

Family Interactions and Shared Fate:
Associations with Adopted Adolescent Adjustment

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Abstract

In recent years, research has suggested that adoption status and family interactions are associated with adolescent externalizing behaviors. Conversations that acknowledge racial and ethnic differences between international adoptees and adoptive parents may also be important for adjustment. However, this association has never been empirically validated. This study tests associations between family interactions, acknowledging racial and ethnic difference, and adolescent adjustment using a sample of 222 adolescent Korean adoptees and their families. Families that acknowledge racial and ethnic difference had adolescents with the fewest externalizing behaviors. General family interactions were associated with acknowledging difference, where positive adolescent communication and dominant mothers tended to be associated with acknowledging difference. Contradictory of general population research, generally positive communication across family members was associated with an increase in adolescent externalizing behavior. Future directions suggest examining the effects of acknowledging racial and ethnic difference in adoptive families for non-adopted sibling and parent adjustment. Future research should also further examine the positive association between communication and adolescent externalizing behaviors in an adoptive sample.

Keywords: adoption, family interactions, Shared Fate, adolescent adjustment

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There are currently 1.5 million adopted children under age 18, or approximately 2% of the U.S. child population (U.S. Census Bureau, 2010). A significant number of these children are international adoptees. In the past decade, up to 23,000 children were adopted into the U.S. each year (U.S. Department of State, 2012). Current research indicates that some adoptees have poor adjustment (Juffer & van IJzendoorn, 2005; Keyes, Sharma, Elkins, Iacono, & McGue, 2008; Sharma, McGue, & Benson, 1998), and family interactions may play an important role in adoptee adjustment (Rueter & Koerner, 2008). Family interactions may be particularly important for international adoptees because of an additional need to communicate about adoption and family racial and ethnic differences. This study examines the importance of communication acknowledging racial and ethnic difference, as well as general family interactions, for adolescent adjustment.

Adoptee Adjustment

Researchers have paid significant attention to adoptee adjustment in recent years. While many adoptees are well adjusted (Bimmel, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2003; Juffer & van IJzendoorn, 2005, 2007), adopted children, as a whole, may have more behavior problems than non-adopted children (Keyes et al., 2008; Juffer & van IJzendoorn, 2005). Adoptees exhibit externalizing behaviors at twice the rate of non-adoptees (Keyes et al., 2008), with higher levels of delinquent behavior and poorer school adjustment (Sharma et al., 1998). Adopted children also have higher referral rates to clinical professionals than non-adopted children (Juffer & van IJzendoorn, 2005; Grotevant, 1997).

Studies specifically on international adoptees indicate these children have significantly more total problem behaviors and externalizing behaviors compared to non-adoptees (Keyes et. al, 2008; Juffer & van IJzendoorn, 2005). However, these studies have also found that international adoptees have more positive adjustment compared to domestic adoptees. Adjustment differences between domestic and international adoptees could be related to a variety of factors. One possible factor may be related to the multitude of international adoptions involving transcultural, and in many cases, transracial adoption placements (Hellerstedt et al., 2008). However, it has been suggested that domestic and international transracial adoptees may differ in their experiences related to race and ethnicity (Lee, 2003; Vonk, Lee, & Crolley-Simic, 2010). This implies that domestic and international adoptees should be studied separately, thereby not confounding racial and ethnic experiences, as well as how these experiences relate to adjustment.

Family Interactions and Adolescent Adjustment

Family interactions are an important predictor of adolescent adjustment (Steinberg, 2001) and are associated with adopted children's adjustment (Rueter & Koerner, 2008; Yoon, 2001, 2004). In general, adoptive families may exhibit more negative family interactions that are associated with poorer adolescent adjustment. For example, adoptive families as a whole may have more conflicted relationships and exhibit less warmth (Rueter, Keyes, Iacono, & McGue, 2009) and have less family cohesion (Westhues & Cohen, 1997) than biologically related families. This observation could be explained by a number of differences between adoptive and non-adoptive

families, including the family's ability to acknowledge adoptive family differences (Kirk, 1964, 1984).

According to shared fate theory (Kirk, 1964, 1984) families that acknowledge difference "share fate" with their adopted children by joining together with their children in the children's adoptive story. This theory indicates that sharing fate and acknowledging differences would be related to positive child outcomes. Shared fate theory (Kirk, 1964, 1984) initially addressed only adoptive family differences (i.e. acknowledging adopted children as part of both adoptive and birth families). However, it recently has been used to examine acknowledging racial and ethnic difference in adoptive families (Kim, Reichwald, & Lee, 2013).

In internationally adoptive families, parents and adopted children primarily have differing cultural heritages and, in many cases, are racially dissimilar (Hellerstedt et al., 2008). These racial and ethnic differences may make acknowledging difference particularly important in internationally adoptive families. Families acknowledging differences may be more likely to engage in cultural socialization activities because they see racial and ethnic differences as salient to the family. Cultural socialization practices transmit understanding of the child's cultural heritage through teaching children about their racial and ethnic origins (Lee, 2003). Cultural socialization research indicates that a child's positive experience with ethnic origins may relate to positive child adjustment (Lee, 2003; Yoon, 2001, 2004; Johnston, Swim, Saltsman, Deater-Deckard, & Petrill, 2007).

Communication about Adoption-Related Differences

Examination of adoption-related communication primarily underscores the importance of communicative openness for family functioning. Communicative openness entails creating open family environments where adoption-related communication occurs (Wrobel, Kohler, Grotevant, & McRoy, 2003; Brodzinsky, 2005). Children growing up in families where communicative openness occurs are more likely to have higher self-esteem and positive adjustment (Brodzinsky, 2006), and perceive greater familial closeness (Sobol, Delaney, & Earn, 1994). In addition, parents expressing empathy towards their child's need to understand family origins have more effective communication than families that do not (Wrobel et al., 2003). One study by Wrobel et al. (2003) indicates that the lack of communicative openness about adoption may also be associated with negative adjustment. If children sense that adoption-related conversation is unsupported within the family, children may be deterred from pursuing adoption-related conversation. It has been suggested that this may have important effects on adolescent adjustment, particularly if adoption-related information is withheld or children are concerned about upsetting the family system (Wrobel et al., 2003), though this warrants future research.

However, there is still some controversy about the nature and effects of communicative openness for adoptive families. One study indicated that communicative openness does not directly impact adolescent adjustment and may be mediated by other adoption-related concepts (Grotevant, Rueter, Von Korff, & Gonzalez, 2011). This study found satisfaction with birth family conversation and contact was associated with fewer adolescent externalizing behaviors. Satisfaction with birth family contact was related to

actual birth family contact. Communicative openness increased with actual birth family contact, but was not directly associated with adjustment (Grotevant et al., 2011). Despite the controversy surrounding the importance of communicative openness, it remains an important construct under study in the adoption field. Studies of communicative openness are all specifically related to the adoption experience, rather than family racial and ethnic differences. However, it is possible that racial and ethnic differences are an extension of adoptive differences within this family context, thereby warranting further study.

In support of this argument, one study indicated acknowledging racial and ethnic difference in adoptive families was associated with more favorable family interactions (Kim et al., 2013). In addition, parents' supporting their children's ethnic background, a proxy for acknowledging racial and ethnic family differences, is associated with a better parent-child relationship, including positive communication and more warmth (Yoon, 2001, 2004). Only one study has operationalized shared fate theory as a construct with distinguishable categories of the extent to which families acknowledge racial and ethnic difference. This study found families acknowledging difference (Kirk, 1964, 1984) might have had more open communication styles (Kim et al., 2013).

It is expected that levels of adolescent externalizing behavior will vary across shared fate categories in the context of adoptive family racial and ethnic difference. However, the ways in which the shared fate categories are associated with adolescent externalizing behavior have not been clarified in previous research. This study also

addresses how family interactions are associated with acknowledging racial and ethnic difference (i.e., shared fate theory).

Sharing Reality: Important for Adolescent Adjustment?

The importance of appropriate parental control and warm, supportive communication for positive adolescent adjustment is well documented in the general population (Steinberg, 2001). One reason that these family interactions may be important is that they help families construct a shared reality (Koerner & Fitzpatrick, 2004, 2006). A shared reality consists of creating an environment where family members come to a consensus about a variety of family topics (Koerner & Fitzpatrick, 2004, 2006). Creating shared realities through communication and control may be particularly important in adoptive families when families cannot rely on genetic similarities to do so (Rueter & Koerner, 2008). Constructing shared realities are theorized as important for positive familial outcomes (Koerner & Fitzpatrick, 2004, 2006).

Among internationally adoptive families, racial and ethnic differences may constitute a unique opportunity or challenge to sharing reality. Ethnic and racial dissimilarities between parents and children may be a source of difference or stress among these families (DeBerry, Scarr, & Weinberg, 1996; Lee & the Minnesota International Adoption Project, 2010; Lee, 2003). This could lead to family conflict if a shared reality about racial or ethnic differences is not achieved. Family members that come to the same conclusion about the importance of discussing racial and ethnic difference will create a family shared reality, thereby leading to less familial conflict.

Families with warm, supportive communication and appropriate control are more likely to create shared realities about racial and ethnic differences. This may lead to lower levels of adolescent externalizing behavior by the family having achieved both a shared reality and positive family interactions.

Sharing Fate about Race and Ethnicity

Constructing a shared reality for some families means that they will share fate (Kirk, 1964, 1984). In the context of racial and ethnic differences in adoptive families, sharing fate occurs when adoptive families accept the importance of racial and ethnic differences between family members. Parents must then decide to share fate about (racial and ethnic) issues with adopted children (Kirk, 1964, 1984). Parents that share fate may describe the family as multi-racial or interpret the child's experiences of discrimination as also discrimination against the entire family. Families can share fate only by actively acknowledging racial and ethnic difference through conversation or cultural socialization activities.

Based on an expansion of shared fate theory, internationally adoptive families can be placed into three distinct categories based on agreement about the importance of racial and ethnic differences within the family (Kirk, 1964, 1984; Kim et al., 2013). One category includes families that acknowledge difference by talking about and promoting racial and ethnic differences or cultural heritages in a way that demonstrates that the parents share fate with their adopted children. The second category includes families that are in denial of difference; these families dismiss the importance of racial and ethnic differences and do not encourage cultural discussion or exploration. These families do

not talk about racial and ethnic differences in a way that illustrates that the parents are sharing fate with their adopted children. The final category includes families with discrepant views of difference; family members in this category disagree about the extent to which conversations about racial and ethnic differences, or cultural discussion, are important (Kim et al., 2013).

Although two disparate theories, when used together, shared fate (Kirk, 1964, 1984) and theory on sharing reality (Koerner & Fitzpatrick, 2004, 2006) can help elucidate the importance of conversations about racial and ethnic differences. In the context of conversations about the importance of racial and ethnic difference, families may share reality in one of two ways: by being categorized as acknowledging difference or as denial of difference. In each of these categories, family members have come to a consensus about whether conversations about racial and ethnic difference are important. However, families may only share fate by acknowledging the importance of racial and ethnic differences and promoting conversations about interfamily cultural diversity.

Both sharing fate through acknowledging differences (Kirk, 1964, 1984) and sharing reality (Koerner & Fitzpatrick, 2004, 2006) are theorized as associated with positive adjustment. Families that acknowledge racial and ethnic differences would both share fate and have a shared reality. Therefore, adolescents in these families would be theorized to have the most positive adjustment. Families that are in the denial of difference category would share reality, but not share fate. These families would be theorized to benefit from sharing a family reality (i.e., by being in agreement that conversations about racial and ethnic differences are not important), but may not have as

positive adjustment as adolescents whose families also share fate. Finally, families that have discrepant views of difference would not have a family shared reality or share fate. Therefore, these adolescents may have the poorest adjustment because they do not benefit from either concept that is theorized to be important for adolescent adjustment.

Research Questions and Study Hypothesis

This literature review reveals gaps in current research that lead to the creation of three primary research questions. First, several studies have hinted that general family interactions are associated with acknowledging racial and ethnic difference. However, these studies did not empirically validate this association (Kim et al., 2013) or used constructs that are a proxy for acknowledging racial and ethnic difference (Yoon, 2001, 2004). Second, shared fate theory within the context of racial and ethnic conversations is only theorized to be associated with adolescent adjustment; this has never been empirically tested. Third, general family interactions are associated with adolescent adjustment, but have not been examined in a sample with families that have adopted children from South Korea. Based on previous research and theory, we have several expected hypotheses.

RQ1. Which general family interactions are associated with each shared fate category?

H1.1. Due to the small amount of previous research on the association between family interactions and the shared fate categories, we will not pose a specific hypothesis for RQ1.

RQ2. Do adolescent externalizing behaviors differ across shared fate categories?

H2.1-2. Shared fate theory (Kirk, 1964, 1984) suggests acknowledging difference is associated with fewer externalizing behaviors. Theory on sharing reality (Koerner & Fitzpatrick, 2004, 2006) indicates families that share a reality (i.e., acknowledge difference or denial of difference) have adolescents with fewer externalizing behaviors than families that do not share a reality (i.e., discrepant views of difference). Therefore, this study's hypotheses are that: Adolescents whose families are in the acknowledging difference shared fate category will have fewer externalizing behaviors compared to adolescents in other shared fate categories (H2.1). Adolescents whose families are in the discrepant views of difference shared fate category will have more externalizing behaviors compared to adolescents in the other shared fate categories (H2.2).

RQ3. What family interactions are associated with adolescent externalizing behaviors?

H3.1. General family interactions have consistently been associated with positive adjustment (Steinberg, 2001). Given the body of previous research, this study's hypothesis is that family interactions will be associated with adjustment, such that positive interactions will be associated with fewer adolescent externalizing behaviors (H3.1).

Methods

Participants

Participants in this study ($N = 222$ adolescents, from 111 families) were a subset of families from the Sibling Interaction and Behavior Study (SIBS; $N = 617$ families;

McGue et al., 2007). This subset included internationally adoptive families that participated in the first and second waves of the SIBS. The SIBS is a longitudinal study designed to assess differences in adolescent externalizing behavior between adopted and non-adopted adolescents. Due to the preponderance of adopted adolescents from South Korea in the full sample (474 adopted adolescents, 69%), we chose to only include families that had adopted at least one adolescent from South Korea. Inclusion criteria for this subset ($N = 111$ families, 222 adolescents) included: 1) at least one adolescent in the family was adopted from South Korea 2) both parents self-identify as Caucasian 3) families participated at waves one and two of the SIBS and 4) families responded to questions about racial and ethnic issues during wave two.

Adoptive families were recruited as part of the SIBS from the three largest adoption agencies in Minnesota. In the full sample of adoptive families, 90% of the adoptive families were located; 63% of the located adoptive families participated. To participate in the SIBS, families had to include at least one parent and two adolescents that were fewer than five years apart in age. Families lived within driving distance of the Midwestern university where the research lab was located and had children with no mental or physical disability. Eligibility criterion also specified that all adopted adolescents were placed prior to two years of age and were not biologically related to other adopted siblings (See McGue et al., 2007 for full recruitment and sample information).

In this subset of 222 adolescents ($N = 111$ families), there were slightly more females than males (124 females, 56%). The average adolescent age was 14 years old at

the first wave ($M = 14.45$, $SD = 1.82$). In addition, most adolescents were adopted (194 adoptees, 87%) and the majority of sibling pairs included adolescents who were both adopted (166 adolescents, 75%). Families ($N = 111$) were predominantly middle class families with an average income between \$60,000-\$70,000. Parents were highly educated, with 67% of mothers and 68% of fathers holding a bachelor's degree or higher.

Procedure

Families visited the research lab to complete all questionnaires, observational assessments, and informed consent forms that were utilized in this study. Each participant completed the self-report questionnaires individually without interaction between family members. The videotaped family interactions occurred in a research lab designed to look like a family's living or dining room; families were asked to sit around a dining room table during the interaction tasks. All families were aware that they were being videotaped, but cameras were placed inconspicuously in bookcases in several corners throughout the room.

During the first wave, families participated in two observational tasks that were later assessed for general family interactions. The first task was the Rorschach inkblot (Exner, 2002), during which families were presented with a picture of an inkblot and were told to discuss and come to an agreement about what the inkblot most resembled. During the second task, families were asked to discuss a moral dilemma (Kohlberg, 1981) and decide whether or not it was acceptable to steal a life-saving drug for a) your spouse and b) a stranger.

Data from the second wave were collected three years after the first wave. Of the full SIBS sample, 88% (545 of 617 families) participated at wave two. During the wave two observational task, families were given a set of index cards that contained questions about family conflicts and topics relevant to their everyday lives. One index card included questions related to racial and ethnic differences (see Acknowledging Racial and Ethnic Difference, below). Families were instructed to discuss each card in order before moving on to a subsequent card; families were given 15 minutes to discuss the cards. Families were not required to finish discussing all of the cards. This study focused only on conversations about racial and ethnic differences. Therefore, only families that discussed this card were included in the final study sample ($N = 111$ families).

Measures

Family interactions. Individual family members' interactions were rated by independent observers during the first wave. Family interactions were observed and globally rated using the Sibling Interaction and Behavior Study Rating Scales, adapted from the Iowa Family Interaction Rating Scales (IFIRS; Melby et al., 1998). Family interactions were rated on a 9-point scale (1 = *not at all characteristic of the person*, 9 = *mainly characteristic of the person*). Each family member received a score for every scale based on interactions with every other family member. Observers received 100 hours of training and were required to pass written and observation exams prior to rating family interactions; 25% of the tapes were coded by a second observer to ensure inter-observer reliability. This study utilized four family interaction scales: communication, dominance, warmth, and listener responsiveness.

Communication scale. Communication was conceptualized as one family member engaging with another family member in productive conversation. The communication scale of the IFIRS assessed at wave one how well a family member communicated his/her needs and opinions, where a higher score indicated more positive communication. Communication must have been positive or neutral in affect; negative communication was not scored as part of the communication scale. Each member of the family, including mothers, fathers, and both adolescents, were scored based on their interaction with every other family member on this scale. Intra-class correlations for reliability scores ranged from .60 - .75. Each family member's overall score (e.g., their combined interaction towards all family members) for the communication scale was computed using factor analysis (see First Order Factors, below).

Dominance scale. Dominance was conceptualized as attempts, and possibly successful attempts, at controlling the direction of the conversation or another family members' ideas. The dominance scale of the IFIRS assessed at wave one the degree to which a family member tried to control or influence other family members. A high dominance score was indicative of someone who more often tried, and succeeded, in controlling the conversation or feelings of other family members. Each member of the family, including mothers, fathers, and both adolescents, were scored based on their interaction with every other family member on the dominance scale. Intra-class correlations for reliability scores ranged from .56 - .76. Each family member's score (e.g., their overall interaction towards all family members) for the dominance scale was computed using factor analysis (see First Order Factors, below).

Warmth scale. Warmth was conceptualized as an indication, verbal or nonverbal, of positive affect from one member of the family to another. The warmth scale of the IFIRS assessed at wave one how much one family member expressed care, concern, or loving feelings towards another member of the family. A higher warmth score was indicative of family members that more often expressed praise or encouragement to other family members. Each member of the family, including mothers, fathers, and both adolescents, were scored based on their interaction with every other family member on the warmth scale. Intra-class correlations for reliability scores ranged from .37 - .72. Each family member's overall warmth score (e.g., their combined interaction towards all family members) for the warmth scale was computed using factor analysis (see First Order Factors, below).

Listener responsiveness scale. Listener responsiveness was conceptualized as the ability of a family member to encourage other members of the family to speak through verbal or non-verbal actions. The listener responsiveness scale of the IFIRS assessed at wave one the degree to which a family member listened, actively responded to, or had interest in another family member while they were speaking. A higher listener responsiveness score indicated someone skilled at listening. Each member of the family, including mothers, fathers, and both adolescents, was scored based on their interaction with every other family member on the listener responsiveness scale. Intra-class correlations for reliability scores ranged from .34 - .63. Each family member's total listener responsiveness score (e.g., their overall interaction to all other member's of the family) was computed using factor analysis (see First Order Factors, below).

First order factors. Factor and principal component analysis in SPSS 20.0 was used to create first-order factors for each family member on the IFIRS scales. For example, a first-order factor for the communication scale was created for the mother, father, and each adolescent. Indicators for the mother's communication first-order factor (COM) included mother's communication to father, mother's communication to the elder adolescent, and mother's communication to the younger adolescent. See Table 1 for first-order factor loadings.

Shared fate. Acknowledging racial and ethnic difference was conceptualized as active engagement and discussion promoting adoptive family racial and ethnic differences. Conversations acknowledging difference involved parents indicating a shared fate with their adolescents around racial and ethnic difference. Based on an adaptation and extension of shared fate theory (Kirk, 1964, 1984; Kim et al., 2013), families were placed in categories (see below) based on transcripts from family interactions at wave two. The questions that allowed families to discuss the importance of race and ethnicity to their families were: 1) How do our ethnic and racial backgrounds affect us as a family? 2) Provide an example of when your ethnicity or race has been an issue for you, and 3) How well do we talk about ethnicity or race in our family?

Based on responses to these questions, observers were trained to place families into three mutually exclusive categories; there was 85% inter-rater agreement (Kim et al., 2013). The content coding for this study was refined after utilization in Kim et al.'s (2013) study. In the original coding process, one comment indicating dissention among family members was coded as discrepant views of difference. These families were

examined further to ensure these families had an overall gestalt of disagreement between family members. During the coding refinement process, three individual coders reached consensus about the overall gestalt of the conversation. In this subset, more than half of the families were in denial of difference (62 families, 56%). The remaining families were distributed between the acknowledging difference (23 families, 21%) and discrepant views of difference (26 families, 23%) categories.

Acknowledging difference. Families placed in the acknowledging difference category indicated that racial and ethnic difference existed, was important to their family, and described acting in ways that positively supported these differences. For example, some families discussed visiting cultural camps, visiting the adolescents' birth country, or having positive, active conversations about racial and ethnic differences. All family members must have been in agreement that racial and ethnic differences were important to their family and acted in ways that indicated a shared fate about family racial and ethnic differences.

Denial of difference. Families placed in the denial of difference category were dismissive of the importance of racial and ethnic differences and conversations promoting cultural heritages. All family members must have been in agreement that racial and ethnic differences were unsupported or unimportant to their family, or acted in ways that did not promote a shared fate. For example, families may have said that racial and ethnic differences do not affect their lives, they do not promote their family's ethnic diversity, or they may have made discriminatory comments about one family members' race or ethnicity.

Discrepant views of difference. Families placed in the discrepant views of difference category had mixed opinions between family members about the importance of racial and ethnic differences and conversations promoting cultural heritages. For example, one family member may have explained how they incorporate cultural activities into their family, while another family member indicated they do not engage in cultural activities or discuss racial and ethnic issues.

Externalizing behavior. This study conceptualized adolescent externalizing behavior as delinquent acts committed by an adolescent; minor externalizing behaviors that are common in adolescence (e.g., throwing an unauthorized party, missing curfew) were not seen as externalizing behaviors. Externalizing behavior was measured with a short form of the Delinquent Behavior Inventory (DBI; Gibson, 1967); the short form was highly correlated with the full DBI at wave one ($r = .99$). Externalizing behavior was self-reported by both adolescents in the family at wave two. The DBI short form contained 21 items, reported on a three-point scale (0 = *never*, 1 = *once*, or 2 = *more than once*). Adolescents reported if they had engaged in specific behavior, including “cutting classes in school,” “stealing things out of cars,” and “smashing, slashing, or damaging things.” Responses were summed to create one externalizing scale ($M = 5.91$, $SD = 6.58$, $\alpha = .89$). A graphical depiction of the distribution of adolescent externalizing behaviors can be found in Figure 1.1.

Adoption status. Due to previous literature indicating the importance of adoption status for adolescent externalizing behavior (Juffer & van IJzendoorn, 2005;

Keyes et al., 2008), adoption status was used as a covariate for all analyses. Adolescent adoption status was scored for each adolescent (1 = *not adopted*, 2 = *adopted*).

Data analysis plan. All data were analyzed at the individual level, and included mothers, fathers, and adolescents to increase sample size and subsequent statistical power. Because two adolescents are nested within one family, the MIXED MODELS option in SPSS 20.0 and the COMPLEX command in Mplus 7.1 (Muthén, L.K. & Muthén, B.O., 1998-2010) were used to account for similarities between adolescents due to family context.

Research questions and analysis.

RQ1. Which general family interactions are associated with each shared fate category? RQ1 was addressed in two steps. First, the mean family interaction factor scores were compared across shared fate categories. Second, associations between family interaction factor scores and shared fate categories were estimated.

To increase sample size and subsequent power, all analysis were run at the individual adolescent level. By doing so, the sample size doubled ($N = 222$ adolescents instead of $N = 111$ families). First, means for all family interaction factor scores for mothers, fathers, and adolescents for each shared fate category were calculated. Second, the associations between the family interaction factor scores and shared fate categories were estimated using multinomial logistic regression. For example, the shared fate nominal dependent variable was regressed simultaneously on all four of the mothers' family interaction factor scores, with adoption status as a model covariate. As analyses were run at the individual adolescent level, data involved adolescents nested within

families. To account for nested data with a nominal dependent variable, the COMPLEX command in Mplus 7.1 (Muthén, L.K. & Muthén, B.O., 1998-2010) was used to account for shared variance between siblings because of similar family context.

RQ2. Do adolescent externalizing behaviors differ across shared fate categories?

This study's hypotheses are that: Adolescents whose families are in the acknowledging difference shared fate category will have fewer externalizing behaviors compared to adolescents in other shared fate categories (H2.1). Adolescents whose families are in the discrepant views of difference shared fate category will have more externalizing behaviors compared to adolescents in the other shared fate categories (H2.2). This research question examined the association between shared fate categories and adolescent externalizing behavior.

Analysis of covariance (ANCOVA) was used to address RQ2. The nominal shared fate categories were used as the independent variable; the continuous adolescent externalizing behavior scale was used as the dependent variable. Model covariates included sex, age, and adoption status. SPSS 20.0 can account for nested data with continuous dependent variables. Therefore, the SPSS MIXED MODELS option was used to account for shared variance because adolescents were nested within families.

RQ3. What family interactions are associated with adolescent externalizing behaviors? This study's hypothesis was: family interactions will be associated with adjustment, such that positive interactions will be associated with fewer adolescent externalizing behaviors (H3.1).

Multiple regression was used to address RQ3. Family interaction factor scores were the independent variable; the continuous adolescent externalizing behavior scale was the dependent variable. Model covariates included adoption status, sex, and age. As adolescents were nested within families, the SPSS 20.0 MIXED MODELS option was used to account for shared variance between siblings because of similar family context.

Missing data analysis. Missing data were imputed through expectation maximization using SPSS 20.0. Missing demographic data ranged from less than 1% to 14%, with the majority of data missing less than 1%. Missing demographic information larger than 1% was due to missing father ages or ethnicities and family incomes. Missing data for the family interactions ranged from 0 – 22.5%, with most of the family interactions missing approximately 2% of the data. Missing family interaction data that ranged from 20% - 22.5% occurred due to lack of father participation in the family interaction task. There was 22% missing data for the DBI externalizing scales, with more missing data for older siblings (32%) than younger siblings (11%). There was no missing data for the shared fate categories. All data were screened prior to imputation to ensure that the missing father data were due to lack of participation, not due to family types where the father was not present in the family. This insures that data were only imputed for participants that were present in the sample, which is consistent with current best practices for imputing data (Acock, 2005).

Missing data were compared across participants with complete data on all variables and participants missing data on any variable using independent samples t-tests and chi-squared tests. Participants with complete data had younger fathers ($M = 48.91$

and $M = 49.96$, non-missing and missing data, respectively; $t = -2.01, p = .046$) and younger adolescents ($M = 13.85$ and $M = 14.98$, non-missing and missing data, respectively; $t = -4.81, p < .001$). There were also significant differences between participants with complete and missing data on several of the family interaction raw scores (i.e., prior to creating the first-order factors). Participants with missing data had higher raw communication scores for the elder adolescents' communication to mother ($M = 3.38$ and $M = 3.76$, non-missing and missing data, respectively; $t = -2.35, p = .020$), the elder adolescents' communication to the younger adolescent ($M = 2.88$ and $M = 3.30$, non-missing and missing data, respectively; $t = -2.88, p = .004$), mothers' communication to the elder adolescent ($M = 4.87$ and $M = 5.30$, non-missing and missing data, respectively; $t = -2.41, p = .017$), and mothers' communication to the younger adolescent ($M = 4.57$ and $M = 5.31$, non-missing and missing data, respectively; $t = -4.27, p < .001$). However, participants with missing data had lower raw communication scores for fathers' communication to the elder adolescent ($M = 5.08$ and $M = 4.53$, non-missing and missing data, respectively; $t = 2.53, p = .012$). Participants with missing data had lower raw dominance scores for fathers' dominance to mother ($M = 5.31$ and $M = 4.68$, non-missing and missing data, respectively; $t = 2.69, p = .008$), fathers' dominance to the elder adolescent ($M = 5.71$ and $M = 4.78$, non-missing and missing data, respectively; $t = 4.42, p < .001$), and fathers' dominance to the younger adolescent ($M = 5.55$ and $M = 4.87$, non-missing and missing data, respectively; $t = 2.84, p = .005$). Study participants that had missing data also had less warmth from the younger adolescent to father ($M = 1.88$ and $M = 1.50$, non-missing and missing data,

respectively; $t = 2.51, p = .013$) and the father to the younger adolescent ($M = 2.36$ and $M = 1.79$; non-missing and missing data, respectively, $t = 3.48, p = .001$), as well as father to the elder adolescent ($M = 2.55$ and $M = 1.99$, non-missing and missing data, respectively; $t = 3.02, p = .003$). Finally, participants with missing data had higher listener responsiveness for mothers to both the elder ($M = 3.13$ and $M = 3.62$, non-missing and missing data, respectively; $t = -2.78, p = .014$) and younger adolescent ($M = 3.11$ and $M = 3.63$, non-missing and missing data, respectively; $t = -2.58, p = .011$). Many of the significant differences found between families with missing and complete data for family interactions were due to differences in mothers' and fathers' interactions to the adolescents. There were no significant differences for participants with complete and incomplete data for adolescent externalizing behavior, other family interaction raw scores, or other demographic characteristics.

We utilized expectation maximization to handle missing data (Acock, 2005). Imputation is preferred to a traditional method of missing data analysis (e.g. listwise deletion) because it provides complete datasets, which may be necessary for some analysis, and accounts for the effects of missing data on statistical inference during the process of imputation (Johnson & Young, 2011).

Power analysis. An a priori power analysis was conducted using G*Power 3.1.3 (Faul, F., Erdfelder, E., Buchner, A. & Lang, A.-G., 2009). There was sufficient power (Cohen, 1992) to detect significance for odds ratios greater than 1.6 or smaller than 0.6 for RQ1. Achieved power was above .8 for RQ2 and RQ3, indicating appropriate levels of power to detect significant results (Cohen, 1992).

Results

This study identified associations between family interactions and the shared fate categories, as well as family interactions and adolescent externalizing behaviors. Study findings also indicated different levels of adolescent externalizing behavior across shared fate categories.

RQ1: Family Interactions and Shared Fate

Our first research question was: which general family interactions are associated with each shared fate category? We had no proposed hypothesis for this research question (H1.1). Study results indicated an association between family interactions and the shared fate categories.

Mean differences. Preliminary evidence of associations between family interaction factor scores and the shared fate categories are presented in Table 2. For example, on average, mothers in the acknowledging difference category showed more dominance ($M = .32, SD = .92$) than mothers in the discrepant views of difference category ($M = -.28, SD = 1.09$) and the denial of difference category ($M = -.002, SD = .96$). In addition, adolescents in the acknowledging difference category exhibited greater communication ($M = .22, SD = 1.03$) than adolescents in the denial of difference category ($M = -.12, SD = .93$) or discrepant views of difference category ($M = .09, SD = 1.11$). Statistical tests estimating the significance of the apparent differences are described below.

Mothers' interactions and shared fate. To accomplish the second step of analyzing RQ1, associations were estimated among each family member's interaction

factor scores and placement in the shared fate categories using multinomial logistic regression. Analysis results are presented in Table 3. For mothers, results suggested that dominance was associated with shared fate category membership, such that mothers in the acknowledging difference category tended to be more dominant than mothers in the discrepant views of difference category, $OR = 2.32, p = .029$ [reference group: discrepant views of difference]. The mothers' other family interaction factor scores and adolescent adoption status were not associated with any shared fate category.

Fathers' interactions and shared fate. Fathers' family interaction factor scores, and adolescent adoption status, were not significantly associated with the shared fate categories.

Adolescents' interactions and shared fate. For adolescents, results suggested that communication was associated with shared fate category membership. Adolescents in the acknowledging difference category tended to be more communicative than adolescents in the denial of difference category, $OR = 1.46, p = .039$ [reference category: denial of difference]. Adolescents in the discrepant views of difference category also tended to be more communicative than adolescents in the denial of difference category, $OR = 1.51, p = .022$ [reference category: denial of difference]. The adolescents' other family interaction factor scores, as well as adoption status, were not associated with any shared fate category.

RQ2: Shared Fate and Externalizing Behaviors

The second research question for this study was: Do adolescent externalizing behaviors differ across shared fate categories? Our hypotheses were: Adolescents whose

families are in the acknowledging difference shared fate category will have fewer externalizing behaviors compared to adolescents in other shared fate categories (H2.1). Adolescents whose families are in the discrepant views of difference shared fate category will have more externalizing behaviors compared to adolescents in the other shared fate category (H2.2)

As hypothesized, externalizing behaviors were associated with the shared fate categories, $F(2, 100) = 4.45, p = .014$ (See Figure 1.2). We found support for H2.1 and H2.2 indicating families acknowledging difference had adolescents with the fewest externalizing behaviors ($M = 3.47, SD = 4.16$). Adolescents whose families were in denial of difference category had the median level of externalizing behaviors ($M = 5.00, SD = 6.82$), while adolescents whose families held discrepant views of difference had the highest levels of externalizing behaviors ($M = 7.47, SD = 7.40$). Planned comparisons between shared fate categories identified statistically significant differences in adolescent externalizing behavior. Adolescents whose families were in the acknowledging difference category had fewer externalizing behaviors than those in the discrepant views of difference category, $\eta_p^2 = -3.92, p = .004$ [reference category: discrepant views of difference]. Adolescents whose families were in the acknowledging difference category also had fewer externalizing behaviors than those in the denial of difference category, though this difference was not statistically significant, $\eta_p^2 = -1.64, p = .15$ [reference category: denial of difference]. Adolescents whose families were in the denial of difference category reported fewer externalizing behaviors than adolescents in the discrepant views of difference category, $\eta_p^2 = -2.28, p = .039$ [reference category:

discrepant views of difference]. The adolescents' age, $F(1, 209) = 19.05$, $\eta_p^2 = .95$, $p < .001$, and sex (1 = *male*, 2 = *female*; female as reference), $F(1, 212) = 13.21$, $\eta_p^2 = 2.96$, $p < .001$ were also significantly associated with externalizing behaviors. Adoption status was not significant.

RQ 3: Family Interactions and Externalizing Behaviors

The third research question for this study was: what family interactions are associated with adolescent externalizing behaviors? This study hypothesized that family interactions will be associated with adjustment, such that positive interactions will be associated with fewer adolescent externalizing behaviors (H3.1). Family interaction factor scores were associated with externalizing behaviors, but support for H3.1 was mixed. Table 4 includes outcomes from the final models for the family interaction factor scores and adolescent externalizing behaviors.

Mothers' interactions and externalizing behaviors. As expected, the mothers' communication factor score was associated with externalizing behaviors, however, the direction of the association was such that an increase in positive communication was associated with an increase in externalizing behaviors, $F(1, 101) = 6.45$, $b = 1.67$, $p = .013$. An increase in the mothers' dominance factor score was associated with a decrease in externalizing behaviors, as expected, though the association did not reach significance, $F(1, 100) = 3.65$, $b = -1.00$, $p = .059$. The adolescents' age, $F(1, 205) = 16.13$, $b = .88$, $p < .001$, and sex were significantly associated with externalizing behaviors, such that an increase in age was associated with an increase in externalizing behaviors. Males were more likely than females to engage in externalizing behaviors,

$F(1, 207) = 14.21, b = 3.07, p < .001$ [reference category: female]. Adoption status was approaching significance, $F(1, 155) = 3.76, b = -2.32, p = .054$, where adopted adolescents had more externalizing behaviors than non-adopted adolescents [reference category: adopted].

Fathers' interactions and externalizing behaviors. The fathers' communication factor score was significantly associated with adolescent externalizing behavior, $F(1, 103) = 4.80, b = 1.23, p = .031$. However, the direction of this association was in line with our findings on mothers' communication and externalizing behaviors, but contradicting previous empirical evidence, such that an increase in fathers' communication was associated with an increase in externalizing behavior. Fathers' warmth factor scores were also associated with adolescent externalizing behavior, $F(1, 104) = 5.05, b = 1.05, p = .027$, such that an increase in fathers' warmth was also associated with an increase in externalizing behavior. The adolescents' sex and age were significantly associated with externalizing behavior, in the direction noted above. Adoption status was also associated with externalizing behavior, $F(1, 162) = 5.33, b = -2.74, p = .022$ [reference category: adopted], such that adoptees had higher externalizing behavior than non-adoptees.

Adolescents' interactions and externalizing behaviors. Several of the adolescents' family interaction factor scores were associated with externalizing behaviors. The adolescents' communication was significantly associated with externalizing behaviors, $F(1, 198) = 8.20, b = 1.34, p = .005$, such that an increase in the adolescents' positive communication resulted in an increase in self-reported

externalizing behaviors. However, the adolescents' ability to listen well was negatively associated with externalizing behaviors, $F(1, 202) = 8.58, b = -1.44, p = .004$. The adolescents' age, sex, and adoption status were associated with externalizing behaviors in the expected direction, noted above.

Discussion

Findings from this study establish a link between family interactions in internationally adoptive families, the extent to which adoptive families acknowledge racial and ethnic differences, and adolescent externalizing behavior. Family interactions, in particular, mothers' dominance and adolescent's communication, were associated with the extent to which adoptive families acknowledged racial and ethnic difference. As anticipated, acknowledging racial and ethnic difference was associated with the fewest number of adolescent externalizing behaviors. However, results from this study indicate positive communication was associated with increases in adolescent externalizing behavior. This is contradictory of general population research (Steinberg, 2001). Below, this unexpected finding is discussed in light of literature about parents' perceived entitlement to their adopted children.

Theoretical Explanation of Findings

Family interactions and shared fate. Several previous studies allude to the association between family interactions and acknowledging racial and ethnic difference (Kim et al., 2013; Yoon, 2001, 2004). Results of this study provide support for previous findings, with one notable clarification. Previous research indicated that positive parent-child communication (Yoon, 2001, 2004) and an open communication style (Kim et al.,

2013) were associated with families acknowledging racial and ethnic difference. The approach used in this study illustrates each family member's contribution to whether conversations acknowledging racial and ethnic difference occur. Results indicate that mothers and fathers' communication was unassociated with the extent to which conversations acknowledging racial and ethnic difference occur. However, the adolescents' ability to engage in positive communication was associated with acknowledging racial and ethnic difference, especially when compared to adolescents whose families were in denial of difference. Mothers were also more dominant in families that acknowledged racial and ethnic difference than families that had discrepant views of difference. This study builds on previous research (Kim et al., 2013; Yoon, 2001, 2004), indicating that family members may have differential contributions to the extent to which families discuss racial and ethnic differences.

The importance of adolescents' communication and mothers' dominance for acknowledging difference (i.e., one form of shared reality) is generally in line with theory on sharing reality (Koerner & Fitzpatrick, 2004, 2006). Study results in regard to family interactions and the acknowledging difference category provide support for the idea that family interactions are important when creating a shared reality (Koerner & Fitzpatrick, 2004, 2006). One possible explanation for this is that families with positive family interactions may be more likely to share this form of reality about racial and ethnic differences. Future research is needed to explore the relationship between these constructs.

However, theory suggesting that communication is important for creating a shared reality (Koerner & Fitzpatrick, 2004, 2006) was only supported in respect to acknowledging difference, not in regards to denial of difference. While adolescents communicated more in families that acknowledged difference, thereby supporting theory on shared reality, there were not high levels of positive communication in families that were in denial of difference. In fact, families in denial of difference had lower than average levels of communication across mothers, fathers, and adolescents. Adolescents whose families held discrepant views of difference were more communicative than adolescents with families in denial of difference. One possible explanation for this is that having low levels of general family communication defer conversations about racial and ethnic differences because families lack the mechanisms to discuss difficult issues. In addition, adolescents' may not have avenues to discuss racial and ethnic issues because they perceive these conversations to be unsupported within the family; this is in line with research on adoption-related communication (Wrobel et al., 2003). It is possible that positive family interactions only help families reach a shared reality about some topics; further research is needed to test these explanations.

One weakness of this study was the ability to only have adequate power to detect statistical significance for odds ratios above 1.6 or below 0.6 for the association between family interactions and shared fate categories. While we found several significant differences across shared fate categories for family interactions, it is possible that other differences exist but there was not enough power to detect them. For that reason,

significant associations found between family interactions and shared fate categories are a starting point for exploration of further differences.

Shared fate and externalizing behavior. According to shared fate theory (Kirk, 1964, 1984), acknowledging (racial and ethnic) difference may be associated with fewer adolescent externalizing behaviors. This study provides support for this theory; in so much as adolescents whose families acknowledge difference had the fewest reported adolescent delinquent externalizing behaviors between all three categories. In addition, adolescents in the discrepant view of difference category had the most reported adolescent externalizing behaviors.

One possible explanation for this is that adolescents whose families acknowledge difference benefit from their families sharing fate and sharing reality. Sharing fate and sharing reality have been theorized as important for family outcomes (Kirk, 1964, 1984; Koerner & Fitzpatrick, 2004, 2006). In this context, it is possible that families sharing reality benefit from having a cohesive family identity about racial and ethnic differences. However, families that only share reality about racial and ethnic differences, but not share fate, may not be supporting or communicating well about racial and ethnic differences. If racial and ethnic backgrounds are unsupported within the household, children may have lower self-esteem (Yoon, 2001, 2004), which may then be associated with a poorer sense of positive well-being (Yoon, 2004). In addition, children may feel alienated within their own family system because they must manage all of the tasks associated with being a racial and ethnic minority on their own (Samuels, 2009). Samuels (2009) indicates that parents that share in their child's discovery of their racial

and ethnic background may have adopted children that feel less disconnected from their families. Further research is needed to test these associations and identify correlates with acknowledging racial and ethnic difference.

Many studies have documented the association between adolescent externalizing behavior and adoption status (Juffer & van IJzendoorn, 2005; Keyes et al., 2008). Interestingly, there was no association for adoptee status when examining the levels of adolescent externalizing behavior across shared fate categories. Although adopted adolescents had slightly higher externalizing behaviors than non-adopted adolescents (e.g., the adoptees' sibling that is biologically related to the parents) across all three shared fate categories, this difference was not significant. Therefore, it is remarkable that after considering the effect of other variables, adoption status did not contribute significantly to externalizing behavior.

Family interactions and externalizing behavior. In the general population, warm, supportive communication is associated with positive adolescent adjustment (Steinberg, 2001). In this sample of families with Korean adopted adolescents, positive communication was associated with an increase in adolescent externalizing behaviors. One explanation for this finding may lie in that adoptive parents may not feel entitled to their children (Brodzinsky, Lang, & Smith, 1995). Brodzinsky et al. (1995) indicates that adoptive families may have to share space with birth families in their adopted adolescent's mind, causing anxiety for the adoptive parents and resulting in feelings of loss of entitlement to their children. In turn, it is possible that the parents may not

engage with externalizing behaviors and instead engage in warm communication despite these behaviors. Further research is needed to examine this phenomenon.

Despite findings indicating that positive communication was associated with an increase in externalizing behaviors, this study indicated that having a dominant mother may be associated with a decrease in externalizing behaviors. Although this difference was only trending towards statistical significance, this association was in the same direction as previous research. This may indicate the importance of having an appropriately dominant parent (Steinberg, 2001; Rueter & Koerner, 2008) in adoptive families. However, the association between dominance and externalizing behaviors in adoptive families warrants future research, as results among adoptive samples have been inconclusive.

Strengths and Limitations

This study has several methodological strengths that increase confidence in study results. Data were collected across two waves spanning adolescence. This study tested associations between general family interactions during early-mid adolescence with later reports of racial and ethnic conversations and externalizing behavior. Results from this study may suggest that the quality of family interactions with early adolescents' are associated with later conversations about race and ethnicity. The use of longitudinal data also helps to establish a directional relationship between family interactions and racial and ethnic conversations, as well as family interactions and adolescent externalizing behavior.

This study utilized both self-report and observational data. Using observational data to capture racial and ethnic conversations, as well as family interactions, was a major strength of this study. Parents often over-report the prevalence of racial and ethnic conversations and cultural socialization (Kim et al., 2013). Using observational data to capture racial and ethnic conversations allowed the researchers to also examine family disagreements (i.e., discrepant views of difference) around the importance of conversations about racial and ethnic difference. The use of observational data for family interactions may also produce fewer biases (Larsen & Olson, 1990). Parent report of parent-child relationships or interactions may be biased because of the social stigma surrounding adoption (Kirk, 1964; Brodzinsky & Pinderhughes, 2002). In addition, adolescent self-reported externalizing behaviors may yield more reliable estimates because child reports may be less influenced by social desirability (Larsen & Olson, 1990).

This study is unique in that it utilized factor analysis to examine the individual's interactions to every member of the family. By doing so, this study captures an individual's interactions with the entire family, taking into account the varying degrees of interaction between multiple family relationships (Larsen & Olson, 1990). This approach allows for differential family interactions (i.e., the adolescents' communication to mom may be more positive than communication to dad) to be captured within one construct.

As with any study, limitations should be considered when interpreting study outcomes and generalizing results to other populations. This sample included only

families that had at least one adolescent adopted from South Korea. While there are a small number of adopted children from other minority groups in this sample (i.e., an adopted sibling of a Korean adoptee), families were included only if one adolescent was adopted from South Korea. Results should not be generalized to other adoptive minorities, as differences may exist between racial and ethnic conversations due to social stigma of different minority groups. In addition, it has been suggested that families that have adopted children from other populations may have differential access to resources that aid in socialization (Vonk et al., 2010) or racial and ethnic conversations. These families may be more or less likely to acknowledge difference because of the availability of information about the child's birth culture. Results should also not be generalized to other international adoptees older or younger than those in this sample. It has been suggested that families who have more recently adopted children may be more encouraged by adoption agencies to aid in discussion of their child's racial and ethnic background (Berbery & O'Brien, 2011).

Future Directions

Despite the limitations of this study, the strengths and findings of this study provide future directions for research. A link has been established between acknowledging racial and ethnic difference (i.e., shared fate theory) and adolescent externalizing behavior with a sample of adopted Korean adolescents. This association should be explored among families with adoptees who are younger and not Korean, as well as non-adopted mixed race families.

It is also noteworthy that non-adopted adolescents, who are the Korean adopted adolescents' sibling, benefitted from placement into the shared fate categories in terms of externalizing behaviors. That is, non-adopted adolescents in families that acknowledged difference had lower levels of externalizing behavior compared to non-adopted adolescents whose families were in the denial of difference or discrepant views of difference categories. Future studies should consider the psychological impact of sharing fate for the non-adopted members of the family, including the non-adopted siblings and adoptive parents.

Future studies should expand upon this sample to provide fuller pictures of family interactions and other characteristics associated with conversations about racial and ethnic differences in internationally adoptive families. It has now been suggested that having a dominant mother and a communicative adolescent is associated with acknowledging racial and ethnic difference. Future studies should examine other characteristics that could be associated with families reaching a shared fate about racial and ethnic differences. This study found substantial associations, but insignificant results, between several family interactions and shared fate categories. Future studies should examine the mothers' ability to listen well, fathers' warmth, and adoption status for associations with acknowledging racial and ethnic difference in internationally adoptive families. Finally, future studies should also consider the association between family interactions and externalizing behaviors in internationally adoptive samples. The negative consequences of positive communication, across family members, for adolescent externalizing behaviors found in this study warrant future research.

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Appendix

Table 1

Factor loadings for the family interaction first order factors

	Factor loading		Eigenvalue			% of Variance		
	Item	Loading	1	2	3	1	2	3
WMM	MF	.76	2.14	.58	.28	71.33%	19.30%	9.37%
	ME	.89						
	MY	.88						
WMF	FM	.08	1.74	1.01	.25	57.83%	33.78%	8.39%
	FE	.93						
	FY	.93						
WME	EM	.90	2.12	.58	.30	70.60%	19.26%	10.15%
	EF	.77						
	EY	.85						
WMY	YM	.77	1.95	.62	.44	64.87%	20.62%	14.51%
	YF	.80						
	YE	.85						
DOM	MF	.85	2.24	.47	.28	74.71%	15.81%	9.48%
	ME	.91						
	MY	.84						
DOF	FM	.93	2.68	.19	.13	89.32%	6.32%	4.36%
	FE	.95						
	FY	.95						
DOE	EM	.90	2.27	.50	.24	75.52%	16.56%	7.92%
	EF	.80						
	EY	.90						
DOY	YM	.92	2.44	.34	.22	81.23%	11.30%	7.47%
	YF	.89						
	YE	.89						
LRM	MF	.74	2.17	.61	.23	72.32%	20.18%	7.50%
	ME	.91						
	MY	.89						
LRF	FM	.86	2.02	.71	.27	67.35%	23.68%	8.97%
	FE	.68						
	FY	.90						
LRE	EM	.80	1.72	.75	.53	57.24%	25.13%	17.64%
	EF	.66						
	EY	.80						
LRY	YM	.84	1.98	.61	.41	65.97%	20.46%	13.56%
	YF	.84						
	YE	.75						
COM	MF	.78	2.21	.55	.24	73.69%	18.30%	8.01%
	ME	.91						
	MY	.88						
COF	FM	.91	2.37	.37	.26	79.10%	12.25%	8.65%
	FE	.88						
	FY	.88						

	Factor loading		Eigenvalue			% of Variance		
	Item	Loading	1	2	3	1	2	3
COE	EM	.91	2.23	.55	.22	74.46%	18.22%	7.32%
	EF	.78						
	EY	.89						
COY	YM	.85	2.11	.50	.39	70.47%	16.49%	13.04%
	YF	.81						
	YE	.86						

Note. WM indicates warmth, DO indicates dominance, LR indicates listener responsiveness, and CO indicates communication. The final letter for all variables indicates the family member; M is mother, F is father, C is adolescent.

Table 2

Means for first-order factors for each family interaction scale by shared fate category

	<u>Acknowledge</u>		<u>Discrepant</u>		<u>Denial</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
WMM	-.08	.57	-.08	.71	.07	1.21
WMF	-.26	.80	.07	1.17	.07	.98
WMC	.10	1.13	-.15	.85	.03	1.00
DOM	.32	.92	-.28	1.09	-.002	.96
DOF	.04	1.12	-.09	1.13	.02	.89
DOC	.09	.98	-.14	1.04	.03	.99
LRM	.12	1.10	-.03	.99	-.03	.97
LRF	.11	1.08	.03	.98	-.05	.98
LRC	.14	1.19	-.13	1.02	.004	.91
COM	.05	.83	-.04	1.02	-.004	1.05
COF	-.11	1.29	.11	.96	-.01	.89
COC	.22	1.03	.09	1.11	-.12	.93

Note. WM indicates warmth, DO indicates dominance, LR indicates listener responsiveness, and CO indicates communication. The final letter for all variables indicates the family member; M is mother, F is father, C is adolescent.

Table 3

Multinomial logistic regression for family interactions with shared fate categories

	Acknowledge to Denial				Discrepant to Denial				Acknowledge to Discrepant			
	<i>B</i>	<i>OR</i>	<i>p</i>	<i>SE</i>	<i>B</i>	<i>OR</i>	<i>p</i>	<i>SE</i>	<i>B</i>	<i>OR</i>	<i>p</i>	<i>SE</i>
COM	-.25	.78	.503	.37	.18	1.19	.611	.35	-.42	.66	.324	.43
DOM	.52	1.68	.132	.35	-.32	.72	.221	.26	.84	2.32	.029	.39
WMM	-.39	.67	.166	.28	-.11	.89	.665	.26	-.28	.76	.389	.33
LRM	.43	1.54	.215	.35	.02	1.02	.952	.38	.41	1.50	.412	.50
Adopt	.08	1.09	.558	.14	.55	1.73	.279	.51	-.47	.63	.374	.53
COF	-.23	.80	.511	.35	.26	1.30	.314	.26	-.49	.61	.188	.37
DOF	-.01	.99	.970	.33	-.27	.76	.363	.30	.26	1.29	.490	.37
WMF	-.46	.63	.107	.29	<.05	1.00	.988	.26	-.46	.63	.168	.34
LRF	.32	1.38	.298	.31	.10	1.10	.703	.25	.22	1.25	.513	.34
Adopt	.09	1.10	.477	.13	.77	2.15	.147	.53	-.68	.51	.213	.54
Child												
COC	.38	1.46	.039	.18	.41	1.51	.022	.18	-.03	.97	.872	.20
DOC	-.04	.97	.865	.21	-.24	.79	.176	.18	.21	1.23	.392	.24
WMC	-.05	.95	.828	.22	-.27	.77	.240	.23	.22	1.24	.425	.27
Adopt	.14	1.16	.441	.19	.57	1.77	.256	.51	-.43	.65	.420	.53

Note. All regressions in this table were run with all of the individual family member interactions (i.e., all CO, DO, WM, LR for one person were run in the same model); results given include the final models with theoretically or empirically insignificant variables removed.

Table 4

Multiple regression of family interactions on adolescent externalizing behaviors

	Model 1: Mother				Model 2: Father				Model 3: Adolescent			
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
CO	1.67	.66	2.54	.013	1.23	.56	2.19	.031	1.34	.47	2.86	.005
DO	-1.00	.52	-1.91	.059	-1.04	.56	-1.86	.065	.22	.42	.52	.603
LR	-1.16	.63	-1.85	.067	-.06	.50	-.12	.903	-1.44	.49	-2.93	.004
WM	.85	.56	1.53	.129	1.05	.47	2.25	.027	.20	.50	.41	.685
AS ¹	-2.32	1.20	-1.94	.054	-2.74	1.19	-2.31	.022	-2.58	1.21	-2.14	.034
Sex	3.07	.82	3.77	<.000	3.01	.81	3.70	<.000	3.28	.83	3.96	<.000
Age	.88	.22	4.02	<.000	.91	.22	4.17	<.000	.89	.22	4.13	<.000

Note. These are final models; decisions about final models were made based on theoretical importance of the predictor, empirical importance of the predictor, and the AIC values between models.

¹ A.S. refers to the adolescent's adoption status.

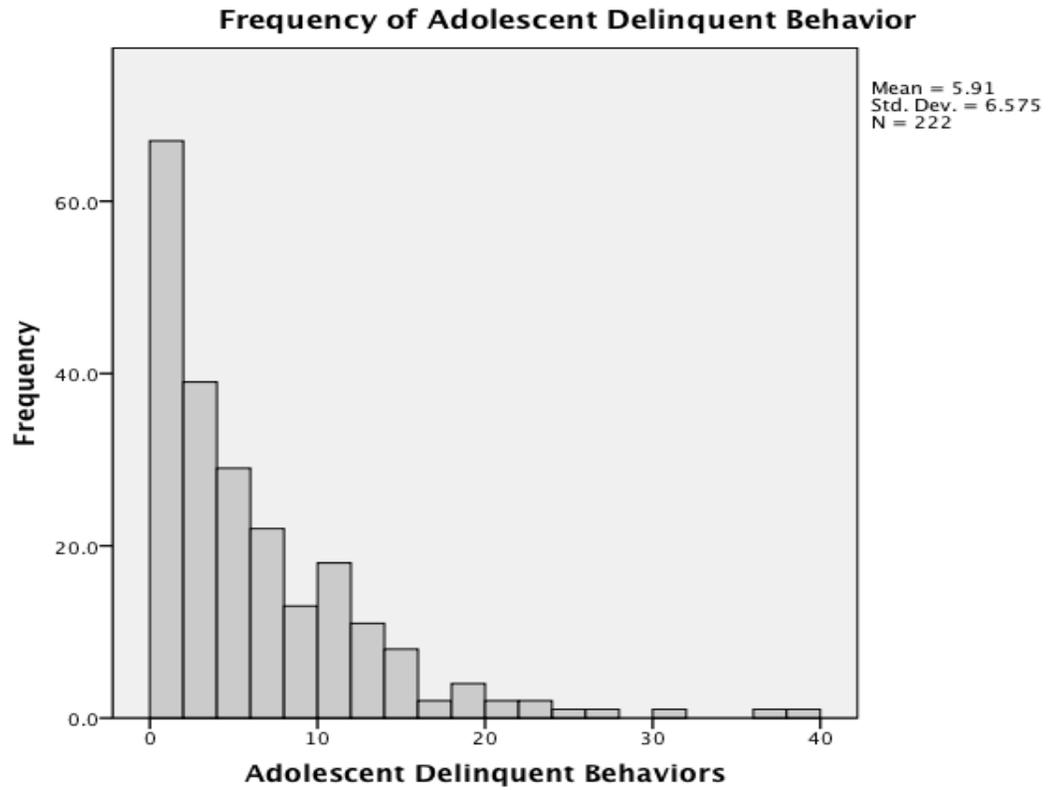


Figure 1.1. Frequency of adolescent delinquent/externalizing behaviors across the sample of 222 adolescents.

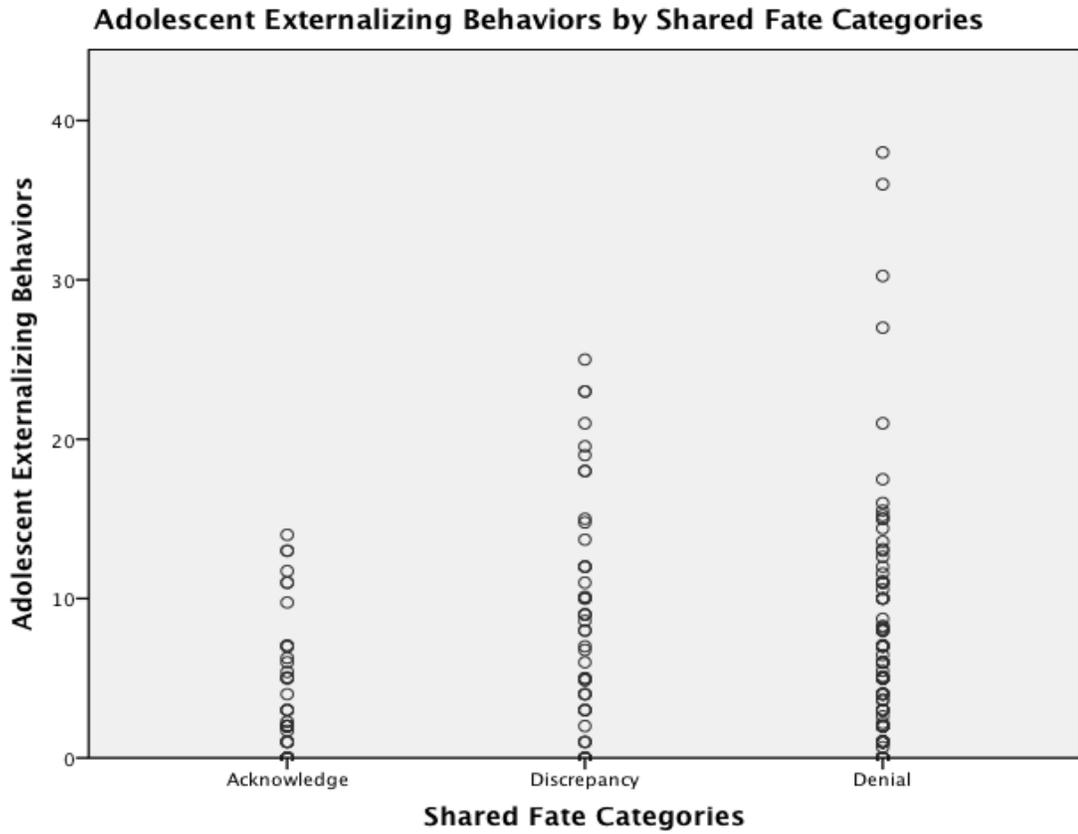


Figure 1.2. Frequency of adolescent delinquent/externalizing behaviors across the sample of 222 adolescents by shared fate category.