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**THE WORK-FAMILY INTERFACE FOR FAMILIES WITH ADOLESCENTS:  
EXPLORING THE ROLE OF WORK-FAMILY CULTURE**

A Dissertation in  
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by  
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## ABSTRACT

The existing research linking work to family life, and that linking family life to adolescent adjustment, has been largely disconnected. In addition, a dearth of literature has examined the role of parents' workplace culture for family life and adolescent adjustment. The goal of the present study was to bridge the gaps in the literature by taking a systems approach to exploring the links between mothers' and fathers' work-family cultures, family life, and adolescent adjustment. Dyadic level processes, including parent-adolescent intimacy, conflict, and time together, as well as family level processes, including coparenting and family time, were examined as aspects of family life expected to link parents' workplace culture to adolescent adjustment. Data were drawn from a study on family relationships in dual-earner families in which information was collected from both parents and two adolescent siblings in each family, a design that allowed for the comparison of individuals within the family as well as the examination of both actor and partner effects of both mothers' and fathers' work-family cultures. Descriptive analyses examined differences, as well as potential interdependence, between family members. Structural equation models were used to model links between mothers' and fathers' work-family cultures, parent-child dyad and family processes, and adolescent adjustment for both older and younger siblings. Results demonstrated that work-family culture did indeed have associations beyond the workplace and with family life. Results were consistent with the idea that both dyadic and family processes serve as pathways through which parents' work-family cultures are linked to adolescent adjustment. Fathers' work-family culture appeared to play a particularly important role vis a vis affective components of parent-adolescent relationships, whereas mothers' work-family culture appeared to matter via temporal components of family relationships. Sibling differences were also revealed. Moderation analyses tested whether or not

the overall models varied based on adolescent gender, socioeconomic status, mothers' work hours, or fathers' work hours. The role of the combination of mothers' and fathers' work-family cultures was also tested. No evidence for moderation or the role of mothers' and fathers' work-family cultures in combination emerged. The overall models were notably robust and did not appear to vary as a function of these individual and family circumstances. Mothers' and fathers' work-family cultures also appeared to function independently of one another. The discussion highlights the implications of the findings for future workplace policy and intervention research.

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## **CHAPTER 1**

### **Introduction**

Much of the research on work and family focuses on how these two domains conflict with one another and the problems that often arise due to this conflict for both work and family life, as well as for workers themselves. It is also important, however, to focus on factors that contribute to the successful integration of work and family. One aspect of work that has the potential to foster the successful integration of work and family and have positive implications for work life, worker well-being, and family life is a workplace's culture and the extent to which it is supportive of employees combining work and family.

Research has revealed positive implications of supportive workplace cultures for the workplace (e.g., Allen, 2001; Thompson & Prottas, 2005), but a positive and supportive work-family culture may also have positive links to family life and, in turn, to adolescent adjustment. Workplace cultures that are more supportive of integrating work and family life may give employees more time and energy to put towards family life and, in these cases, work may be more likely to positively influence and less likely to negatively influence family life (Grzywacz & Marks, 2000). In turn, as research shows, better family dynamics, including positive parent-adolescent relationships, are linked to positive adolescent adjustment (e.g., Collins & Laursen, 2006; Steinberg, 2001).

Workplace culture is also worthy of our attention because it influences employees' use of other family-friendly workplace policies (Thompson et al., 1999), which have the potential to further improve employees' ability to integrate work and family life and foster more positive family dynamics and adolescent outcomes. Family-friendly workplace policies are not likely to be used when the workplace culture does not support the intent underlying these policies. For

example, new parents, especially fathers, can be reluctant to use family leave policies offered by their employers if they fear their absence will limit their potential for advancement in the company. Thus, in addition to understanding the conflict between work and family, it is also important to understand ways that work can be beneficial for family life, and one of these means may be the work-family culture of the workplace.

### *Gaps in the Literature*

In terms of our understanding of the links between work, family, and adolescent adjustment overall, more research is needed that takes an integrated, systems approach to examining how these phenomena fit together. The body of work that studies the links between work and family is largely separate from that which examines the links between family life and adolescent functioning. The work-family systems perspective (Barnett, 1999), however, recommends a more comprehensive, systems approach that examines the interconnections between parents' work, family dynamics, and adolescents' psychosocial functioning. Indeed, the integration of work and family in contemporary society warrants a more comprehensive, systems approach to examining work and family and youth outcomes.

An additional gap in the family and child and adolescent development literatures is the lack of attention to work characteristics, including work-family culture. Family researchers have largely ignored the role of workplace culture among other work characteristics. In the family and developmental literature, work is often thought of as parental absence, that is as something parents do that takes them away from their children. Like any other setting in which family members spend their time (e.g., home, school), however, work is complicated and complex, and the characteristics of this setting matter for family functioning. Work characteristics such as long work hours, nonstandard work shifts, and high work demands and pressure can have

negative implications for family functioning (Almeida & McDonald, 1998; Crouter, Bumpus, et al., 1999; Crouter et al., 2001; Davis et al., 2006; Han & Waldfogel, 2007; Presser, 2005; Repetti et al., 2009) by taking time and energy away from the family, making it difficult for family members' time at home to align, or increasing employees' psychological stress in ways that, in turn, affect family life. On the other hand, increased autonomy at work or occupational complexity may contribute to a more positive, stimulating home environment and improve family functioning (e.g., Menaghan & Parcel, 1995). These are just some of the work characteristics, of which workplace culture is another, that underscore the complexity of work.

Unlike the family literature, the industrial/organizational psychology literature has paid explicit attention to workplace characteristics, including workplace culture. This literature has linked workplace culture primarily to workplace outcomes, however, such as organizational commitment and job satisfaction (e.g., Allen, 2001). But does the impact of work-family culture stop at the workplace? Or does its influence extend beyond the workplace to families and family members? Limited research has explored links between workplace culture and family functioning, but this literature has largely focused on broad, generic family outcomes such as "family satisfaction" (e.g., Hill, 2005), which are not very informative.

A majority of two-parent families are now dual-earner families (Jacobs & Gerson, 2001; Raley et al., 2006), which introduces *two* work settings, with potentially different characteristics and different work-family cultures, further increasing the complexity of the work-family interface. The limited research that has examined work-family culture for dual-earner families has not taken into account the nature of both parents' workplaces and the simultaneous influence of both parents' work-family cultures. In the industrial/organizational psychology literature, for example, the typical sample is employees, and there are usually no data available on the culture

of their spouses' or partners' workplaces. When aiming to understand links between work and family, it is crucial to account for and understand both parents' work environments.

Similar to the lack of attention given to both parents within a family, work-family research has also largely neglected the study of multiple children per family. Although children within a family may be similar, they can also be quite different and have very different relationships with their parents. Differences between children in the same family are due not only to genetic differences but also to their nonshared environment (Plomin & Daniels, 1987), or differences in their environments, which is partially comprised of different relationships with their parents (Dunn & Plomin, 1990). These parent-child relationships may also respond differently to parents' work-family cultures. Thus it is important to acknowledge potential differences between siblings by studying more than one child per family.

The research on work-family culture also has not been specific to families with adolescents; much of the research on the work-family interface has focused on families with young children. Adolescence is an important developmental period to consider in the context of work and family, however. During adolescence, youth go through many developmental changes, and the risk for engagement in risky behavior increases (Arnett, 1999; Lerner & Galambos, 1998; Stewart, 2001). This developmental phase can involve conflicts with parents, mood disruptions, and engagement in risky behavior (Arnett, 1999). The negotiation between autonomy and parental control distinguishes adolescence from earlier phases in life (Zaslow et al., 2005) and makes parenting less defined than in childhood. In some cases, parents can make choices about their time at work that correspond to their adolescents' growing autonomy (Fortner et al., 2004), making the work-family interface unique and less prescribed for families with adolescents compared to those with younger children.

Overall, limitations of the current state of the literature include the disconnect between associations of work and family life and those of family life and adolescent adjustment, the lack of attention given to work-family culture in family research, as well as the paucity of attention given to families with adolescents and more than one parent or child within the family in the work-family literature. Put together, these limitations, combined with the complexity of contemporary work and family life, warrant looking comprehensively at salient aspects of work and family processes and adolescent functioning. This is best accomplished by taking a systems approach. The potential for work-family culture to positively influence work and family life and youth well-being also highlights its prospective utility as a target for future workplace policies. In this dissertation, I examine the links between mothers' and fathers' workplace cultures, several aspects of family life, including dyadic processes (i.e., parents' relationships with older and younger adolescents) and family-level processes (i.e., processes shared by all focal family members), and older and younger adolescents' adjustment (see Figures 1 and 2) to understand more fully how workplace culture may benefit family life and adolescent adjustment and thereby support the successful integration of work and family.

#### *Definition of Work-Family Culture*

Work-family culture is defined as "the shared assumptions, beliefs, and values regarding the extent to which an organization supports and values the integration of employees' work and family lives" (Thompson et al., 1999, p. 394) and is comprised of three components.

*Organizational time demands* reflect a workplace's norms about the amount of time employees are expected to work. Theoretical models of work-nonwork stress (Greenhaus and Beutell, 1985) and the work-family interface (Frone et al., 1997) suggest that heavy time demands are linked to greater work-family conflict. Given that time is a limited resource, when long work

hours are expected on the job, hours are necessarily taken away from those spent with the family, and it may become harder to fulfill one's roles in the family domain. The focus on time over results in the workplace also does not encourage workplace productivity and may be demoralizing to efficient employees (Ressler & Thompson, 2008), especially when they have competing time demands in other domains such as the family.

*Negative career consequences* may also result in some organizations when workers attend to family demands. If worker performance is evaluated by "face time", tending to family needs may be equated with poor performance (Perlow, 1995). These career consequences may discourage workers from tending to family needs or act as a barrier to the successful implementation and take-up of work-family policies and programs (Perlow, 1995) that might otherwise support the integration of work and family. The notion of "presenteeism" in the workplace – the idea that work can only be accomplished if workers are present and visible in the workplace – is often mistakenly associated with productivity and rewarded in the workplace (Ressler & Thompson, 2008). Presenteeism, and corresponding consequences for not being present, such as being overlooked for a promotion regardless of actual results accomplished, also discourages workers from finding alternative solutions to integrating work and family. Indeed, a theoretical model of work-family role incompatibility suggests that work-family conflict is the most intense when there are negative sanctions for noncompliance with role demands (Greenhaus & Beutell, 1985), such as in a workplace culture characterized by norms of presenteeism or other role demands that act as barriers to responding to family needs.

*Managerial support*, like other forms of social support, is a dimension of work-family culture that has the potential to help workers cope with work and family stressors (Beehr, 1985; Greenhaus & Parasuraman, 1986), and has also been associated with lower levels of work-family

conflict (Galinsky et al., 1996; Hammer et al., 2007; Bellavia & Frone, 2005; Glass & Estes, 1997; Kelly et al., 2008). When managers are more supportive of the successful integration of work and family, workers are better able to negotiate these two roles. Supervisors may also be thought of as the “linking pin between the availability of formal family supportive organizational policies and practices ... and informal family supportive organizational culture and climate” (Hammer et al., 2007, p. 6). In order for workplace policies to have an impact, supervisors must be supportive of their use. In addition, many work-family arrangements are often informal and negotiated at the supervisor’s discretion (Henly et al., 2006), further highlighting the role of managerial support in the successful integration of work and family.

These three components, *Organizational Time Demands*, *Negative Career Consequences*, and *Managerial Support*, make up the construct of work-family culture. Work-family culture, overall, reflects how supportive the climate of the workplace is of the successful integration of work and family. Work-family culture has the potential to influence different aspects of family life and parent-adolescent relationships and, in turn, adolescent adjustment as proposed in Figures 1 and 2.

### *Proposed Models*

The proposed models linking work-family culture to family life to adolescent adjustment are shown in Figures 1 and 2. For models that link work-family culture to adolescent adjustment through dyadic parent-adolescent relationship processes (see Figure 1), I present links between the mother’s work-family culture and her own relationship with her adolescent (path a) as well as the father’s relationship with the adolescent (path b). The same paths are explored for fathers (i.e., paths linking his work-family culture to his own relationship with his adolescent (path d) and to the mother’s relationship with the adolescent (path c)). The mother-adolescent



relationship is then linked to both adolescent risky behavior (path e) and depressive symptoms (path f). Similar paths linking the father-adolescent relationship to adolescent risky behavior (path g) and depressive symptoms (path h) are also presented. Due to potential differences between siblings, I examine older and younger siblings in two-group models.

When exploring how work-family culture is linked to adolescent adjustment through family processes (see Figure 2), I propose separate paths between mothers' (path a) and fathers' (path b) work-family cultures and family processes. In turn, I present links between family processes and risky behavior (path c for older siblings, path e for younger siblings) and depressive symptoms (path d for older siblings, path f for younger siblings). Given that family processes are shared by both siblings, older and younger siblings are both included in single group models when examining family processes.

#### *Work-Family Culture and Family Life*

As mentioned previously, the industrial/organizational psychology literature has explored the role of work-family culture, but primarily in the work domain. For example, in national studies, across a variety of occupations, including partnered and non-partnered employees, parents and non-parents, a supportive work-family culture has been associated with stronger organizational attachment and commitment, higher job satisfaction, and lower turnover intentions (Allen, 2001; Hill, 2005; Thompson et al., 1999; Thompson & Prottas, 2005). Each of these factors likely benefits the workplace and contributes to its success.

The role of work-family culture for family and youth outcomes has been largely neglected in the literature. Although work-family culture is expected to have an impact on youth adjustment, I propose that these impacts will operate primarily through family dynamics, as shown in Figures 1 and 2, given that adolescents are usually not directly involved in the parent's

workplace. Thus I explore links from workplace culture to family life in terms of parent-adolescent relationships (paths a-d, Figure 1) and family processes (paths a and b, Figure 2), and then links between parent-adolescent relationships (paths e-h, Figure 1) or family processes (paths c-f, Figure 2) and adolescent adjustment.

The specific aspects of parent-adolescent relationships that I explore are parent-adolescent intimacy, parent-adolescent conflict, and parent-adolescent time together. These relationship qualities are all salient for adolescent adjustment (McHale et al., 2001; Smetana, 2005; Steinberg, 2001), and capture both affective and temporal components of parent-adolescent relationships. Thus, these three characteristics of parent-adolescent relationships are important to test as mechanisms through which work-family culture may influence adolescent adjustment. In terms of family-level processes, I explore the roles of coparenting and family time. Coparenting was chosen to assess an aspect of the relationship between parents (and therefore that is shared by children in the family) that specifically concerns their children. Family time was chosen to examine an element of family dynamics that involves all family members. Coparenting and family time are also important for adolescents in particular (Crouter et al., 2004; Feinberg et al., 2007), and thus should be explored as family-level mechanisms linking work-family culture to adolescent adjustment.

*Theoretical framework.* Intervention scholars highlight the need to better address the broader contexts that lead to youth problems (Fraser, 2004). I take an *ecological approach* to examine work as a context for family life and adolescent adjustment. Work-family culture should influence family life and adolescent functioning because adolescents and their families do not exist in isolation. Individual family members and family processes are influenced by conditions outside of the family, including parents' work circumstances (Bronfenbrenner, 1986).

The ecological perspective (Bronfenbrenner, 1986) implies that the work-family culture of parents' work settings may impact adolescents through their impacts on the family. Thus, I recognize the need to examine the potential impacts of a workplace's work-family culture on family and adolescent adjustment and view parents' work as an important context to consider when attempting to understand adolescent functioning.

A parent's work life is commonly one of the adolescent's exosystems; it is a setting in which the parent, but typically not the adolescent, spends time (Bronfenbrenner, 1986). Ecological theory suggests that children's development can be affected by what occurs in the exosystem. Parents' work, as an exosystem, provides a context that influences the family microsystem. At the most basic unit of the microsystem, the parent-adolescent dyad may be influenced by the parent's work-family culture in terms of parent-adolescent intimacy, parent-adolescent conflict, and parent-adolescent time together. Workplace culture may also have an impact on family level characteristics of the microsystem that are shared by all members of the family. The family microsystem may respond to workplace culture in terms of how much time the family spends together in addition to how well the coparenting relationship between parents functions. Each of these characteristics of the family microsystem, parent-adolescent intimacy, parent-adolescent conflict, parent-adolescent time together, family time, and coparenting, are salient aspects of the family microsystem for adolescent adjustment (Crouter et al., 2004; Feinberg et al., 2007; McHale et al., 2001; Smetana, 2005; Steinberg, 2001).

In addition, *family systems theory* holds that families operate as systems, making it essential to study more than just one member of the family. It is important to understand the interactions between mothers, fathers, older siblings, and younger siblings, because individuals in the family are all interdependent and contributing parts of the family system and cannot be

well understood in isolation (Cox & Paley, 1997; Minuchin, 1985). We cannot understand the family by relying solely on information provided by one member of the family (e.g., employees recruited through the workplace), because there is more to a family than its individual family members. Families are constantly changing, and changes that influence one part of the family likely influence other parts of the family and the family as a whole, because family members are connected and share a great deal of their lives (Cox & Paley, 1997; Minuchin, 1985). For example, a father's work-family culture has the potential to influence the mother and her relationships with her children (path c, Figure 1) as well as the complete family system (path b, Figure 2), because of the interconnections between mothers and fathers and the whole family in their home lives.

The family system is also composed of subsystems (e.g., mother-older child dyad, father-older child dyad, mother-younger child dyad, father-younger child dyad, sibling dyad, mother-father dyad), which are unique and not interchangeable (Minuchin, 1985). Each relationship brings its own unique qualities to the family, and families cannot be fully appreciated by looking at just one relationship (e.g., mother-child). Mother-child relationships can be quite different from father-child relationships, for example. While these dyads and their relationships are unique and separate, they also interact with each other (e.g., mother-child relationships can influence father-child relationships and vice versa), highlighting the need to examine multiple dyads within a family and the links between them (as shown in Figure 1). Despite the contribution of all family members to the family system, and the inability to understand the family without understanding its individual members and subsystems, a majority of research on families and individual development relies solely on data from one family member, often the mother, to understand the complete family (Minuchin, 1985). Taking a family systems

perspective to more fully understand the role of workplace culture for family life and adolescent adjustment, I examine mothers and fathers as well as older and younger siblings (as shown in Figures 1 and 2).

Both family systems theory and the ecological perspective refer to the family system, or microsystem, as a whole as well as to subsystems, or dyadic units, of the family system. Acknowledging this distinction, as mentioned previously, I study both dyadic (Figure 1) and family-level processes (Figure 2). I explore parent-adolescent intimacy, conflict, and time together as dyadic processes, which are specific to a given dyad and may vary considerably between parents and between siblings within the same family as they represent part of the nonshared environment (Dunn & Plomin, 1990). Family time and coparenting are investigated as family-level processes, which are presumably shared and do not vary for each family member.

*A stress perspective* also supports links between work-family culture and the family microsystem. The family stress model highlights links between the stress of economic hardship and parenting practices (Conger & Elder, 1994). Similar outcomes may be expected for work stresses, such as workplaces with unsupportive work-family cultures. Work characteristics can affect family life to the extent that they contribute to time and energy taken away from the family (Crouter & McHale, 1993). Work characteristics associated with stress, such as work-family cultures that do not support the integration of work and family, may take time and energy away from the family thereby resulting in negative impacts at both the dyadic and family levels of the family microsystem. Indeed, parenting styles that are most responsive to children's needs demand time and energy (Greenberger & Goldberg, 1989); thus unsupportive work-family cultures may not allow for the necessary time and energy to develop and maintain positive family relationships. In contrast, positive, and therefore less stressful, work-family cultures may

allow for a more appropriate distribution of time and energy to achieve positive outcomes in the workplace as well as at home in the family microsystem.

*Empirical literature.* Very limited empirical research has explored links between work-family culture and specific aspects of the family microsystem. Nevertheless, some research does suggest that work-family culture likely has implications for family life in general, although the specifics of these implications are quite vague. For example, a nationally representative study of adults (the MIDUS study) found that when workers had low levels of support at work, they were less likely to carry over positive influences of work into family life and more likely to bring negative aspects of work into the home (Grzywacz & Marks, 2000). These findings suggest that workplace cultures that are not supportive of integrating work and family decrease the likelihood that work experiences positively affect functioning in the family domain and increase the likelihood that work experiences negatively affect functioning in the family domain. Another nationally representative study of employed adults found links between one component of work-family culture, namely supervisor support, and higher family satisfaction (Thompson & Prottas, 2005). Neither of these studies specified which aspects of family life were influenced by the work-family culture, however. Nor were they specific to families with children, let alone adolescent children. Nevertheless they suggest that effects of work-family culture may be seen in the family.

Work-family culture should also influence family life and parent-adolescent interactions because of its impact on work-family conflict. Supportive work-family cultures, including supervisors who are more supportive of integrating work and family, have been associated with lower levels of work-family conflict in several papers, including theoretical papers (Hammer et al., 2007), review papers (Bellavia & Frone, 2005; Glass & Estes, 1997; Kelly et al., 2008) and

meta-analyses (Mesmer-Magnus & Viswesvaran, 2006), as well as nationally representative studies of employed adults (Galinsky et al., 1996; Hill, 2005; Thompson & Prottas, 2005), and studies of smaller, more specific samples, such as employed mothers with preschoolers (e.g., Warren & Johnson, 1995). As work-family conflict has been associated with problems in the family domain, including lower family satisfaction, poorer performance in the family, decreased presence in the family, more family distress, and poorer quality of family life in meta-analyses and review papers (Allen et al., 2000; Bellavia & Frone, 2005), work-family culture should also influence family life and parent-adolescent interactions. Indeed, one study using structural equation modeling to examine work-family conflict as a mediator between work and family has shown links between supervisor support, specifically, and less work-family conflict, and in turn more family satisfaction (Frye & Breugh, 2004), but this small sample of convenience consisted largely of students and alumni, and the specifics of the aspects of family life influenced by work-family culture remain unknown.

Research and theory on work-family facilitation provide further support for a link between work-family culture and family life and parent-adolescent interactions. Work-family facilitation is defined as, “the extent to which an individual’s engagement in one life domain (i.e., work/family) provides gains which contribute to enhanced functioning of another life domain (i.e., family/work)” (Wayne et al., 2007, p. 64). More supportive workplace cultures have been associated with greater work-family facilitation in review articles (Kelly et al., 2008), theoretical papers (Hammer et al., 2007; Wayne et al., 2007), and empirical studies using nationally representative samples of employed adults (e.g., Voydanoff, 2004). In turn, work-family facilitation has been theoretically linked to better parent-child interactions and family well-being (Wayne et al., 2007), but more research is needed to confirm and clarify these links.

Along with these influences of work-family culture on family life in general, and indirect influences on family life through work-family conflict or work-family facilitation, work-family culture should also be associated with specific aspects of the family microsystem, including dyadic parent-adolescent relationships and family level qualities. A couple of recent studies of Dutch families have looked more specifically at parent-child relationships. One of these investigations conducted with a sample of parents with children between the ages of 4 and 18 used structural equation modeling and found that when parents had less family-friendly workplace cultures, there were increased disturbances of parent-child activities, which in turn were linked to lower quality parent-child relationships (Roeters et al., 2010). Although this study notably examined both mothers and fathers, it did not simultaneously examine mothers and fathers in the same family and look at actor (i.e., the effect of one parent on him/herself) and partner effects (i.e., the effect of one parent on the other). In addition, parent-child relationship quality was studied very generally, and the distinction between intimacy, conflict, and time together was not made. Furthermore, the sample was not specific to parents of adolescents, and as mentioned previously, the unique qualities of this developmental phase require specific attention.

This same group of researchers also conducted another study of Dutch mothers and fathers of children age 11 and younger, and using structural equation modeling, examined both actor and partner effects by studying mothers and fathers in the same family. They found that when fathers' workplace cultures were less family-friendly, fathers participated less in interactive activities with their children, but when mothers had less supportive workplace cultures, fathers participated in more routine and interactive activities with their children (Roeters et al., 2009). This investigation did not examine more affective components of parent-



child relationships, such as warmth and conflict, however. As with the previous study, this investigation was also not specific to parents of adolescents, and it is unclear whether the findings in both of these studies would be upheld in an American sample, due to differences in the two cultures.

Estes (2004), in a longitudinal study of family-responsive workplace arrangements, parenting, and child well-being, found that supervisor support, one component of work-family culture, was linked to warm and responsive parenting (Estes, 2004). This study was specific to mothers of very young children, however, and links may be different for fathers or for parents of adolescents. Despite their weaknesses, these studies do provide a tentative rationale to explore links between work-family culture and specific aspects of family life, both dyadic and family-level processes, that are salient to families with adolescents, specifically parent-adolescent intimacy, conflict, and time together at the dyadic level, as well as family time and coparenting and the family level.

#### *Family Life and Adolescent Adjustment*

Just as parents' work-family culture likely influences family life, the ecological perspective suggests that salient aspects of family life can in turn influence adolescent adjustment. Both dyadic (paths e-h, Figure 1) and family processes (paths c-f, Figure 2) are linked to adolescent adjustment. Furthermore, the embeddedness of individual family members within the larger family system necessitates understanding the family system (both the complete family system, and dyadic subsystems) for understanding individuals (Cox & Paley, 1997). Thus, to understand adolescent adjustment, we must understand relationships and dynamics within the family. In contrast to the skimpy literature linking workplace culture to family functioning, links between family life and adolescent adjustment have been more thoroughly

explored in the literature, albeit separately from influences of the work context. Both affective and temporal aspects of parent-adolescent relationships, and family-level processes, have been linked to youth adjustment.

*Warmth and closeness* in parent-adolescent relationships are associated with better adolescent well-being and psychosocial development (as reviewed by Steinberg, 2001), and warm and accepting parent-adolescent relationships also increase the likelihood that parents have positive influences on adolescents (as reviewed by Collins & Laursen, 2006). Warmth in family relationships has also been recognized as an important protective factor for resilience when youth are faced with adverse circumstances (Masten & Powell, 2003; McLoyd, 1998). In contrast, adolescents engage in more delinquency and drug use when they have neglectful parents to whom they are not close (as reviewed by Collins & Laursen, 2006).

*Parent-child conflict* is more prevalent during adolescence compared to childhood or young adulthood (as reviewed by Collins & Laursen, 2006). These conflicts are typically about everyday life, including topics such as curfews or household chores (Smetana, 2005).

Adolescents are likely to conflict with their parents about issues related to their own autonomy, including personal freedom and choices (Smetana, 2005). When conflict is continuously high, adolescents are more likely to engage in problem behaviors (Collins & Laursen, 2006; Smetana, 2005). Indeed, parent-adolescent conflict has been linked to poorer adolescent well-being, operationalized by general self-worth and depressive symptoms, for both older and younger adolescents in two-parent, primarily middle class families (Crouter, Bumpus, et al., 1999). Thus higher levels of parent-adolescent conflict should be linked to poorer adolescent adjustment.

*Parent-child time together.* According to Coleman's social capital theory (1988), time with parents provides children with social capital with which they develop human capital and

become successful, competent adolescents and young adults. When children spend time with their parents, they build connections and social networks. Through these connections, children acquire access to resources that allow them to successfully develop into capable adults.

Empirical research has also found that when children spent free time with their parents, as measured through time use measures gathered via daily diary phone interviews, they reported more positive adjustment (McHale et al., 2001). In addition, parent-adolescent time together during family meals has been associated with reduced problem behavior for older youth and adolescents (Eisenberg et al., 2004). Parent-adolescent time together may be also beneficial for adolescent adjustment when it reduces adolescents' risky time use; when parents spend time with adolescents, adolescents are supervised and are likely not engaged in risky behavior.

Accordingly, Eisenberg and colleagues (2004) suggest that supervision may be a mechanism by which family meal time is associated with better adolescent adjustment. Indeed, supervised youth exhibit more positive adjustment compared to unsupervised youth (Aizer et al., 2004; Cohen et al., 2002; Mott et al., 1999; Pettit et al., 1999; Stewart, 2001).

*Family Time.* Time with parents can be important for adolescents both at the parent-adolescent dyad level, as well as at the family level in which all family members spend time together, as indicated above with the positive associations of family meal time. Another study of multiple family members also revealed associations between the amount of time the whole family spent together, as measured in time use data gathered via daily diary telephone interviews across 7 days, and lower levels of youth risky behavior and depressive symptoms two years later (Crouter et al., 2004). This study found benefits of family time to be stronger than benefits of one-on-one time for family dyads, and thus associations of parent-adolescent dyadic time

together and the time mothers and fathers and older and younger siblings spend together are explored separately.

*Coparenting.* Another family-level process, shared by all family members, through which adolescent adjustment may be affected is parents' coparenting relationship or "the parents' connection *as parents*" (Cowan & McHale, 1996, p. 99). Family systems theorists recognize the importance of the mother-father subsystem and the interaction between parents, and therefore the coparenting relationship, for child development (Minuchin, 1985). A meta-analysis of 59 studies indeed demonstrated links between coparenting and fewer internalizing and externalizing problems in children under 18 (Teubert & Pinquart, 2010). Most studies focus on the role of coparenting for younger children (Feinberg et al., 2007), but a handful of investigations have also highlighted the importance of coparenting for adolescents. For example, coparenting conflict has been shown to predict adolescent antisocial behavior over time in 2-parent, 2-adolescent families (Feinberg et al., 2007) and increases in adolescent risky behavior over 2 years in 2-parent families (Baril et al., 2007). Therefore, the coparenting relationship may also be a family-level characteristic that influences adolescent adjustment.

### *Mothers and Fathers*

Mothers and fathers sometimes serve unique roles in the workplace and in the family. For example, mothers are more often responsible for family functioning compared to fathers (Bornstein, 2006; Coltrane, 2000), and although there is more integration of work and family roles for both mother and fathers in contemporary society, traditional sex role norms stipulate a more prominent role of mothers in the family and a more prominent role of fathers in the workplace (Pleck, 1977). Given mothers' and fathers' potentially differing roles in the work and family domains, the work-family culture of mothers' and fathers' workplaces may have different

implications for family life. Grzywacz and Marks (2000) found that low levels of support were more strongly linked to negative spillover from work to family for women than men. Work-family facilitation theory also suggests that mothers may make more use of supervisor support or a supportive workplace culture than fathers (Wayne et al., 2007), and among working couples, wives have been found to be more likely to use workplace supports than husbands (Hammer et al., 2005). Thus a supportive work-family culture may be more beneficial for mothers compared to fathers, and mothers' work-family culture may have a stronger influence on family life than fathers'.

In other aspects of the work domain, some research similarly indicates a stronger potential impact of mothers' work experiences on family life and parent-adolescent interactions compared to that of fathers' work experiences. For example, in a daily diary study of married couples, Almeida and McDonald (1998) found that when mothers experienced work stress, both mothers and fathers engaged in more conflict with their adolescents. In addition, mothers' work hours were linked to how much fathers knew about their children's experiences such that when mothers worked longer hours, fathers actually knew more about their children's experiences (Crouter, Helms-Erikson, et al., 1999), but fathers' own work hours were not related to fathers' or mothers' knowledge of their children's daily experiences.

Other findings, however, suggest that a father's work life may have a stronger impact on family life and parent-adolescent interactions compared to a mother's work life. Studies of two-parent families have demonstrated that fathers' work demands have a stronger influence than mothers' work demands, because of their association with both mothers' and fathers' knowledge about children's daily lives (Bumpus et al., 1999). In addition, fathers' work pressure was linked not only to their own, but also to mothers' experiences of overload and in turn, conflict with their

children; in contrast, mothers' work pressure was linked only to their own overload, and conflict with their children, and not to fathers' experiences of overload (Crouter, Bumpus, et al., 1999). Both of these studies of two-parent families highlight both actor and partner effects of fathers' work (i.e., the role of fathers' work experiences for both themselves and for their wives). Research on emotion transmission has also revealed that fathers' work experiences spill over into the family and are linked to family life and emotions in the family more than do mothers' work experiences (Larson & Almeida, 1999). Furthermore, although somewhat dated, a national time diary study revealed stronger actor effects of fathers' work hours compared to mothers'; fathers' work hours were associated with fathers' time with children more than mothers' work hours were associated with mothers' time with children (Nock & Kingston, 1988).

*Actor versus Partner Effects.* In addition to highlighting the need for further research on the roles of mothers' versus fathers' work life for parent-adolescent relationships, these findings also reveal the potential for both actor (i.e., the link between one parent's work-family culture and his/her own relationship with the adolescent – paths a and d, Figure 1) and partner effects (i.e., the link between one parent's work-family culture and the other parent's relationship with the adolescent – paths b and c, Figure 1) of mothers' and fathers' work experiences, and the need to examine both parents in terms of their influence on the family system. Mothers' work experiences may affect not only their own (path a, Figure 1) but father-adolescent relationships as well (path b, Figure 1). Similarly, fathers' work life also has the potential to influence both mother- (path c, Figure 1) and father-adolescent relationships (path d, Figure 1). Both mothers' and fathers' work-family cultures may also influence the family as a whole in terms of family time or coparenting (paths a and b, Figure 2). The potential actor-partner effects and the role of work-family culture for the family system need to be explored.

*The Combination of Both Parents' Work-Family Cultures.* In dual-earner families, resources of both parents may be pooled and when these resources are put together, they can have a greater impact than they would individually (Jianakoplos & Bernasek, 2008). Therefore, when looking at the impact of mothers' and fathers' work-family cultures on family life, it will also be important to look at the combination of mothers' and fathers' work-family cultures; when these resources (i.e., work-family cultures) are combined, they may have a greater impact on family life than either mothers' or fathers' work-family cultures would have independently. Two parent, dual-earner families have the potential to be influenced by two work-family cultures, and the real impact of work-family culture in dual-earner families may be in the combination of mothers' and fathers' work-family cultures. For example, work-family culture may have the strongest positive impact on family life when both parents have supportive work-family cultures. Alternatively, one parent's work-family culture may play a stronger role when compensating for the lack of a supportive work-family culture in the other parent's workplace.

*Relationships with Mothers versus Fathers.* Whereas the role of parent-adolescent relationships for adolescent adjustment has been more thoroughly explored in the literature, as mentioned previously, research examining both parents and more than one adolescent within a family is limited. Parent-adolescent relationships may differentially influence adolescent adjustment depending on which parent is part of this relationship (e.g., paths e and f versus paths g and h in Figure 1), given the uniqueness of each dyad or subsystem within the family (Minuchin, 1985). Given that parent-adolescent dyads within the family vary in their closeness (Youniss & Smollar, 1985), depending on which parent (mother versus father) and which adolescent (older versus younger or boy versus girl) is a part of the dyad, closeness and intimacy may also have differential implications depending on the parent-adolescent dyad. Mothers' time

with their adolescents is also qualitatively different from fathers' time with their adolescents. Fathers and adolescents spend more time in recreational activities, which may result in differing impacts of mothers' and fathers' time with adolescents (Collins & Laursen, 2006). Research on conflict resolution also indicates that conflicts with mothers are more likely to result in compromise compared to conflicts with fathers (as reviewed by Collins & Laursen, 2006), which might limit problematic effects of mother-adolescent conflict on adolescent adjustment compared to father-adolescent conflict. Clearly it is important to distinguish between and simultaneously examine adolescents' relationships with both mothers and fathers.

### *Sibling Differences*

Most families contain more than one child and these children can be quite different, as mentioned previously, due in part to their non-shared environment, which includes parent-child relationships (Dunn & Plomin, 1990; Feinberg & Hetherington, 2001). The influence of work-family culture may also differ for siblings, based on their birth order. Parents may struggle more with parenting their first-borns but be more successful and competent with second-borns because of what they have learned from their experiences with their first child. For example, in a study of two-parent families and two of their children, parents' experiences with their first-born's transition to adolescence were linked to expectations about their second-born's transition to adolescence (Whiteman & Buchanan, 2002). Parents' relationships with younger offspring were also less conflictual than relationships with older offspring, even during their respective transitions to adolescence, and parents were also more knowledgeable about second-borns' experiences compared to first-borns' when they were the same age (Shanahan et al., 2007; Whiteman et al., 2003). If parents do struggle more with their first-borns, the work-family culture of a workplace may be more likely to be relied on as a resource and therefore have the



potential to be more influential for parent-firstborn relationships and firstborn adjustment. In contrast, if parents learn from raising their firstborn and apply this knowledge and skill to raising their second-borns, they may naturally be more successful in parenting second-borns, and workplace culture may therefore have less of an influence on parent-second-born relationships and second-born adjustment.

#### *Additional Sources of Variation*

There are differences among individuals and families that may also result in different links between work-family culture, family life, and adolescent adjustment. A family's *socioeconomic status* may influence the role of work-family culture. Theory on work-family facilitation suggests that social class may moderate the association between a supportive work-family culture and the ability of work to positively influence family life, because working class employees may utilize a supportive workplace culture differently than do middle class employees (Wayne et al., 2007). Working class families are less likely to have supportive workplace cultures given the nature of their jobs (Lambert, 2009). These jobs are generally attached to the bottom line and consumer demands; they are considered a cost to be minimized, and little effort is given to supporting these workers and their families (Applebaum et al., 2003). When work does accommodate working class family needs, however, it is primarily due to supervisor support (Henly et al., 2006), suggesting that supervisor support plays an especially critical role for working class families. Lower SES families may find it especially difficult to integrate work and family given the struggles and chaos they face in their daily lives (Roy et al., 2004). These families also are very unlikely to have formal family-friendly workplace policies (Lambert, 2009) that might otherwise assist them in successfully combining work and family. Therefore with this lack of formal support combined with the difficulties these families face,

work-family culture as a whole may play a stronger role in the lives of lower SES families and be more strongly linked to parent-adolescent relationships and family dynamics compared to higher SES families.

The model linking work-family culture to family life and adolescent adjustment may also vary depending on mothers' and fathers' *work hours*. Work-family culture may play a stronger role and have a larger influence when mothers or fathers are more strongly tied to the labor market by working longer hours. If a parent is more strongly connected to his/her workplace by working longer hours, he/she should have greater exposure to the work-family culture of this workplace. With greater exposure, this work-family culture may be more likely to influence mothers and fathers and their family lives as well. On the other hand, if employees are overloaded when working longer hours (Crouter et al., 2001), there may not be room for the culture of the workplace to have an impact on employees and their families. If so, work-family culture may have the strongest impact when mothers or fathers work fewer hours.

In addition to socioeconomic status and work hours, *adolescent gender* may be a source of variation for the role of work-family culture for dyadic level family processes (i.e., parent-adolescent relationships). Mothers and fathers have different relationships with adolescent sons and daughters (Youniss & Smollar, 1985). Parents may see their relationships with their same-sex child (e.g., father-son, mother-daughter) as more prescribed and less optional. Thus, there may be greater variability in opposite-sex parent-adolescent relationships (e.g., father-daughter, mother-son), and work-family culture may have more room to play a role in these relationships. Alternatively, parents may be more protective of daughters than sons and therefore utilize a supportive work-family culture in such a way as to bolster their relationships with their daughters more so than their relationships with their sons. As a result, the role of work-family culture for

parent-adolescent relationships, and, in turn, for adolescent adjustment may be different for adolescent girls and boys.

### *Research Goals*

Given the limited research that takes a comprehensive approach to studying the work-family system and links between work and family life (both dyadic and family-level processes) and adolescent adjustment, as well as the lack of understanding of the role of work-family culture for family life and adolescent adjustment, this study aims to (1) explore mothers' and fathers' work-family cultures in two-parent dual earner families, (2) examine how mothers' and fathers' work-family cultures link to adolescent adjustment through individual dyad level parent-adolescent relationships and family-level processes, (3) test whether these models vary as a function of adolescent gender, socioeconomic status, mothers' work hours, or fathers' work hours, and (4) investigate the implications of the combination of mothers' and fathers' work-family cultures for parent-child relationships and family processes.

## CHAPTER 2

### Method and Descriptive Data

In this chapter, I explain the method of the study, including a description of participants, procedures, and measures. I also provide extensive descriptive data, beyond the simple associations between variables. I explain the measurement model to be used, and explore the interdependence between mothers and fathers and older and younger siblings on relevant variables to arrive at testable models linking workplace culture to family dynamics to adolescent adjustment.

#### *Participants*

Data came from the seventh phase of a 10-year longitudinal study of family relationships in two-parent, dual-earner families that involved annual assessments of parents' work experiences, family relationships and dynamics, and child and parent psychosocial functioning. Phase 7 is the focus here because it was the only phase in which the measure of workplace culture was included. At the outset, recruitment letters were sent to families of fourth and fifth grade students in 16 rural and small urban school districts. Families who were interested returned a self-addressed postcard, and follow-up telephone interviews determined eligibility. Criteria for eligibility included 1) having a first born child in the fourth or fifth grade 2) having a second born child one to four years younger, and 3) having an intact marriage. Families in which both parents worked at least part time were included whenever possible in order to study links between parental work and family processes. Mothers, fathers, and two offspring from each family participated in the study.

Phase 1, conducted in 1995-1996, included 203 families. Seven years later, in phase 7, 191 families participated. At phase 7, first born offspring were between the ages of 15 and 19

( $M = 17.34$ ,  $SD = .79$ ), and second born offspring were between the ages of 12 and 17 ( $M = 14.76$ ,  $SD = 1.16$ ). Just over half (51.31%) of older siblings were female, and just under half (49.74%) of younger siblings were female. Mothers were about 43 years old on average ( $M = 43.22$ ,  $SD = 3.97$ ), and fathers were almost 46 years of age on average ( $M = 45.53$ ,  $SD = 5.09$ ). Almost all families were white (99.48% of mothers), and both parents had just under 15 years of education on average (Mothers  $M = 14.60$ ,  $SD = 2.21$ ; Fathers  $M = 14.79$ ,  $SD = 2.50$ ). Median family income was \$75,000 ( $M = \$83,092.98$ ,  $SD = \$45,952.75$ , Range = \$6,900 to \$350,000). Racial and socioeconomic characteristics of the sample were representative of the demographics of the small cities, towns, and rural areas of the northeastern state where these families lived (Kim et al., 2006). Mothers worked 35.81 hours per week ( $SD = 15.93$ ) on average, which was significantly fewer hours ( $t = -7.37$ , 177  $df$ ,  $p < .001$ ) than fathers' average of 47.94 hours per week ( $SD = 14.91$ ). The most common occupations for mothers were secretaries ( $n = 17$ ), followed by registered nurse ( $n = 13$ ), and teachers' aides ( $n = 10$ ). The most common occupations for fathers were managers and administrators ( $n = 33$ ). The next most common were supervisors and proprietors in sales occupations ( $n = 6$ ) and sales representatives, miners, manufacturing, and wholesale ( $n = 5$ ), as coded using the National Opinion Research Center Occupation Codes (Nakao & Treas, 1994).

T-tests and chi-square tests were used to compare the 12 families who left the study between phase 1 and phase 7 with the 191 families who continued to participate at phase 7. The families who left the study were similar to the families who continued to participate in terms of mothers' age ( $t = -1.23$ , 201  $df$ ,  $ns$ ), adolescent age (older siblings:  $t = 1.10$ , 201  $df$ ,  $ns$ ; younger siblings:  $t = -1.31$ , 201  $df$ ,  $ns$ ) and gender (older siblings:  $\chi^2 = .22$ , 1  $df$ ,  $ns$ ; younger siblings:  $\chi^2 = .29$ , 1  $df$ ,  $ns$ ), parental education (mothers:  $t = .01$ , 201  $df$ ,  $ns$ ; fathers:  $t = -1.10$ , 201  $df$ ,  $ns$ ), race

( $\chi^2 = .06$ , 1 *df*, *ns*), and family income ( $t = -.99$ , 191 *df*, *ns*). Fathers in families who left the study tended to be slightly younger than fathers in families who remained in the study ( $t = -1.84$ , 201 *df*,  $p < .10$ ).

### *Procedures*

During Phase 7, separate home interviews were conducted with mothers, fathers, and adolescent children by trained interviewers. After an introduction, explanation of issues related to human subjects research, and review of procedures, families received a \$200 honorarium. Home interviews averaged 2-3 hours in length. Parents answered questions about themselves, their family relationships, and their occupation and work experiences; adolescents answered questions and completed questionnaires about their psychosocial well-being and family relationships.

Following home interviews, families participated in 7 evening telephone calls on 2 weekend days and 5 weekdays. These telephone interviews were prearranged at the end of the home visit. Adolescents participated in all calls and parents participated in 4 calls each, with one call involving both mother and father. On each call, adolescents reported with whom and for how long they had participated in each of 54 activities (e.g., do dishes, do homework, watch a movie – See Appendix Q) on that day.

### *Measures and Descriptive Data*

*Predictor variable(s).* *Work-family culture* was measured using Thompson, Beauvais, and Lyness' (1999) 20-item measure of work-family culture (e.g., "In this organization it is very hard to leave during the workday to take care of personal or family matters."). Parents responded on a 7-point scale from 1 (Strongly disagree) to 7 (Strongly agree). The work-family culture scale includes three subscales: Managerial Support (11 items,  $\alpha = .87$  for mothers;  $\alpha = .85$

for fathers), Career Consequences (5 items,  $\alpha = .74$  for mothers;  $\alpha = .71$  for fathers), and Organizational Time Demands (4 items,  $\alpha = .75$  for mothers;  $\alpha = .72$  for fathers). All items may also be used together to reflect overall work-family culture ( $\alpha = .91$  for mothers;  $\alpha = .88$  for fathers). Negatively worded items were reverse-coded, and items for each subscale, and all items for the full scale, were averaged so that higher scores indicated a more positive and supportive work-family culture.

Examining overall work-family culture for mothers and fathers, the average difference between mothers' and fathers' reports of work-family culture was .05, favoring mothers ( $SD = 1.15$ , Range = -2.40 to 2.55). T-tests revealed that mothers' and fathers' reports of work-family culture were not significantly different ( $t = .49$ , 142 *df*, *ns*), however. Tests for equality of variances conducted by correlating the sum of mothers' and fathers' scores with the difference between their scores on work-family culture, with the data in dyadic structure, as specified by Kenny and colleagues (2006), revealed a significant difference between mothers' and fathers' variances ( $r = .21$ ,  $p < .05$ ) such that mothers' exhibited greater variance than fathers in work-family culture (see Table 1 for standard deviations). Intraclass correlations calculated using a partial correlation on pairwise data (Kenny et al., 2006) revealed that mothers' and fathers' work-family cultures were not interdependent ( $r = -.01$ , 95% CI = -.18 to .15, *ns*; see Figure 3).

Looking at each of the three subscales, the average difference between mothers' and fathers' reports was -.07 for managerial support, favoring fathers ( $SD = 1.21$ , Range = -3.00 to 3.18), .10 for career consequences, favoring mothers ( $SD = 1.36$ , Range = -3.05 to 3.20), and .18 for organizational time demands, favoring mothers ( $SD = 1.66$ , Range = -4.00 to 3.75). However, t-tests similarly indicated no significant differences between mothers' and fathers' reports of managerial support ( $t = -.68$ , 142 *df*, *ns*), career consequences ( $t = .82$ , 124 *df*, *ns*), and

organizational time demands ( $t = 1.29, 146\ df, ns$ ). Tests for equality of variances revealed a significant difference between mothers and fathers in terms of managerial support ( $r = .18, p < .05$ ) such that mothers' reported more variability than fathers (see Table 1 for standard deviations). There were no significant differences between mothers' and fathers' variability in reports of career consequences ( $r = .14, ns$ ) or organizational time demands ( $r = .13, ns$ ). Intraclass correlations revealed non-interdependence between mothers' and fathers' reports on each of the subscales (managerial support:  $r = .04, 95\% \text{ CI} = -.13 \text{ to } .20, ns$ ; career consequences:  $r = -.13, 95\% \text{ CI} = -.30 \text{ to } .05, ns$ ; organizational time demands:  $r = .08, 95\% \text{ CI} = -.09 \text{ to } .24, ns$ ).

All of the subscales (i.e., managerial support, career consequences, organizational time demands) were highly correlated within each parent (see Table 2). Thus, for the majority of analyses, I used the three subscales in a measurement model to create an overall work-family culture latent variable for each parent. All three subscales for mothers were loaded onto a latent factor and all three subscales for fathers were loaded onto a separate latent factor using LISREL Version 8.12a (Joreskog & Sorbom, 1993). Mother and father latent variables were not allowed to correlate given the lack of interdependence discussed above (see Figure 4). All fit indices suggested that this measurement model was an excellent fit to the data ( $\chi^2 = 9.17, p = .41$ , Root Mean Square Error of Approximation (RMSEA) = .01, Standardized Root Mean Square Residual (Standardized RMR) = .05, Non-Normed Fit Index (NNFI) = .97, Comparative Fit Index (CFI) = 1.00)<sup>1</sup>. This measurement model was therefore used in all additional structural equation models.

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<sup>1</sup> Non-significant chi-squares, RMSEA < .05, Standardized RMR < .05, NNFI > .95, and CFI > .95 indicate excellent fit.



*Parent-adolescent relationship and family variables.* *Parent-adolescent intimacy* was measured using 8 items adapted from Blyth, Hill, & Thiel (1982). Adolescents responded to all items (e.g., “How much do you go to your mother for advice/support?”) on a 5-point scale from 1 (Not at All) to 5 (Very Much). All items were summed and higher scores indicated greater intimacy in the parent-child relationship ( $\alpha = .87$  for mother-older adolescent dyad;  $\alpha = .85$  for all other parent-adolescent dyads). Older ( $t = 5.28, 181\ df, p < .001$ ) and younger siblings ( $t = 5.24, 185\ df, p < .001$ ) both reported more intimacy with mothers compared to fathers, on average, but there were no significant differences between older and younger siblings in terms of their intimacy with mothers ( $t = .25, 186\ df, ns$ ) or fathers ( $t = -.09, 181\ df, ns$ ). Tests for equality of variances revealed no significant differences between mothers and fathers for older ( $r = -.03, ns$ ) or younger siblings ( $r = -.05, ns$ ) or between older and younger siblings for mothers ( $r = .01, ns$ ) or fathers ( $r = -.03, ns$ ). Interdependence in parent-adolescent intimacy was also assessed between parents (within each sibling) and between siblings (within each parent), again using the intraclass correlation. Mothers and fathers were interdependent in terms of their intimacy with both their older ( $r = .49, 95\% \text{ CI} = .34 \text{ to } .63$ ) and younger adolescents ( $r = .59, 95\% \text{ CI} = .45 \text{ to } .73$ ). Older and younger adolescents were also interdependent in their intimacy with their mothers ( $r = .31, 95\% \text{ CI} = .17 \text{ to } .46$ ) and fathers ( $r = .33, 95\% \text{ CI} = .19 \text{ to } .48$ ). Given the overlap in these confidence intervals, I could not conclude greater interdependence between siblings compared to parents (or vice versa), and thus I examined intimacy separately for each of the four parent-adolescent dyads.

*Parent-adolescent conflict* was measured by parents’ report of the frequency of parent-adolescent conflict in 12 domains (e.g., chores) and was based on the work of Smetana (1988) and Harris (1992). Mothers and fathers responded on a 6-point scale from 1 (Not at All) to 6

(Several Times a Day). All items were summed so that higher scores indicated more frequent parent-adolescent conflict ( $\alpha = .84$  for mother-younger adolescent dyads;  $\alpha = .85$  for mother-older adolescent and father-younger adolescent dyads;  $\alpha = .88$  for father-older adolescent dyads). Mothers and fathers were not significantly different, on average, in terms of their conflict with older siblings ( $t = .83, 176 \text{ df}, ns$ ), but mothers reported significantly more conflict with younger siblings than did fathers ( $t = 2.03, 177 \text{ df}, p < .05$ ). Both parents reported significantly more conflict with younger adolescents than with older adolescents (mothers:  $t = -3.98, 188 \text{ df}, p < .001$ ; fathers:  $t = -3.26, 176 \text{ df}, p < .01$ ). Variances were not significantly different between mothers' and fathers' conflict with either older ( $r = -.04, ns$ ) or younger siblings ( $r = .10, ns$ ). Similarly, variances for older and younger siblings were not significantly different for either conflict with mothers ( $r = -.08, ns$ ) or fathers ( $r = .02, ns$ ). Mothers and fathers were interdependent in terms of their conflict with older ( $r = .50, 95\% \text{ CI} = .35 \text{ to } .65$ ) and younger ( $r = .50, 95\% \text{ CI} = .35 \text{ to } .64$ ) adolescents. Older and younger adolescents were similarly interdependent in their conflict with mothers ( $r = .47, 95\% \text{ CI} = .32 \text{ to } .60$ ) and fathers ( $r = .53, 95\% \text{ CI} = .38 \text{ to } .68$ ). Again, given the overlap in these confidence intervals, conflict in each of the four parent-adolescent dyads was examined separately.

*Time Use Variables* were calculated from adolescent phone interview data by summing the number of minutes in different activities and different social contexts across days. *Parent-child time together* was calculated using an index of inclusive time with each parent (i.e., others may have been present along with the focal parent). On average, mothers spent more time with their adolescent children than did fathers (older siblings:  $t = 2.24, 168 \text{ df}, p < .05$ ; younger siblings:  $t = 2.37, 176 \text{ df}, p < .05$ ). Both parents also spent more time with younger adolescents than older adolescents (mothers:  $t = -5.69, 167 \text{ df}, p < .001$ ; fathers:  $t = -4.37, 167 \text{ df}, p < .001$ ).

Tests for equality of variances revealed no significant differences between parents for older ( $r = -.11$ , *ns*) siblings, but there was significantly more variability in the amount of time fathers spent with younger siblings compared to the time mothers spent with younger siblings ( $r = -.20$ ,  $p < .01$ ). Tests for equality of variances did not reveal significant differences between older and younger siblings in terms of time spent with mothers ( $r = .00$ , *ns*) or fathers ( $r = -.11$ , *ns*). Mothers and fathers were interdependent in the time they spent with older ( $r = .58$ , 95% CI = .43 to .73) and younger ( $r = .50$ , 95% CI = .35 to .65) adolescents. Similarly, older and younger adolescents were interdependent in the time they spent with mothers ( $r = .57$ , 95% CI = .41 to .72) and fathers ( $r = .55$ , 95% CI = .40 to .70). Time that each of the four parent-adolescent dyads spent together was studied separately given the overlap in the confidence intervals.

*Family time* was also calculated using time use data from the adolescent phone interviews by adding time all four family members spent together<sup>2</sup>. Like the parent-adolescent time together variables, we operationalized family time as an “inclusive” variable, meaning that other people could be there in addition to the four focal family members. Older and younger sibling reports were highly correlated ( $r = .95$ ,  $p < .001$ ) and were thus averaged to create the final family time variable. This high correlation between older and younger sibling reports also indicates the reliability of this method of acquiring data on time use.

*Coparenting* was measured using Margolin and colleagues’ (2001) 22-item scale. Margolin and colleagues (2001) define coparenting as “the extent to which parents either support or undermine one another’s parenting efforts” (p. 3). Parents responded to all items (e.g., “My spouse asks my opinion on issues related to parenting”) on a scale from 1 (Not at All) to 5 (Almost Always). Items covered parenting in general; they were not specific to first- and

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<sup>2</sup> Some families contained more than two adolescent children, but only the two focal adolescents were studied and thus accounted for in the “family time” variable.

second-born children. The scale focuses on cooperation, conflict, triangulation, and spousal confidence as aspects of coparenting relationships. Negatively worded items were reverse-coded, and all items were averaged to create a total score for mothers ( $\alpha = .93$ ) and fathers ( $\alpha = .93$ ). Mother and father scores were then averaged (when both scores were non-missing) to assess the overall coparenting relationship ( $r = .53, p < .001$ ). Higher scores indicated a more positive, collaborative coparenting relationship.

Correlations between all parent-adolescent relationship and family variables appear in Table 3. Some of these variables are significantly correlated (e.g., younger sibling's conflict and intimacy with their mothers), but others are not (e.g., older sibling's intimacy and time with fathers). Therefore, I did not attempt to create latent constructs representing parent-adolescent relationship or family variables. Parent-adolescent intimacy, conflict, and time, and family time and coparenting were examined in separate models.

*Adolescent outcome variables.* *Risky behavior* was measured using 18 items adapted from the Risky Behavior Scale (Eccles & Barber, 1990) from the Michigan Study of Adolescent Life Transitions. Adolescents indicated how often they had engaged in risky behaviors (e.g., "Get drunk?") in the past year on a scale from 1 (Never) to 4 (More than 10 times). Items were summed so that higher scores indicated more engagement in risky behavior ( $\alpha = .88$  for older and younger siblings). Older siblings reported significantly more engagement in risky behavior than did younger siblings, on average ( $t = 5.09, 186 df, p < .001$ ). Tests for equality of variance also revealed significantly more variability in older siblings' risky behavior than younger siblings' risky behavior ( $r = .25, p < .001$ ). Intraclass correlations revealed that older and younger siblings were interdependent in their risky behavior ( $r = .29, 95\% CI = .14$  to  $.43$ ). Future

models examine older and younger siblings separately, but account for this interdependence by correlating older and younger siblings' risky behavior when they are included in the same model.

*Depressive symptoms* were measured using the Children's Depression Inventory (CDI; Kovacs, 1981). Using 26 items, adolescents were asked to choose one of three sentences that best described them during the past two weeks (e.g., "I am sad once in a while, I am sad many times, I am sad all the time"). After reverse-coding relevant items, all items were summed so that higher scores indicated more depressive symptoms ( $\alpha = .88$  for older siblings;  $\alpha = .87$  for younger siblings). On average, older and younger siblings were not significantly different in terms of depressive symptoms ( $t = .15$ , 185 *df*, *ns*). There were also not significant differences in terms of the variability in older and younger siblings' depressive symptoms ( $r = .04$ , *ns*). Older and younger adolescents were interdependent in their reports of depressive symptoms ( $r = .16$ , 95% CI = .02 to .30), and structural equation models accounted for this by modeling this association when older and younger siblings were included in the same model.

Adolescent outcome variables (i.e., risky behavior and depressive symptoms) were correlated for both older adolescents ( $r = .32$ ,  $p < .001$ ) and younger adolescents ( $r = .40$ ,  $p < .001$ ); adolescents who reported more risky behaviors also reported more depressive symptoms. These correlations were also modeled in the upcoming structural equation models.

*Moderator variables.* Socioeconomic status, mothers' and fathers' work hours, and adolescent gender were included as potential moderator variables. *Socioeconomic status* was measured by standardizing and summing mothers' and fathers' income (gross income per year from all jobs, reported in parent interview), educational attainment (cumulative, reported in parent interview), and National Opinion Research Center occupational prestige codes (Nakao & Treas, 1994). Higher scores indicated higher socioeconomic status ( $\alpha = .74$  for total score,  $\alpha =$

.78 for mothers,  $\alpha = .75$  for fathers). *Adolescent gender* was coded 1 = female, 2 = male. *Work hours* were reported in mother and father interviews. I summed the number of hours per week spent at work and the number of hours per week spent working at home. (For specific items on all measures, see Appendix P.)

*Imputation.* Mean imputation was used for individual items on all scales (i.e., work-family culture and its subscales, parent-adolescent intimacy, parent-adolescent conflict, coparenting, risky behavior, depressive symptoms, and socioeconomic status) if less than 25% of the items within a scale were missing. Scales were not calculated if more than 25% of the items were missing for a given respondent<sup>3</sup>.

Means, standard deviations, and *Ns* for all study variables are shown in Table 1. Structural equation models linking work-family culture to parent-adolescent relationship and family variables to adolescent outcomes were run next. The correlation matrices for older and younger siblings that were used in models that included parent-adolescent relationship variables are shown in Tables 4 and 5, and the correlation matrix used for models including family level variables is shown in Table 6. Models based on these correlation matrices are presented in the next chapter.

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<sup>3</sup> Alphas for scales listed above were calculated on original non-missing items.

## CHAPTER 3

### Results Part I: Overall Models

After thoroughly examining the data, including the interdependence between family members, and determining the best measurement model for work-family culture, I next fit structural equation models to examine links between work-family culture, parent-adolescent relationships and family-level processes, and adolescent adjustment simultaneously. Each of the dyadic level parent-adolescent relationship characteristics (i.e., intimacy, conflict, and time together) and family-level variables (i.e., coparenting and family time) was examined in a separate model for a total of five models. All models were run on correlation matrices<sup>4</sup> in LISREL Version 8.12a (Joreskog & Sorbom, 1993).

#### *Dyadic-Level Processes: Parent-Adolescent Relationships*

For the models that included parent-adolescent relationship variables, older and younger siblings were examined as two separate groups in two-group models. Older and younger sibling data were first fit to the hypothesized model (Figure 1)<sup>5</sup>. In order to find the most parsimonious and best fitting model, I followed the following procedures: 1) I fixed non-significant paths<sup>6</sup> to zero one at a time and examined chi-square statistics to confirm that removing each path did not result in a worse fit for the model compared to the model with the path included; 2) equivalent paths and variances for older and younger siblings that were similar were set to be equal, also one at a time, and chi-square statistics were also examined to verify that this step did not result in a significantly worse fitting model; 3) modification indices were used to free up additional

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<sup>4</sup> Sample size for the correlations varied due to missing data, but for the number of observations input into LISREL, the highest sample size was used to provide the most conservative test of model fit.

<sup>5</sup> The link between mothers' and fathers' work-family culture was removed from the originally hypothesized model as it was in the measurement model due to lack of interdependence.

<sup>6</sup> A t-value of 1.96 was used as the cutoff for significance at  $p < .05$ , and a t-value of 1.64 was used as the cutoff for a trend at  $p < .10$ .

logical paths in the model one at a time and chi-square statistics were used to make sure that adding each additional path resulted in a significantly improved model fit compared to when the path was not included. (For details on the step-by-step model-building processes, see Appendix R.)

*Parent-adolescent intimacy.* The final model with parent-adolescent intimacy as the parent-adolescent relationship variable is shown in Figure 5. For *older siblings*, mothers' work-family culture was not linked to parent-adolescent intimacy, but fathers' work-family culture was linked to both mother-adolescent and father-adolescent intimacy, demonstrating both actor and partner effects. The more supportive a father's work-family culture, the more intimate a relationship he had with his older adolescent ( $B^7 = .29, SE = .12, t = 2.41^8$ ), and the more intimate a relationship the mother also tended to have with the older adolescent ( $B = .23, SE = .12, t = 1.90$ ). Mother-older adolescent and father-older adolescent intimacy were positively correlated ( $COV^9 = .47, SE = .07, t = 6.90$ ), indicating that an older adolescent who was close to his/her mother was also likely to be close to his/her father. Higher mother-older adolescent intimacy was linked to fewer older adolescent depressive symptoms ( $B = -.11, SE = .05, t = -2.03$ ), and older adolescents who were closer with their fathers exhibited both fewer risky behaviors ( $B = -.26, SE = .05, t = -5.15$ ) and fewer depressive symptoms ( $B = -.42, SE = .07, t = -6.16$ ). Older adolescent risky behavior and depressive symptoms were also positively correlated ( $COV = .18, SE = .06, t = 2.82$ ), such that the more risky behaviors exhibited, the more depressive symptoms the older adolescent reported.

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<sup>7</sup> Betas presented are standardized betas, because correlation matrices were used as input to LISREL.

<sup>8</sup> A t-value of 1.64 is a trend at  $p < .10$ ; a t-value of 1.96 is significant at  $p < .05$ , a t-value of 2.58 is significant at  $p < .01$ , and a t-value of 3.30 is significant at  $p < .001$ .

<sup>9</sup> When standardized variables are explained by other standardized variables in the path model, the residuals have variances smaller than 1. In that case, the off-diagonal elements are covariances, not correlations.



For *younger siblings*, neither mothers' nor fathers' work-family culture was linked to their intimacy with their younger adolescent children. Similar to older adolescents, however, mother-younger adolescent intimacy and father-younger adolescent intimacy were positively associated ( $COV = .58$ ,  $SE = .06$ ,  $t = 8.91$ ), mother-younger adolescent intimacy was negatively linked to younger sibling depressive symptoms ( $B = -.11$ ,  $SE = .05$ ,  $t = -2.03$ ), and father-younger adolescent intimacy was negatively linked to both adjustment outcomes for younger adolescents (risky behavior:  $B = -.26$ ,  $SE = .05$ ,  $t = -5.15$ ; depressive symptoms:  $B = -.31$ ,  $SE = .07$ ,  $t = -4.28$ ). Risky behavior and depression were also positively associated for younger adolescents ( $COV = .32$ ,  $SE = .07$ ,  $t = 4.56$ ).

Variances of mothers' work-family culture, fathers' work-family culture, mother-adolescent intimacy, and father-adolescent intimacy were constrained to be equal for older and younger adolescents. Model fit was not worsened, and thus I can conclude that the variances of these variables were equal for older and younger siblings. The negative link between mother-adolescent intimacy and depressive symptoms was also equal for older and younger siblings, as was the negative association between father-adolescent intimacy and risky behavior. The overall fit of the model with parent-adolescent intimacy was excellent ( $\chi^2 = 90.70$ , 82  $df$ ,  $p = .24$ ; RMSEA = .02; Standardized RMR = .07; NNFI = .99; CFI = .99<sup>10</sup>). The percent contribution to the  $\chi^2$  for older siblings was 44.91% suggesting the model was a slightly better fit for older siblings.

*Parent-adolescent conflict.* The final model that includes parent-adolescent conflict as the dyadic process is shown in Figure 6. For *older siblings*, similar to intimacy, fathers', but not mothers', work-family culture was linked to less conflict between both mothers ( $B = -.22$ ,  $SE =$

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<sup>10</sup> Non-significant chi-squares, RMSEA < .05, Standardized RMR < .05, NNFI > .95, and CFI > .95 indicate excellent fit. Non-significant chi-squares, RMSEA < .10, Standardized RMR < .10, NNFI > .90, and CFI > .90 indicate good fit.

.11,  $t = -2.06$ ) and fathers ( $B = -.15$ ,  $SE = .08$ ,  $t = -1.99$ ) and their older adolescents, again revealing actor and partner effects of fathers' work-family culture. The more supportive a father's work-family culture, the less conflict he had with his older adolescent and the less conflict the mother had with the older adolescent as well. Mother- and father-older adolescent conflict were positively correlated ( $COV = .46$ ,  $SE = .06$ ,  $t = 8.32$ ). Mother-older adolescent conflict ( $B = .20$ ,  $SE = .07$ ,  $t = 2.89$ ) and father-older adolescent conflict ( $B = .24$ ,  $SE = .05$ ,  $t = 4.71$ ) were both linked to higher levels of risky behavior; the more parent-adolescent conflict, the more risky behavior. Father-older adolescent conflict was also positively linked to depressive symptoms ( $B = .16$ ,  $SE = .05$ ,  $t = 3.02$ ) such that the more father-adolescent conflict, the more depressive symptoms the older adolescent reported. Risky behavior and depressive symptoms were again positively correlated for older siblings ( $COV = .23$ ,  $SE = .07$ ,  $t = 3.41$ ).

For *younger siblings*, fathers' work-family culture was linked to their own conflict with their adolescent, such that fathers with more supportive work-family cultures reported less conflict with their younger adolescent children ( $B = -.15$ ,  $SE = .08$ ,  $t = -1.99$ ). However, in the case of younger siblings, mothers' work-family culture also played a role for both mother- and father-younger adolescent conflict. In this case, mothers' work-family culture demonstrated both actor and partner effects. The more supportive a mother's work-family culture, the less conflict she had with her younger adolescent ( $B = -.33$ ,  $SE = .10$ ,  $t = -3.35$ ), and the less conflict the father also had with his younger adolescent ( $B = -.22$ ,  $SE = .10$ ,  $t = -2.25$ ). Modification indices also suggested a direct link between mothers' work-family culture and younger sibling risky behavior. This path indicated that the more supportive a mother's work-family culture, the less risky behavior her younger adolescent child reported ( $B = -.21$ ,  $SE = .09$ ,  $t = -2.34$ ). Mother- and father-younger adolescent conflict were also positively associated ( $COV = .46$ ,  $SE = .06$ ,  $t =$

8.32). The more mother-younger adolescent conflict, the more depressive symptoms the younger adolescent reported ( $B = .17, SE = .07, t = 2.48$ ), and the more father-younger adolescent conflict, the more risky behavior ( $B = .24, SE = .05, t = 4.71$ ) and the more depressive symptoms ( $B = .16, SE = .05, t = 3.02$ ) exhibited by the younger adolescent. Younger adolescent risky behavior and depressive symptoms were also positively correlated in this model ( $COV = .34, SE = .07, t = 4.72$ ).

Variances for mother work-family culture, father work-family culture, mother-adolescent conflict, and father-adolescent conflict were constrained to be equal for older and younger siblings and model fit did not decrease suggesting equality of variances between these constructs for older and younger siblings. The correlation between mother- and father-adolescent conflict was also set to be equal for older and younger siblings without decreasing model fit, suggesting these correlations were similar for older and younger adolescents. The path between fathers' work-family culture and father-adolescent conflict was also equal for older and younger adolescents as were the links between father-adolescent conflict and adolescent risky behavior and depressive symptoms. Overall model fit for this model was excellent ( $\chi^2 = 79.15, 80 df, p = .51$ ; RMSEA = .00; Standardized RMR = .05; NNFI = 1.00; CFI = 1.00). The percent contribution to the  $\chi^2$  for older siblings was 49.71%, indicating the model was a similarly good fit for older and younger siblings.

*Parent-adolescent time together.* The final model examining parent-adolescent time together is shown in Figure 7. For *older siblings*, mothers' work-family culture was linked to mother-adolescent time together, such that the more supportive her work-family culture, the more time she spent with her older adolescent child ( $B = .15, SE = .06, t = 2.54$ ). In turn, the more time mothers spent with their older adolescent children, the less risky behavior these

adolescents reported ( $B = -.19, SE = .05, t = -4.12$ ). Although fathers' work-family cultures did not play a significant role in this model, the amount of time mothers and fathers spent with their older adolescents were positively correlated ( $COV = .58, SE = .07, t = 8.78$ ). Older sibling risky behavior and depressive symptoms were also correlated ( $COV = .29, SE = .07, t = 4.31$ ), despite a lack of direct links to older sibling depressive symptoms in this model.

Similarly, for *younger siblings*, the more supportive a mother's work-family culture, the more time she spent with her younger adolescent ( $B = .15, SE = .06, t = 2.54$ ), and, in turn, when mothers spent more time with their younger adolescents, these adolescents exhibited less risky behavior ( $B = -.19, SE = .05, t = -4.12$ ). Additionally, there was a direct link between mothers' work-family cultures and younger adolescent risky behavior indicating that more positive work-family cultures were linked to less risky behavior by younger adolescents ( $B = -.20, SE = .09, t = -2.29$ ). Mothers' and fathers' time with their younger adolescents were also positively correlated ( $COV = .51, SE = .07, t = 7.59$ ) as were younger adolescents' risky behavior and depressive symptoms ( $COV = .38, SE = .07, t = 5.72$ ).

Variances for all variables were equal for older and younger siblings in this model. Additionally, links between mothers' work-family culture and mother-adolescent time and between mother-adolescent time and risky behavior were equal for older and younger siblings. The overall fit for this model with parent-adolescent time together was excellent ( $\chi^2 = 92.23, 87 df, p = .33$ ; RMSEA = .01; Standardized RMR = .06; NNFI = .99; CFI = .99). The percent contribution to the  $\chi^2$  was 40.19% for older siblings, suggesting a somewhat better fit for older compared to younger siblings.

#### *Family-Level Processes*

For the models that included family variables (i.e., coparenting and family time), single group models were used. Given that these family-level processes are shared by both younger and older adolescents, it was not necessary to examine older and younger siblings in separate groups; adjustment outcomes were examined separately by sibling, but included in the same model. Data were first tested against the hypothesized model (Figure 2)<sup>11</sup> for each family-level variable – coparenting, then family time. Similar steps were followed to find the most parsimonious and best fitting models that included family level variables: 1) I fixed non-significant paths<sup>12</sup> to zero one at a time and examined chi-square statistics to confirm that removing each path did not result in a significantly worse fit for the model compared to the model with the path included, 2) variances for older and younger siblings and links between family-level variables and adolescent adjustment variables that were similar for older and younger siblings (for the same adjustment outcome) were set to be equal, also one at a time, and chi-square statistics were also examined to verify this step did not result in a worse fitting model, 3) modification indices were used to free up additional logical paths to the model one at a time and chi-square statistics were used to make sure that adding each additional path resulted in a significantly improved model fit compared to when the path was not included. (For details on the step-by-step model-building processes for these models, also see Appendix R.)

*Coparenting.* The final model examining coparenting is shown in Figure 8. Only mothers' work-family culture was linked to coparenting; the more supportive a mother's work-family culture, the better the coparenting relationship ( $B^{13} = .23, SE = .10, t = 2.42$ ).

Coparenting was significantly linked to all adolescent adjustment outcomes, except older sibling

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<sup>11</sup> The link between mothers' and fathers' work-family culture was again removed from the originally hypothesized model as it was in the measurement model (and dyadic process models) due to lack of interdependence.

<sup>12</sup> The same criteria for significance of t-values as used in parent-adolescent relationship models was used here.

<sup>13</sup> These are also standardized betas.

depressive symptoms; in families in which parents had better coparenting relationships, older siblings exhibited less risky behavior ( $B = -.24, SE = .05, t = -4.47$ ), and younger siblings reported less risky behavior ( $B = -.24, SE = .05, t = -4.47$ ) and fewer depressive symptoms ( $B = -.14, SE = .07, t = -1.98$ ). Several adolescent adjustment outcomes were positively correlated. The more risky behavior exhibited, the more depressive symptoms reported (older siblings:  $COV^{14} = .30, SE = .06, t = 4.66$ ; younger siblings:  $COV = .37, SE = .07, t = 5.59$ ). Older and younger sibling adjustment were positively correlated for both risky behavior ( $COV = .22, SE = .07, t = 3.37$ ) and depressive symptoms ( $COV = .15, SE = .07, t = 2.17$ ). In addition, the more risky behavior older siblings reported, the more depressive symptoms younger siblings reported ( $COV = .24, SE = .07, t = 3.47$ ); younger sibling risky behavior was not linked to older sibling depressive symptoms. Modification indices also suggested adding an additional direct path between mothers' work-family culture and younger adolescents' risky behavior. Coefficients indicated that more supportive work-family cultures for mothers were linked to less risky behavior for younger adolescents ( $B = -.17, SE = .08, t = -2.03$ ).

Variances for older and younger sibling risky behavior were constrained to be equal as were older and younger sibling depressive symptoms. Neither constraint decreased model fit. Paths linking coparenting to older sibling risky behavior and coparenting to younger sibling risky behavior were also set to be equal, without a detriment to model fit. I conclude that coparenting is similarly associated with risky behavior for older and younger siblings. Overall model fit for the model linking work-family culture to adolescent adjustment through coparenting was good to excellent ( $\chi^2 = 55.94, 42 df, p = .07$ ; RMSEA = .04; Standardized RMR = .06; NNFI = .96; CFI = .97).

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<sup>14</sup> These are covariances.

*Family time.* The final model for family time is shown in Figure 9. Mothers' work-family culture was positively associated with family time: The more supportive a mother's work-family culture, the more time mothers, fathers, and older and younger adolescents spent together as a family ( $B = .20, SE = .10, t = 2.09$ ). In turn, the more time families spent together, the better adolescent adjustment was for both siblings as indexed by less risky behavior (older siblings:  $B = -.23, SE = .07, t = -3.27$ ; younger siblings:  $B = -.14, SE = .07, t = -1.98$ ) and fewer depressive symptoms ( $B = -.13, SE = .05, t = -2.40$  for both siblings). Adolescent adjustment outcomes were similarly positively correlated as in the previous model including coparenting: Risky behavior and depressive symptoms were positively correlated for each sibling (older siblings:  $COV = .29, SE = .07, t = 4.39$ ; younger siblings:  $COV = .37, SE = .07, t = 5.66$ ). Older and younger sibling adjustment were positively correlated for both risky behavior ( $COV = .25, SE = .07, t = 3.68$ ) and depressive symptoms ( $COV = .14, SE = .07, t = 2.07$ ). In addition, older sibling risky behavior was linked to younger sibling depressive symptoms ( $COV = .24, SE = .07, t = 3.53$ ). Modification indices again suggested adding a direct path between mothers' work-family culture and younger adolescents' risky behavior: when mothers' work-family cultures were more supportive, younger adolescents reported less risky behavior ( $B = -.19, SE = .09, t = -2.22$ ).

Variances for older and younger sibling risky behavior were constrained to be equal as were older and younger sibling depressive symptoms, with neither constraint significantly decreasing model fit. The path between family time and older sibling depressive symptoms and between family time and younger sibling depressive symptoms were also constrained to be equal without worsening model fit, indicating that family time is similarly linked to older and younger sibling depressive symptoms. Overall model fit for the model including family time was

excellent ( $\chi^2 = 46.89$ , 41 *df*,  $p = .24$ ; RMSEA = .03; Standardized RMR = .05; NNFI = .98; CFI = .99).

After arriving at good to excellent fitting models for each of the dyadic and family processes linking work-family culture to adolescent adjustment, I next examined whether the overall models remained good-fitting under different conditions, including whether the adolescent was male or female, whether the family was of higher or lower socioeconomic status (relative to the sample), whether the mother worked more or fewer hours, and whether the father worked more or fewer hours. I then tested whether the combination of mothers' and fathers' work-family cultures were associated with dyadic and family-level processes.



## CHAPTER 4

### Results Part II: Moderator Models

Having arrived at final models for each of the dyadic and family processes linking work-family culture to adolescent adjustment, I next tested whether the model fit varied for several different groups. For models including dyadic processes, I examined whether model fit was the same for groups based on adolescent gender, family socioeconomic status (SES), mothers' work hours, and fathers' work hours. For these models including dyadic processes, older and younger siblings were examined one at a time and each was divided into two groups depending on the moderator.

For adolescent gender, the sample was divided into male (older adolescents:  $n = 93$ ; younger adolescents:  $n = 96$ ) and female adolescents (older adolescents:  $n = 98$ ; younger adolescents:  $n = 95$ ). For SES, mothers' work hours, and fathers' work hours, a median split was performed to create high and low groups. For SES, the median was  $-.22$  (Range =  $-7.60$  to  $12.47$ ). Families with scores less than  $-.22$  were grouped into the low SES group ( $n = 84$ ), and families with scores greater than or equal to  $-.22$  were grouped into the high SES group ( $n = 84$ ). For mothers' work hours, the median hours for mothers who worked greater than 0 hours was 40 hours (Range = 2 to 71 hours). Families in which mothers worked 40 hours or less (but more than 0) were categorized into the low mother work hours group ( $n = 96$ ), and families in which mothers worked more than 40 hours were categorized into the high mother work hours group ( $n = 79$ ). The median number of work hours for fathers who worked more than 0 hours was 48 (Range = 6 to 105). Families in which fathers worked 48 hours or less (but more than 0 hours) were categorized into the low father work hours group ( $n = 91$ ), and families in which fathers worked more than 48 hours were categorized into the high father work hours group ( $n = 82$ ).

Correlations between all variables in the models were re-run on each of these groups and were entered into LISREL in two-group models<sup>15</sup>. The two groups were set to the pattern of the final models derived in Chapter 3 and the paths in the models were set to be equal across the two groups. I first noted the percent contribution to the chi-square from each group. A greater percent contribution suggests greater misfit, and thus a relatively worse fit to the model for that group. I relied more heavily on overall model fit, however, to determine whether or not the overall models varied for male and female adolescents, families of high and low socioeconomic status, families in which mothers worked longer hours versus families in which mothers worked fewer hours, and families in which fathers worked longer hours versus families in which fathers worked fewer hours. If the model fit was good with both groups set to be equal, I concluded an equal fit for the two groups<sup>16</sup>.

For models including family processes, I tested whether the model fit was the same for groups based on family SES, mother work hours, and father work hours, again using the same median splits to determine the high and low groups for two-group models in LISREL. Adolescent gender was not tested as a moderator for these models including family processes, because family processes are shared and older and younger adolescents were included in the same model; I did not have a sufficient sample size to examine the combination of the two siblings' genders. For SES, mother work hours, and father work hours, as in the dyadic process models, the high and low groups were set to the pattern of the final family process models derived in Chapter 3. The paths for the high and low groups were set to be equal to each other. I

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<sup>15</sup> As in the overall models, the number of observations input into LISREL corresponded to the highest correlation sample size for the most conservative test of model fit.

<sup>16</sup> The percent contribution to the chi-square is directly dependent on the sample size of the two groups, thus the main indicator used to detect whether the fit of the two groups was equal was the overall model fit.

noted the percent contribution to the chi-square for each group, and overall model fit was examined to determine whether or not there was moderation.

All models with parent-adolescent intimacy, conflict, and time together, and coparenting and family time linking work-family culture to adolescent adjustment were tested for moderation by adolescent gender (dyadic processes only), socioeconomic status, mothers' work hours, and fathers' work hours. The analyses described above for both dyadic and family processes revealed no evidence of moderation. The specifics for each moderation test are detailed below.

*Moderators for Dyadic Processes: Parent-Adolescent Intimacy*

*Adolescent Gender.* For *older siblings*, male and female adolescents were set to be equal and fit to the pattern including parent-adolescent intimacy determined for older siblings as a whole in Figure 5. When male and female older adolescents were set to be equal, the percent contribution to the  $\chi^2$  for girls was 46.25, suggesting a minimally better fit for female older adolescents than male older adolescents. However, the model fit was good when male and female older adolescents were set to be equal ( $\chi^2 = 119.15$ , 87 *df*,  $p = .01$ ; RMSEA = .05; Standardized RMR = .10; NNFI = .93; CFI = .93)<sup>17</sup>, indicating that the model was an equally good fit for male and female older adolescents<sup>18</sup>.

For *younger siblings*, male and female adolescents were also set to be equal and fit to the pattern determined for younger siblings as a whole in Figure 5. The percent contribution to the  $\chi^2$  for girls was 57.21, indicating only a slightly better fit for male younger adolescents than female younger adolescents. Model fit was good, however, when male and female younger adolescents were set to be equal ( $\chi^2 = 113.99$ , 89 *df*,  $p = .04$ ; RMSEA = .04; Standardized RMR

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<sup>17</sup> Non-significant chi-squares, RMSEA < .05, Standardized RMR < .05, NNFI > .95, and CFI > .95 indicate excellent fit. Non-significant chi-squares, RMSEA < .10, Standardized RMR < .10, NNFI > .90, and CFI > .90 indicate good fit.

<sup>18</sup> Beta and psi matrices for all moderation models are provided in Appendix S.

= .09; NNFI = .95; CFI = .95), suggesting that the model including parent-adolescent intimacy for younger siblings was an equally good fit for male and female younger adolescents.

*Family SES.* For *older sibling models*, families of lower and higher SES were set to be equal and fit to the pattern determined for older adolescents in Figure 5. The percent contribution to the  $\chi^2$  for low SES families was 66.96, suggesting a somewhat better fit for high SES families, but model fit was also excellent when low and high SES families were set to be equal ( $\chi^2 = 98.27$ , 87 *df*,  $p = .19$ ; RMSEA = .03; Standardized RMR = .08; NNFI = .97; CFI = .97), indicating equal fit for low and high SES families for the model for older siblings including parent-adolescent intimacy.

For *younger sibling models*, families of low and high SES were also set to be equal and fit to the pattern including parent-adolescent intimacy determined for younger adolescents, in Figure 5. The percent contribution to the  $\chi^2$  for low SES families was 55.98, suggesting a minimally better fit for high SES families, but model fit was good when low and high SES families were set to be equal ( $\chi^2 = 133.19$ , 89 *df*,  $p = .002$ ; RMSEA = .06; Standardized RMR = .10; NNFI = .90; CFI = .90), indicating equal fit for low and high SES families for the model for younger siblings including parent-adolescent intimacy.

*Mothers' Work Hours.* For *older sibling models*, families in which mothers worked longer and shorter hours were also set to be equal and fit to the pattern determined for older adolescents in Figure 5. The percent contribution to the  $\chi^2$  for families in which mothers worked shorter hours was 49.95, suggesting an equal fit for families in which mothers worked shorter and longer hours. Model fit was excellent when both groups were set to be equal ( $\chi^2 = 100.17$ , 87 *df*,  $p = .16$ ; RMSEA = .03; Standardized RMR = .10 NNFI = .97; CFI = .97), further

indicating equal fit of the model for older siblings including parent-adolescent intimacy for families in which mothers worked longer and shorter hours.

For *younger sibling models*, families in which mothers worked longer and shorter hours were also set to be equal and fit to the pattern determined for younger adolescents, in Figure 5. The percent contribution to the  $\chi^2$  for families in which mothers worked fewer hours was 42.48, suggesting a minimally better fit for families in which mothers worked fewer hours, but model fit was good when both groups of families were set to be equal ( $\chi^2 = 119.41$ , 89 *df*,  $p = .02$ ; RMSEA = .04; Standardized RMR = .11; NNFI = .93; CFI = .93), indicating equal fit for families in which mothers worked longer and shorter hours for the model for younger siblings including parent-adolescent intimacy.

*Fathers' Work Hours.* For *older sibling models*, families in which fathers worked longer and shorter hours were also set to be equal and fit to the pattern determined for older adolescents in Figure 5. The percent contribution to the  $\chi^2$  for families in which fathers worked shorter hours was 52.14, suggesting a relatively equal fit for families in which fathers worked shorter and longer hours. Model fit was also good when both groups were set to be equal ( $\chi^2 = 113.74$ , 87 *df*,  $p = .03$ ; RMSEA = .04; Standardized RMR = .11 NNFI = .93; CFI = .93), further indicating equal fit of the model for older siblings for families in which fathers worked longer and shorter hours.

For *younger sibling models*, families in which fathers worked longer and shorter hours were also set to be equal and fit to the pattern determined for younger adolescents, in Figure 5. The percent contribution to the  $\chi^2$  for families in which fathers worked fewer hours was 46.02, suggesting a slightly better fit for families in which fathers worked fewer hours, but model fit was good when both groups of families were set to be equal ( $\chi^2 = 112.21$ , 89 *df*,  $p = .05$ ; RMSEA

= .04; Standardized RMR = .11; NNFI = .95; CFI = .95), indicating equal fit for families in which fathers worked longer and shorter hours for the model for younger siblings including parent-adolescent intimacy.

*Moderators for Dyadic Processes: Parent-Adolescent Conflict*

As with parent-adolescent intimacy, to test moderation of the parent-adolescent conflict model, both groups in the moderator models (i.e., male and female adolescents, high and low SES families, families in which mothers worked longer and shorter hours, families in which fathers worked longer and shorter hours) were set to be equal and fit to the pattern including parent-adolescent conflict determined in chapter 3. Older adolescents were fit to the pattern determined for older adolescents as a whole in Figure 6, and younger adolescents were fit to the pattern determined for younger adolescents as a whole in Figure 6.

*Adolescent Gender.* When male and female adolescents were set to be equal, the percent contribution to the  $\chi^2$  for older adolescent girls was 46.27 and for younger adolescent girls was 61.93, suggesting a minimally better fit for female older adolescents than male older adolescents, but a somewhat better fit for male younger adolescents than female younger adolescents. The model fit was good for both older ( $\chi^2 = 107.51$ , 87 *df*,  $p = .07$ ; RMSEA = .04; Standardized RMR = .11; NNFI = .95; CFI = .95) and younger adolescents ( $\chi^2 = 112.11$ , 85 *df*,  $p = .03$ ; RMSEA = .04; Standardized RMR = .08; NNFI = .94; CFI = .94), however, indicating that the model was an equally good fit for male and female adolescents in both the younger and older adolescent models.

*Family SES.* When families of low and high SES were set to be equal, the percent contribution to the  $\chi^2$  for low SES families was 61.23 in the older adolescent model and 51.62 in the younger adolescent model, suggesting a slightly better fit for higher SES families in the older

adolescent model, but a very similar fit for high and low SES families in the younger adolescent model. However, the model fit was good for both older ( $\chi^2 = 104.58$ , 87 *df*,  $p = .10$ ; RMSEA = .04; Standardized RMR = .10; NNFI = .95; CFI = .96) and younger adolescents ( $\chi^2 = 121.95$ , 85 *df*,  $p = .01$ ; RMSEA = .05; Standardized RMR = .10; NNFI = .91; CFI = .91), suggesting an equally good fit for high and low SES families in both older and younger adolescent models including parent-adolescent conflict.

*Mothers' Work Hours.* When families in which mothers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which mothers worked shorter hours was 57.50 for older siblings and 35.22 for younger siblings, suggesting that the older sibling model was a slightly better fit for mothers who worked longer hours, but the younger sibling model was somewhat better fitting when mothers worked shorter hours. However, the model fit was also good for both older ( $\chi^2 = 108.36$ , 87 *df*,  $p = .06$ ; RMSEA = .04; Standardized RMR = .09; NNFI = .94; CFI = .94) and younger adolescents ( $\chi^2 = 89.28$ , 85 *df*,  $p = .35$ ; RMSEA = .02; Standardized RMR = .09; NNFI = .99; CFI = .99), indicating an equal fit for families in which mothers worked longer and shorter hours.

*Fathers' Work Hours.* When families in which fathers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which fathers worked shorter hours was 54.41 for older siblings and 52.02 for younger siblings, suggesting a relatively equal fit for fathers who worked longer and shorter hours in both older and younger sibling models including parent-adolescent conflict. The model fit was also good for both older ( $\chi^2 = 95.83$ , 87 *df*,  $p = .24$ ; RMSEA = .03; Standardized RMR = .11; NNFI = .98; CFI = .98) and younger adolescents ( $\chi^2 = 106.36$ , 85 *df*,  $p = .06$ ; RMSEA = .04; Standardized RMR = .10; NNFI

= .95; CFI = .95), further indicating an equal fit for families in which fathers worked longer and shorter hours.

*Moderators for Dyadic Processes: Parent-Adolescent Time Together*

The same process was followed to test the moderation of the parent-adolescent time together model: Paths for each group were set to be equal and fit to the pattern of the model including parent-adolescent time together for older and younger siblings in Figure 7, originally presented in chapter 3.

*Adolescent Gender.* When male and female adolescents were set to be equal, the percent contribution to the  $\chi^2$  for older adolescent girls was 57.70 and for younger adolescent girls was 63.95, suggesting a somewhat better fit for male older and younger adolescents compared to female older and younger adolescents. However, the model fit was good for both older ( $\chi^2 = 119.39$ , 90 *df*,  $p = .02$ ; RMSEA = .04; Standardized RMR = .08; NNFI = .94; CFI = .94) and younger adolescents ( $\chi^2 = 123.59$ , 89 *df*,  $p = .01$ ; RMSEA = .05; Standardized RMR = .09; NNFI = .92; CFI = .92), indicating that the model was an equally good fit for male and female adolescents in both the younger and older adolescent models.

*Family SES.* When families of low and high SES were set to be equal, the percent contribution to the  $\chi^2$  for low SES families was 63.98 in the older adolescent model and 46.87 in the younger sibling model, suggesting a slightly better fit for higher SES families in the older adolescent model, but a slightly better fit for lower SES families in the younger adolescent model. The model fit was good for both older ( $\chi^2 = 110.06$ , 90 *df*,  $p = .07$ ; RMSEA = .04; Standardized RMR = .10; NNFI = .95; CFI = .95) and younger adolescents ( $\chi^2 = 125.68$ , 89 *df*,  $p = .01$ ; RMSEA = .05; Standardized RMR = .10; NNFI = .91; CFI = .91), however, suggesting an equally good fit for high and low SES families in both older and younger adolescent models.



*Mothers' Work Hours.* When families in which mothers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which mothers worked shorter hours was 58.02 for older siblings and 36.40 for younger siblings, suggesting that the older sibling model was a slightly better fit for mothers who worked longer hours, but the younger sibling model was a slightly better fit for mothers who worked shorter hours. The model fit was excellent for older adolescents, ( $\chi^2 = 97.07$ , 90 *df*,  $p = .29$ ; RMSEA = .02; Standardized RMR = .10; NNFI = .98; CFI = .98) and adequate for younger adolescents ( $\chi^2 = 128.62$ , 89 *df*,  $p = .004$ ; RMSEA = .05; Standardized RMR = .13; NNFI = .90; CFI = .90), however, indicating a reasonably similar fit for families in which mothers worked longer and shorter hours in both older and younger adolescent models with parent-adolescent time.

*Fathers' Work Hours.* When families in which fathers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which fathers worked shorter hours was 53.12 for older siblings and 50.07 for younger siblings, suggesting a fairly equal fit for fathers who worked longer and shorter hours in both older and younger sibling models including parent-adolescent time together. The model fit was also good for both older ( $\chi^2 = 104.65$ , 90 *df*,  $p = .14$ ; RMSEA = .03; Standardized RMR = .11; NNFI = .96; CFI = .96) and younger adolescents ( $\chi^2 = 119.19$ , 89 *df*,  $p = .02$ ; RMSEA = .05; Standardized RMR = .11; NNFI = .93; CFI = .93), further indicating an equal fit for families in which fathers worked longer and shorter hours.

#### *Moderators for Family Processes: Coparenting*

As with the dyadic processes, to test moderation of the model including coparenting as a family process, the paths in both groups in the moderator models (i.e., high and low SES families, families in which mothers worked longer and shorter hours, families in which fathers

worked longer and shorter hours) were set to be equal and fit to the pattern including coparenting determined in chapter 3, Figure 8. As mentioned earlier in this chapter, adolescent gender was not included as a moderator for these models, because I had insufficient sample size to examine both siblings' genders.

*Family SES.* When families of low and high SES were set to be equal in the coparenting model, the percent contribution to the  $\chi^2$  for low SES families was 53.83, suggesting a relatively equal fit for high and low SES families to the model originally determined for coparenting. The model fit was also good ( $\chi^2 = 145.30$ , 108 *df*,  $p = .01$ ; RMSEA = .05; Standardized RMR = .09; NNFI = .91; CFI = .91), further suggesting an equal fit for high and low SES families in terms of the model in which coparenting served as the link between work-family culture and adolescent adjustment.

*Mothers' Work Hours.* When families in which mothers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which mothers worked shorter hours was 37.14, suggesting a somewhat better fit for families in which mothers worked shorter hours. The overall model fit was good ( $\chi^2 = 131.46$ , 108 *df*,  $p = .06$ ; RMSEA = .04; Standardized RMR = .11; NNFI = .94; CFI = .94), however, indicating an equal fit for families in which mothers worked longer and shorter hours to the model in which coparenting linked work-family culture to adolescent adjustment.

*Fathers' Work Hours.* When families in which fathers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which fathers worked shorter hours was 49.10, suggesting an equal fit for fathers who worked longer and shorter hours to the model including coparenting. The overall model fit was also good ( $\chi^2 = 141.79$ , 108 *df*,  $p$

= .02; RMSEA = .04; Standardized RMR = .10; NNFI = .92; CFI = .92), further indicating an equal fit for families in which fathers worked longer and shorter hours.

*Moderators for Family Processes: Family Time*

As with coparenting, to test moderation of the model including family time as a family process linking work-family culture to adolescent adjustment, the paths for both groups in the moderator models (i.e., high and low SES families, families in which mothers worked longer and shorter hours, families in which fathers worked longer and shorter hours) were set to be equal and fit to the pattern including family time determined in chapter 3, Figure 9.

*Family SES.* When paths for families of low and high SES were set to be equal in the family time model, the percent contribution to the  $\chi^2$  for low SES families was 56.49, suggesting only a minimally better fit for higher SES families in terms of the model in which family time served as the link between work-family culture and adolescent adjustment. The model fit was good ( $\chi^2 = 139.40$ , 107 *df*,  $p = .02$ ; RMSEA = .04; Standardized RMR = .09; NNFI = .92; CFI = .92), however, suggesting an equally good fit for high and low SES families to the model originally determined for family time.

*Mothers' Work Hours.* When families in which mothers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which mothers worked shorter hours was 39.19, suggesting a slightly better fit for families in which mothers worked shorter hours. However, the model fit was good ( $\chi^2 = 123.71$ , 107 *df*,  $p = .13$ ; RMSEA = .03; Standardized RMR = .11; NNFI = .95; CFI = .95), indicating an equal fit for families in which mothers worked longer and shorter hours to the model in which family time linked work-family culture to adolescent adjustment.

*Fathers' Work Hours.* When families in which fathers worked longer and shorter hours were set to be equal, the percent contribution to the  $\chi^2$  for families in which fathers worked shorter hours was 47.66, suggesting a relatively equal fit for fathers who worked longer and shorter hours to the model including family time. The model fit was also good ( $\chi^2 = 126.40$ , 107 *df*,  $p = .10$ ; RMSEA = .03; Standardized RMR = .10; NNFI = .95; CFI = .95), further indicating an equal fit for families in which fathers worked longer and shorter hours.

#### *The Combination of Mothers' and Fathers' Work-Family Cultures*

I next tested the role of mothers' and fathers' work-family cultures in combination to determine whether mothers' and fathers' work-family cultures interacted to produce a different association with the dyadic and family-level processes, than either work-family culture variable did alone. In order to be more straightforward in specifically testing the role of the combination of mothers' and fathers' work-family cultures, instead of modeling in LISREL as had been done up to this point, in this case, I tested moderator models in multi-level models and regression models, using PROC MIXED and PROC REG in SAS Version 9.2 (SAS Institute, 2008). For the *dyadic, parent-adolescent relationship models*, I stacked older and younger sibling data, and ran 2-level multi-level models<sup>19</sup> (siblings nested within families) predicting each of the mother- and father-adolescent relationship variables (i.e., intimacy, conflict, and time together) separately with mothers' work-family culture, fathers' work-family culture, and the interaction between mothers' and fathers' work-family cultures as the independent variables<sup>20</sup>. All predictors were centered at the mean. No significant interactions emerged predicting mother-adolescent intimacy ( $\gamma = .19$ , *ns*), father-adolescent intimacy ( $\gamma = -.05$ , *ns*), mother-adolescent conflict ( $\gamma = .80$ , *ns*),

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<sup>19</sup> Stacking older and younger sibling data increases the power to detect significant effects by increasing the sample size; running multi-level models accounts for the nestedness of the two siblings within families.

<sup>20</sup> As the measurement model could not be used for work-family culture variables in these models, the average of all items was used to reflect work-family culture for mothers and fathers here.

father-adolescent conflict ( $\gamma = .57, ns$ ), mother-adolescent time together ( $\gamma = -2.17, ns$ ), or father-adolescent time together ( $\gamma = -4.02, ns$ ).

As a post-hoc test, I tested whether the role of the combination of mothers' and fathers' work-family cultures for parent-adolescent relationships varied based on the adolescent's birth order, given that some of the overall models presented in Chapter 3 varied for older and younger adolescents. For these analyses, I included a three-way interaction between mothers' work-family culture, fathers' work-family culture, and birth order, along with the three main effects and the three, lower order two-way interactions. Again, no significant three-way interactions emerged predicting mother-adolescent intimacy ( $\gamma = -.34, ns$ ), father-adolescent intimacy ( $\gamma = -.04, ns$ ), mother-adolescent conflict ( $\gamma = 1.29, ns$ ), father-adolescent conflict ( $\gamma = -.17, ns$ ), mother-adolescent time together ( $\gamma = -10.63, ns$ ), or father-adolescent time together ( $\gamma = -27.69, ns$ ).

For the *family-level variables*, I ran regression models<sup>21</sup> predicting coparenting and family time separately, using mothers' work-family culture, fathers' work-family culture, and the interaction of mothers' and fathers' work-family cultures as predictors. Again, all predictor variables were centered at the mean. Similar to the dyadic, parent-adolescent variables, neither coparenting ( $\beta = .01, B = .01, SE B = .07, ns$ ), nor family time ( $\beta = .01, B = 3.45, SE B = 29.30, ns$ ) was significantly predicted by the combination of mothers' and fathers' work-family cultures.

Overall, results presented in this chapter have demonstrated that the models presented in Chapter 3 including both dyadic and family processes were remarkably consistent for sons and daughters and across family SES, mothers' work hours, and fathers' work hours. As presented in

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<sup>21</sup> Multi-level models were not necessary in these cases, because outcome variables did not vary by sibling and therefore were not nested.

these models, the effects of mothers' and fathers' work-family cultures also were independent; there was no evidence that they moderated one another in predicting parent-adolescent intimacy, parent-adolescent conflict, parent-adolescent time together, coparenting, or family time.

## CHAPTER 5

### Discussion

Historically, research linking work to family life to adolescent adjustment has been fragmented, but the nature of contemporary work and family life warranted a comprehensive, systems approach (Barnett, 1999). The role of work-family culture outside of the workplace and in the family, specifically, has been understudied, but the need for a better understanding of the role of workplace characteristics as a context for family and child development (Bronfenbrenner, 1986) highlighted work-family culture as an important area of exploration. Limited attention given to families with adolescents in the work-family literature, despite the importance and uniqueness of this developmental phase (Arnett, 1999) and its receptiveness to work and family influences (Fortner et al., 2004), justified a focus on families with adolescents. The interconnectedness of family members in the family system (Cox & Paley, 1997; Minuchin, 1985) called for attention to both mothers and fathers as well as siblings. This study addressed these gaps in the extant literature using a unique data set that included rich data from mothers, fathers, and two adolescent siblings. I explored how mothers' and fathers' work-family cultures linked to adolescent adjustment through both dyadic-level parent-adolescent relationships and family-level processes. This chapter highlights and explores the main contributions of this study, while also noting its limitations and suggesting areas for future research. In addition, implications for workplace interventions and policies are discussed.

This study made a significant contribution to the work-family literature by revealing that work-family culture does indeed matter for families and adolescents. Furthermore, the importance of work-family culture was relatively consistent across adolescent gender, family socioeconomic status, mothers' work hours, and fathers' work hours. Variability between

mothers, fathers, older siblings, and younger siblings in terms of how work-family culture was linked to family life and adolescent adjustment highlighted the uniqueness and interconnectedness of each family member and dyad within the family. This variation among family members validated the necessity of studying multiple family members. Looking at multiple family members has shed light on differences between mothers and fathers, links from one parent to another, as well as differences between siblings. Findings of this sort are overlooked in studies that rely on a single reporter. As a whole this study also identifies important potential targets for future workplace policies and interventions.

#### *Work-Family Culture Matters*

Perhaps most importantly, this study demonstrated that the role of work-family culture extends beyond the workplace and does indeed matter for family dynamics and adolescent adjustment. Whereas attention to this construct has really been missing in the family and child development literature, this study revealed its importance for both families and adolescent adjustment. Workplaces that parents saw as supportive of integrating work and family were linked to more positive parent-adolescent relationships (i.e., greater intimacy, less conflict, more time together) and family level processes (i.e., more positive coparenting relationships and more family time together). In turn, better parent-adolescent relationships and family processes were associated with better adolescent adjustment, in terms of lower levels of both risky behavior and depressive symptoms. Family and child development researchers need to move beyond conceptualizations of work as something that takes parents away from their children to pay greater attention to the nature of the environments in which parents work. Work-family culture is one dimension of parents' work lives that deserves greater attention.



The link between work-family culture and adolescent adjustment through family life is consistent with the ecological perspective (Bronfenbrenner, 1986). Parents' work life functions as the child's exosystem and an important, albeit typically distal and indirect, context for child development. Additionally, the role of work-family culture in this study emphasized the notion that the context of work is still important for families with adolescents and adolescent functioning. The potential impact of parents' work appears to extend well past early childhood.

Work-family culture was linked to adolescent adjustment through several mechanisms, at both the parent-adolescent dyadic level and the family level. At the dyadic level, work-family culture was linked to adolescent adjustment through parent-adolescent intimacy, parent-adolescent conflict, and parent-adolescent time together. Each of these parent-adolescent relationship qualities has been deemed important for adolescent adjustment (McHale et al., 2001; Smetana, 2005; Steinberg, 2001). They have now emerged as significant correlates of work-family culture through which parents' work may influence adolescents. The exploration of a variety of dyadic-level processes also revealed the importance of both affective and temporal components of parent-adolescent relationships. Parent-adolescent intimacy and conflict (i.e., affective components) as well as parent-adolescent time together (i.e., temporal component) were all salient processes in the work-family system explored in this study.

At the family level, both coparenting and family time linked work-family culture to adolescent adjustment. Both of these family processes were receptive to work-family culture, and their role for adolescent well-being (Crouter et al., 2004; Feinberg et al., 2007) was further validated. Overall, work-family culture was linked to adolescent adjustment through multiple mechanisms at varying levels of the family microsystem, revealing the variety of entry points of work-family culture into families with adolescents.

Further highlighting the complexity of the role of work-family culture for family life and adolescent adjustment is the finding that the role of work-family culture depends on the process or mechanism through which it enters the family. The role of work-family culture was not uniform across either dyadic or family level processes. For example, mother-adolescent time was a correlate of the mother's work-family culture, but both mother- and father-adolescent intimacy were correlates of the father's work-family culture (for older siblings). It is therefore crucial to specify the family process of interest when examining how work-family culture enters the family and links to adolescent adjustment.

Despite variation in the role of dyadic and family processes, the system that linked work-family culture to family dynamics to adolescent adjustment was largely consistent across several family and child characteristics. The overall work-family system examined here functioned the same for male and female adolescents, families of different socioeconomic circumstances, families in which mothers worked longer and shorter hours, and families in which fathers worked longer and shorter hours. This consistency underscored the robustness of the system linking work-family culture to family life to adolescent adjustment. In addition, the combination of mothers' and fathers' work-family cultures was not associated with dyadic or family processes. Mothers' and fathers' work-family cultures appeared to operate independently in the family: The role of one parent's workplace culture did not vary based on the other parent's work-family culture.

### *Mothers and Fathers*

This study demonstrated that, although work-family culture mattered for both mothers and fathers, it seemed to operate differently for the two parents. This difference between parents is consistent with the tenets of family systems theory (Cox & Paley, 1997; Minuchin, 1985).

Studying both mothers and fathers in the family is crucial for understanding the role of work-family culture. Overall, *fathers' work-family cultures were not linked to temporal components of parent-adolescent or family relationships, but appeared to matter more for the affective components of parent-adolescent relationships* (i.e., intimacy and conflict). Fathers' work-family culture played a role for both mothers' and fathers' affective relationships with their older adolescents. When fathers' work-family cultures were more supportive of integrating work and family, there was greater intimacy in mother-older adolescent relationships and father-older adolescent relationships as well as less conflict in mother-older adolescent relationships and father-adolescent relationships.

These findings were consistent with other studies of two-parent families, previously discussed, that highlighted the importance and widespread influence of fathers' work characteristics. One study revealed that fathers' work demands were associated with both mothers' and fathers' knowledge of their children's experiences (Bumpus et al., 1999). In the same vein, the other study demonstrated that fathers' work pressure was linked not only to their own, but also to mothers' experiences of overload and in turn, conflict with their children (Crouter, Bumpus, et al., 1999). Both of these studies highlight the potential impact of a father's work circumstances for his relationships with his children as well as for his spouse's.

The significant role of fathers' work-family culture for more affective components of parent-adolescent relationships specifically, is also in line with research on emotion transmission. This line of research has revealed that fathers' work experiences spill over into the family and are linked to emotions in the family more than are mothers' work experiences (Larson & Almeida, 1999). This emotion transmission of fathers' work experiences into the family helps to further explain the widespread role of fathers' work-family culture for the

affective components of both mothers' and fathers' relationships with their adolescents. Fathers' workplace culture may influence the intimacy and conflict of both parents' relationships with their adolescents because fathers may be less able than mothers to separate the emotional aspects of work and family. Mothers, on the other hand, may be better at separating affective components of work and family. They may, therefore, be less likely to allow work-family culture to influence the emotional tenor of parent-adolescent relationships. It is important to note, however, that the separation of the affective components of work and family is not necessarily positive or negative, because the influences of work can be both positive (e.g., with a supportive work-family culture) or negative (e.g., with an unsupportive work-family culture).

Furthermore, if fathers are more strongly tied to the workplace than mothers, overall, their work-family culture may be more salient and important for affective components of parent-adolescent relationships overall. Similarly, if fathers are more strongly tied to the labor market, this may also help to explain why fathers' work-family culture did not play a role for the temporal component of family relationships in either parent-adolescent or family time. If fathers' time is more consumed by labor market activities, there may be less room for work-family culture to influence time with children. As family stress theory (Conger & Elder, 1994) proposes, stressors consume both time and energy which are then taken away from family life. If fathers have less time to work with, they may use a supportive work-family culture (and the absence of stress in this case) as an energy resource, as opposed to a time resource, to positively influence the affective components of parent-adolescent relationships over the temporal components of these relationships.

On the other hand, *mothers' work-family cultures mattered more for the temporal components of parent-adolescent and family relationships*. When mothers' work-family culture

was more supportive of integrating work and family, mothers spent more time with both older and younger adolescents. In addition, when mothers' work-family culture was more supportive, the family spent more time together. Time can be viewed as a more tangible resource that is necessary for routine and required family activities. If mothers tend to play a stronger role in the family domain (Bornstein, 2006; Coltrane, 2000), mothers may be more responsible for family activities that require time. Accordingly, mothers may use a supportive work-family culture to increase their time with their adolescents, and family time overall, in order to accomplish these activities. In contrast to fathers, if mothers are less strongly attached to labor market activities, overall, with a supportive work-family culture, they may be better able to devote time to their children and encourage family time. Although neither mothers' nor fathers' work hours emerged as a source of variation for the work-family system examined in this study, fathers as a whole did work more hours than mothers. It may be this group difference (i.e., fathers are more strongly attached to the labor market than mothers) that resulted in mothers' work-family culture, and not fathers', being associated with temporal aspects of family relationships. Alternatively, there may not have been enough variation in work hours to detect a moderator effect that could have revealed that work-family culture was more strongly linked to parent-adolescent and family time when parents worked fewer hours.

Additionally, when studying the increase in mothers' work hours over time, Bianchi (2000) found that mothers' increased labor force participation was not accompanied by a corresponding decrease in time with children. This finding suggests that mothers may put in the extra effort to spend time with their children even when they are working longer hours. The extra effort by mothers to spend time with their children may also be reflected in their using supportive work-family cultures to foster this time with their children. Adolescent children are

also less available for parents to spend time with compared to younger children. As adolescents get older, they are increasingly mobile and transition to spending more time with peers and less time with their parents (e.g., Larson & Verma, 1999). (This was also evident in the data here in the greater amount of time parents spent with younger compared to older siblings.) If mothers have a supportive work-family culture in their workplaces, however, this may allow them the flexibility to be available when their adolescents have the time to spend with them or to attend their adolescents' events such as sports events, recitals, or performances.

This study also demonstrated that *mothers' work-family cultures mattered more for family level phenomena than fathers' work-family cultures*. When mothers had work-family cultures that were more supportive of integrating work and family, parents had a better coparenting relationship and the family spent more time together. Although fathers' work-family culture was linked to both parents' affective relationships with their adolescents, fathers' work-family culture was not associated with family level processes. As mentioned previously, mothers often have a more primary role in the family (Bornstein, 2006; Coltrane, 2000), and may be more responsible for overall family management and functioning. Coparenting could be considered as part of family management and part of overall family functioning because it involves both parents and their relationship as it pertains to the parenting of their children. Family time could also be considered as a component of family management and part of family functioning as it incorporates activities that are important for successful family functioning (e.g., having meals, coordinating activities, etc.). Mothers may rely on a supportive work-family culture to help foster positive coparenting relationships and encourage the family to spend time together, due to their prominent role in family management and overall family functioning.

Turning to links with adolescent adjustment, *relationships with both mothers and fathers mattered for adolescent adjustment*. However, as was the case with mothers' and fathers' work-family cultures, adolescents' relationships with mothers and fathers mattered differently in some cases. Fathers' affective relationships with their adolescents were linked to both risky behavior and depressive symptoms: When there was greater intimacy or less conflict in father-adolescent relationships, adolescents exhibited less risky behavior and fewer depressive symptoms. Intimacy and conflict also played a role in mother-adolescent relationships, but these aspects of mother-adolescent relationships were usually linked to one adolescent adjustment outcome or the other (primarily depressive symptoms) but not both. Mother-adolescent time together, however, was associated with less risky behavior for both older and younger adolescents; father-adolescent time together was not linked to youth outcomes at all.

Again, we notice the pattern of the role of affective aspects of the parent-adolescent relationship for fathers and the role of time for mothers. Fathers' affective relationship characteristics may play a more consistent role because fathers may more often be the disciplinarian in the family. This disciplinary role may give more weight to these affective aspects of father-adolescent relationships, which may allow them to have more of an impact on overall adolescent behavior and adjustment. Looking at parent-adolescent conflict specifically, conflicts with mothers are more likely to result in compromise compared to conflicts with fathers (Collins & Laursen, 2006). This type of conflict resolution may limit the problematic effects of mother-adolescent conflict across adolescent adjustment outcomes.

Time with mothers also mattered more than time with fathers for adolescent adjustment. The time adolescents spend with their mothers and fathers is qualitatively different (Collins & Laursen, 2006). Perhaps the type of time adolescents spend with their mothers and the types of

activities mothers and adolescents do together during this time are more positive for adolescent adjustment. Furthermore, the association between mother-adolescent time and adolescent adjustment was limited to risky behavior. The more time mothers and adolescents spent together, the less adolescents participated in risky behavior. This association could also simply be due to the fact that when adolescents are with their mothers, they are likely not engaging in risky behavior. In other words, time with mothers could be acting as a form of adult supervision, which is also protective for youth risky behavior (Aizer et al., 2004; Cohen et al., 2002; McHale et al., 2001; Mott et al., 1999; Pettit et al., 1999; Stewart, 2001). Overall, findings from this study have demonstrated the importance of both mothers and fathers in terms of their work-family cultures and their relationships with adolescents. This work-family system, however, often functions differently for mothers and fathers.

#### *Older and Younger Siblings*

The work-family system linking parents' work-family culture to family life to adolescent adjustment also functioned differently for older and younger adolescents in some ways. Looking at the dyadic, parent-adolescent relationship components, the *process linking work-family culture to adolescent adjustment through parent-adolescent time operated similarly for older and younger siblings*. When mothers worked in a setting with a more supportive work-family culture, they spent more time with their adolescents, and in turn, both older and younger adolescents engaged in less risky behavior.

On the other hand, the *process linking work-family culture to adolescent adjustment through affective components of parent-adolescent relationships varied for older and younger adolescents*. These differences remind us that children in a family are not interchangeable (Minuchin, 1985) and are often different in many ways. One of many reasons for these



differences between siblings is their non-shared environment (Dunn & Plomin, 1990), which is partially comprised of parent-adolescent relationships. Work-family culture appeared to matter more for older adolescents' intimacy with mothers and fathers, but was not associated with younger adolescents' intimacy with either parent. In this case, work-family culture may have had a stronger influence for older siblings, because parents may struggle more with parenting their first-borns compared to their second-borns (Shanahan et al., 2007; Whiteman, McHale, & Crouter, 2003). Thus a supportive workplace culture may be more beneficial for parents' intimacy and closeness with their first-borns. This was especially the case for fathers' work-family culture in terms of its links with both intimacy and conflict with older siblings. Perhaps fathers, in particular, have greater difficulties with and thus require more resources for parenting firstborns. Consequently, fathers may rely more on their work-family culture to foster more positive parent-older adolescent relationships. Or it may be the case that fathers are more invested in their firstborns as they are more closely approaching the age when they may leave the home. For these reasons, fathers may make more use of their work-family culture to support affective components of parent-older adolescent relationships.

*Family-level processes linking work-family culture to adolescent adjustment were relatively similar for older and younger siblings.* (One exception is that coparenting was not associated with older sibling depressive symptoms.) Overall, however, given that these family processes are shared between older and younger siblings, it is logical that these processes would similarly be associated with adjustment outcomes for both siblings. In some cases the associations were even found to be equal for older and younger siblings. The link between coparenting and risky behavior was the same for older and younger siblings, as was the case in

previous research (Feinberg et al., 2007). The link between family time and depressive symptoms was also the same for older and younger siblings.

In some cases, for both dyadic and family-level processes, there was a direct link from mothers' work-family culture to younger sibling risky behavior. Given that adolescents do not directly participate in mothers' work lives, it is unlikely that mothers' work-family cultures directly affect younger sibling risky behavior. There may be other unmeasured family processes through which mothers' work-family culture is associated with younger siblings' risky behavior. For example, perhaps for mothers a supportive work-family culture helps to foster positive sibling relationships, which are in turn linked to better younger adolescent adjustment. Or perhaps when mothers have a more supportive work-family culture, they are better able to provide supervision for their younger adolescents. With this improved supervision, younger adolescents would be less likely to engage in risky behavior.

#### *Families as Systems*

The findings discussed above for mothers and fathers and older and younger siblings have provided further evidence for families operating as systems (Cox & Paley, 1997; Minuchin, 1985). The work-family system explored here did not always operate the same for mothers and fathers or for older and younger siblings, but processes for mothers and fathers and for older and younger siblings were also connected. Descriptive findings on work-family culture and family relationships also highlighted some interdependence within dyads, but also the lack of interchangeability among family members. These insights can only emerge by studying multiple family members.

Mothers and fathers were not interdependent on any of the components of work-family culture. Given that mothers and fathers typically work in different occupations and for different

employers, it would not necessarily be expected that the work-family cultures of their work places would be interdependent. On average, mothers' and fathers' work-family cultures were also not significantly different from each other. The lack of interdependence as well as the absence of significant differences between mothers' and fathers' work-family cultures suggests that there are no systematic patterns linking mothers' and fathers' work-family cultures.

Inferences cannot be made about one parent by studying the other. In order to understand the role of parents' work-family cultures, both mothers' and fathers' workplaces must be examined.

On the other hand, parent-adolescent relationships were interdependent between both mothers and fathers and between older and younger siblings, highlighting the connectedness of family relationships and dyadic subsystems within the family. However, complete interdependence either between mothers and fathers or between older and younger siblings was not revealed. Thus, consistent with family systems theory, this study confirmed that family members and dyads within the family are connected, but at the same time they do have unique qualities. Overall, this study highlighted the necessity of examining multiple individuals and relationships within a family.

#### *Limitations and Future Directions*

Despite the contributions of this study, as with all studies, there were also limitations. One limitation was the study's sample size. Although the number of individuals examined was rather large, the number of families, which was the primary unit of analysis, was not. This sample size did not allow for the simultaneous examination of the dyadic and family processes linking work-family culture to adolescent adjustment. Examining these processes together would have permitted the comparison of the relative importance of these processes. In addition, moderation effects may have been difficult to document given the small sample. A larger sample

would have provided greater power to detect group differences and enabled the creation of low, medium and high groups instead of just low and high groups. Despite the difficulty in recruiting large numbers of families when examining multiple individuals per family, future research should aim to recruit larger samples of families.

Another limitation of this study is the relatively homogenous sample. This sample was primarily white, non-poor, and from a northeastern state, thereby limiting the generalizability of these findings. However, unlike many work-family studies, which recruit respondents through specific workplaces, this study did have variability in terms of the workplaces examined, which was a strength. Nevertheless, future research should aim to replicate these findings in other samples. For example, investigators might specifically study working class families, given the very limited support these families have for integrating work and family (Lambert, 2009). Work-family culture has the potential to play a very significant role in this population. Although I did not find that SES moderated the patterns of association here, the range of SES in the sample may have been too limited as families of very low SES and the very affluent were not well represented. Lack of moderation, however, does suggest the importance of work-family culture across socioeconomic circumstances, including low SES families. This may be a promising population for future research.

The ability to detect moderation effects was indeed limited. In addition to being limited by the small sample size, moderation was only tested for the models as a whole. Despite similarity in the overall models linking work-family culture to dyadic and family processes to adolescent adjustment across adolescent gender, family SES, mothers' work hours, and fathers' work hours, there may have been variation based on these adolescent and family characteristics

for particular individual pathways in the model. Future research might more specifically examine the nuances and potential sources of variation in individual pathways in the model.

Overall, this study was also limited by its reliance on parent self-report. Work-family culture in this study may be more reflective of parents' perceptions of their work-family culture than the actual culture of the workplace. Parents' perceptions of workplace culture may reflect not only what the workplace is like but also characteristics of the parents themselves. For example, parents with more optimistic personalities may be more likely to report a supportive work-family culture. Parents with more negative attitudes may report problematic work-family cultures. However, the lack of interdependence between mothers' and fathers' work-family cultures does suggest that shared family characteristics are not responsible for parents' reports of work-family culture. Future researchers should explore more objective ways of measuring work-family culture.

Despite reliance on self-report, a strength of this study was its use of reports from multiple family members. This study is not limited by mono-reporter bias. Reports on certain aspects of parent-adolescent relationships came from the adolescent as did reports on adolescent adjustment. Time use information also came from the child, and in the case of family time, older and younger sibling reports were averaged. Coparenting was also measured by averaging two reports: mothers' and fathers'.

This study was also cross-sectional, which did not allow for understanding how these processes change over time. Given that both the work and the family domain can change over time, future research should examine the links between work-family culture, dyadic and family processes, and adolescent adjustment longitudinally. Longitudinal research could look at the influence of work-family culture over time and how changes in work-family culture (e.g., with a

change in management or a job change) are linked to changes in dyadic and family processes and, in turn, to changes in adolescent adjustment.

The cross-sectional nature of the study also did not permit definitive inferences on causality or the direction of effects. Although structural equation modeling does allow for modeling and comparing opposite direction of effects to better assess actual associations between variables, true causality cannot be determined without a randomized experiment. While not evident in this study, we know that parent-child relationships are bi-directional; child characteristics also shape their relationships with parents. For example, when adolescents exhibit problematic adjustment, parent-adolescent relationships may become more strained. In addition, parents may seek out a workplace with a certain work-family culture because of characteristics of their children or their relationships with their children. A randomized intervention study of work-family culture would indeed be useful for determining the actual effects of work-family culture on family life and adolescent adjustment.

#### *Implications for Workplace Policies and Interventions*

Despite its limitations, this study does offer promising suggestions for future policy and intervention research. Results of this investigation provide rationale for studying workplace policies and interventions designed to improve the workplace culture so that it is more supportive of the integration of work and family. Interventions and policies of this sort have the potential to not only improve outcomes for the workplace, but also to improve parent-adolescent relationships and family processes and, in turn, improve adolescent adjustment. Future research should use experimental designs with random assignment to treatment conditions that involve interventions or policies aimed at improving the work-family culture and usual practice conditions. This experimental research would provide greater evidence for the causal impact of

work-family culture and possibly provide more support for the importance of widespread policies and interventions to improve work-family cultures so that they are more supportive of integrating work and family. In addition to improving family life and adolescent adjustment on their own, improvements to work-family culture may also increase the uptake of family-friendly workplace policies (Thompson et al., 1999), which can further positively impact families and adolescents.

An example of a relevant ongoing intervention study is currently being conducted by the Work, Family, & Health Network. This randomized experiment is evaluating a workplace intervention designed to increase supervisor support for the integration of work and family as well as employees' control over their work time; both of these goals are components of work-family culture. The culture change aimed for in this intervention could also reduce negative career consequences of attending to family needs, the third component of work-family culture. This study should provide us with more evidence of the causal role of work-family culture. However, this intervention study does not intervene in both parents' workplaces, nor is it specific to families with adolescents. The findings of the present study indicate the importance of both parents' work-family cultures for families with adolescents.

### *Conclusions*

Overall, this study revealed the importance of parents' work-family cultures for parent-adolescent relationships, family processes, and, in turn, adolescent adjustment. Family and developmental researchers should begin to incorporate this aspect of parents' work into their studies. By acknowledging that there is more to parents' work than simply the hours it takes parents away from their families, future research could reveal much more about the work-family interface. Put together, the findings of the current study, combined with future research taking a

similar approach, as well as ongoing and future intervention research, all have the potential to provide solid support for the benefits of work-family cultures that are supportive of the successful integration of work and family. With more supportive workplace cultures, we can hope for improvements in the work-family interface for families with adolescents through more positive parent-adolescent relationships and family processes and, in turn, better adolescent adjustment.



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## APPENDIX A

Table 1

*Means, SDs, and Ns for All Study Variables*

Variable	Shared			Older Adolescent			Younger Adolescent		
	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>
Mothers' Work-Family Culture	4.89	.93	165						
Fathers' Work-Family Culture	4.80	.73	163						
Mothers' Managerial Support	4.83	1.01	166						
Fathers' Managerial Support	4.84	.81	163						
Mothers' Career Consequences	4.90	1.00	154						
Fathers' Career Consequences	4.76	.87	154						
Mothers' Organizational Time Demands	4.99	1.31	169						
Fathers' Organizational Time Demands	4.78	1.13	165						
Mother Intimacy				28.65	5.46	187	28.43	5.51	191
Father Intimacy				26.45	5.51	182	26.47	5.65	186
Mother Conflict				24.95	6.73	189	27.06	7.21	190
Father Conflict				24.42	6.84	177	26.01	6.71	179
Mother Time				406.83	270.26	169	505.62	267.87	177
Father Time				361.76	296.70	169	452.91	320.01	177
Coparenting	4.08	.47	177						
Family Time	180.36	180.94	178						
Risky Behavior				27.92	8.56	187	24.57	6.67	191
Depressive Symptoms				6.84	6.30	187	6.85	6.08	190
Family Socioeconomic Status	.06	4.01	168						
Mother Work Hours	35.81	15.93	190						
Father Work Hours	47.94	14.91	179						
Gender				1.49	.50	191	1.50	.50	191

*Note:* Gender is coded 1 = female, 2 = male.

APPENDIX B

Table 2

*Correlations between Work-Family Culture Subscales*

Variables	1	2	3	4
1. Overall Work-Family Culture	—	.91***	.72***	.72***
2. Managerial Support	.94***	—	.47***	.47***
3. Career Consequences	.78***	.58***	—	.41***
4. Organizational Time Demands	.82***	.64***	.57***	—

*Note:* Mothers appear below the diagonal. Fathers appear above the diagonal. *N*s range from 153-165.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

# APPENDIX C

Table 3

*Correlations between Parent-Adolescent Relationship and Family Variables*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Older Sib-Mother Intimacy	—													
2. Older Sib-Father Intimacy	.49***	—												
3. Mother-Older Sib Conflict	-.12	-.11	—											
4. Father-Older Sib Conflict	-.21**	-.09	.50***	—										
5. Older Sib-Mother Time	.12	.04	-.12	-.21**	—									
6. Older Sib-Father Time	-.01	.06	-.07	.00	.58***	—								
7. Young Sib-Mother Intimacy	.31***	.21**	-.02	-.03	.02	.03	—							
8. Young Sib-Father Intimacy	.22**	.33***	-.08	-.04	.13	.16*	.59***	—						
9. Mother- Young Sib Conflict	-.02	-.03	.47***	.19*	.00	-.03	-.16*	-.12	—					
10. Father- Young Sib Conflict	-.03	.05	.20**	.53***	-.13	.03	-.08	-.14	.50***	—				
11. Young Sib-Mother Time	.02	.04	.02	-.11	.57***	.40***	.15*	.07	-.10	-.24**	—			
12. Young Sib-Father Time	.12	.18*	-.02	.03	.44***	.56***	.09	.26***	-.10	-.14	.51***	—		
13. Coparenting	-.03	.20**	-.30***	-.15*	.00	.01	.02	.27***	-.25***	-.14	.04	.19*	—	
14. Family Time	.06	.10	-.11	-.11	.70***	.72***	.03	.10	-.04	-.07	.61***	.69***	.12	—

*Note:* Ns range from 155 to 190.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

# APPENDIX D

Table 4

*Correlation Matrix for Older Siblings in Models Including Parent-Adolescent Relationships*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Mother Managerial Support	—													
2. Mother Career Consequences	.58***	—												
3. Mother Time Demands	.64***	.57***	—											
4. Father Managerial Support	.04	-.10	.02	—										
5. Father Career Consequences	-.05	-.13	-.08	.47***	—									
6. Father Time Demands	.00	-.03	.08	.47***	.41***	—								
7. Mother Intimacy	-.06	.07	-.00	.06	.21*	.07	—							
8. Father Intimacy	-.09	.02	-.07	.08	.25**	.11	.49***	—						
9. Mother Conflict	-.10	-.22**	-.14	-.14	-.12	-.07	-.12	-.11	—					
10. Father Conflict	-.06	-.18*	-.10	-.09	-.05	-.10	-.21**	-.09	.50***	—				
11. Mother Time	.10	.16	.13	-.03	.07	.06	.12	.04	-.12	-.21**	—			
12. Father Time	.06	.03	.03	-.04	.09	.08	-.01	.06	-.07	.00	.58***	—		
13. Risky Behavior	-.05	-.13	-.01	-.08	.06	-.06	-.22**	-.29***	.35***	.35***	-.27***	-.20*	—	
14. Depressive Symptoms	.05	-.00	-.00	-.04	-.07	-.11	-.32***	-.48***	.20**	.20**	-.14	-.13	.32***	—

*Note:* Ns range from 133 to 187.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

# APPENDIX E

Table 5

*Correlation Matrix for Younger Siblings in Models Including Parent-Adolescent Relationships*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Mother Managerial Support	—													
2. Mother Career Consequences	.58***	—												
3. Mother Time Demands	.64***	.57***	—											
4. Father Managerial Support	.04	-.10	.02	—										
5. Father Career Consequences	-.05	-.13	-.08	.47***	—									
6. Father Time Demands	.00	-.03	.08	.47***	.41***	—								
7. Mother Intimacy	.03	.11	.10	.12	.02	-.02	—							
8. Father Intimacy	.07	.08	.14	.19*	.05	-.04	.59***	—						
9. Mother Conflict	-.21**	-.25**	-.18*	-.06	-.07	-.01	-.16*	-.12	—					
10. Father Conflict	-.17*	-.20*	-.06	-.10	-.11	-.08	-.08	-.14	.50***	—				
11. Mother Time	.04	.11	.05	.08	.00	.12	.15*	.07	-.10	-.24**	—			
12. Father Time	-.02	-.03	-.09	.03	.17*	.01	.09	.26***	-.10	-.14	.51***	—		
13. Risky Behavior	-.22**	-.11	-.10	-.16*	-.04	-.01	-.13	-.23**	.20**	.26***	-.21**	-.18*	—	
14. Depressive Symptoms	-.02	-.07	.01	-.20*	-.01	.00	-.29***	-.37***	.27***	.21**	-.10	-.10	.40***	—

*Note:* *N*s range from 133 to 191.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



# APPENDIX F

Table 6

*Correlation Matrix for Models Including Family Level Variables*

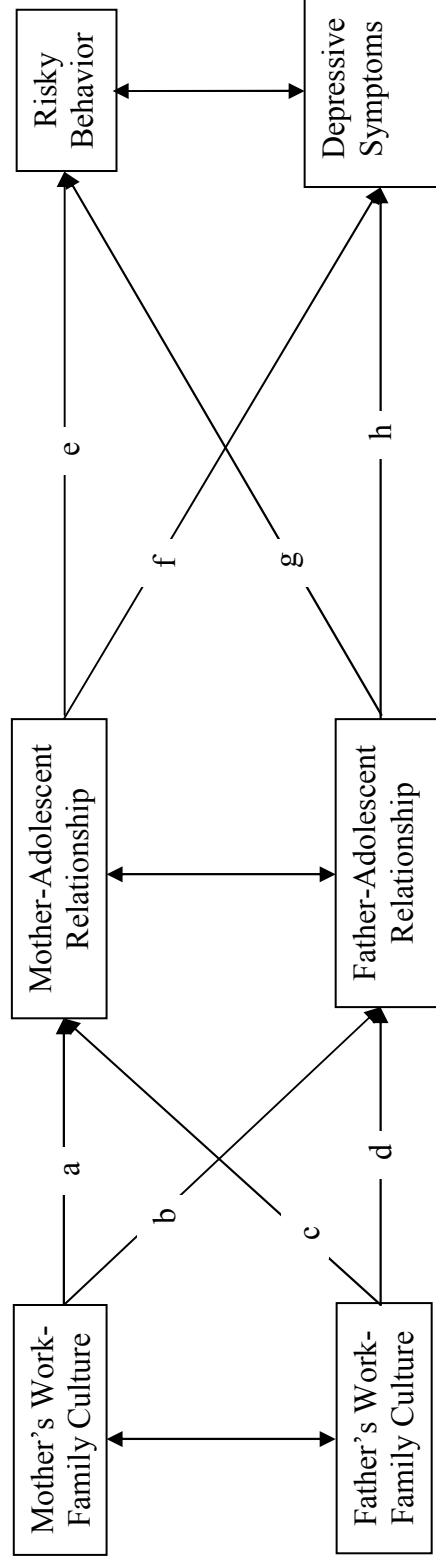
Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Mother Managerial Support	—											
2. Mother Career Consequences	.58***	—										
3. Mother Time Demands	.64***	.57***	—									
4. Father Managerial Support	.04	-.10	.02	—								
5. Father Career Consequences	-.05	-.13	-.08	.47***	—							
6. Father Time Demands	.00	-.03	.08	.47***	.41***	—						
7. Family Time	.14	.14	.11	.02	.12	.05	—					
8. Coparenting	.22	.13	.07	.05	.10	-.09	.12	—				
9. Older Sibling Risky Behavior	-.05	-.13	-.01	-.08	.06	-.06	-.23**	-.28***	—			
10. Older Sibling Depressive Symptoms	.05	.00	.00	-.04	-.07	-.11	-.13	-.04	.32***	—		
11. Younger Sibling Risky Behavior	-.22**	-.11	-.10	-.16*	-.04	-.01	-.17*	-.24**	.30***	.03	—	
12. Younger Sibling Depressive Symptoms	-.02	-.07	.01	-.20*	-.01	.00	-.14	-.14	.28***	.16*	.40***	—

*Note:* Ns range from 133 to 190.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## APPENDIX G

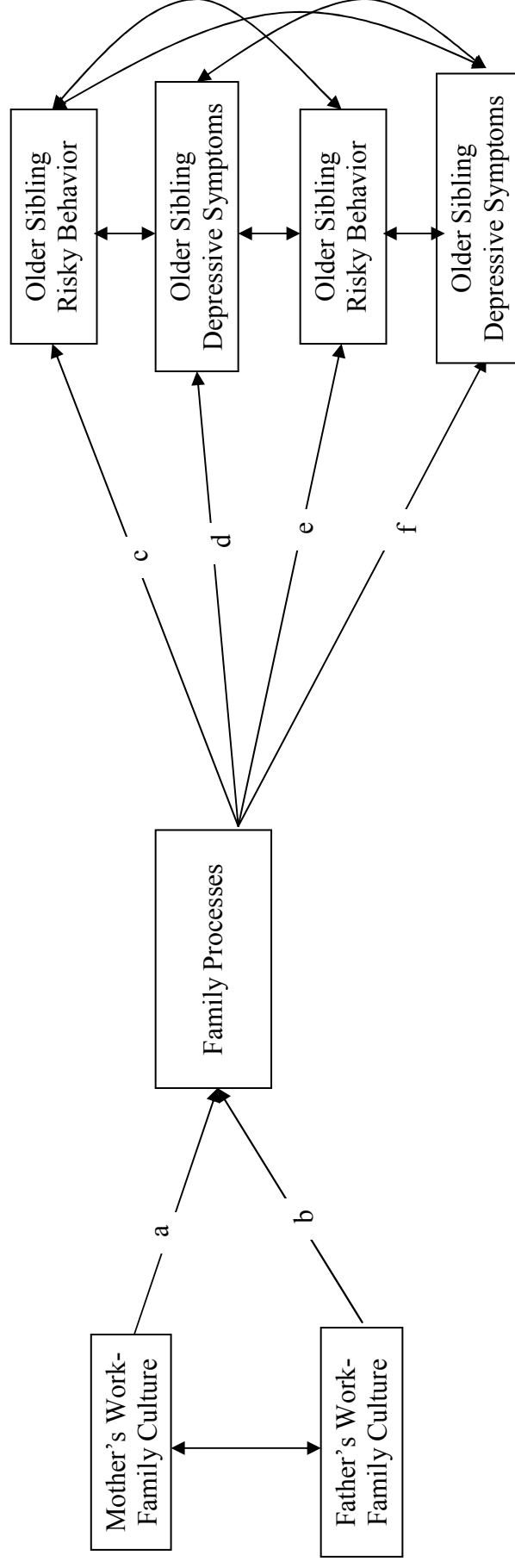
Figure 1. Conceptual Model Linking Work-Family Culture to Parent-Adolescent Relationships and Adolescent Adjustment



Note: The model will be tested as a 2 group model (1<sup>st</sup> group = older siblings, 2<sup>nd</sup> group = younger siblings).

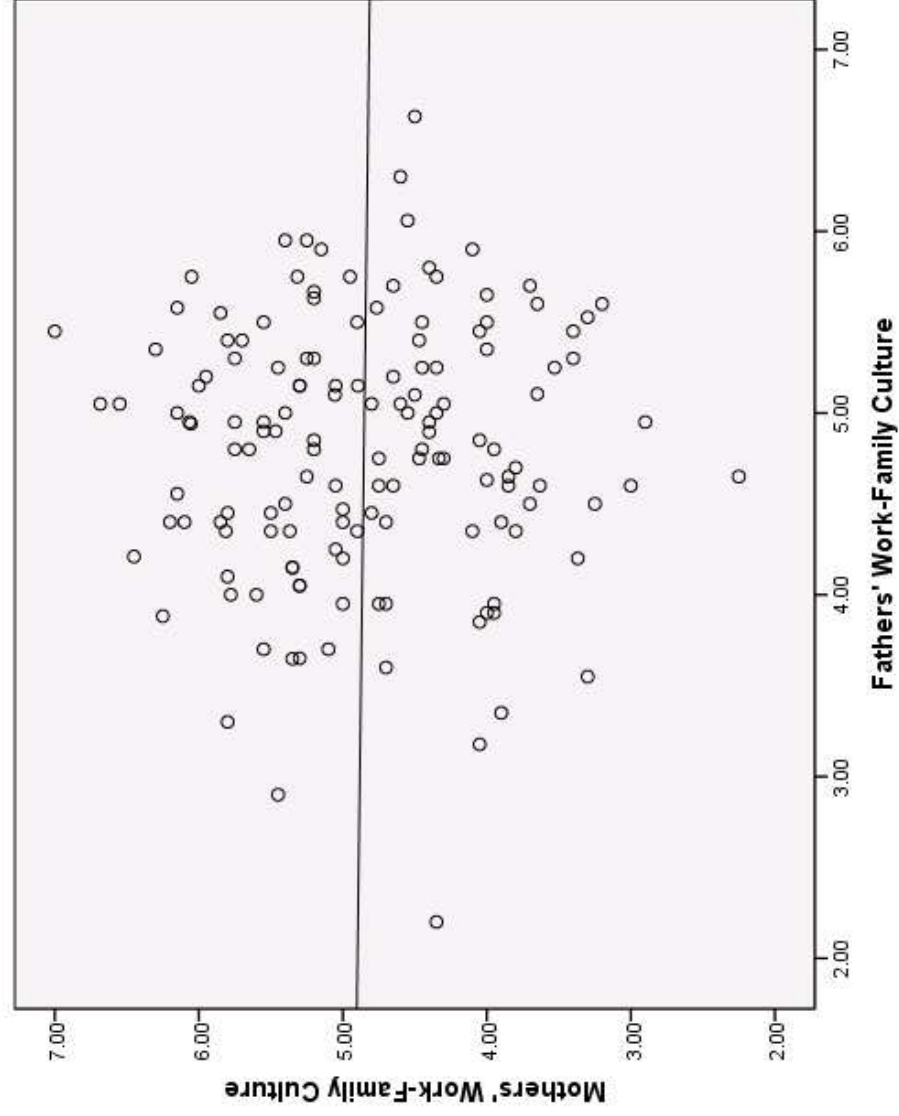
## APPENDIX H

Figure 2. Conceptual Model Linking Work-Family Culture to Family Processes and Adolescent Adjustment



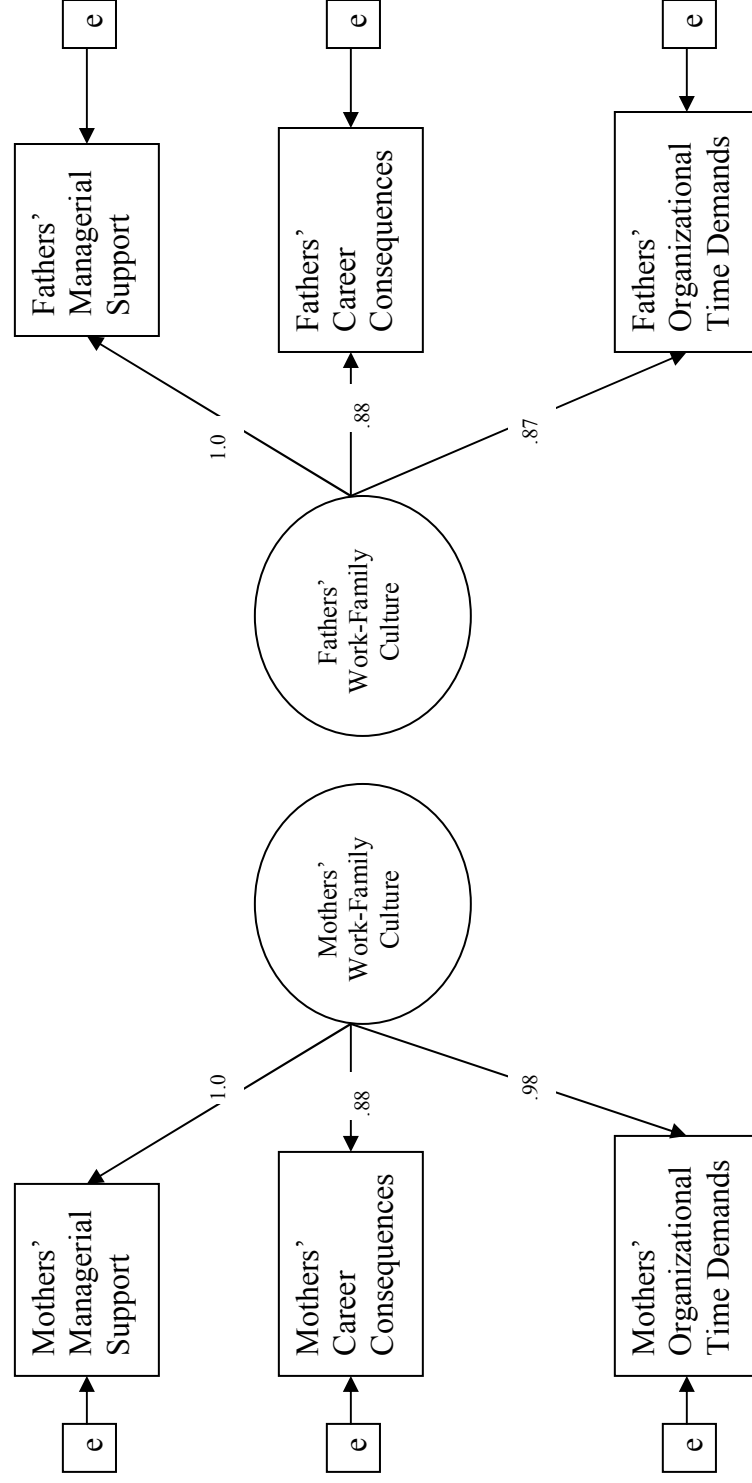
## APPENDIX I

Figure 3. Scatterplot Showing Non-Interdependence of Mothers' and Fathers' Work-Family Cultures



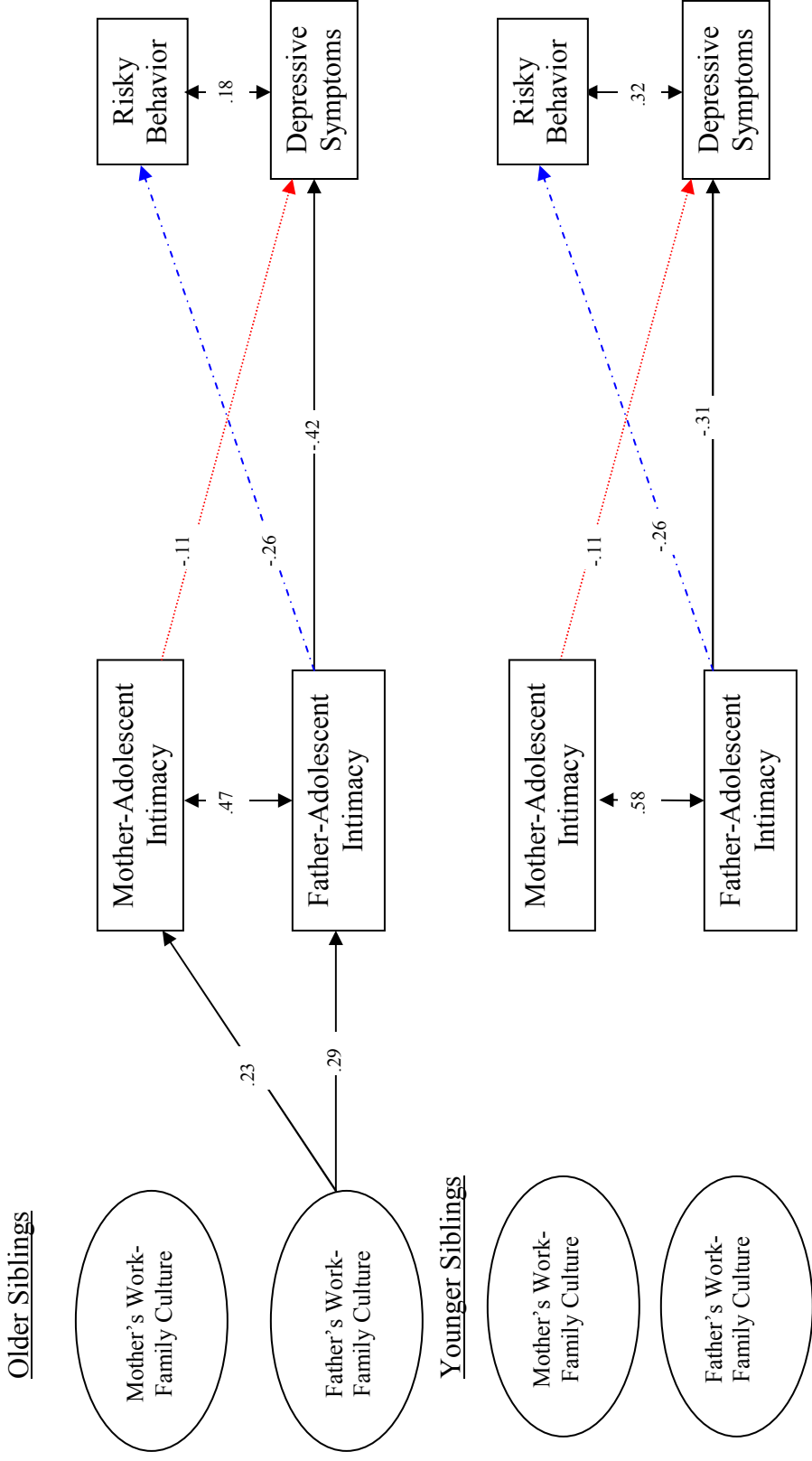
# APPENDIX J

Figure 4. Mothers' and Fathers' Work-Family Culture Measurement Model



## APPENDIX K

Figure 5. Structural Equation Model Linking Work-Family Culture to Adolescent Adjustment through Parent-Adolescent Intimacy

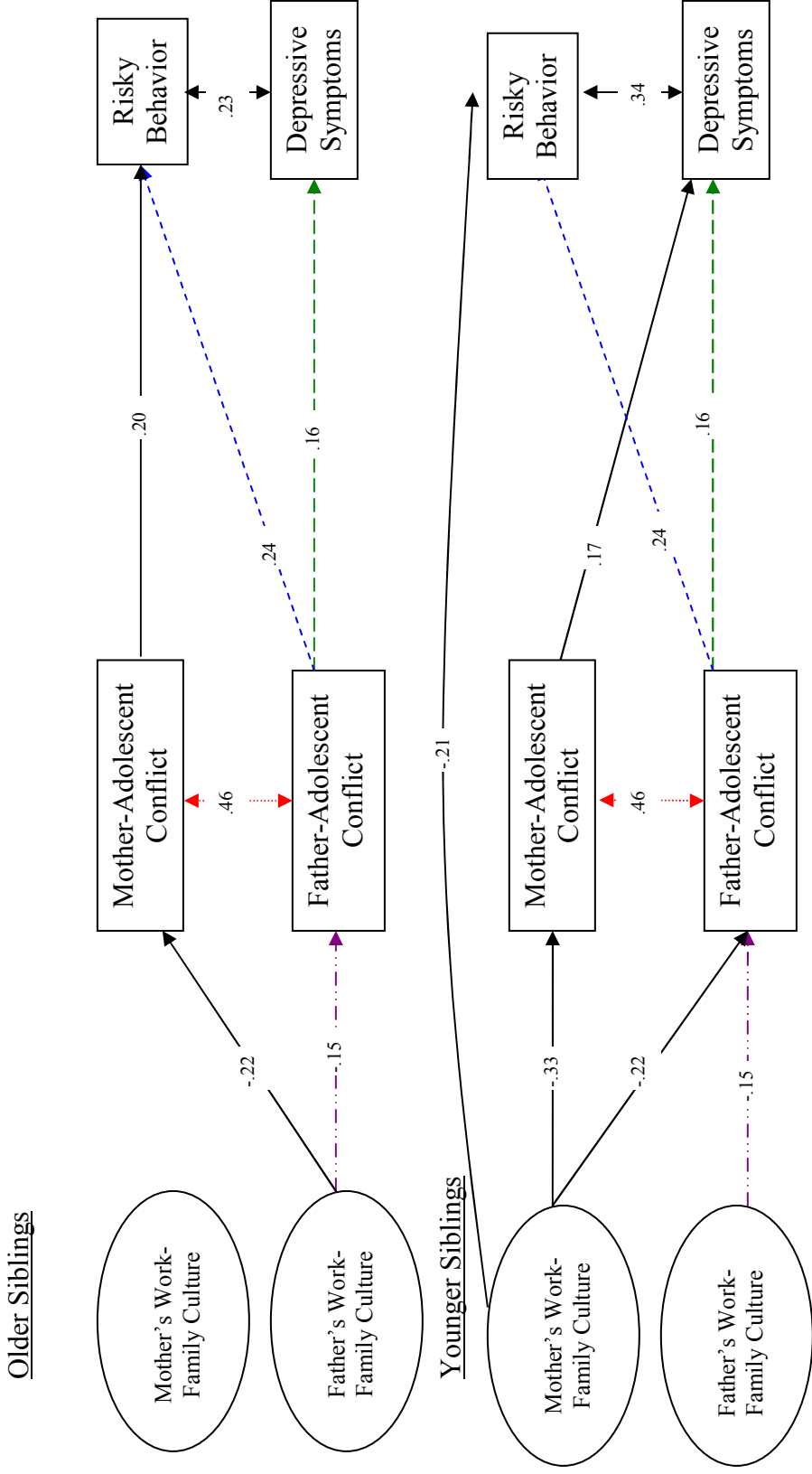


Model Fit Indices:  $\chi^2 = 90.70$ , 82 *df*,  $p = .24$ ; RMSEA = .02; Standardized RMR = .07; NNFI = .99; CFI = .99

Note: Non-solid lines of the same pattern and color have been constrained to be equal.

## APPENDIX L

Figure 6. Structural Equation Model Linking Work-Family Culture to Adolescent Adjustment through Parent-Adolescent Conflict

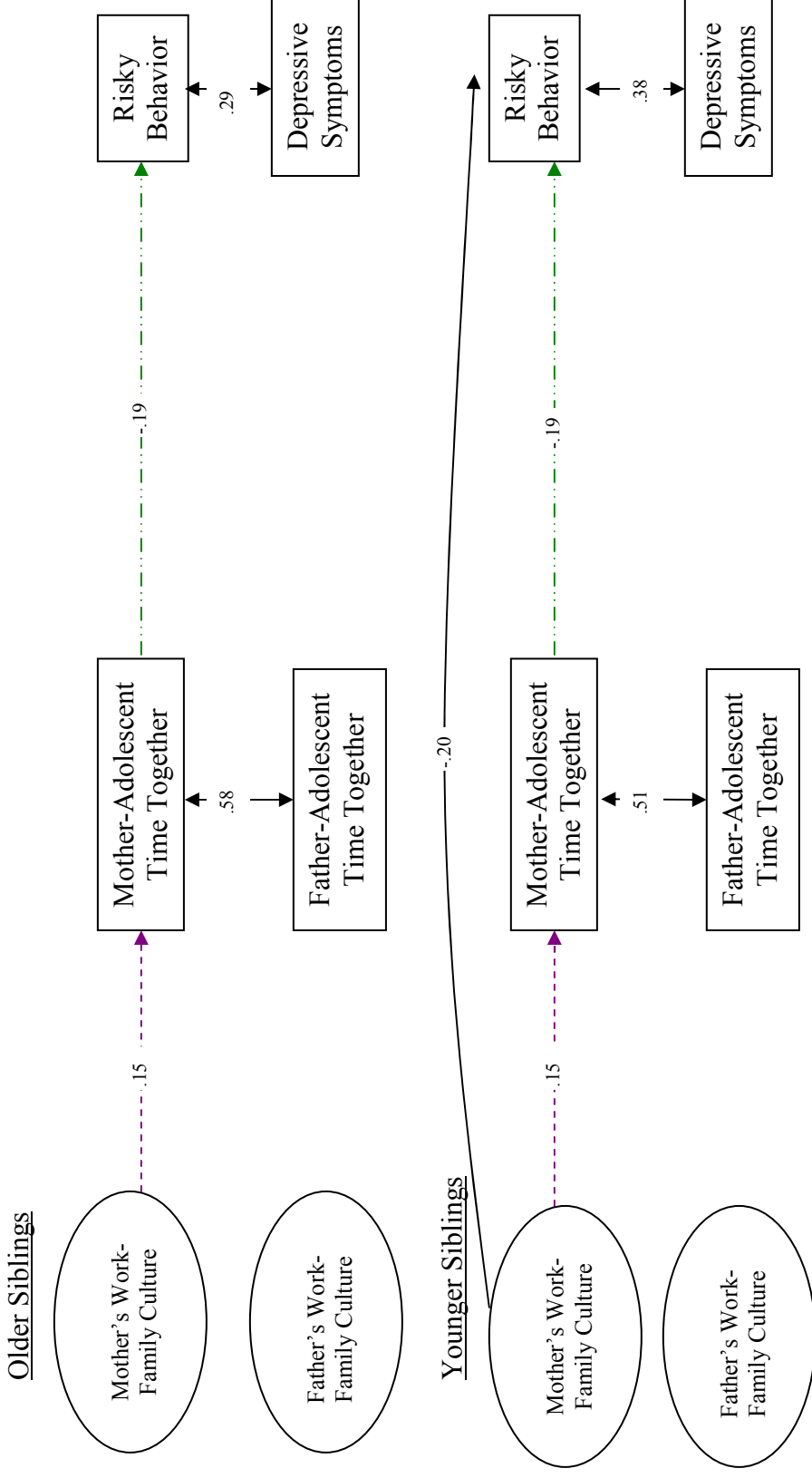


Model Fit Indices:  $\chi^2 = 79, 15, 80$  *df*,  $p = .51$ ; RMSEA = .00; Standardized RMR = .05; NNFI = 1.00; CFI = 1.00

Note: Non-solid lines of the same pattern and color have been constrained to be equal.

# APPENDIX M

Figure 7. Structural Equation Model Linking Work-Family Culture to Adolescent Adjustment through Parent-Adolescent Time



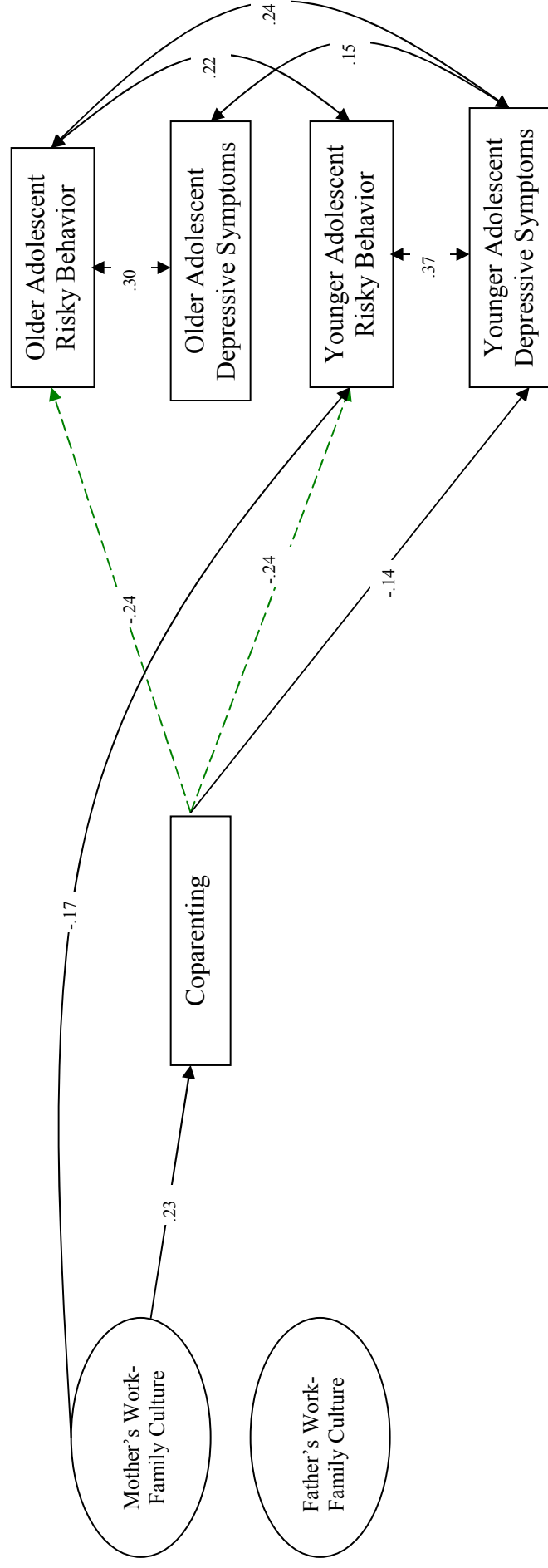
Model Fit Indices:  $\chi^2 = 92.23$ , 87 *df*,  $p = .33$ ; RMSEA = .01; Standardized RMR = .06; NNFI = .99; CFI = .99

Note: Non-solid lines of the same pattern and color have been constrained to be equal.



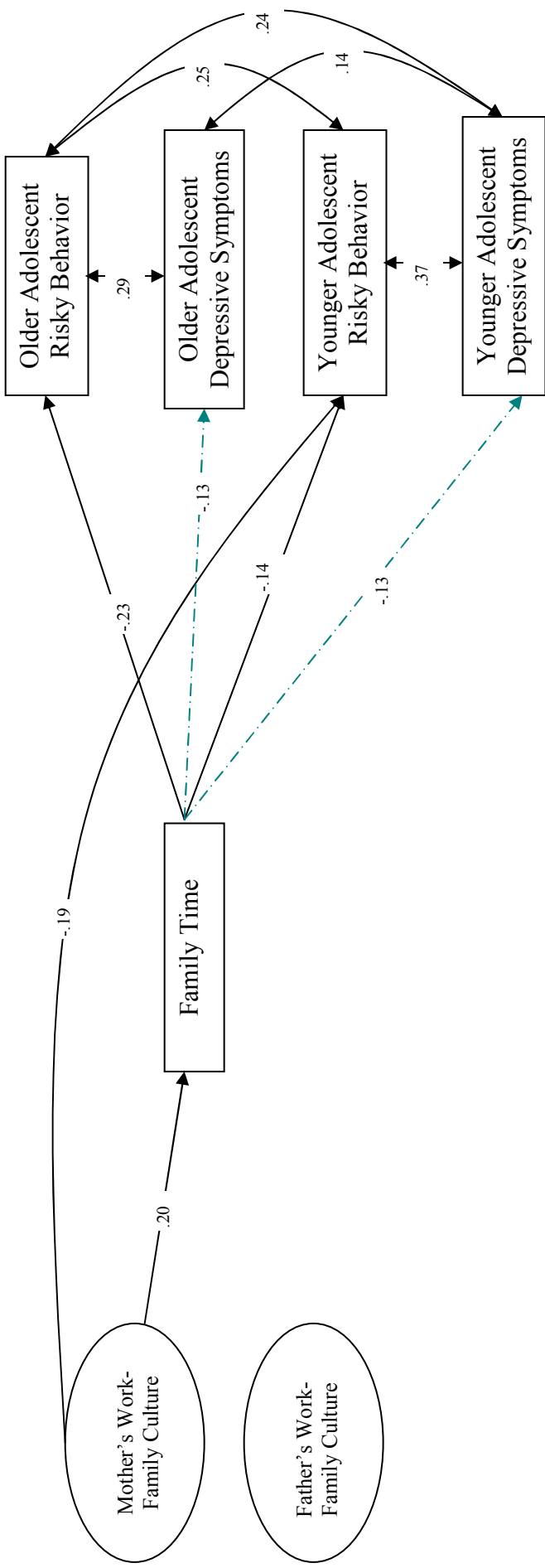
# APPENDIX N

Figure 8. Structural Equation Model Linking Work-Family Culture to Adolescent Adjustment through Coparenting



# APPENDIX O

Figure 9. Structural Equation Model Linking Work-Family Culture to Adolescent Adjustment through Family Time



Model Fit Indices:  $\chi^2 = 46.89$ , 41 *df*,  $p = .24$ ; RMSEA = .03; Standardized RMR = .05; NNFI = .98; CFI = .99

Note: Non-solid lines of the same pattern and color have been constrained to be equal.

## APPENDIX P

### Measures

#### Work-Family Culture

1. In this organization it is very hard to leave during the workday to take care of personal or family matters.
2. This organization encourages employees to set limits on where work stops and home life begins.
3. Many employees are resentful when women in this organization take extended leaves to care for their newborn or adopted children.
4. To get ahead in this organization, employees are expected to work more than 50 hours a week, whether at the workplace or at home.
5. In this organization employees can easily balance their work and family lives.
6. In the event of a conflict, managers are understanding when employees have to put their family first.
7. Many employees are resentful when men in this organization take extended leaves to care for newborn or adopted children.
8. Employees are regularly expected to put their jobs before their families.
9. In this organization employees are encouraged to strike a balance between their work and family lives.
10. Higher management in this organization encourages supervisors to be sensitive to employees' family and personal concerns.
11. To turn down a promotion or transfer for family-related reasons will seriously hurt one's career progress in this organization.
12. Employees are often expected to take work home at night and/or on weekends.
13. In general, managers in this organization are quite accommodating of family-related needs.
14. Middle managers and executives in this organization are sympathetic toward employees' child care responsibilities.
15. In this organization employees who participate in available work-family programs (e.g., job sharing, part-time work) are viewed as less serious about their careers than those who do not participate in the programs.
16. To be viewed favorably by top management, employees in this organization must constantly put their jobs ahead of their families or personal lives.
17. In this organization it is generally okay to talk about one's family at work.
18. This organization is supportive of employees who want to switch to less demanding jobs for family reasons.
19. In this organization employees who use flextime are less likely to advance their careers than those who do not use flextime.
20. Middle managers and executives in this organization are sympathetic toward employees' elder care responsibilities.

Managerial Support: Items 1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 20

Career Consequences: Items 3, 7, 11, 15, 19

Organizational Time Demands: Items 4, 8, 12, 16

Response Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Somewhat Disagree
- 4 = Neither Agree Nor Disagree
- 5 = Somewhat Agree
- 6 = Agree
- 7 = Strongly Agree

### Intimacy

- 1. How much do you go to your mother for advice/support?
- 2. How much do you want to be like her?
- 3. How much does she accept you no matter what you do?
- 4. How much does she understand what you're really like?
- 5. How much do you share your inner feelings or secrets with her?
- 6. How much does she come to you for advice/support?
- 7. How important is she to you?
- 8. How satisfied are you with the relationship you have with her?

Response Scale:

- 1 = Not at all
- 2 = A little
- 3 = Some
- 4 = A Lot
- 5 = Very Much

### Conflict

- 1. Chores
- 2. Appearance
- 3. Homework/Schoolwork
- 4. Social Life
- 5. Dating and Romantic Relationships
- 6. Bedtime/Curfew
- 7. Health
- 8. Choosing Activities
- 9. Money
- 10. Behavior/Personality
- 11. Relationships with Brothers/Sisters
- 12. Relationships with Friends

Response Scale:

- 1 = Not at all
- 2 = A Couple of Times
- 3 = A Few Times Each Month

- 4 = Several Times Each Week  
5 = About Once a Day  
6 = Several Times a Day

### Time Use Activities

See Appendix Q

### Coparenting

1. My spouse tells me lots of things about our children.
2. My spouse and I have different rules regarding food, chores, bedtime, or homework.
3. My spouse believes I am a good parent.
4. My spouse tries to get our children to take sides when we argue.
5. My spouse fills me in on what happens during our children's day.
6. My spouse and I have different standards for our children's behavior.
7. My spouse tells me I am a good parent.
8. My spouse says nice things about me to our children.
9. My spouse argues with me about our children.
10. My spouse uses our children to get back at me.
11. My spouse has confidence in what I do with our children.
12. My spouse asks my opinion on issues related to parenting.
13. My spouse supports my discipline decisions.
14. My spouse says cruel or hurtful things about me in front of our children.
15. My spouse shares the burden of discipline.
16. My spouse and I disagree about how to parent our children.
17. My spouse delivers messages to me through our children rather than saying them to me.
18. My spouse thinks I am doing a good job of raising our children.
19. My spouse helps me find solutions to problems with our children.
20. My spouse and I have different ideas about how we should raise our children.
21. My spouse pressures our children to take his side when we disagree.
22. My spouse is satisfied with how I handle problems with our children.

Response Scale:

- 1 = Not at All  
2 = Not Very Often  
3 = Sometimes  
4 = Fairly Often  
5 = Almost Always

### Risky Behavior

1. Skip a day of school?
2. Do something you knew was dangerous just for the thrill of it?
3. Have contact with the police for something you did or that they thought you did?
4. Damage public or private property?

5. Get drunk?
6. Sell drugs?
7. Stay out all night without your parents' permission?
8. Get suspended from school?
9. Take something from a store without paying for it?
10. Disobey your parents on an important issue?
11. Lie to your parents about something important?
12. Get into a fist fight with another kid?
13. Get sent to the principal or assistant principal's office for misbehavior?
14. Vomit, take laxatives, or take diet pills to lose weight?
15. Smoke cigarettes?
16. Go out on a date with someone who is at least three years older?
17. Drink alcohol without your parents' permission?
18. Try drugs other than those for which you had a prescription?

Response Scale:

- 1 = Never
- 2 = Once
- 3 = Sometimes (2-10 times)
- 4 = More than 10 times

### Depressive Symptoms

1.
  0. I am sad once in a while.
  1. I am sad many times.
  2. I am sad all the time.
2.
  0. Nothing will ever work out for me.
  1. I am not sure if things will work out for me.
  2. Things will work out for me OK.
3.
  0. I do most things OK.
  1. I do most things wrong.
  2. I do everything wrong.
4.
  0. I have fun in many things.
  1. I have fun in some things.
  2. Nothing is fun at all.
5.
  0. I am bad all the time.
  1. I am bad many times.
  2. I am bad once in a while.
6.
  0. I think about bad things happening to me once in a while.
  1. I worry that bad things will happen to me.
  2. I am sure that terrible things will happen to me.

7. 0. I hate myself.  
1. I do not like myself.  
2. I like myself.
8. 0. All bad things are my fault.  
1. Many bad things are my fault.  
2. Bad things are not usually my fault.
9. 0. I feel like crying every day.  
1. I feel like crying many days.  
2. I feel like crying once in awhile.
10. 0. Things bother me all the time.  
1. Things bother me many times.  
2. Things bother me once in awhile.
11. 0. I like being with people.  
1. I do not like being with people many times.  
2. I do not want to be with people at all.
12. 0. I cannot make up my mind about things.  
1. It is hard to make up my mind about things.  
2. I make up my mind about things easily.
13. 0. I look OK.  
1. There are some bad things about my looks.  
2. I look ugly.
14. 0. I have to push myself all the time to do my schoolwork.  
1. I have to push myself many times to do my schoolwork.  
2. Doing schoolwork is not a big problem.
15. 0. I have trouble sleeping every night.  
1. I have trouble sleeping many nights.  
2. I sleep pretty well.
16. 0. I am tired once in a while.  
1. I am tired many days.  
2. I am tired all the time.
17. 0. Most days I do not feel like eating.  
1. Many days I do not feel like eating.  
2. I eat pretty well.
18. 0. I do not worry about aches and pains.

1. I worry about aches and pains many times.
  2. I worry about aches and pains all the time.
19. 0. I do not feel alone.
  1. I feel alone many times.
  2. I feel alone all the time.
20. 0. I never have fun at school
  1. I have fun at school only once in a while.
  2. I have fun at school many times.
21. 0. I have plenty of friends.
  1. I have some friends, but I wish I had more.
  2. I do not have any friends.
22. 0. My schoolwork is alright.
  1. My schoolwork is not as good as before.
  2. I do very badly in subjects I used to be good in.
23. 0. I can never be as good as other kids.
  1. I can be as good as other kids if I want to.
  2. I am just as good as other kids.
24. 0. Nobody really loves me.
  1. I am not sure if anybody loves me.
  2. I am sure that somebody loves me.
25. 0. I usually do what I am told.
  1. I do not do what I am told most times.
  2. I never do what I am told.
26. 0. I get along with people.
  1. I get into fights many times.
  2. I get into fights all the time.

### Socioeconomic Status

**Income: (Only ask if parent has worked for pay during the past year.)** What is your approximate gross income per year from all your own job(s), that is, income earned before taxes, social security, and so on; but not including benefits. Please, do not include spouse's income.

**Education:** Mother's/Father's higher education (cumulative)

**Job Prestige:** National Opinion Research Center Job Prestige Codes (Nakao & Treas, 1994)



Work Hours

**(If appropriate, [Counting all of your jobs]),** How many hours per week do you spend at work (including breaks)?

**(If appropriate, [Counting all of your jobs]),** How many hours per week do you spend on work-related activities at home?

Adolescent Gender

1 = female, 2 = male

## APPENDIX Q

### Youth Activities List

#### BOX A -- HOUSEHOLD TASKS

1. Do dishes (wash, dry, put away)
2. Care for a pet (feed, walk)
3. Prepare a meal or snack (cook, set table)
4. Take out garbage or recycling
5. Vacuum, dust, or straighten up (except for own things or room)
6. Work outdoors (rake, mow lawn, shovel snow, firewood)
7. Upkeep of car including repairs, washing, vacuuming, gas
8. Grocery shopping
9. Run errands (not including grocery shopping or car maintenance; not including shopping just for fun)
10. Small repairs around the house
11. Laundry (including repairing, folding, putting away, ironing, packing)
12. Pick up own room (make own bed, pick up own toys or clothes)
13. Finances (balance checkbook)
19. Other household activities

#### BOX B -- HOME AND PERSONAL ACTIVITIES

20. Eat a meal
21. Do homework
22. Read books or magazines, go to library (not as part of homework)
23. Write letters, stories or poems (not as part of homework, not E-Mail)
24. Religious activities (attend service or class, say prayers)
25. Work at a paid job outside home
26. Listen to music (except while doing other things)
27. Talk on phone (other than this call)
28. Personal care (apply makeup, fix hair, dress)
29. Other home and personal activities

#### BOX C -- INVOLVEMENT IN ATHLETIC ACTIVITIES

30. Sports (baseball, football, basketball, soccer, softball, volleyball, hockey)
31. Swimming or diving
32. Gymnastics
33. Dance
34. Work out (jog, go to gym, aerobics, weight-lifting)
35. Boating (sailing, rowing, canoeing)
36. Skiing or snowboarding

37. Ice skate (except hockey)
39. Other athletic activities

#### BOX D - GAMES & COMPUTERS

40. Play video games (for example, Nintendo, Sony Play Station, Sega)
41. Board games, puzzles, cards
42. Play role-playing games (for example, Dungeons and Dragons; not on computer)
43. Play computer games
44. Do homework on computer
45. E-mail or Instant messaging
46. Internet shopping
47. Internet “surfing”
48. Other computer activities
49. Other games

#### BOX E -- OUTDOOR ACTIVITIES

50. Go for a walk
51. Biking
52. Outdoor play (swings, tag, kick-the-can, etc.)
53. Hunting, fishing
54. Rollerblading/-skating
55. Skateboarding
56. Hiking, camping
59. Other outdoor activities

#### BOX F -- HOBBIES AND ACTIVITIES

60. Collect things (stamps, coins, rocks, Pokemon, etc.)
61. Draw, paint, color, or clay
62. Play a musical instrument (including practicing and lessons)
63. Knit, sew, crochet, or other handicrafts
64. Participate in extracurricular activities at school (student government, service club, yearbook, newspaper)
65. Build things (models, legos, furniture; not home repairs)
66. Gardening (other than yard work)
67. Pets/animals (not including chores related to pet/animal care)
68. Participate in extracurricular activities in community (4-H, scouts)
69. Other hobbies and activities

**BOX G - ENTERTAINMENT**

- 70. Watch sports on TV
- 71. Watch educational programs on TV (PBS, news shows, Discovery Channel, etc.)
- 72. Watch other TV or videos
- 73. Go to watch a movie, concert, or other performance
- 74. Go to watch sports events
- 75. Go shopping for fun
- 76. Parent drove you somewhere or picked you up (parent does not stay)
- 77. Go to a party
- 79. Other entertainment

**BOX H -- HANG OUT**

- 80. My house
- 81. Mall, shopping center, "downtown"
- 82. Friend's house
- 83. Driving around
- 84. Other hanging out

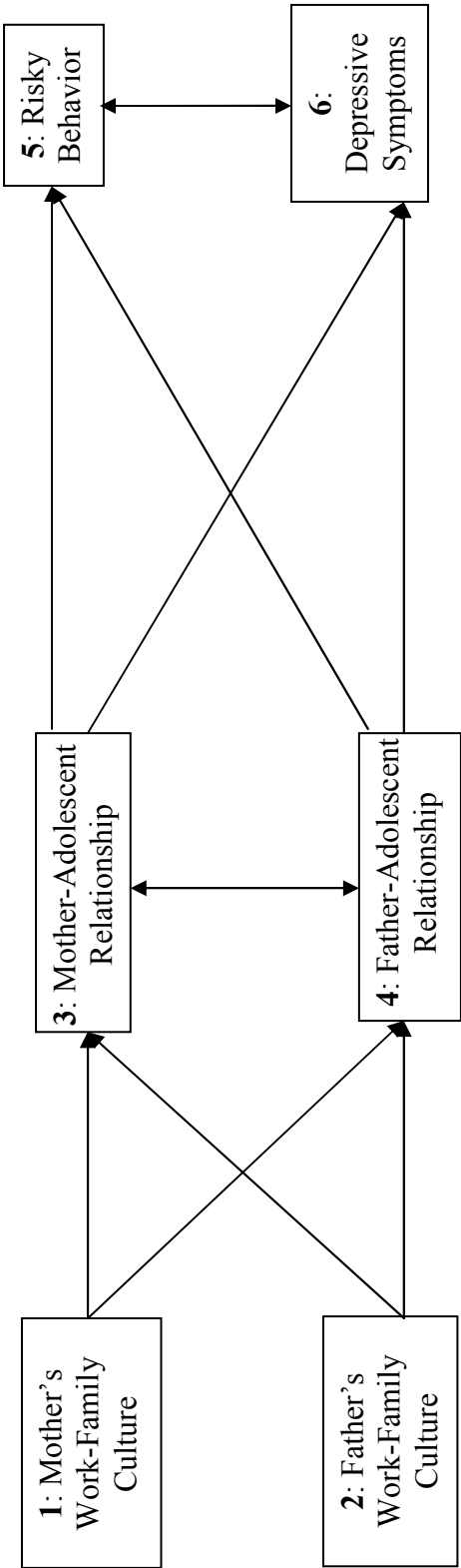
**BOX I -- SIBLING CARE**

- 90. Care for a sibling while doing other activities
- 91. Care for a sibling only

APPENDIX R

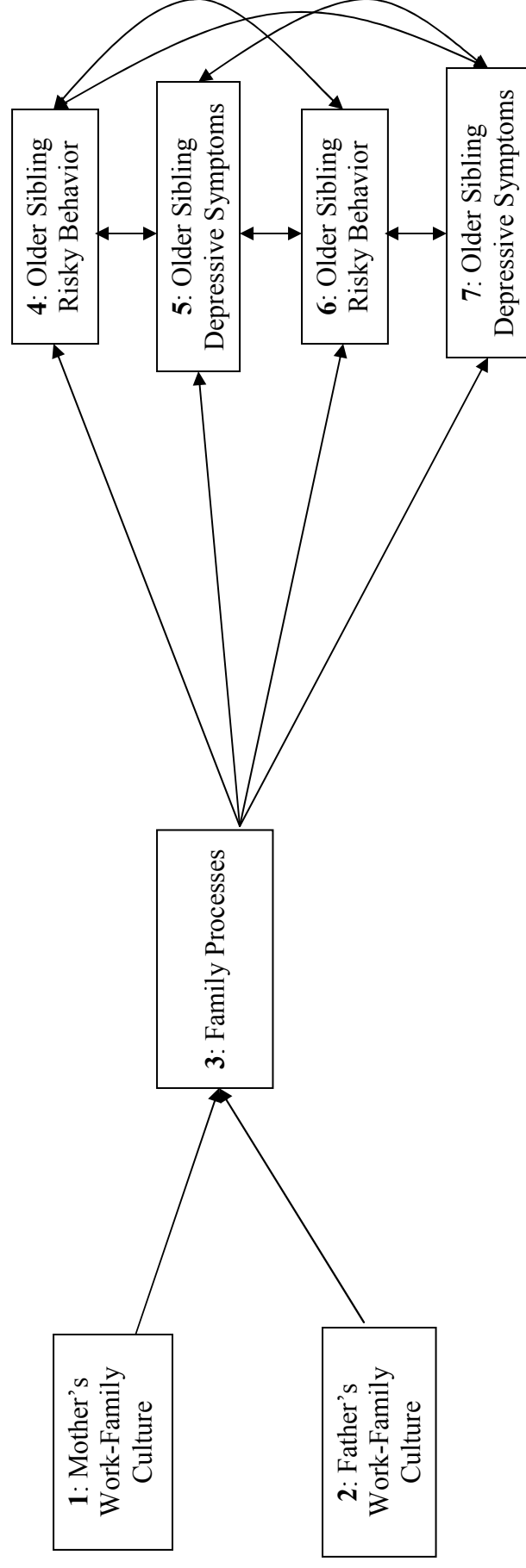
Model Building Steps

Key for Eta Numbers Referred to in Model Building Steps below for Models Including Parent-Adolescent Relationships



Note: Etas are numbered the same in older and younger sibling models.

Key for Eta Numbers Referred to in Model Building Steps below for Models Including Family Processes



### Model Building Steps

<b>Parent-Adolescent Intimacy</b>		
<b>Step</b>	<b>Change</b>	<b>X<sup>2</sup> Change</b>
1	Fix be(4,1) for sib O and be(5,3) for sib Y	.08, 2df, ns
2	Fix be(3,1) for sib O and sib Y	1.51, 2df, ns
3	Fix be(3,2) for sib Y	.78, 1df, ns
4	Set equal ps(3,3) for sib O and sib Y	.04, 1df, ns
5	Set equal ps(4,4) for sib O and sib Y	.01, 1df, ns
6	Set equal be(6,3) for sib O and sib Y	.00, 1df, ns
7	Set equal be(5,4) for sib O and sib Y	.01, 1df, ns
8	Fix be(5,3) for sib O and be(4,2) for sib Y	3.15, 2df, ns
9	Fix be(4,1) sib Y	1.36, 1df, ns

<b>Parent-Adolescent Conflict</b>		
<b>Step</b>	<b>Change</b>	<b>X<sup>2</sup> Change</b>
1	Fix be(6,3) for sib O and be(5,3) for sib Y	4.04, 2df, ns
2	Fix be(3,2) for sib Y	.94, 1df, ns
3	Set equal ps(3,3) for sib O and sib Y	.00, 1df, ns
4	Set equal ps(4,4) for sib O and sib Y	.01, 1df, ns
5	Set equal ps(4,3) for sib O and sib Y	.00, 1df, ns
6	Set equal be(4,2) for sib O and sib Y	.02, 1df, ns
7	Fix be(4,1) for sib O	2.92, 1df, ns
8	Fix be(3,1) for sib O	3.34, 1df, ns
9	Set equal be(5,4) for sib O and sib Y	.02, 1df, ns
10	Set equal be(6,4) for sib O and sib Y	.53, 1df, ns
11	Free be(5,1) for sib Y	5.40, 1df, significantly better fit

<b>Parent-Adolescent Time Together</b>		
<b>Step</b>	<b>Change</b>	<b>X<sup>2</sup> Change</b>
1	Fix be(3,2) for sib O and be(6,3) for sib Y	.88, 2df, ns
2	Fix be(4,2) for sib O and be(4,1) for sib Y	.71, 2df, ns
3	Fix be(4,1) for sib O and be(6,4) for sib Y	2.23, 2df, ns
4	Fix be(6,4) for sib O	.67, 1df, ns
5	Set equal ps(3,3) for sib O and sib Y	.00, 1df, ns
6	Set equal ps(4,4) for sib O and sib Y	.01, 1df, ns
7	Set equal ps(5,5) for sib O and sib Y	.03, 1df, ns
8	Set equal ps(6,6) for sib O and sib Y	.01, 1df, ns
9	Fix be(5,4) for sib Y	1.08, 1df, ns
10	Fix be(5,4) for sib O and be(4,2) for sib Y	1.58, 2df, ns
11	Fix be(3,2) for sib Y	.53, 1df, ns
12	Set equal be(3,1) for sib O and sib Y	.06, 1df, ns

13	Fix be(6,3) for sib O	3.50, 1df, ns
14	Set equal be(5,3) for sib O and sib Y	.29, 1df, ns
15	Free be(5,1) for sib Y	5.34, 1df, significantly better fit

<b>Coparenting</b>		
<b>Step</b>	<b>Change</b>	<b>X<sup>2</sup> Change</b>
1	Fix ps(6,5)	.09, 1df, ns
2	Fix be(5,3)	.34, 1df, ns
3	Fix be(3,2)	.21, 1df, ns
4	Fix be(7,3)	3.40, 1df, ns
5	Set equal be(4,3) be(6,3)	.52, 1df, ns
6	Set equal ps(5,5) ps(7,7)	.00, 1df, ns
7	Set equal ps(4,4) ps(6,6)	.04, 1df, ns
8	Free be(6,1)	3.88, 1df, significantly better fit
9	Free be(7,3)	3.88, 1df, significantly better fit

<b>Family Time</b>		
<b>Step</b>	<b>Change</b>	<b>X<sup>2</sup> Change</b>
1	Fix ps(6,5)	.02, 1df, ns
2	Set equal be(5,3) and be(7,3)	.01, 1df, ns
3	Set equal ps(5,5) ps(7,7)	.00, 1df, ns
4	Set equal ps(4,4) ps(6,6)	.05, 1df, ns
5	Fix be(3,2)	1.20, 1df, ns
6	Free be(6,1)	4.98, 1df, significantly better fit



## APPENDIX S

### Beta and Psi Matrices for 2-Group Moderator Models

#### Older Sibling Intimacy – Gender Moderation

##### BETA

	ETA <sup>22</sup> 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	0.24 (0.13) 1.89	- -	- -	- -	- -
ETA 4	- -	0.33 (0.13) 2.58	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.30 (0.07) -4.26	- -	- -
ETA 6	- -	- -	-0.14 (0.07) -1.95	-0.40 (0.07) -5.50	- -	- -

##### PSI

	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.65 (0.11) 5.75					
ETA 2	- -	0.49 (0.11) 4.28				
ETA 3	- -	- -	0.97 (0.10) 9.51			
ETA 4	- -	- -	0.46 (0.08) 5.75	0.95 (0.10) 9.42		

<sup>22</sup> Refer to figures in Appendix 3 for variables represented by Etas.

ETA 5	- -	- -	- -	- -	0.91 (0.09) 9.62	
ETA 6	- -	- -	- -	- -	0.21 (0.06) 3.34	0.76 (0.08) 9.62

### Younger Sibling Intimacy – Gender Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.21 (0.07) -2.99	- -	- -
ETA 6	- -	- -	-0.17 (0.08) -2.06	-0.25 (0.08) -3.01	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
ETA 1	0.65 (0.11) 5.86					
ETA 2	- -	0.53 (0.12) 4.30				
ETA 3	- -	- -	1.00 (0.10) 9.72			
ETA 4	- -	- -	0.60 (0.08) 7.09	1.00 (0.10) 9.72		
ETA 5	- -	- -	- -	- -	0.95 (0.10) 9.72	
ETA 6	- -	- -	- -	- -	0.28 (0.07) 4.02	0.86 (0.09) 9.72

## Older Sibling Intimacy – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	0.25 (0.13) 1.90	- -	- -	- -	- -
ETA 4	- -	0.30 (0.13) 2.29	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.31 (0.07) -4.13	- -	- -
ETA 6	- -	- -	-0.18 (0.08) -2.35	-0.39 (0.08) -5.00	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.63 (0.12) 5.49					
ETA 2	- -	0.51 (0.12) 4.07				
ETA 3	- -	- -	0.97 (0.11) 8.91			
ETA 4	- -	- -	0.45 (0.08) 5.35	0.95 (0.11) 8.86		
ETA 5	- -	- -	- -	- -	0.91 (0.10) 9.03	
ETA 6	- -	- -	- -	- -	0.19 (0.07) 2.87	0.75 (0.08) 9.03

# Younger Sibling Intimacy – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.22 (0.08) -2.84	- -	- -
ETA 6	- -	- -	-0.12 (0.08) -1.47	-0.26 (0.09) -2.97	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.11) 5.54					
ETA 2	- -	0.55 (0.13) 4.15				
ETA 3	- -	- -	1.00 (0.11) 9.11			
ETA 4	- -	- -	0.58 (0.09) 6.48	1.00 (0.11) 9.11		
ETA 5	- -	- -	- -	- -	0.95 (0.10) 9.11	
ETA 6	- -	- -	- -	- -	0.29 (0.07) 3.92	0.88 (0.10) 9.11

# Older Sibling Intimacy – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	0.21 (0.12) 1.73	- -	- -	- -	- -
ETA 4	- -	0.29 (0.12) 2.29	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.29 (0.07) -3.94	- -	- -
ETA 6	- -	- -	-0.06 (0.07) -0.83	-0.44 (0.08) -5.80	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.63 (0.12) 5.43					
ETA 2	- -	0.54 (0.13) 4.18				
ETA 3	- -	- -	0.98 (0.11) 9.15			
ETA 4	- -	- -	0.43 (0.08) 5.27	0.96 (0.11) 9.08		
ETA 5	- -	- -	- -	- -	0.92 (0.10) 9.25	
ETA 6	- -	- -	- -	- -	0.19 (0.07) 2.82	0.78 (0.08) 9.25

# Younger Sibling Intimacy – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.20 (0.07) -2.75	- -	- -
ETA 6	- -	- -	-0.15 (0.08) -1.79	-0.25 (0.09) -2.86	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.63 (0.11) 5.46					
ETA 2	- -	0.59 (0.14) 4.22				
ETA 3	- -	- -	1.00 (0.11) 9.30			
ETA 4	- -	- -	0.59 (0.09) 6.65	1.00 (0.11) 9.30		
ETA 5	- -	- -	- -	- -	0.96 (0.10) 9.30	
ETA 6	- -	- -	- -	- -	0.30 (0.07) 4.07	0.87 (0.09) 9.30

# Older Sibling Intimacy – Father Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	0.21 (0.12) 1.77	- -	- -	- -	- -
ETA 4	- -	0.27 (0.12) 2.21	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.27 (0.07) -3.69	- -	- -
ETA 6	- -	- -	-0.18 (0.08) -2.40	-0.37 (0.08) -4.79	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.12) 5.43					
ETA 2	- -	0.56 (0.13) 4.49				
ETA 3	- -	- -	0.97 (0.11) 9.06			
ETA 4	- -	- -	0.45 (0.08) 5.42	0.96 (0.11) 9.01		
ETA 5	- -	- -	- -	- -	0.92 (0.10) 9.14	
ETA 6	- -	- -	- -	- -	0.17 (0.07) 2.51	0.76 (0.08) 9.14

# Younger Sibling Intimacy – Father Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	- -	-0.24 (0.07) -3.22	- -	- -
ETA 6	- -	- -	-0.09 (0.08) -1.12	-0.32 (0.09) -3.68	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.12) 5.49					
ETA 2	- -	0.58 (0.13) 4.54				
ETA 3	- -	- -	1.00 (0.11) 9.25			
ETA 4	- -	- -	0.61 (0.09) 6.77	1.00 (0.11) 9.25		
ETA 5	- -	- -	- -	- -	0.94 (0.10) 9.25	
ETA 6	- -	- -	- -	- -	0.30 (0.07) 4.16	0.86 (0.09) 9.25



## Older Sibling Conflict – Gender Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	-0.23 (0.12) -1.92	- -	- -	- -	- -
ETA 4	- -	-0.15 (0.12) -1.31	- -	- -	- -	- -
ETA 5	- -	- -	0.22 (0.07) 2.94	0.23 (0.08) 3.01	- -	- -
ETA 6	- -	- -	- -	0.20 (0.07) 2.81	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.65 (0.11) 5.75					
ETA 2	- -	0.54 (0.12) 4.42				
ETA 3	- -	- -	0.97 (0.10) 9.51			
ETA 4	- -	- -	0.49 (0.08) 6.05	0.99 (0.10) 9.57		
ETA 5	- -	- -	- -	- -	0.84 (0.09) 9.62	
ETA 6	- -	- -	- -	- -	0.27 (0.07) 3.94	0.96 (0.10) 9.62

# Younger Sibling Conflict – Gender Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	-0.33 (0.10) -3.38	- -	- -	- -	- -	- -
ETA 4	-0.23 (0.10) -2.38	-0.15 (0.10) -1.46	- -	- -	- -	- -
ETA 5	-0.19 (0.09) -2.12	- -	- -	0.24 (0.07) 3.38	- -	- -
ETA 6	- -	- -	0.20 (0.08) 2.60	0.12 (0.08) 1.47	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.67 (0.11) 6.00					
ETA 2	- -	0.52 (0.12) 4.30				
ETA 3	- -	- -	0.93 (0.10) 9.54			
ETA 4	- -	- -	0.45 (0.08) 5.80	0.95 (0.10) 9.57		
ETA 5	- -	- -	- -	- -	0.91 (0.09) 9.64	
ETA 6	- -	- -	- -	- -	0.29 (0.07) 4.11	0.92 (0.09) 9.70

# Older Sibling Conflict – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	-0.23 (0.12) -1.82	- -	- -	- -	- -
ETA 4	- -	-0.17 (0.12) -1.37	- -	- -	- -	- -
ETA 5	- -	- -	0.12 (0.08) 1.56	0.28 (0.08) 3.41	- -	- -
ETA 6	- -	- -	- -	0.18 (0.08) 2.42	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.11) 5.53					
ETA 2	- -	0.56 (0.13) 4.20				
ETA 3	- -	- -	0.97 (0.11) 8.98			
ETA 4	- -	- -	0.48 (0.09) 5.59	0.98 (0.11) 9.03		
ETA 5	- -	- -	- -	- -	0.86 (0.10) 9.08	
ETA 6	- -	- -	- -	- -	0.27 (0.07) 3.63	0.97 (0.11) 9.08

# Younger Sibling Conflict – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	-0.33 (0.11) -3.12	- -	- -	- -	- -	- -
ETA 4	-0.24 (0.10) -2.29	-0.13 (0.11) -1.21	- -	- -	- -	- -
ETA 5	-0.15 (0.10) -1.52	- -	- -	0.21 (0.08) 2.75	- -	- -
ETA 6	- -	- -	0.17 (0.08) 2.06	0.15 (0.09) 1.80	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.11) 5.62					
ETA 2	- -	0.54 (0.13) 4.15				
ETA 3	- -	- -	0.93 (0.10) 8.98			
ETA 4	- -	- -	0.46 (0.08) 5.57	0.95 (0.11) 9.01		
ETA 5	- -	- -	- -	- -	0.93 (0.10) 9.08	
ETA 6	- -	- -	- -	- -	0.30 (0.08) 3.94	0.92 (0.10) 9.11

# Older Sibling Conflict – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	-0.20 (0.12) -1.66	- -	- -	- -	- -
ETA 4	- -	-0.16 (0.12) -1.36	- -	- -	- -	- -
ETA 5	- -	- -	0.20 (0.08) 2.68	0.26 (0.08) 3.38	- -	- -
ETA 6	- -	- -	- -	0.26 (0.07) 3.59	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.63 (0.12) 5.43					
ETA 2	- -	0.60 (0.14) 4.26				
ETA 3	- -	- -	0.98 (0.11) 9.17			
ETA 4	- -	- -	0.44 (0.08) 5.35	0.98 (0.11) 9.19		
ETA 5	- -	- -	- -	- -	0.83 (0.09) 9.25	
ETA 6	- -	- -	- -	- -	0.21 (0.07) 2.99	0.93 (0.10) 9.25

# Younger Sibling Conflict – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	-0.37 (0.10) -3.56	- -	- -	- -	- -	- -
ETA 4	-0.27 (0.10) -2.57	-0.21 (0.10) -1.98	- -	- -	- -	- -
ETA 5	-0.23 (0.10) -2.35	- -	- -	0.23 (0.07) 3.09	- -	- -
ETA 6	- -	- -	0.19 (0.08) 2.36	0.14 (0.08) 1.75	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.11) 5.61					
ETA 2	- -	0.58 (0.14) 4.26				
ETA 3	- -	- -	0.91 (0.10) 9.10			
ETA 4	- -	- -	0.42 (0.08) 5.35	0.92 (0.10) 9.11		
ETA 5	- -	- -	- -	- -	0.90 (0.10) 9.22	
ETA 6	- -	- -	- -	- -	0.30 (0.07) 4.09	0.91 (0.10) 9.30

# Older Sibling Conflict – Father Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	- -	-0.20 (0.12) -1.67	- -	- -	- -	- -
ETA 4	- -	-0.15 (0.12) -1.33	- -	- -	- -	- -
ETA 5	- -	- -	0.14 (0.08) 1.76	0.29 (0.08) 3.67	- -	- -
ETA 6	- -	- -	- -	0.16 (0.08) 2.09	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.12) 5.46					
ETA 2	- -	0.58 (0.13) 4.55				
ETA 3	- -	- -	0.98 (0.11) 9.12			
ETA 4	- -	- -	0.46 (0.08) 5.47	0.99 (0.11) 9.15		
ETA 5	- -	- -	- -	- -	0.85 (0.09) 9.19	
ETA 6	- -	- -	- -	- -	0.23 (0.07) 3.21	0.97 (0.11) 9.19

# Younger Sibling Conflict – Father Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	-0.30 (0.10) -2.87	- -	- -	- -	- -	- -
ETA 4	-0.24 (0.10) -2.31	-0.14 (0.10) -1.42	- -	- -	- -	- -
ETA 5	-0.21 (0.10) -2.16	- -	- -	0.23 (0.07) 3.12	- -	- -
ETA 6	- -	- -	0.18 (0.08) 2.24	0.12 (0.08) 1.37	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.66 (0.12) 5.66					
ETA 2	- -	0.58 (0.13) 4.57				
ETA 3	- -	- -	0.94 (0.10) 9.12			
ETA 4	- -	- -	0.45 (0.08) 5.58	0.95 (0.10) 9.13		
ETA 5	- -	- -	- -	- -	0.91 (0.10) 9.19	
ETA 6	- -	- -	- -	- -	0.33 (0.07) 4.38	0.93 (0.10) 9.25



## Older Sibling Time – Gender Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.16 (0.08) 2.03	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	-0.22 (0.07) -3.22	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.11) 5.71					
ETA 2	- -	0.53 (0.12) 4.36				
ETA 3	- -	- -	0.98 (0.10) 9.58			
ETA 4	- -	- -	0.62 (0.09) 7.22	1.00 (0.10) 9.62		
ETA 5	- -	- -	- -	- -	0.93 (0.10) 9.62	
ETA 6	- -	- -	- -	- -	0.33 (0.08) 4.40	1.00 (0.10) 9.62

# Younger Sibling Time – Gender Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.20 (0.08) 2.44	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	-0.19 (0.09) -2.07	- -	-0.16 (0.07) -2.33	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.67 (0.11) 5.94					
ETA 2	- -	0.53 (0.12) 4.29				
ETA 3	- -	- -	0.98 (0.10) 9.64			
ETA 4	- -	- -	0.58 (0.08) 6.87	1.00 (0.10) 9.70		
ETA 5	- -	- -	- -	- -	0.93 (0.10) 9.64	
ETA 6	- -	- -	- -	- -	0.33 (0.07) 4.40	1.00 (0.10) 9.70

# Older Sibling Time – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.14 (0.09) 1.56	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	-0.19 (0.07) -2.57	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.63 (0.12) 5.48					
ETA 2	- -	0.55 (0.13) 4.12				
ETA 3	- -	- -	0.98 (0.11) 9.01			
ETA 4	- -	- -	0.58 (0.09) 6.48	1.00 (0.11) 9.03		
ETA 5	- -	- -	- -	- -	0.95 (0.11) 9.03	
ETA 6	- -	- -	- -	- -	0.32 (0.08) 3.98	1.00 (0.11) 9.03

# Younger Sibling Time – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.12 (0.09) 1.31	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	-0.15 (0.10) -1.58	- -	-0.16 (0.07) -2.32	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.11) 5.59					
ETA 2	- -	0.55 (0.13) 4.15				
ETA 3	- -	- -	0.99 (0.11) 9.09			
ETA 4	- -	- -	0.52 (0.09) 5.98	1.00 (0.11) 9.11		
ETA 5	- -	- -	- -	- -	0.94 (0.10) 9.08	
ETA 6	- -	- -	- -	- -	0.34 (0.08) 4.30	1.00 (0.11) 9.11

## Older Sibling Time – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.14 (0.08) 1.68	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	-0.19 (0.07) -2.71	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.62 (0.11) 5.41					
ETA 2	- -	0.59 (0.14) 4.20				
ETA 3	- -	- -	0.98 (0.11) 9.22			
ETA 4	- -	- -	0.60 (0.09) 6.81	1.00 (0.11) 9.25		
ETA 5	- -	- -	- -	- -	0.95 (0.10) 9.25	
ETA 6	- -	- -	- -	- -	0.30 (0.08) 3.86	1.00 (0.11) 9.25

# Younger Sibling Time – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.14 (0.09) 1.53	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	-0.23 (0.10) -2.37	- -	-0.15 (0.07) -2.16	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.64 (0.12) 5.54					
ETA 2	- -	0.59 (0.14) 4.21				
ETA 3	- -	- -	0.99 (0.11) 9.25			
ETA 4	- -	- -	0.51 (0.09) 5.94	1.00 (0.11) 9.27		
ETA 5	- -	- -	- -	- -	0.92 (0.10) 9.20	
ETA 6	- -	- -	- -	- -	0.34 (0.08) 4.40	1.00 (0.11) 9.27

## Older Sibling Time – Father Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.11 (0.08) 1.33	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	- -	- -	-0.22 (0.07) -3.03	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.63 (0.12) 5.41					
ETA 2	- -	0.59 (0.13) 4.49				
ETA 3	- -	- -	0.98 (0.11) 9.12			
ETA 4	- -	- -	0.62 (0.09) 6.83	1.00 (0.11) 9.14		
ETA 5	- -	- -	- -	- -	0.93 (0.10) 9.14	
ETA 6	- -	- -	- -	- -	0.27 (0.08) 3.47	1.00 (0.11) 9.14

# Younger Sibling Time – Father Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.09 (0.09) 1.02	- -	- -	- -	- -	- -
ETA 4	- -	- -	- -	- -	- -	- -
ETA 5	-0.22 (0.09) -2.30	- -	-0.17 (0.07) -2.43	- -	- -	- -
ETA 6	- -	- -	- -	- -	- -	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.65 (0.12) 5.58					
ETA 2	- -	0.58 (0.13) 4.53				
ETA 3	- -	- -	1.00 (0.11) 9.21			
ETA 4	- -	- -	0.55 (0.09) 6.30	1.00 (0.11) 9.22		
ETA 5	- -	- -	- -	- -	0.92 (0.10) 9.15	
ETA 6	- -	- -	- -	- -	0.37 (0.08) 4.67	1.00 (0.11) 9.22



## Coparenting – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.22 (0.10) 2.14	- -	- -	- -	- -	- -
ETA 4	- -	- -	-0.24 (0.06) -4.08	- -	- -	- -
ETA 5	- -	- -	- -	- -	- -	- -
ETA 6	-0.10 (0.09) -1.12	- -	-0.24 (0.06) -4.08	- -	- -	- -
ETA 7	- -	- -	-0.14 (0.08) -1.86	- -	- -	- -

BETA	
	ETA 7
	-----
ETA 1	- -
ETA 2	- -
ETA 3	- -
ETA 4	- -
ETA 5	- -
ETA 6	- -
ETA 7	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.66 (0.12) 5.70					
ETA 2	- -	0.55 (0.13) 4.15				
ETA 3	- -	- -	0.97 (0.11) 9.05			
ETA 4	- -	- -	- -	0.93 (0.07) 12.53		
ETA 5	- -	- -	- -	0.32 (0.07) 4.69	0.99 (0.08) 12.80	
ETA 6	- -	- -	- -	0.23 (0.07) 3.34	- -	0.93 (0.07) 12.53
ETA 7	- -	- -	- -	0.23 (0.07) 3.08	0.12 (0.07) 1.68	0.32 (0.07) 4.54

PSI	
	ETA 7
	-----
ETA 7	0.99 (0.08) 12.80

### Coparenting – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.22 (0.10) 2.12	- -	- -	- -	- -	- -

ETA 4	- -	- -	-0.23 (0.06) -4.19	- -	- -	- -
ETA 5	- -	- -	- -	- -	- -	- -
ETA 6	-0.21 (0.09) -2.23	- -	-0.23 (0.06) -4.19	- -	- -	- -
ETA 7	- -	- -	-0.14 (0.07) -1.86	- -	- -	- -

# BETA

	ETA 7
	-----
ETA 1	- -
ETA 2	- -
ETA 3	- -
ETA 4	- -
ETA 5	- -
ETA 6	- -
ETA 7	- -

# PSI

	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.66 (0.12) 5.66					
ETA 2	- -	0.59 (0.14) 4.21				
ETA 3	- -	- -	0.97 (0.11) 9.21			
ETA 4	- -	- -	- -	0.92 (0.07) 12.85		
ETA 5	- -	- -	- -	0.31 (0.07) 4.55	0.99 (0.08) 12.98	

ETA 6	- -	- -	- -	0.19 (0.07) 2.74	- -	0.92 (0.07) 12.85
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ETA 7	- -	- -	- -	0.19 (0.07) 2.70	0.15 (0.07) 2.14	0.34 (0.07) 4.95
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PSI

	ETA 7
	-----
ETA 7	0.99 (0.08) 12.98

### Coparenting – Father Work Hours Moderation

BETA

	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.28 (0.10) 2.74	- -	- -	- -	- -	- -
ETA 4	- -	- -	-0.25 (0.06) -4.24	- -	- -	- -
ETA 5	- -	- -	- -	- -	- -	- -
ETA 6	-0.15 (0.09) -1.70	- -	-0.25 (0.06) -4.24	- -	- -	- -
ETA 7	- -	- -	-0.14 (0.07) -1.89	- -	- -	- -

BETA						
	ETA 7					
	-----					
ETA 1	-	-				
ETA 2	-	-				
ETA 3	-	-				
ETA 4	-	-				
ETA 5	-	-				
ETA 6	-	-				
ETA 7	-	-				
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.68 (0.12) 5.72					
ETA 2	- -	0.58 (0.13) 4.54				
ETA 3	- -	- -	0.95 (0.10) 9.14			
ETA 4	- -	- -	- -	0.92 (0.07) 12.60		
ETA 5	- -	- -	- -	0.29 (0.07) 4.31	0.99 (0.08) 12.99	
ETA 6	- -	- -	- -	0.27 (0.07) 3.84	- -	0.92 (0.07) 12.60
ETA 7	- -	- -	- -	0.26 (0.07) 3.67	0.12 (0.07) 1.75	0.35 (0.07) 5.10
PSI						
	ETA 7					
	-----					
ETA 7	0.99 (0.08) 12.99					

# Family Time – SES Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.23 (0.11) 2.17	- -	- -	- -	- -	- -
ETA 4	- -	- -	-0.19 (0.08) -2.43	- -	- -	- -
ETA 5	- -	- -	-0.11 (0.06) -1.94	- -	- -	- -
ETA 6	-0.12 (0.10) -1.27	- -	-0.10 (0.08) -1.36	- -	- -	- -
ETA 7	- -	- -	-0.11 (0.06) -1.94	- -	- -	- -

BETA	
	ETA 7
	-----
ETA 1	- -
ETA 2	- -
ETA 3	- -
ETA 4	- -
ETA 5	- -
ETA 6	- -
ETA 7	- -

PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.65 (0.12) 5.62					
ETA 2	- -	0.55 (0.13) 4.14				
ETA 3	- -	- -	0.97 (0.11) 9.02			
ETA 4	- -	- -	- -	0.96 (0.08) 12.40		
ETA 5	- -	- -	- -	0.31 (0.07) 4.44	0.99 (0.08) 12.77	
ETA 6	- -	- -	- -	0.27 (0.07) 3.70	- -	0.96 (0.08) 12.40
ETA 7	- -	- -	- -	0.24 (0.07) 3.24	0.12 (0.07) 1.60	0.34 (0.07) 4.68

PSI	
	ETA 7
	-----
ETA 7	0.99 (0.08) 12.77

### Family Time – Mother Work Hours Moderation

BETA						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.21 (0.10) 2.04	- -	- -	- -	- -	- -

ETA 4	- -	- -	-0.19 (0.07) -2.62	- -	- -	- -
ETA 5	- -	- -	-0.10 (0.06) -1.74	- -	- -	- -
ETA 6	-0.23 (0.10) -2.38	- -	-0.12 (0.07) -1.58	- -	- -	- -
ETA 7	- -	- -	-0.10 (0.06) -1.74	- -	- -	- -

# BETA

	ETA 7
	-----
ETA 1	- -
ETA 2	- -
ETA 3	- -
ETA 4	- -
ETA 5	- -
ETA 6	- -
ETA 7	- -

# PSI

	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.65 (0.12) 5.59					
ETA 2	- -	0.59 (0.14) 4.21				
ETA 3	- -	- -	0.97 (0.11) 9.21			
ETA 4	- -	- -	- -	0.95 (0.07) 12.77		



ETA 5	- -	- -	- -	0.30 (0.07) 4.37	0.99 (0.08) 12.99	
ETA 6	- -	- -	- -	0.22 (0.07) 3.11	- -	0.95 (0.07) 12.77
ETA 7	- -	- -	- -	0.21 (0.07) 2.89	0.15 (0.07) 2.11	0.36 (0.07) 5.09
PSI						
	ETA 7 -----					
ETA 7	0.99 (0.08) 12.99					

### Family Time – Father Work Hours Moderation

	BETA					
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	- -	- -	- -	- -	- -	- -
ETA 2	- -	- -	- -	- -	- -	- -
ETA 3	0.23 (0.10) 2.17	- -	- -	- -	- -	- -
ETA 4	- -	- -	-0.22 (0.07) -2.88	- -	- -	- -
ETA 5	- -	- -	-0.14 (0.06) -2.53	- -	- -	- -
ETA 6	-0.18 (0.09) -1.91	- -	-0.14 (0.07) -1.91	- -	- -	- -
ETA 7	- -	- -	-0.14 (0.06) -2.53	- -	- -	- -

BETA						
	ETA 7					
	-----					
ETA 1	-	-				
ETA 2	-	-				
ETA 3	-	-				
ETA 4	-	-				
ETA 5	-	-				
ETA 6	-	-				
ETA 7	-	-				
PSI						
	ETA 1	ETA 2	ETA 3	ETA 4	ETA 5	ETA 6
	-----	-----	-----	-----	-----	-----
ETA 1	0.66 (0.12) 5.62					
ETA 2	- -	0.58 (0.13) 4.53				
ETA 3	- -	- -	0.97 (0.11) 9.15			
ETA 4	- -	- -	- -	0.95 (0.08) 12.47		
ETA 5	- -	- -	- -	0.27 (0.07) 4.04	0.98 (0.08) 12.97	
ETA 6	- -	- -	- -	0.30 (0.07) 4.10	- -	0.95 (0.08) 12.47
ETA 7	- -	- -	- -	0.27 (0.07) 3.70	0.11 (0.07) 1.60	0.36 (0.07) 5.16
PSI						
	ETA 7					
	-----					
ETA 7	0.98 (0.08) 12.97					

## MICHELLE K. BLOCKLIN VITA

### EDUCATION

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2011	Ph.D., Human Development and Family Studies, The Pennsylvania State University
2008	M.S., Human Development and Family Studies, The Pennsylvania State University
2002	B.A., Psychology-Sociology Major, French and Dance Minors, Skidmore College

### SELECTED RESEARCH EXPERIENCE

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2007-2011	Research Assistant, Work, Family, & Health Network
2006-2007	Research Assistant, Family Relationships Project
2003-2006	Research Analyst, Abt Associates, Inc.

### SELECTED TEACHING EXPERIENCE

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2009-2010	Guest Lecturer, The Pennsylvania State University
2006-2008	Teaching Assistant, The Pennsylvania State University
2002-2004	TEFL Teacher, Boston Academy of English, Pine Manor College, Trinity School

### PUBLICATIONS

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- Blocklin, M.K., Crouter, A.C., Updegraff, K., & McHale, S.M. (2011). Sources of parental knowledge in Mexican American families. *Family Relations*, 60, 30-44.
- Blocklin, M.K., Crouter, A.C., & McHale, S.M. (In Press). Youth supervision while mothers work: A daily diary study of maternal worry. *Community, Work, & Family*.
- McHale, S., Blocklin, M., Walter, K., Davis, K., Almeida, D., & Klein, L. (Under Review). Time spent in daily activities and stress physiology in adolescence. *Journal of Adolescent Health*.
- Greene, K., & Blocklin, M. (In Preparation). Father characteristics and youth self-care in low-income families. *Journal of Family Issues*.
- Blocklin, M., Davis, K., Kelly, E., & King, R. (In Preparation). Antecedents and correlates of delaying marriage and childbearing due to work. *Journal of Marriage and Family*.
- McHale, S., Blocklin, M., & Davis, K. (In Preparation). Does parental stress mediate the links between work experiences and parent-child relationships and youth adjustment?

### SELECTED PRESENTATIONS

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- Blocklin, M.K., McHale, S., Davis, K., Walter, K., Almeida, D., & Klein, L. (2011). Time spent in daily activities and stress physiology in adolescence. Poster presented at The International Perspectives on Time Use Conference, University of Maryland. June 2011.
- Blocklin, M.K., & Crouter, A.C. (2011). The role of workplace culture in parent-adolescent relationships and adolescent outcomes. Poster presented at annual meeting of the Society for Prevention Research, Washington, DC. June 2011.
- Blocklin, M., Greene, K., & Hynes, K. (2010). Maternal employment, social capital, and self-care in low-income families. Paper presented at the annual meeting of the National Council on Family Relations, Minneapolis, MN. November 2010.
- Blocklin, M. K., & Crouter, A. C. (2010). Youth time alone: Youth, family, and work correlates of change over time. Poster presented at the biennial meeting of the Society for Research on Adolescence, Philadelphia, PA. March 2010.
- Blocklin, M., McHale, S. M., & Crouter, A. C. (2009). What youth do while their mothers work: Maternal worry. Poster presented at the biennial meeting of the Society for Research on Child Development, Denver, CO. April 2009.
- Blocklin, M., Crouter, A.C., & Updegraff, K. (2008). Parental knowledge processes in Mexican American families. Poster presented at the biennial meeting of the Society for Research on Adolescence, Chicago, IL. March 2008.

### SELECTED AWARDS

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2008	Karl Freeman Peterson Graduate Fellowship
2006	Graham Fellowship