotional right to serve as parents to the child may be more comfortable with their roles as adoptive parents and feel "entitled" to the child. In these cases, they are able to find a variety of positive ways in which to "claim" the child. Through naming the child, as well as identifying behaviors or physical or personality traits that are similar to those of their own family, they begin the process of claiming (Reitz & Watson, 1992). If the child is a good fit, or match, to the family, it is likely that the child's development will be optimized. In some cases, when there is a discrepancy between parents' expectations and the child's actual or perceived behaviors or accomplishments, this mismatch can be associated with problems (Grotevant et al., 1988; McRoy, Grotevant, & Zurcher, 1988).

Some families are able to construct a fit between the family and the child by working to develop tolerance for the discrepant behaviors over time, whereas others find that the imbalance, or mismatch, becomes more problematic (Reitz & Watson, 1992). These issues are critical in understanding how the parents' evaluation of the child's behaviors during middle childhood may predict the child's psychosocial engagement during adolescence.

The connection between the perception of fit and positive outcomes for adopted children is related to how sensitively parents interact with their children about adoption. Adoptive parents who view the additional tasks of adoptive parenting (e.g., telling the adoption story, the need to work through adoption-related loss) as normative rather than problematic for their families can facilitate positive adolescent adjustment by maintaining open communication surrounding these issues (Brodzinsky, Lang, & Smith, 1995). Adolescents who come from families characterized by a more open style of communication about adoption issues have fewer adolescent identity problems (Stein & Hoopes, 1985) and on entering young adulthood, describe their families as being close (Sobol, Delaney, & Earn, 1994).

It is also important to consider differences in the communication patterns of adopted children and their mothers and fathers. Adolescents generally talk more with mothers than fathers about personal concerns (Youniss & Smollar, 1985); this situation holds true for adoptive mothers as well. Wrobel et al. (1998) found that for a group of families with mediated adoptions, all mothers reported active communication with their children about adoption-related issues, whereas fathers communicated more actively when their children had more information about their birth parents or reported being more curious about adoption-related issues. Thus, higher levels of curiosity on the part of the adopted child and adoption information can facilitate engagement of the father in more open communication about adoption. This is desirable because active communication about adoption and other important issues on the part of both parents best facilitates positive developmental outcomes such as psychosocial engagement.

Longitudinal Investigation of Compatibility

The goal of this article is to examine the roots of psychosocial engagement within the family context over the course of time from middle childhood to adolescence, using a case-centered, longitudinal approach. Many studies that purport to study outcomes in adolescence are cross sectional and cannot speak definitively to causal relations. Longitudinal studies are necessary to reveal the developmental story fully. Researchers seeking to understand longitudinal pathways must confront issues of equifinality and multifinality. Equifinality refers to the concept that multiple pathways may lead to a common outcome; multifinality refers to the idea that a single developmental pathway may lead to multiple outcomes (Cicchetti & Rogosch, 1996).

Researchers have used different approaches to understand developmental change. Some have attempted to predict developmental outcomes from behavior or contextual variables at earlier ages. Such an approach, especially over a lengthy interval of time, typically yields weak results because both equifinality and multifinality interfere with simple linear predictions. This approach is also variable centered in that it examines relations among variables but does not track developmental trajectories of individual children or families.

Other researchers have used a "follow back" procedure, identifying children demonstrating outcomes of interest and evaluating hypothesized antecedents. This approach is more case centered as it identifies children or families with outcomes of interest and attempts to examine the factors that predict such patterns (Cicchetti & Rogosch, 1996; Stattin & Magnusson, 1996). However, this strategy suffers from the limitations of retrospective research.

The approach taken in the present study is case centered in that it identifies different patterns of change in the family context over a period of 8 years and relates those patterns to outcomes during adolescence. It is compatible with the philosophical stance undergirding our program of work, which seeks to integrate variable-centered and case-centered approaches to family research (see Grotevant et al., 1998).

Our primary research question asks whether longitudinal patterns of stability and change in parents' perceptions of the compatibility of the child within the family are related to indicators of psychosocial engagement during adolescence. Psychosocial engagement is operationalized in terms of social competence, problem behavior, and attachment to parents. Our general hypothesis is that families in which perceived compatibility is either high and stable or increasing from middle childhood to adolescence will have adolescents who show higher levels of social competence and attachment to parents and lower levels of problem behavior than will families in which compatibility is either low and stable or decreasing from middle childhood to adolescence.

METHOD

The Minnesota-Texas Adoption Research Project (Harold D. Grotevant and Ruth G. McRoy, principal investigators) is a longitudinal study examining the consequences of variations in openness in adoption for adopted children, adoptive parents, and birth parents. Participants completed multiple assessments at two points in time: first, when the children were between the ages of 4 and 12 ($M = 7.8$ years) and, second, when the children were between 11 and 20 years of age ($M = 15.7$ years). The mean difference between Time 1 and Time 2 interviews was 7.9 years; 90% of the families were seen within an interval of 7.0 to 9.0 years apart. Only those measures and procedures directly relevant to this article are discussed here in detail; however, a general description of the study plan is provided. A full description of Time 1 measures and procedures may be found in Grotevant and McRoy (1998).

Participants

Participants in this study were the members of 190 adoptive families who participated in two waves of data collection in the Minnesota-Texas Adoption Research Project (Grotevant & McRoy, 1997, 1998). At Time 1, adoptive families and birth mothers were recruited for the study through 35 adoption agencies located across the United States. Families were sought in which

there was at least one adopted child (the "target child") between ages 4 and 12 at the time of the interview, who was adopted through an agency before his or her first birthday; in which the adoption was not transracial, international, or "special needs"; and in which both adoptive parents were married to the partner they had at the time of the adoption. We simultaneously sought birth mothers who made adoption plans for children placed with these families. (Data from the birth mothers are not addressed in this report; for further information about birth mothers, see Grotevant & McRoy, 1998.). Participants in the study were located in 23 different states from all regions of the United States.

Adoption agencies that helped recruit participants had prior experience with placements that varied in terms of what type of contact, if any, existed between the adoptive family and the child's birth mother. Each agency was asked to select all children who met the criteria outlined above, then to sample randomly among them within levels of openness until they located a set number of families and birth mothers willing to be interviewed. A few families (12 of 190, or 6.3%) were recruited through advertisements in newspapers and periodicals. Although this sample is not a fully random one, families were specifically *not* recruited on the basis of their success with adoption or their having an interesting story to tell, which is often a problem in volunteer samples.

The final sample at Time 1 included 720 individuals: both parents in 190 adoptive families, at least 1 adopted child in 171 of the families, and 169 birth mothers. The vast majority of adoptive parents were White, Protestant, and middle to upper-middle class. Virtually all had adopted because of infertility. The average level of education was 16.2 years for adoptive fathers and 15.1 for adoptive mothers. Adoptive fathers ranged in age from 32 to 48 (M = 40.7 years) and adoptive mothers from 31 to 46 (M = 39.1 years). The average number of adopted children in each home was 1.8. Ninety of the target adopted children were male and 81 were female. Their ages ranged from 4 to 12 (M = 7.8 years). Families were sampled across the full range of openness in the adoption: confidential (no information shared between the birth and adoptive parents), mediated (nonidentifying information communicated by way of a third party), and fully disclosed (direct contact between members of the birth and adoptive families.)

At Time 2, the sample included the parents and target adopted adolescent from 177 adoptive families: 176 adoptive mothers, 165 adoptive fathers, and 157 adopted adolescents. At Time 2, data are also available on 84 siblings and 127 birth mothers but are not used in this study. Data for this report were derived from the 163 adoptive families for whom questionnaire data were

available for at least one family member. Each analysis reported was based on the largest number of cases available for the analysis.

At Time 2, most adoptive parents were still married. Five adoptive mothers and 3 adoptive fathers who participated were divorced, 1 adoptive mother and 2 adoptive fathers were separated, and 1 adoptive father and 1 adoptive mother were widowed. The average level of education was 16.3 years for adoptive fathers and 15.1 years for adoptive mothers. Adoptive fathers ranged in age from 40 to 60 years ($M = 49.3$ years); adoptive mothers ranged from 40 to 57 years ($M = 47.4$ years). The adopted adolescents ranged in age from 11 to 20 ($M = 15.7$ years). At Time 2, 140 target adolescents (67 males and 73 females) completed the questionnaires used in this report.

Procedures

At Time 1, adoptive families were interviewed in their homes in one session that lasted 3 to 4 hours. The session included separate interviews with each parent and with the target adopted child, administration of several questionnaires, and a joint couples interview with the adoptive parents. At Time 2, adoptive families were once again seen in their homes during a single session that typically lasted 4 to 5 hours. The session included individual interviews with each parent and the target adopted child, administration of several questionnaires, and administration of a family interaction task. Some family members were interviewed by telephone when it was impossible to gather everyone together for the home visit. The following section describes the measures from which data for this study were taken. A complete description of Time 1 measures can be found in Grotevant and McRoy (1998).

Adoptive Parent Measures (Time 1)

The following measures were administered separately to the adoptive father and the adoptive mother.

Demographic questionnaire. This questionnaire provides information about age, education, occupation, income, ethnicity, religion, and family composition.

Parenting Stress Index (PSI) (Abidin, 1986). The PSI is a self-report questionnaire whose scales focus on aspects of the child, the parent, and their context that might contribute to parenting stress. The measure has been normed on both clinical and nonclinical samples of parents. For this study, four

subscales of the PSI were used to construct a scale of parent-child incompatibility. This scale includes 33 items from the scales Child Demandingness, Acceptability of the Child to the Parent, Child Reinforces the Parent, and Child Adaptability. In prior work with Time 1 data, this scale had Cronbach's alpha internal consistency of .87 (Ross, 1995). The PSI is written so that higher scores indicate greater stress due to perceived incompatibility. However, for ease of discussion in the remainder of this article, we will talk about *parent-child compatibility.* All signs will be reversed in results and tables so that higher scores indicate greater compatibility.

Adoptive Parent Measures (Time 2)

Demographic questionnaire. This questionnaire provides information about age, education, occupation, income, ethnicity, religion, and family composition.

Achenbach Child Behavior Checklist (CBCL) (Achenbach, 1991a). The CBCL provides assessments of social competence and behavior problems of children age 4 to 18, based on parental reports; draws on information about activities, social participation, and school participation; has extensive validation and normative data available; and has been widely used in developmental and clinical studies. Its behavior-problems section yields two main scores (internalizing and externalizing) as well as a number of subscale scores for each.

Parenting Stress Index (PSI) (Abidin, 1986). See description above under Time 1 measures.

Adopted Child Measures (Time 2)

Achenbach Youth Self-Report (YSR) (Achenbach, 1991b). This instrument includes items measuring social competence and behavior problems. The measure has established norms, excellent reliability, and validity, and it is widely used clinically and in research. For this study, we also developed a scale of positive behaviors. Embedded within the list of 110 problem behaviors to which adolescents respond are a number of nonproblematic behaviors, such as "I like animals," "I am pretty honest," and "I am willing to help other people when they need help." According to the YSR manual, the items were included to replace some items from the CBCL that the authors deemed inappropriate to ask children and to provide filler items so that the scale was not so heavily loaded toward problems. The authors commented that because most

adolescents would endorse these items, they would not be very useful diagnostically or in research. We created a Positive Behavior Scale from these items, finding that there was considerable variability in responses. The scores ranged from 14 to 28, with a mean of 23.0.

Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greenberg, 1987). This measure includes 25 questions asked about the adolescent's perceived attachment to each parent. The attachment questions include items measuring trust, communication, and alienation.

Summary of Final Data Set Used in This Study

The data used in this study include scores on parent-child compatibility, as measured by the PSI at Time 1 and Time 2; scores on social competence and total problem behaviors from the CBCL and the YSR (Time 2); scores on positive behavior from the YSR (Time 2); scores on attachment to mother and father from the IPPA; and gender and age.

RESULTS

In this section, descriptive statistics and intercorrelations among variables are first presented. Second, the development of the system for categorizing families according to compatibility change patterns is described. Third, MANCOVAs predicting adolescent outcomes from compatibility change patterns are presented.

Descriptive Statistics and Intercorrelations

Descriptive statistics for all variables used in this study are presented in Table 1. It should be noted that parents have scores on some variables on which adolescents do not have scores (e.g., compatibility) and vice versa (e.g., attachment to parents). For social competence and problem behaviors, adolescents' scores are derived from the YSR; parents' scores are derived from the CBCL. Although these two companion measures are related conceptually, the problem-behavior scores of the two measures are not directly comparable because they include different numbers of items. The most common behavior problems identified by fathers on the CBCL were "can't get his or her mind off certain thoughts," "argues a lot," "can't concentrate, can't pay attention for long," "impulsive or acts without thinking," and "can't sit still, restless, or hyperactive." The most common behavior problems identified by

mothers on the CBCL were "argues a lot," "can't concentrate, can't pay attention for long," "impulsive or acts without thinking," "bites fingernails," and "demands a lot of attention." The most common behavior problems self-identified on the YSR were "I argue a lot," "I daydream a lot," "I don't eat as well as I should," "I bite my fingernails," and "I feel dizzy."

Intercorrelations among key variables are presented in Table 2. On the left-hand side, intercorrelations between parents' scores are presented; on the right-hand side, correlations between parents' scores and adolescents' scores are presented. Correlations between mothers' and fathers' scores on Time 1 compatibility, Time 2 compatibility, CBCL social competence, and CBCL problem behavior were .44, .60, .65, and .65, respectively (all $p < .001$). At both Time 1 and Time 2, compatibility correlated positively with parents' reports of adolescents' social competence and negatively with problem behavior (rs between .26 and .74). Correlations between compatibility and adolescents' reports of social competence and problem behavior were lower (rs between .10 and .24). Adolescent age was not significantly correlated with compatibility, social competence, problem behavior, or attachment to parents but was significantly correlated with YSR positive behavior, $r = .28$, $p < .001$.

Compatibility Change Patterns

To capture a sense of the dynamic nature of relationships in the study's families over an 8-year period, compatibility change patterns were identified by comparing each parent's assessment of compatibility at Time 1 and at Time 2. Five groups were constituted: Group 1 was most compatible and stable over time, Group 2 included adolescents whose compatibility scores increased substantially from Time 1 to Time 2, Group 3 was moderately compatible and stable, Group 4 included adolescents whose compatibility scores decreased substantially from Time 1 to Time 2, and Group 5 was least compatible and stable over time.

The five groups were developed as follows. First, compatibility scores were divided into the highest, middle, and lowest thirds, separately for mothers and fathers and for Time 1 and Time 2. To arrive at one cutoff for high, middle, and low that would apply across respondents and across time, the cutoffs in the four distributions were compared. When the cutoff scores differed, the highest of the four scores separating the middle and high groups was used and the lowest of the four scores separating the middle and low groups was used. Using this method, the low-compatibility group was defined as having scores ranging from 72 to 143, the moderate-compatibility group was defined as having scores ranging from 57 to 71, and the high-compatibility group had

TABLE 1: Descriptive Statistics for Key Variables

	Adolescent				*Mother*				*Father*			
Scale	M	SD	*min.*	*max.*	M	SD	*min.*	*max.*	M	SD	*min.*	*max.*
Compatibility—Time 1					62.5	12.9	36.0	110.0	64.5	12.8	36.0	102.0
Compatibility—Time 2					67.0	17.1	36.0	122.0	69.3	18.1	34.0	143.0
Social competence	14.8	3.1	7.5	25.7	18.7	3.9	8.0	31.8	18.3	4.1	7.0	26.2
Positive behavior	23.0	3.3	14.0	28.0								
Problem behavior	38.8	20.9	0.0	102.0	19.4	16.6	0.0	93.0	19.7	19.6	0.0	111.0
Attachment to mother	97.9	18.1	43.0	125.0								
Attachment to father	95.2	19.8	36.0	125.0								
Age	15.7	2.1	11.0	21.0	47.4	3.5	40.0	57.1	49.3	3.7	40.9	60.1
Education	9.1	2.0	5.0	13.0	15.1	2.5	9.0	20.0	16.3	2.6	9.0	22.0

NOTE: Adolescent social competence, positive behavior, and problem behavior are taken from the YSR. Parent social competence and problem behavior are taken from the CBCL. Attachment to mother and father are from the IPPA, which only the adolescent completed. Compatibility is taken from four subscales of the PSI, which only the parents completed.

TABLE 2: Intercorrelations Among Variables

						Mother Variables With:				*Father Variables With:*			
	Compatibility Time 1	*Compatibility Time 2*	*CBCL Social Competence*	*CBCL Problem Behavior*	*Adolescent Age*	*YSR Social Competence*	*YSR Problem Behavior*	*YSR Positive Behavior*	*Attachment to Mother*	*YSR Social Competence*	*YSR Problem Behavior*	*YSR Positive Behavior*	*Attachment to Father*
Compatibility —Time 1	**.44*** **	.47***	.26**	−.45***	.03	.15	−.02	.09	.03	.22	−.02	.12	.15
Compatibility —Time 2	.45***	**.60*** **	.38***	−.65***	.06	.10	−.21*	.10	.27***	.24**	−.23*	.22*	.28***
CBCL social competence	.27**	.53***	**.65*** **	−.45***	−.03	.39***	−.26**	.23**	.20*	.42***	−.20*	.29***	.28***
CBCL problem behavior	−.30**	−.74***	−.45***	**.65*** **	−.14	−.14	.35***	−.09	−.28***	−.13	.20*	−.14	−.09
Adolescent age	−.03	−.09	−.09	−.01	–	.02	−.02	.28***	−.10	.02	−.02	.28***	−.01

NOTE: Mothers above the diagonal; fathers below the diagonal. Mother-father correlations are on the diagonal in bold and underlined.
*$p < .05$. **$p < .01$. ***$p < .001$.

scores ranging from 36 to 56. The scores appear reversed because of the change in scoring (see description of PSI above). Group assignments were made separately based on mothers' and fathers' scores, and analyses were run separately for the two groupings.

Families that were in the high-compatibility group at both Time 1 and Time 2 were defined as being in Group 1, families that moved from one group to a higher compatibility group from Time 1 to Time 2 were in Group 2, families that were in the middle group at both times were in Group 3, those who moved from one group to a lower compatibility group from Time 1 to Time 2 were in Group 4, and families that were in the low-compatibility group at both times were in Group 5. This method of group assignment insures that families having the same raw compatibility scores in the higher and lower groups at Times 1 and 2 are treated the same.

Predicting Adolescent Outcomes from Change Patterns

A series of six 5×2 MANCOVAs was conducted to examine the relation between patterns of change in compatibility and adolescent outcomes. In each of the six analyses, the independent variables were the change pattern and gender of the adolescent, and the covariate was adolescent age at the Time 2 assessment. Three pairs of analyses were run: Within each pair, one analysis used change patterns assigned on the basis of mothers' scores; the other used change patterns assigned on the basis of fathers' scores. The dependent variables were, as follows, analysis set 1: CBCL social competence and total problem behavior (mothers' CBCL scores were run with the change pattern based on mothers' compatibility scores, and fathers' CBCL scores with compatibility patterns based on fathers' scores); analysis set 2: YSR social competence, positive behavior, and total problem behavior; analysis set 3: IPPA attachment to mother and attachment to father. Three sets of MANCOVAs (rather than one) were run because of conceptual independence of the sets of dependent variables and potential interdependence between mother and father CBCL data.

The first set of analyses focused on CBCL social competence and problem behavior outcomes. Adjusted means for the change pattern groups for these analyses are presented in Table 3, as are significant effects for pattern. Significant differences among means are indicated in the far right-hand column. For mothers' responses, significant multivariate effects were found for change pattern, Pillai's trace = .31, $F(8, 264) = 6.1$, $p < .001$. Univariate tests for change pattern were significant for total problem behavior, $F(4, 132) = 13.4$, $p < .001$, and for social competence, $F(4, 132) = 4.4$, $p = .002$. Follow-up tests revealed that the mean social competence was lowest in Group 5 (sta-

ble, least compatible) and that the mean score in Group 5 was significantly lower than those in Groups 1, 2, or 3. The mean in Group 3 was also significantly higher than the mean in Group 4. The mean problem behavior scores increased in a linear fashion from Group 1 to Group 5.

Parallel analyses for the fathers' CBCL scores also showed a significant multivariate main effect only for change pattern, Pillai's trace = .19, $F(8, 234) = 3.0$, $p = .003$. Univariate tests for change pattern were significant for total problem behavior, $F(4, 117) = 5.5$, $p < .001$, and for social competence, $F(4, 117) = 2.9$, $p = .025$. Social competence scores decreased in a linear fashion from Group 1 to Group 5, and problem-behavior scores increased in a linear fashion from Group 1 to Group 5. Follow-up tests revealed that the mean social competence score in Group 1 was significantly higher than those in Groups 4 or 5. The mean problem behavior score in Group 4 ("decreasers") was significantly higher than those in Groups 1, 2, and 3; the mean problem behavior score in Group 5 (stable, least compatible) was also significantly higher than those in Groups 1, 2, and 3.

The second set of analyses focused on YSR social competence, positive behavior, and total problem behavior as dependent variables. When YSR responses were examined as a function of the change patterns determined by fathers' scores, there was a significant multivariate main effect for adolescent age, Pillai's trace = .095, $F(3, 96) = 3.4$, $p = .02$, but no significant effect for change pattern, adolescent gender, or their interaction. None of the univariate tests yielded significant results, although the general trend of scores increasing across Groups 1, 3, and 5 was evident for problem behaviors. Social competence scores decreased across Groups 1, 3, and 5. The same general constellation of results emerged when mothers' change patterns were used. There were no significant multivariate main effects.

The third set of analyses involved IPPA scales of attachment to mother and attachment to father as dependent variables. None of the multivariate main effects was significant. When change patterns derived from mothers' scores were used, there were no significant univariate effects. When fathers' scores were used, there was a significant effect for attachment to mother, $F(4, 108) = 2.9$, $p = .026$, and a nonsignificant trend for attachment to father $F(4, 108) = 2.1$, $p = .085$. For both attachment to mother and attachment to father, the means in Group 1 (stable, most compatible) were highest, those in Group 3 (stable, middle group) were lower, and those in Group 5 (stable, least compatible) were lowest.

TABLE 3: Means on Dependent Variables by Change Pattern Groups

Outcome Variable	*Pattern 1*	*Pattern 2*	*Pattern 3*	*Pattern 4*	*Pattern 5*	*Univariate* F *for Pattern*	*Significant Differences*
CBCL social competence—mothers	20.0	19.2	20.0	18.3	16.0	4.4**	1,5 2,5 3,5 3,4
CBCL problem behavior—mothers	9.3	12.1	15.6	21.2	39.5	13.4***	1,4 1,5 2,4 2,5 3,5
CBCL social competence—fathers	20.7	19.1	18.9	17.7	16.7	2.9*	1,4 1,5
CBCL problem behavior—fathers	9.1	10.9	12.7	26.1	27.6	5.5***	1,4 1,5 2,4 2,5 3,4 3,5
YSR social competence—fathers	16.9	14.4	14.3	14.5	13.6	2.2†	1,3 1,4 1,5
YSR problem behavior—fathers	32.1	40.8	35.5	44.3	43.3	1.1	
YSR positive behavior—fathers	23.9	23.0	23.2	22.5	22.0	1.0	
YSR social competence—mothers	16.0	14.5	15.0	14.5	13.9	0.9	
YSR problem behavior—mothers	31.7	36.3	39.2	43.8	38.4	1.0	
YSR positive behavior—mothers	24.4	23.4	23.4	23.1	21.7	1.3	
IPPA attachment to mother—mothers	105.6	101.1	99.0	93.4	97.9	1.5	1,4
IPPA attachment to father—mothers	102.8	98.9	96.8	92.0	92.0	1.1	
IPPA attachment to mother—fathers	109.8	99.6	99.6	91.8	93.9	2.9*	1,4 1,5
IPPA attachment to father—fathers	109.8	96.5	95.9	91.4	94.8	2.1†	1,3 1,4 1,5

NOTE: The designation of "mothers" or "fathers" refers to the person whose change pattern was used in that analysis. Pairs of means significantly different from each other are indicated in the last column. Pattern 1 = stable, most compatible; Pattern 2 = increasers; Pattern 3 = stable, middle group; Pattern 4 = decreasers; Pattern 5 = stable, least compatible. CBCL = Child Behavior Checklist; YSR = Youth Self-Report; IPPA = Inventory of Parent and Peer Attachment.

*$p < .05$. **$p < .01$. ***$p < .001$. †$p < .10$.

DISCUSSION

Our results indicate that compatibility change patterns, based on parents' reports 8 years apart, are related to adolescents' psychosocial engagement, as indexed by perceptions of attachment to their parents and parents' assessments of their adolescents' problem behaviors and social competence. Five patterns indicating change in compatibility over an 8-year period were ordered from high to low in the following manner: (1) stable, most compatible; (2) increasing compatibility; (3) stable, moderately compatible; (4) decreasing compatibility; and (5) stable, least compatible. Parents' perceptions of their adolescents' social competence decreased, and scores on problem behavior increased across change patterns 1 through 5. The same pattern was evident whether mothers' or fathers' CBCL scores were used. Analyses controlled statistically for adolescents' age; no main effects for adolescent gender or interaction between gender and change pattern emerged.

Adolescents' perceptions of their own social competence and problem behavior (on the YSR), however, did not covary with compatibility change patterns. Adolescents' perceptions of attachment to their parents were related to change patterns. In general, attachment scores decreased across compatibility change patterns 1 through 5, indicating a stronger sense of attachment during adolescence when the perception of compatibility was high and stable across the transition to adolescence.

Taken together, the results suggest that higher degrees of perceived compatibility maintained from middle childhood to adolescence are associated with higher social competence and attachment to parents and lower problem behavior. The results are similar for male and female adolescents and whether compatibility change patterns were derived from mothers or fathers.

What does this suggest in terms of the development of psychosocial engagement? When parents perceive a decline in compatibility from middle childhood to adolescence, adolescents are viewed more negatively. When parents perceive an increase or stable high compatibility, social competence and attachment scores are higher. Even with longitudinal data, causal direction is difficult to determine. It is likely that compatibility and outcomes influence each other in a reciprocal fashion. For example, families in which parents view the child as a good fit would likely find their interactions to be mutually responsive and satisfying. Such a history would enhance the adolescent's evolving sense of connection to parents, further reinforcing the parents' sense of compatibility. Likewise, parents who perceive declining compatibility may be reacting to increased frequency of problem behavior on the part of the adolescent; or conversely, the lowered perception of compatibility

may be communicated to the adolescent, who may react by behaving in a more problematic way.

The strengths of this study include its broad sample from across the United States, its sampling across diverse levels of openness in adoption, and its longitudinal design. Using a case-centered approach permits consideration of change at the level of the individual family and its adolescent. However, this study is limited in terms of its generalizability. The participants were largely middle-class, White families who adopted healthy infants. Although we can hypothesize that these findings would generalize to biological families or to families with special needs, international, or transracial adoptions, the present data do not provide the answers. In further work with this sample, we will be exploring questions concerning the link between openness arrangements and compatibility. Is the construction of compatibility facilitated or hindered by direct contact between the adoptive family and the child's birth family? Would the child's sense of connection to birth relatives moderate the link between compatibility with the adoptive family and psychosocial engagement? In addition, future research should measure psychosocial engagement in new ways. Although social competence, attachment, and problem behavior are certainly indicators of psychosocial engagement, other indicators (e.g., engagement with friends) could also be examined.

By taking a strength-based approach, we hope to contribute to the understanding of how adolescents engage their social worlds in proactive and positive ways. Our data provide evidence that the construction of a sense of compatibility within the family, demonstrated in terms of assets such as positive family communication and family support, is related to the emergence of psychosocial engagement within and outside the family.

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