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Typologies of Family Functioning and Children's Adjustment During the Early School Years

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Abstract

Guided by family systems theory, the present study sought to identify patterns of family functioning from observational assessments of interparental, parent-child, and triadic contexts. In addition, we charted the implications for patterns of family functioning for children's developmental trajectories of adjustment in the school context across the early school years. Two-hundred and thirty-four kindergarten children (129 girls and 105 boys; mean age of 6.0 years (*SD* = .50) at Wave 1) and their parents participated in this multimethod, three-year longitudinal investigation. As expected, latent class analyses extracted three primary typologies of functioning including: (a) cohesive, (b) enmeshed, and (c) disengaged families. Furthermore, family patterns were differentially associated with children's maladaptive adjustment trajectories in the school context. The findings highlight the developmental utility of incorporating pattern-based approaches to family functioning.

Homes characterized by high levels of interparental discord evidence greater perturbations in parenting and emotional unavailability (e.g., Sturge-Apple, Davies & Cummings, 2006), as well as overreactive discipline and difficulties controlling or managing children (Lorber & O'Leary, 2005; Stoneman, Brody, & Burke, 1989). In addition, children in families with high levels of interparental discord and parenting difficulties have greater problems in meeting developmental milestones (e.g. Gonzales, Pitts, Hill, & Roosa, 2000; Sturge-Apple, et. al., 2006; Webster-Stratton & Hammond, 1999). Much of the work from this field of inquiry has utilized variable-based approaches in delineating associations between interparental and parent-child relationships and children's development. However, the moderate relationships between interparental and parent-child functioning highlights that there is not a one-to-one correspondence in difficulties across family subsystems (e.g., Erel & Burman, 1995). Thus, although variable-based models of family functioning have been informative, exclusive reliance on linear continua to characterize functioning across family subsystems does not fully capture qualitatively different profiles of communication patterns across family subsystems (Minuchin, 1985). To overcome these limitations, researchers have increasingly called for the utilization of pattern-based approaches towards also identifying non-linear configurations of relationship qualities across family subsystems (e.g., Belsky & Fearon, 2004; Johnson, 2003; McHale, Kazali, Rotman, Talbot, Carleton, & Lieberson, 2004; O'Connor, Hetherington, & Reiss, 1998). Pattern-based approaches, such

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as those used in cluster-analytic and latent class techniques, reveal qualitatively different profiles of study variables that are not anchored on a linear or continuous scale.

Family systems theory challenges researchers to extend beyond understanding child development solely in the context of the parent-child relationship by incorporating collective experiences in the broader family unit in models of family process. However, applying family systems theory to developmental research designs remains a formidable challenge (McHale, Kuersten-Hogan, & Rao, 2004). At a conceptual level, employing the family systems paradigm in understanding children's developmental difficulties necessitates accounts of child adaptation within a rich, but parsimonious, characterization of the interplay among relationships and individuals in the family context (e.g., Cowan & Cowan, 2002; McHale, Kuersten-Hogan, & Lauretti, 1996). By the same token, the incorporation of methodological and analytic advances in studies examining developmental models of family systems has lagged behind as researchers have tended to utilize variable-based methods, rather than pattern-based methods to examine interplay among family subsystems. Accordingly, the aims of the present study are to: (a) utilize a pattern-based approach to identify family typologies across multiple family contexts, and (b) to examine how family typologies are associated with children's socio-emotional adjustment in extrafamilial settings, especially the school context.

A central assumption of family systems theory is that interdependencies among relationships within the family are governed by boundaries or implicit rules for accessing materials, resources, and support within the family. Guided by the concept of boundaries, family systems theorists have consistently identified three qualitatively distinct profiles of family interactions characterized by harmony, disengagement, and enmeshment, respectively (e.g., Minuchin, 1974). Harmonious or cohesive families have well-defined, yet permeable boundaries that permit children access to resources (e.g., support, warmth) without undermining relational autonomy with other family members (Cox & Paley, 1997). Relatively warm, emotionally close and agreeable relationships across multiple family subsystems characterize this family type, with negative affect and difficulties effectively managed to prevent spillover from any single subsystem into other family relationships. In contrast, disengaged families have rigid boundaries, manifested in cold, indifferent, unsupportive, and emotionally withdrawn family relationships. Communication across family subsystems is stymied and difficult and family members function as distinct entities rather than part of a unified whole. Finally, the diffuse, thin boundaries of enmeshed families are reflected in emotionally seamless and entangled relationships. Children may experience some degree of warmth and support in these family relationships, but access to these resources occurs at a cost, including the proliferation of hostility and distress from one family subsystem to another, intrusive relationships, and significant restrictions in personal and psychological autonomy. Although other possible family systems are sometimes described in this literature, our tri-partite classification scheme is consistent with Minuchin's conceptualizations stressing boundary determination and differentiation of separate family sub-systems (Minuchin, 1974), supported by both clinical and empirical studies (Davies, Cummings, & Winter, 2004; Kerig, 1995; Kretchmar & Jacobvitz, 2002).

Furthermore, family system theorists stress that family patterns must be contextualized, including consideration of developmental transitions and how these transitions may serve as informative catalysts for examining family functioning and children's development (e.g., Cowan, 1991; Minuchin, 1985). Thus, the present study examined how family functioning across multiple systems was associated with children's adjustment over the early school years. As a significant developmental milestone in the lives of children (Alexander & Entwisle, 1998; Cowan, Cowan, Ablow, Johnson & Measelle, 2005; Perry & Weinstein, 1998; Vecchiotti, 2003), the early school years provide an informative window for

examining how family relationship patterns may affect children's adaptation in extrafamilial contexts (Davies, et al., 2006). For example, in navigating stage-salient tasks inherent in adapting to the school context such as establishing self-confidence, academic competence, peer relationships, and behavioral control in the school setting (e.g., Ladd & Burgess, 2001), children may turn to their family as a source of support and protection. Furthermore, numerous developmental theories suggest that children's internalizations of family experiences are used as blueprints for interpreting and responding to novel challenges outside the family (Cassidy, Kirsch, Scolton, & Parke, 1996; Greenberg, Speltz, & DeKlyen, 1993). Thus, dysfunctional family patterns may undermine children's successful adaptation in the school context across multiple domains of functioning.

Previous empirical work has reported linkages between various patterns of family functioning and children's adjustment. Cohesive families have been associated with lower internalizing and externalizing symptoms (e.g., Johnson, Cowan, & Cowan, 1999; Kerig, 1995; McHale, & Rasmussen, 1998; Richmond & Stocker, 2006) and better peer relationships (e.g., McHale, Johnson, & Sinclair, 1999). In contrast, enmeshed family patterns have been related to elevated internalizing symptoms in older children and adolescents (Davies, et al., 2004; Jacobvitz, Hazen, Curran, & Hitchens, 2004; Kerig, 1995) while disengaged family patterns have been linked with elevated externalizing problems (e.g., Davies, et al., 2004; Kerig, 1995). However, despite the developmental significance of children's successful adaptation to school, scant research has examined relations between patterns in family functioning and longitudinal assessments of children's adjustment trajectories across multiple domains during the early school years. As the lone study to examine typologies of family functioning and children's adjustment during the early school years, Johnson (2003) identified three family typologies at kindergarten, cohesive, separate and enmeshed family patterns, which in turn differentially predicted children's externalizing behaviors in the school context.

The present study seeks to build on the findings reported by Johnson in several important ways. First, from a methodological standpoint, Johnson utilized a triadic family interaction task in deriving typologies. While this assessment method provides important information regarding the complexity of mother-father-child interactions at a triadic level, the incorporation of assessments of multiple family contexts allows for a richer characterization of family processes. Accordingly, the present study also utilized assessments of family functioning at dyadic and triadic levels, including the interparental relationship, the parent-child dyadic relationship, and the mother-father-child relationship. The inclusion of distinct assessments of multiple systems allows for a comprehensive examination of patterns of functioning in multiple contexts. Second, from a developmental standpoint, Johnson (2003) restricted assessments of children's adjustment to examining changes in externalizing symptoms as a function of family patterns. Progress in understanding how different family patterns may eventuate in children's adjustment difficulties depends upon expanding beyond the usual focus on global assessments of children's psychological symptoms as outcome measures. Towards this end, the present study simultaneously examined theoretically defined domains of school adjustment (Ladd, 2003), which advocate for examining children's perceptions and appraisals of the school environment, involvement and conformity to classroom activities, and psychological reactions in the school context (e.g., internalizing and externalizing dimensions). Following previous operationalizations of domains of school adjustment, difficulties in emotional adjustment to school were defined as children's perceptions of loneliness, disengagement, and difficulties with peers in the school context (e.g., Buhs & Ladd, 2001), while difficulties in classroom engagement included children's problems in cooperating and actively participating within context of classroom activities and rules (e.g., Birch & Ladd, 1997; Buhs & Ladd, 2001). Psychological reactions were assessed using internalizing and externalizing symptomatology.

In accordance with predictions derived from family systems theory, we hypothesized that enmeshed family patterns would be more strongly linked with internalizing symptomatology and difficulties in emotional adjustment to school. According to the theory (e.g., Minuchin, 1985), family enmeshment may engender greater internalizing difficulties in the school context through impinging developmental processes at a social-cognitive level (e.g., developing appraisals of the self, especially self-esteem and self-efficacy in external contexts) and social-emotional level (e.g., impinging on autonomy). Drawing from notions in the clinical literature which postulate that children in disengaged families may have a skewed sense of independence and autonomy, lack feelings of loyalty and belonging, and a diminished capacity for interdependence in social situations (e.g., Minuchin, 1974), we also hypothesized that disengaged family patterns would be most strongly linked to externalizing symptoms and difficulties in classroom engagement.

Method

Participants

The data for this study were drawn from a larger project designed to assess linkages between family relationships and children's coping and adjustment (author citation). The original pool of participants consisted of 236 mothers, fathers, and children. Families were included in the project if they met the eligibility criteria that the family had a child in kindergarten and had lived together for at least 3 years. The retention rate from across the three measurement occasions was 91%, resulting in a sample of 214 families (114 girls and 100 boys). Minimal differences were found between the sample who participated at all three waves and those participants who experienced attrition at any point in time over the two waves (n = 22). Therefore, in order to maximize study power, we elected to retain the full sample for study analyses and utilized full-information likelihood when estimating missing data within model analyses. FIML is a widely accepted and advantageous technique for the imputation of missing data (see Enders, et al., 2001). Two families were identified as multivariate outliers based upon Mahalanobis distance estimates greater than p = .001 derived from constructs specified in this study and were therefore excluded from the analyses (Arbuckle, 1997). Thus, the final sample for this study consisted of 234 mothers, fathers, and children (129 girls and 105 boys; mean age of 6.0 years (SD = .50) at Wave 1).

A primary goal of our recruitment strategies was to obtain a sample of families who, on the whole, exhibited diverse levels of interparental adversity and child vulnerabilities. Consistent with this goal, families were socio-economically and demographically representative of the counties from which they were drawn. Median family income of the participants fell between $40,000 and $54,000, with 12% of the sample reporting household income below $23,000. A large proportion of the sample was European American (78.6%), followed by smaller percentages of African American (15.2%), Latin American (3.1%), Asian American (1.2%), Native American (0.2%), and other racial (1.7%) families. Families in the study also experienced a relatively wide range of adversity in the family as 33% of mothers and 43% of fathers in our sample could be classified as maritally dissatisfied based on scores below 100 on the Short Marital Adjustment Test, with 53% of the couples containing at least one maritally dissatisfied partner (e.g., SMAT; Locke & Wallace, 1959). Further illustrating the occurrence of risk factors in our sample, proportions of children who scored in the clinical range ($t \geq 60$) on parent Child Behavior Checklist reports of internalizing and externalizing symptoms averaged 21% and 18% respectively, a percentage that is modestly higher than a representative sample of U.S. children (Achenbach, 1991).

Procedures

Families visited the laboratories each year for two visits which were spaced one week apart. During the first visit at Wave 1, mothers, fathers and the target child participated in a triadic interaction task in which members were instructed to play Jenga, an interactive game, for 15 minutes. The task was structured to elicit family involvement, competition, and interest. In addition, mothers and fathers participated in an interparental interaction task in which they were asked to manage and resolve two topics that resulted in common, but intense interparental disagreements (see DuRocher Schudlich, Papp, & Cummings, 2004). Finally, assessments of dyadic parent-child relationships were obtained from separate 10-minute play and clean up tasks during the Wave 1 visit. The task consisted of 5 minutes of free play between the parent and child followed by a 5-minute period in which the parent attempted to have the child clean up the toys. Fathers participated at the end of the first visit, while the mothers participated in the task at the end of the second visit. Videotaped records of these interactions were obtained for later coding of behaviors. Children's classroom teachers independently completed questionnaires at Waves 1, 2 and 3, space one year apart, to assess children's socio-emotional adjustment in the school context.

Measures

Interparental Relationship (Wave 1)—Interaction behaviors of mothers and fathers during the interparental discussion tasks during the Wave 1 visit were evaluated using subscales from the System for Coding Interactions in Dyads (SCID; Malik & Lindahl, 1996). Molar ratings were yielded for each of the two interparental interactions on 5-point continuous scales ranging from (1) very low to (5) high. These scales have been widely used across various populations with demonstrated reliability and validity in relation to similar interparental interaction measures (Malik & Lindahl, 1996).

Maternal and paternal hostility during each of the interparental interactions were assessed using the following SCID scales: (a) Verbal Aggression, which is defined as the level of hostile and aggressive behaviors and verbalizations each partner expresses toward the other and (b) Negativity and Conflict, which reflects spousal displays of anger, frustration and tension. Intraclass correlation coefficients, which indexed the reliability of two independent coders for 25% of the interactions, ranged from .84 to .97 for mothers and fathers across each of the interactions. Husband and wife behaviors across the two interactions were then summed to create one score for each of the three behaviors reflecting the degree to which each couple used a specific strategy. Coders also rated each couple as a whole using the Negative Escalation code from the SCID, which assesses tendencies of the partners to reciprocate and escalate displays of negative affect and hostility. The intraclass correlation coefficients, which reflect the inter-rater reliability of two independent coders for 25% of the interactions, were .96 and .97 across the two interactions. Principal components analysis of the individual and couple ratings indicated a single factor, accounting for 91% of the variance in scores. In addition, internal consistency in this sample was .79 for the ratings. Thus, scales were aggregated to form an interparental hostility composite score.

Consistent with the interparental hostility measurement battery, mother, father, and couple withdrawal during the interparental interactions were assessed using SCID scales (Malik & Lindahl, 1996). Maternal and paternal withdrawal were specifically assessed through the SCID Withdrawal scale, with higher scores reflecting displays of repeated, prolonged, and tense forms of detachment and avoidance during the interparental interactions. Intraclass correlation coefficients, which index interrater reliability, ranged from .85 to .96 for mothers and fathers across each of the two interactions. To obtain a third index of withdrawal, coders rated the couple as a whole using the Pursuit/Withdraw Scale from the SCID which assesses the extent to which one partner attempts to avoid discussion while the other partner attempts

to attempts to continue the discussion. The intraclass correlation coefficients indexing inter-rater reliability for the couple were .90 and .91 across the two interactions. Principal components analysis of the individual and couple ratings indicated a single factor, accounting for 90% of the variance in scores. In addition, internal consistency in this sample was .76 for the ratings. Thus, scales were aggregated to form an interparental withdrawal composite score.

Parent-Child Relationship (Wave 1)—Interactions between mother/child and father/child dyads and were assessed during the play and cleanup tasks at Wave 1 using a global rating scale assessing the frequency, quality, and intensity of behaviors on a 9-point scale, ranging from (1) not at all characteristic to (9) mainly characteristic.

Parent behaviors were evaluated using subscales from the Iowa Family Interaction Rating Scales (IFIRS; Melby & Conger, 2001). The widely-used IFIRS has demonstrated validity and reliability across studies (see Melby & Conger, 2001). Coders, who were blind to ratings of the interparental and triadic interactions, independently rated mother and father parenting behaviors. Parental Emotional Availability during the parent-child interaction task was assessed by the Warmth/Support, Positive Reinforcement and Neglecting/Distancing scales of the IFIRS. The Neglecting/Distancing scale measures parental indifference, apathy, and unresponsiveness during the parent-child interactions, whereas Warmth/Support is characterized by displays of affection and support toward the child. Finally positive reinforcement reflects positive parental responses (e.g., praise, approval, rewards) to appropriate or exemplary child behavior. Separate ratings of the codes were obtained during play and compliance components of the interaction task. Intraclass correlation coefficients, which reflected inter-rater reliability among two coders for 21% of the interactions, ranged from .91 and .94 for ratings of the parenting codes for mothers and fathers. Principal components analysis of mother and father ratings indicated a single factor, accounting for 64% of the variance in scores, while the internal consistency coefficient in this sample was .83. Thus, ratings were aggregated to form a single emotional availability score (the Neglecting/Distancing scales were reverse coded prior to compositing).

Parental Intrusiveness was assessed with the Intrusiveness subscale of the IFIRS system, measuring intrusive and overcontrolling behaviors by the parents. In structured tasks, this behavior may be manifested by extreme concern about completing the task, constriction of the child's autonomy and hindering the child from exploring and setting the pace for the task. Intraclass correlation coefficients ranged from .82 and .88 for mothers' and fathers' ratings respectively. Principal components analysis of mother and father ratings indicated a single factor, accounting for 53% of the variance in scores, and internal consistency in this sample was .71. Thus, ratings were composited to form a single intrusiveness score.

Child behaviors were evaluated using the Relatedness scale that is designed to assess children's comfort and positive affect in parent-child interactions (Davies, 2002). The Relatedness subscale captures the degree to which a child interest in initiating and maintaining pleasurable and harmonious interactions with the parent as a means of promoting positive affect and well-being in the dyad. Ratings on the five-point scale take into account the number of attempts by the child to engage the parent, the duration of the attempts, and the quality of the accompanying affect. Whereas low scores reflects children's attempts to engage the parent that are brief, mild, and relatively superficial or ambiguous in intent; higher scores are characterized by repeated, socially skilled, prolonged, and enthusiastic attempts to initiate or maintain positive relations with the parent. Intraclass correlation coefficients for interrater reliability ranged from .70 and .84 for children's ratings with mothers and fathers ratings respectively. Principal components analysis of ratings for children across tasks indicated a single factor, accounting for 84% of the variance

in scores, and internal consistency in this sample was .83. Thus, ratings were composited to form a single relatedness score.

Mother-Father-Child Relationship (Wave 1)—Family level behavior was evaluated using constructs from the Coparenting and Family Rating system (CFRS; McHale, Keursten-Hogan, & Lauretti, 2000) and the System for Coding Interactions and Family Functioning (SCIFF; Lindahl & Malik, 2001). The global rating scales of these systems were coded on a 5-point scale, ranging from (1) very low to (5) excessive. Specifically, in order to index co-parenting difficulties in the presence of the child, the Competition and Cooperation subscales from the CFRS were utilized. The competition subscale captures active parental intrusiveness and interference in the other parent's child-directed activities while the cooperation subscale measures the ability of co-parents to work as a team and support one another in family interactions. Finally, the Cohesiveness subscale of the SCIFF was utilized to index the sense of unity, togetherness, and closeness within the triad. Intraclass correlation coefficients, which reflected interrater reliability among two coders for 25% of the interactions, ranged from .60 to .73 at Wave 1 across the three scales.

Child Internalizing and Externalizing Symptoms (Waves 1, 2 and 3)—Internalizing and externalizing symptoms were assessed using their respective broadband scores from the Teacher Report Form (TRF; Achenbach, 1991). For each item, teachers indicated whether or not each statement is true of the child on a 3-point ordinal scale, ranging from (0) "Not true" to (2) "Very true". Broadband scores for internalizing symptoms included the Withdrawn/Depressed, Somatic Complaints, and Anxious/Depressed subscales. Internal consistencies for internalizing scores across the three waves ranged from .83 to .90. Broadband externalizing symptoms were based on the Aggression and Delinquent subscales. Internal consistencies for the broadband externalizing score across the three waves ranged from .92 to .95.

Children's Difficulties in Classroom Engagement (Waves 1, 2 and 3)—To obtain an assessment of children's difficulties with engagement in the classroom, two scales were used. First, teacher report on the Hyperactivity/Distractibility subscale of the Child Behavior Scale was used as a measure of children's behavior at school (CBS; Ladd & Profilet, 1996). The subscale consists of four items (e.g., "poor concentration, attention span") rated along a three point scale ranging from (1) "Doesn't Apply" to (3) "Certainly Applies". Internal consistency in this sample ranged from .84 to .87 across the different time points. Prior research has supported the validity of the CBS (Ladd & Profilet, 1996). Second, teachers reported on the Cooperative Participation subscale from the Teacher Rating Scale of School Adjustment (TRSSA; Birch & Ladd, 1997). The subscale consists of seven statements assessing teacher appraisals of children's participation in the classroom (e.g., "follows teacher's directions;" "accepts responsibly for a given task") on a three-point scale from (1) "Doesn't Apply" to (3) "Certainly Applies". The scale was later reversed such that higher scores reflected lower levels of cooperative participation. The TRSSA has demonstrated reliability as well as content and construct validity (Birch & Ladd, 1997). Internal consistency across the three waves ranged from .76 to .90. To create an overall Children's Classroom Difficulties scale for each time point, the two subscales were summed to create a combined score. Internal consistency of the overall composite exceeded .85 at each time point.

Children's Difficulties in Emotional Adjustment to School (Waves 1, 2 and 3)—To obtain an assessment of children's difficulties in emotional adjustment to school we followed previous conceptualizations of poor emotional adjustment in the school as reflecting children's experiences of loneliness, disengagement, and difficulties with peers in

the school context (e.g., Buhs & Ladd, 2001). Three subscales, rated on a three-point scale from (1) "Doesn't Apply" to (3) "Certainly Applies", were used to assess this construct. First, the School Avoidance and School Liking subscales from the Teacher Rating Scale of School Adjustment (TRSSA; Birch & Ladd, 1997) were used. The school avoidance scale consists of five items that assess teacher's perceptions of a child's efforts to avoid the classroom, (e.g., "makes up reasons to go home from school, feigns illness at school"). Internal consistency in this sample was .70 at Time 1, .77 at Time 2 and .83 at Time 3. Second, the School Liking subscale is a five item index of teacher's perceptions of how much a child likes being in school, (e.g., "likes to come to school, has fun at school"). Internal consistency in this sample was .86 at Time 1, .86 at Time 2 and .88 at Time 3. This scale was reverse coded. To obtain an assessment of children's ability to connect with peers in school, teacher report on the Prosocial Behavior subscale of the Child Behavior Scale was used (CBS; Ladd & Profilet, 1996). This scale assesses children's tendencies to be empathic, cooperative, and self-sacrificing with peers and was measured with items that referred to behaviors such as helping, concern, and kindness. Internal consistency in this sample ranged from .81 to .93 across the different time points. Items were reverse coded such that higher scores reflect poorer functioning with peers. To create an overall Children's Emotional Adjustment Difficulties scale for each time point, the three subscales were summed to create a combined score. Internal consistency of the overall composite exceeded .81 at each time point.

Results

The results are presented in two sections. The first details the results of the latent class analysis of the family interaction constructs and the second presents latent growth curve analyses of children's adjustment trajectories in the school context as a function of family group. All models were estimated using the latent variable software Mplus, Version 5.1(Muthen & Muthen, 2008).

Examination of Family Typology at Wave 1

Latent Profile Analysis (LPA; e.g., Hagenaars & McCutcheon, 2002), was utilized to determine family profiles. Latent profile analysis is variant of latent class analysis techniques and is used when manifest indicators of the categorical latent variable are on a continuous scale as family assessments were in the present study. As in other latent variable modeling techniques, the profiles in LPA are not observable directly from the data but are identified based on a function of a set of the continuous manifest indicators. To determine the optimal number of profiles, we used two likelihood tests for comparing nested models including the Bayesian Information Criterion (BIC; Schwartz, 1978) and the Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMR; Lo, Mendell, & Rubin, 2001). The model with the lowest BIC value is generally considered the best-fitting model. As a further test of model fit, the VLMR provides a p value which indicates whether the k-1 profile model is rejected in favor of the k profile model (see Nylund, Asparouhov & Muthen, 2007) for more details). Finally, it is also important to consider the practical applications of profile solutions along with statistical measures of model fit. Therefore, substantive implications were also taken into account when determining optimal number of profiles (e.g., Muthen, 2004). Furthermore, for each family, the LPA analysis produces posterior (Bayesian) probabilities of likelihood of membership in each latent profile, and families are classified into the latent profile for which the posterior probability is highest. The probabilities are a function of the model's parameters (estimated conditional response probabilities and estimated prevalence of each latent class). Inspection of these classifications and posterior probabilities is necessary to ensure that families have a high likelihood of being classified correctly. Finally, the latent profile variable indicators (e.g., interparental withdrawal, interparental hostility,

parental warmth, parental intrusiveness) were each standardized to aid in interpretation of the latent profiles

To examine the best profile solution, we extracted two, three, four latent profiles from our models. Results of the LPA revealed that model fit was best for the three-profile model, (BIC = 5897.54; VLMR 2 vs. 3 model = 108.61, $p < .05$), relative to the two (BIC = 5953.89; VLMR 1 vs. 2 model = 163.56, $p < .05$) and four (BIC = 5889.39; VLMR 3 vs. 4 model = 61.88, $p = .49$, ns) profile models. Thus, while the difference in BIC values between the three-profile and four-profile models was positive ($\Delta = 8.15$), the VLMR indicated that the three-profile solution was a significantly better fit than a two-profile solution, and the VLMR indicated that the four-profile solution did not provide a statistically improved fit relative to the three-profile solution. Therefore, the three-profile solution is regarded as a statistically comparable but more parsimonious model than the four-profile solution. In terms of substantive considerations, the three-profile solution cohered into cohesive, disengaged, and enmeshed patterns among indicator variables. Although the 4-group solution contained the three profiles as culled in the three group solution, it contained one profile with only 4 families that evidenced high levels of interparental hostility, moderate levels of parental emotional availability and intrusiveness and low levels of withdrawal. Accordingly, this small group of families closely resembled the profile of an enmeshed pattern identified in the three-profile solution. Given the results from the VLMR, conceptual overlap of the profiles between the three and four profile solutions, as well as the extremely small sample size in the fourth profile, we retained the three-profile solution.

Table 1 displays the probabilities of the three-profile LPA model and reveals the degree of fit among the profiles for the families in the study. In the present study, average latent class probabilities for most likely latent class membership by latent class were excellent. Specifically, families who were profiled as disengaged had a 90.6% average probability of fitting the disengaged profile, a 6.5% probability of fitting the cohesive profile, and a 2.9% probability of fitting the enmeshed profile. Families who were profiled as cohesive had a 95.4% average probability of fitting the cohesive profile, a 1.9% probability of fitting the disengaged profile, and a 2.7% probability of fitting the enmeshed profile. Finally, families who were classified as enmeshed had a 91.4% average probability of fitting the enmeshed profile, a 4.5% probability of fitting the disengaged profile, and a 4.1% probability of fitting the cohesive profile. Inspection of the cases revealed that three families displayed some indiscrimination among profiles. Their highest profile probability (range = .49–.52) coupled with high cross profile probabilities (range = .42–.45) among the other profiles suggested that they could not be validly classified within one of the three latent profiles (e.g., Nagin, 2005). Therefore these families were not retained in analyses.

Table 2 shows the means and standard deviations of the standardized measures of family process for each of the three family profiles identified by the latent profile analyses as well as the results of ANOVA comparisons among the groups. The first profile displayed low levels of interparental hostility and withdrawal, parental intrusiveness, and family competition as well as high levels of parental emotional availability, child relatedness, and family cooperation and cohesiveness. Based on earlier empirical work and theoretical conceptualizations, these families were classified as exhibiting a cohesive pattern of interactional style within family sub-groups. Families in the second profile displayed very high levels of interparental hostility, parental emotional availability and intrusiveness, and family competition along with lower levels of interparental withdrawal, child relatedness, and family cooperation and cohesiveness. Given evidence of high levels of hostility and intrusiveness coupled with modest to moderate levels of warm and supportive parenting, we classified these families as enmeshed. Finally, the third profile of families was classified as displaying disengaged patterns of interaction. These families were characterized by

relatively high levels of interparental withdrawal, parental intrusiveness, while also exhibiting low levels of interparental hostility, parental emotional availability, family cooperation, competition and cohesiveness, and child relatedness.

In addition, several family background variables were included in the analyses to examine their relationship to family typology membership. Child gender, maternal age, and family income were specified as covariates in our latent profile analyses to incorporate their effects on the odds of model classification into profiles. Using the cohesive profile as the comparison group, two comparisons were made for each covariate: (1) the likelihood of being categorized as an enmeshed family compared to a cohesive family and (2) the likelihood of being categorized as a disengaged family compared to a cohesive family. Results indicated that only family income had an effect on probability of class membership for disengaged versus cohesive families. The logistic regression coefficient for family income (−.89, $p < .05$) indicated that as family income increased the probability of being classified as disengaged versus cohesive decreased. Other class comparisons were not significant.

Links Between Family Typology and Children's Adjustment Trajectories

Our final set of analyses explored whether children's adjustment trajectories were associated with family typology using Mplus 5.1 statistical software for estimating trajectories for each group (Muthen & Muthen, 2007). Accordingly, unconditional latent growth curve models (LGC) were specified for each dependent measure (e.g., internalizing symptoms) within each family profile (e.g., cohesive). Unconditional LGC allow for the examination of the existence and significance of average intercepts and slopes within each family profile. Because our analyses involved both categorical (family profile) and continuous (outcome) measures, we utilized the MPlus options for estimating mixture models. First, we examined whether the slope of each family typology was significantly different from zero. Second, we examined whether the slopes of each family typology are significantly different from each other. To accomplish this second goal, we tested for significant differences among the family profiles on model derived intercepts and slopes. However, because a chi-square test is not provided in mixture models, the chi-square difference test is computed as 2d where d is the difference between the log likelihood values from the two models being compared (McLachlan & Peel, 2000). The difference in degrees of freedom is computed as the difference in the number of parameters.

The LGC model of children's linear externalizing trajectories was examined first. Mean intercept values were positive and significant in each of the three groups ($p < .05$). Log likelihood comparisons among the different family typologies revealed that children in disengaged families had significantly higher intercept values when compared to children in enmeshed and cohesive families (see Table 3). The means of the slope factors for cohesive, disengaged and enmeshed families were 0.24 ($p = 0.13$), 1.37 ($p < .05$), and .15 ($p = 0.50$) respectively (see Figure 1). These findings indicated that children's externalizing symptoms in the sample increased across all family profiles, however the magnitude of the increase was only significant for children from disengaged families. Furthermore, log likelihood comparisons among the family profiles on linear slope means revealed that children from disengaged families had significantly accelerated externalizing trajectories in comparison to children from cohesive and enmeshed families. Average slopes for children from disengaged and enmeshed families were no different suggesting similar change over time.

The LGC model of children's linear internalizing trajectories was examined next (see Figure 2). Mean intercept values were positive and significant in each of the three groups ($p < .05$). Log likelihood comparisons among the different family typologies revealed no significant differences in average intercept values, suggesting that children started at relatively similar

levels of internalizing symptoms (see Table 3). Findings also revealed that children from disengaged families had a significant and positive mean slope ($\mu = .74$, $p < .05$), children from enmeshed families had a significant, positive mean slope ($\mu = .55$, $p < .05$) and children from cohesive families had a non-significant, positive mean slope ($\mu = .05$, $p = .63$). Furthermore, average slopes for children from disengaged and enmeshed families were no different suggesting similar change over time.

The LGC model of children's linear trajectories of classroom difficulties revealed that while mean intercept values were positive and significant across the three groups, children in disengaged families had significantly higher intercept values when compared to children in enmeshed and cohesive families (see Table 3). Furthermore, children from disengaged families had a significant and positive mean slope ($\mu = .58$, $p < .05$) while children from cohesive ($\mu = .18$, $p = .07$) and enmeshed ($\mu = .22$, $p = .09$) families had non-significant slopes (see Figure 3). Log likelihood comparisons among the means further revealed that children from disengaged families had elevated trajectories of classroom difficulties in comparison to children from enmeshed and cohesive families. No other differences were detected.

Our final analysis examined the LGC model of children's difficulties in emotional adjustment to school. Findings revealed that no differences among the groups on the average intercept values (Table 3), however children from both disengaged and enmeshed families had significant and positive mean slopes ($\mu s = .57$ and .45, respectively, $p < .05$) while children from cohesive families had a non-significant slope ($\mu = .03$, $p = .81$). Thus, children from disengaged and enmeshed families experienced significant increases in difficulties with emotional adjustment to school over time. Log likelihood comparisons among the means further revealed that children from enmeshed and disengaged families had elevated trajectories of classroom emotional difficulties in comparison to children from cohesive families only (see Table 4). No other differences were detected.

Discussion

The findings of the present study demonstrate the value of utilizing a latent class analysis of family interaction constructs for delineating distinct configurations of relationship and interactional parameters in family systems. In addition, patterns of family interactions had developmental utility, with distinct typologies meaningfully associated with differences in longitudinal trajectories of child adjustment in the school context (e.g., Jacobvitz, et al., 2004; Johnson, 2003; Kerig, 1995; McHale et. al., 2004). Thus, the present study highlights new avenues for the analysis of family functioning and implications for child development in the school context. From a substantive perspective, the present study adds to our understanding of the developmental implications of different configurations of family functioning proposed in family systems theory. From a methodological perspective, the specific focus of coupling latent class analysis with latent growth curve modeling illuminates a new way of examining complex family systems conceptualizations within a developmental framework.

Consistent with past empirical and clinical work, three specific family typologies could be reliably identified utilizing multi-level assessments of family interactions spanning both dyadic and triadic systems. Solutions extracted a cohesive profile across the interparental, parent-child, and triadic subsystems in accordance with previous classifications of families who effectively maintain relationship boundaries by permitting members to access resources without threatening their autonomy (Davies et al, 2004; Kerig, 1995). Families classified as disengaged exhibited low levels of positive affect across family systems along with high levels of diminished engagement and intrusiveness. Enmeshed families evidenced high

levels of hostility and negative affect, intrusiveness and competitiveness, low levels of cohesion and modest levels of warmth and availability in parent-child relationships. Difficulties in regulating negative affect and maintaining positive affect in the presence of diffuse boundaries map onto previous distinctions in the literature. Thus, this study adds to a growing line of research (e.g., O'Connor et al., 1997; 1998; Davies et al., 2004; Johnson, 2003) that advocates for incorporating pattern-based approaches in studying family relationships across multiple family systems.

To address the developmental utility of these specific configurations, we examined how patterns of family functioning were associated in meaningful ways with changes in children's adjustment in the school context. As hypothesized, children in enmeshed families exhibited significantly greater slopes of internalizing symptomatology as well as difficulties navigating emotional adjustment to school than children from cohesive groups. While this pattern of findings requires replication before drawing any definitive conclusions about the developmental timing of enmeshed family processes for children, it does raise some plausible interpretations. First, children who have experienced erosion of family boundaries inherent in enmeshed families may find themselves emotionally drawn into family difficulties which in turn may amplify worries and distress about family relationships (e.g., Davies, et. al., 2004). In turn, this preoccupation and concern about family problems may detract from the demands of the school context and result in greater emotional disengagement from school. In addition, highly enmeshed subsystems increase the likelihood of various constellations of relationships within the family which are highly toxic to children's development (e.g., Jacobvitz, et al., 2004). For example, enmeshed families may restrict children's autonomy by promoting dysfunctional family roles characterized by parent-child alliances, spousification of children (i.e., child serves as a primary source of intimacy for parent), or parentification of children (i.e., child serves as a caregiver to parent; Kerig, 1995; Sroufe, Jacobvitz, Mangelsdorf, DeAngelo, & Ward, 1985). Thus, increased exposure to interparental negative affect, integration into inappropriate family constellations and lowered autonomy may undermine children's successful adaptation in extrafamilial settings such as the school context.

Moreover, given that children from enmeshed families were comparable to cohesive children in their initial levels of internalizing symptoms, it appears that the early elementary school years may be a sensitive period for the role of enmeshed family processes in the development of internalizing difficulties (e.g., Cicchetti & Toth, 1998). Children's adaptation to school is associated with significant cognitive changes including growing abilities for abstract representations and reasoning ability as well as developmental shifts in the complexity of self-cognitions, with a significant transition occurring in the seven- to eight-year-old range (e.g, Harter, 1983). In turn, these advancing abilities over the early school years may potentiate children's vulnerability to internalizing symptoms when experiencing family enmeshment.

Consistent with previous studies examining links between disengaged family patterns and children's externalizing behaviors (e.g., Davies, et al., 2004; Kerig, 1995), the present study found that disengaged family patterns were associated with higher initial values on externalizing symptomatology and difficulties in classroom engagement. In addition, examination of slope trajectories were also consistent with prior empirical work in the sense that children from disengaged families had significantly greater slopes for classroom engagement difficulties and externalizing problems relative to both cohesive and enmeshed family profiles. Thus, in the case of disengaged families, it may be that the family's failure to fulfill the responsibility of providing support, resources, and protection result in children's difficulties in regulating behavior in the school context. In attempting to understand the mechanisms by which these associations occur, it may be that it is adaptive

for children to dismiss or downplay the value of interpersonal relationships when confronted with fragmented and emotionally detached interaction patterns in the family (e.g., Minuchin, 1974). Unfortunately, when these responses are exhibited within the context of school, a maladaptive pattern may result, including greater use of aggressive and inappropriate behaviors, greater alienation from teachers, and greater inability to attend to and adhere to rules and regulations for school functioning.

Finally, an intriguing finding arising in the present study was that children in disengaged families were comparable to enmeshed families in exhibiting a heightened vulnerability to internalizing symptoms and difficulties in emotional adjustment to school. In the context of the prevailing notion that the rigid boundaries and emotional distance characteristic of disengaged families is a more potent prognosticator of externalizing difficulties, these findings may be somewhat surprising. However, these results are consistent with an emerging body of literature proposing cascading models in development. First, cascade models of family dynamics (e.g., Christensen & Heavey, 1990; Sturge-Apple, Davies, & Cummings, 2006) suggest that disengaged family processes may be particularly pathogenic mechanisms that might not only engender alienation and disenfranchisement in family members, but may also promote significant doubts and worries in children about the ability of the family to serve as a source of protection in the face of external demands. Thus, the barren emotional climate present in a disengaged family network may amplify adaptive difficulties across several domains of functioning. In line with this prediction, developmental cascade models (e.g., Masten, et al., 2005) theorize that a constellation of difficulties across domains may largely be the function of early occurring externalizing problems in school children. Specifically, the cascade model proposes that externalizing symptoms evoke negative responses by peers and school staff, which in turn sets in motion a cascade of processes that increase children's internalizing symptoms and school problems. The presence of significantly higher initial levels of externalizing and classroom engagement difficulties in children in disengaged families in the current study coupled with the significant changes in internalizing and emotional adjustment domains over time is in accordance with the progressive, transactional effects proposed by Masten and colleagues.

Several limitations and future directions warrant discussion. First, the relatively short time period utilized limits our generalizability of the developmental trajectories identified. Future work incorporating longer assessment windows may shed additional light the implications of these family typologies for children's adjustment over time. Second, future research should complement the longitudinal assessment of adjustment problems in the present study with comparable prospective assessment of family typologies to examine how stability and change in family typologies correspond with trajectories of adjustment over time. Third, our models in the present study did not incorporate children's coping in stressful family systems and might have served to further elucidate the links between family typologies and their adjustment. Fourth, minimal differences were found on average intercepts of children's internalizing symptoms as well as emotional adjustment to school. Given that the impact of family patterns on children's adjustment in the school context may take some time to evolve, particularly with respect to internalizing and emotional domains, the lack of differences in the intercept is not surprising. However, because this is one of the first papers to chart these relationships during this developmental period, we exercise caution in interpreting these null findings. Finally, results are based on a community sample; the function, correlates and sequelae of family configurations in high risk and clinical populations may be different than those reported here.

In summary, our results suggest that employing pattern-based approaches to family functioning and child development may advance our understanding of the developmental sequelae of children's adaptation within different typologies of family functioning.

Consistent with models of developmental psychopathology, maladaptive family patterns may potentiate children's trajectories of adjustment difficulties during the early school years. However the findings here suggest that future research should consider multiple domains of adaptation simultaneously in order to fully explore how family functioning impacts children across an array of adjustment outcomes. At a broader level, this study also has implications for the utility of broadening transactional approaches to children's development in extrafamilial contexts as a function of different interactional patterns within the family system. Thus, delineating the interplay between family relationships may further advance understanding of child vulnerability and resilience within extrafamilial contexts.

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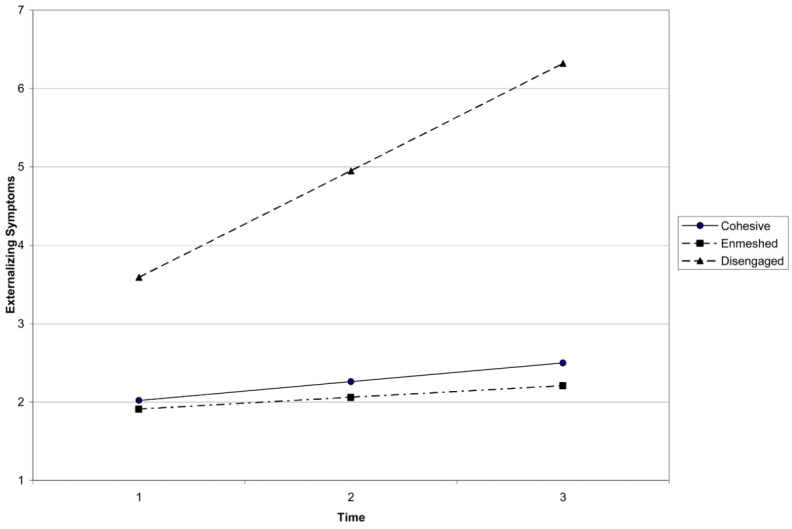

Figure 1.
Trajectories for teacher-reported externalizing symptoms

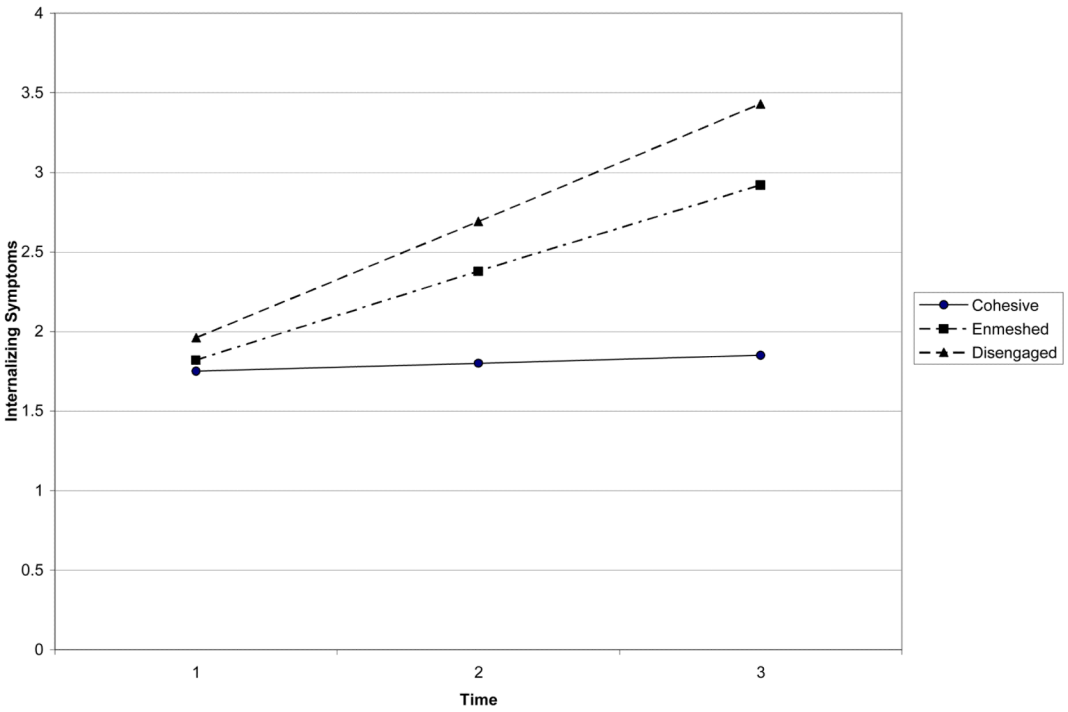

Figure 2.
Trajectories for teacher-reported internalizing symptoms

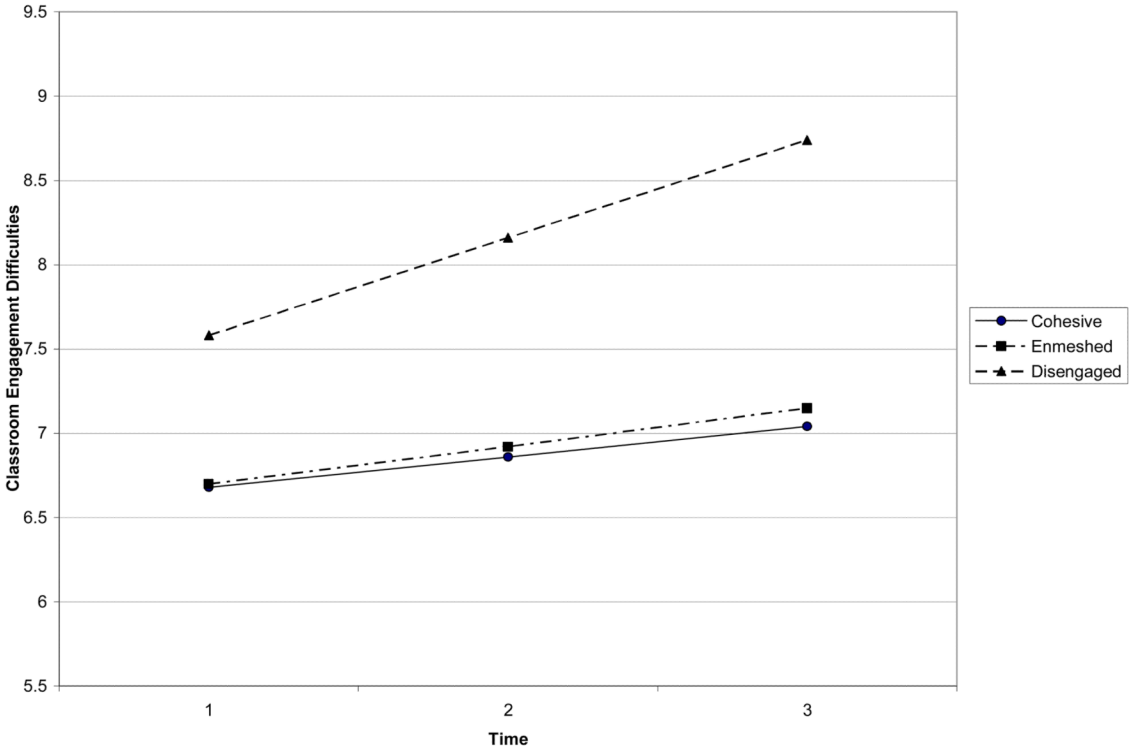

Figure 3.
Trajectories for teacher-reported difficulties in classroom engagement

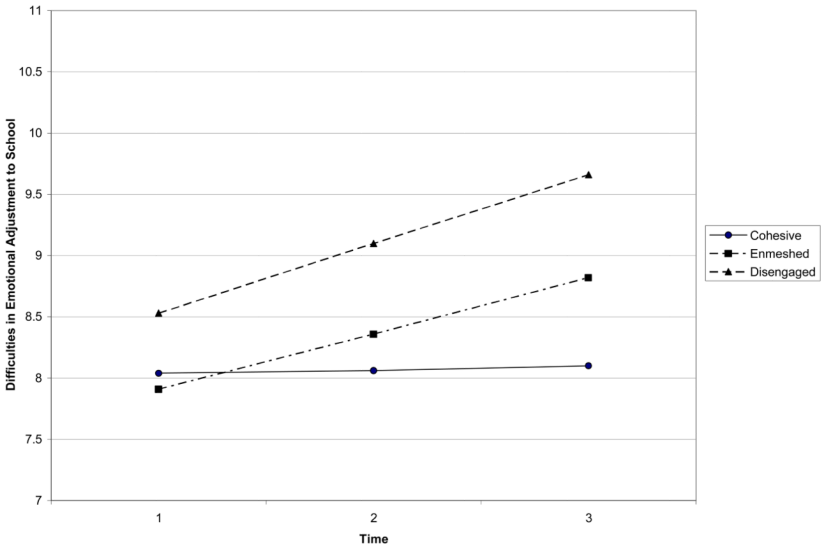

Figure 4.
Trajectories for teacher-reported difficulties in emotional adjustment to school

Table 1

Latent Profile Probabilities for Most Likely Class Membership by Latent Profile Based on Estimated Model

	Latent Profile		
	Disengaged	**Cohesive**	**Enmeshed**
Latent Profile Classification:			
Disengaged	90.6%	6.5%	2.9%
Cohesive	1.9%	95.4%	2.7%
Enmeshed	4.5%	4.1%	91.4%

Table 2

Means, standard deviations, and ANOVA comparisons of the three family typologies on seven defining variables

	Cohesive (C) (n = 137)		Enmeshed (E) (n = 51)		Disengaged (D) (n = 43)			
	M	*SD*	*M*	*SD*	*M*	*SD*	*F(2, 230)*	*Post Hoc*
Wave 1:								
Interparental Hostility	−.46	.53	1.47	.79	−.27	.64	187.50*	E > C, D
Interparental Withdrawal	−.36	.67	−.18	.74	1.38	.97	90.50*	D > E, C
Parental Emotional Availability	.31	.82	.01	1.02	−.99	.86	36.17*	E, C > D
Parental Intrusiveness	−.14	.95	.09	1.07	.34	.99	4.20*	D > C
Child Relatedness	.18	.96	−.12	1.01	−.44	.98	7.23*	E, D > C
Triadic Competition	−.08	.90	.40	1.23	−.28	.88	6.20*	E > C, D
Triadic Cooperation	.18	.91	−.16	.98	−.37	1.18	5.97*	C > D, E
Triadic Cohesiveness	.27	.95	−.20	.92	−.61	.91	15.59*	C > E, D

Post hoc comparisons used Tukey's HSD to control for alpha level, ">" refers to significantly larger whereas "," refer to not-significantly different at alpha = .05 level.

* $p \leq .001$

Table 3

Results from Log Likelihood Difference Tests for Free to Vary Model vs. Constrained Models

Model	*logL*	*df*	*ΔlogL*	*Δdf*
Model: Children's Externalizing Symptoms Trajectories				
Overall Free to Vary Model	2015.57	14		--
Intercept Comparisons:				
Disengaged = Cohesive	2019.05	13	6.96*	1
Disengaged = Enmeshed	2018.39	13	5.64*	1
Cohesive = Enmeshed	2015.58	13	0.02	1
Slope Comparisons:				
Disengaged = Cohesive	2019.98	13	8.82*	1
Disengaged = Enmeshed	2019.24	13	7.34*	1
Cohesive = Enmeshed	2015.60	13	0.06	1
Model: Children's Internalizing Symptoms Trajectories				
Overall Free to Vary Model	1712.26	14		--
Intercept Comparisons:				
Disengaged = Cohesive	1712.49	13	0.46	1
Disengaged = Enmeshed	1712.33	13	0.14	1
Cohesive = Enmeshed	1712.28	13	0.04	1
Slope Comparisons:				
Disengaged = Cohesive	1715.86	13	7.20*	1
Disengaged = Enmeshed	1712.45	13	0.38	1
Cohesive = Enmeshed	1714.50	13	4.48*	1
Model: Children's Difficulties in Classroom Engagement Trajectories				
Overall Free to Vary Model	1599.87	14	--	--
Intercept Comparisons:				
Disengaged = Cohesive	1603.84	13	7.94*	1
Disengaged = Enmeshed	1602.56	13	5.38*	1
Cohesive = Enmeshed	1599.88	13	0.02	1
Slope Comparisons:				
Disengaged = Cohesive	1602.04	13	4.34*	1
Disengaged = Enmeshed	1601.87	13	4.00*	1
Cohesive = Enmeshed	1599.90	13	0.06	1
Model: Children's Difficulties in Emotional Adjustment to School Trajectories				
Overall Free to Vary Model	1646.99	14		--
Intercept Comparisons:				
Disengaged = Cohesive	1648.07	13	2.16	1
Disengaged = Enmeshed	1648.17	13	2.36	1
Cohesive = Enmeshed	1647.08	13	0.18	1
Slope Comparisons:				

Model	*logL*	*df*	*ΔlogL*	*Δdf*
Disengaged = Cohesive	1649.70	13	5.42*	1
Disengaged = Enmeshed	1647.07	13	0.16	1
Cohesive = Enmeshed	1648.91	13	4.02*	1

Note. Significance level for *2Δ logL* tests is based on chi-square distribution.

* $p < .05$