

Adolescents with Developmental Disabilities and their Parents: A Systems Theory Approach to Functioning and Well-being

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Counseling Psychology

ADOLESCENTS WITH DEVELOPMENTAL DISABILITIES AND THEIR
PARENTS: A SYSTEMS THEORY APPROACH TO FUNCTIONING AND
WELL-BEING

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by

SARAH ASH

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Adolescents with Developmental Disabilities and their Parents: A Systems Theory Approach to Functioning and Well-being

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This dissertation involved secondary analysis of data from the Early Intervention Collaborative Study (EICS), a longitudinal study of children with developmental disabilities (DD) and their families (Hauser-Cram, Warfield, Shonkoff, & Krauss, 2001). The sample for this dissertation was comprised of 133 adolescents with DD and their parents. When the target adolescent was ages 15 and 18, mothers and fathers completed measures assessing their own functioning and that of their child, as well as aspects of the home and family environment. Regression analyses were utilized to examine factors that relate to and predict functioning and well-being of adolescents with DD and that of their parents.

The following research questions were addressed: (1) What parental and child factors are related to the well-being of parents of adolescents with DD? (2) How is partner satisfaction related to the parent-child relationship and family cohesion for parents of adolescents with DD? (3) How are work characteristics related to parental satisfaction with the parent-child relationship and with parental well-being? (4) What factors predict and relate to adolescent autonomy in teens with DD?

Results indicated that parenting efficacy predicted parental well-being and various types of parenting stress above and beyond adolescent behavior problems. Counter to hypotheses, parent social support and adolescent autonomy did not relate to parental well-being. Additionally, the total number of adolescent behavior problems was related to greater well-being among mothers but not fathers, though externalizing behavior

problems in particular related to greater total parenting stress for fathers only. Dyadic adjustment was only related to greater satisfaction with family cohesion for fathers, as was difficulty of care. For both mothers and fathers, work flexibility and job satisfaction contributed to greater parental well-being above and beyond satisfaction with the parent-child relationship. Finally, social acceptance predicted later adolescent autonomy, and adolescent self-efficacy related to autonomy above and beyond previous social acceptance. Collectively, the findings demonstrated the influence of adolescent functioning in relation to parents' well-being, the importance of parenting efficacy for parents and peer support and self-efficacy for adolescents with disabilities, and the potential benefits of employment for this parenting group. Implications and areas for future study are discussed.

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Chapter 1: Problem Statement

In comparison to the medical and behavioral models that dominated early developmental psychology research, more recently, developmental scientists have shifted their focus in an effort to highlight the complex and interrelated ecological factors that relate to children and adolescent development (Hauser-Cram, Cannarella, Tillinger, & Woodman, 2013). These levels include the parental, school, family, community, cultural and contextual factors that impact the ways that children develop. These factors reciprocally shape one another, such that development of the individual is related to changes in aspects of the environment and the environment is equally in flux as a result of the individual (Bronfenbrenner & Morris, 2006; Sameroff, 2000).

Of the many systems with which adolescents interact, the family system is arguably one of the most influential. Aside from school, youth spend significant time at home and are heavily shaped by their interactions with parents, making parent-child interactions an integral piece of youth's development (Bornstein, Jager, & Steinberg, 2012). According to Family Systems Theory (e.g., Minuchin, 1985), the development of parents and adolescents are interrelated in the sense that the development and well-being of parents cannot be understood outside of the functioning of their child, and vice versa. These family relationships can be more critically examined using the lens of the Relational Health Model (Liang, Tracy, Taylor, & Williams, 2002a), which posits that relationships are central to well-being based on our innate need to connect with others (Miller & Stiver, 1991). Based on this understanding, the relationship between parents and their adolescents will be highlighted in this dissertation.

Although systems theories have revolutionized developmental psychology research by appreciating the importance of individuals within their given context, the study of these processes and related constructs for children with developmental disabilities (DD) and their families is a more recent endeavor (Dempsey, Keen, Pennell, O'Reilly, & Neilands, 2009; Hauser-Cram et al., 2013; Matthews, Booth, Taylor, & Martin, 2011). In the case of adolescents with DD in particular, there is a dearth of research on the relationships between parents and their children during adolescence (Hauser-Cram, Krauss, & Kersh, 2004). Instead, the majority of literature to date has focused predominantly on the socio-emotional well-being of parents of children with DD, and to a lesser extent, the functioning of the child him or herself. There is still a significant gap in research that examines the reciprocal, contextual nature of developmental changes between parents and adolescents.

As a result of these limitations of the extant literature, the purpose of this dissertation was to explore the functioning of adolescents with DD and that of their parents, as well as the ways in which the functioning of one is related to that of the other. Until more is known about this transactional process between parents and adolescents, the field is lacking a comprehensive picture of the important developmental phase of adolescence within the DD community. Subsequently, the present study built upon existing literature by exploring adolescent and parental factors related to parents' well-being, as well as adolescent, peer, and parent factors that relate to the well-being of adolescents with DD. Specifically, adolescent autonomy and problem behaviors were examined in relation to the functioning of adolescents as well as that of their parents. Further, parental protective factors, such as social support and support from partners,

were considered in the context of parental well-being and satisfaction within their family unit. Additionally, the largely understudied role of employment for parents of adolescents with DD was highlighted using Blustein's Psychology of Work Model (2006) as well as his Relational Theory of Work (2011). Collectively, findings indicated that there is a relationship between certain parental components of well-being or functioning and those of their adolescent, which in turn informs interventions that more accurately target the needs of adolescents with DD and their parents.

Chapter Two: Literature Review

Theoretical Overview

The present study focused on families of adolescents with DD. As a result, although the following theoretical frameworks largely draw upon literature related to typically developing families, an integration of research on families with an adolescent with DD was incorporated where possible. This section will provide an overview of the relevant theoretical perspectives that served as the conceptual foundation of this dissertation. The central framework of the present study is a family systems approach (Minuchin, 1985), the basic tenets of which will be outlined in the following section. Next, an overview of the Relational-Cultural Model and the subsequent development of the construct of relational health will be discussed (Liang et al., 2002a), which will highlight the importance of relationships of those within the family system. Together, these theories and concepts were incorporated throughout the research model of the present study.

Family systems theory. One of the fundamental tenets of family systems theory is the notion that all members of the family unit are interdependent (Bowen, 1966; Minuchin, 1985). In this vein, family systems theory asserts that without consideration of an individual's context, interpretations of development and functioning are inherently faulty. As a result of the reciprocal and iterative nature of these family relationships, an adolescent cannot accurately be understood in isolation of his or her parents or caregivers, nor can the caregivers' development and well-being be understood outside of the functioning of their child (Cox & Paley, 2003; Lerner & Callina, 2014). In other words, children and their parents are consistently transacting and informing the development of

one another over time (Bowen, 1966; Rutter & Sroufe, 2000). Although the many contexts and systems involved in a person's development are far-reaching and in many cases inter-related, the family system is recognized as one of the most pivotal in relation to adolescent development (Laursen & Collins, 2009) and served as the foundation of the present study.

Given the ebb and flow of development across the lifespan, family systems theory places emphasis on the ways in which the family system maintains or disrupts homeostasis over time. Specifically, Minuchin (1985) purports that this balance is achieved in families by engaging in adaptive self-stabilization within the system as a means of maintaining stability under conditions of change. This is necessary because of the circular dynamic between the behaviors of one family member, which are in turn inevitably related to those of another family member (Bowen, 1966; Lerner, 1991). As a result, families aim to adapt to the developmental growth of their children and the changes that take place within the family system (Britner, Morog, Pianta, & Marvin, 2003).

These changes in behavior of family members do not occur randomly, but rather the family system is seen as functioning in particular patterns and operating according to certain principles, such as self-stabilization (Minuchin, 1985). Therefore, changes in one family member co-occur with or precipitate changes in another member of the family and place stress on the equilibrium of the family structure. Such shifts may be internal and physiological, such as those related to the organic processes of development and maturation, or external in nature, such as shifts resulting from environmental influences like challenging workplace demands on parents (Minuchin, 1985). Although change

within the family system is inevitable given individual transformations that occur within each family member through the course of natural development (Bronfenbrenner & Morris, 2006), an ongoing reorganization of family patterns helps maintain the family equilibrium over time. For example, Bowen (1966) describes a family process referred to as “overfunction-dysfunction”, whereby one or more family members attempt to function at higher and higher levels to compensate when one family member is impaired or functioning sub-optimally (p. 352).

These patterns that maintain homeostasis become particularly threatened during adolescence because of this developmental period’s proclivity to elicit great change within the child, as well as within the parents and other family members (Cicchetti & Rogosch, 2002; Steinberg & Silverberg, 1986). During this developmental stage, adolescents have seemingly opposing interests in remaining connected to their family while also being given more freedom and independence (Laursen & Collins, 2009). The tension caused by these divergent needs precipitates significant renegotiation of boundaries, which may in turn give rise to conflict when parents and adolescents disagree with these newly determined expectations (Silverberg & Steinberg, 1990).

For parents of adolescents with DD, this period is rife with special challenges that are less frequently endorsed by parents of typically developing teens. One of the most powerful difficulties parents encounter during this time is the elevated level of behavior problems exhibited by adolescents with DD (Feldman, Hancock, Rielly, Minnes, & Cairns, 2000), which have been noted across disability diagnostic categories (Blacher & McIntyre, 2006). In fact, research demonstrates that youth with DD are between 3 and 4 times more likely to present with behavior problems than are their typically developing

peers (Baker, Blacher, Crnic, & Edelbrock, 2002). These behaviors are not limited in scope, but rather present as both internalizing and externalizing problems (Baker, Blacher, & Olsson, 2005; De Ruiter, Dekker, Verhulst, & Koot, 2007; Green, O'Reilly, Itchon, & Sigafos, 2005). In addition to behavior problems among this population, the reduced level of autonomy exhibited by many adolescents with DD is considered a primary stressor for parents of adolescents with DD (Baine, McDonald, Wilgosh, & Mellon, 1993). This stunted self-sufficiency not only necessitates ongoing and intensive caregiving tasks that would normally be undertaken by typically developing adolescents (Laursen & Collins, 2009), but also requires parents to consider the potential long-term dependency and trajectories of their children. These immediate and future needs may contribute to the greater levels of stress and difficulty of care so frequently endorsed by parents of adolescents with DD (Hauser-Cram et al., 2004).

Within the family systems framework, it stands to reason that the range of behavior problems of adolescents with DD as well as their potentially impaired autonomous development contribute to the greater difficulty of care (Erickson & Upshur, 1989) and higher levels of stress (Hastings, 2003) frequently reported by their parents of children with DD. In fact, researchers of different studies found that the greater perceived difficulty of care and parenting stress endorsed by these parents were more significantly related to their child's behavior problems than they were to their child's actual cognitive delays or impairments (Baker et al., 2002; Hauser-Cram, Warfield, Shonkoff, & Krauss, 2001). Of the sparse research that has examined the direct relationship between child attributes more broadly and parenting stress, findings indicate that child traits are more significantly related to mothers' stress than they are to fathers' (Ponnet et al., 2013;

Stoneman, Brody, & Burke, 1989). Evidently, continued exploration of potential gender differences in relation to parenting stress is warranted.

The adolescent period is even further complicated for most families based on the life cycle challenges that parents experience outside of those related to parenting their adolescent. For example, many parents have elderly parents for whom they are caring, earning them the name of the “sandwich generation”, as they simultaneously care for both their children and their aging parents (Steinberg & Silk, 2002). At the same time, parents are coming to terms with their own aging and mortality as their children are at the height of their physical development and attractiveness (Steinberg & Steinberg, 1994), causing a stark dichotomy between relevant adolescent and parent developmental tasks. The adolescent time period is a crucial area of study because of the many changes occurring for both adolescents and their parents during this time. This has been a notably understudied area, however, for families in which an adolescent has a disability (Hauser-Cram et al., 2004; MacDonald & Callery, 2008).

In addition to the larger family unit recognized by family systems, the smaller subsystems that exist within this larger structure are also emphasized within this perspective (Bowen, 1966). For example, it is insufficient to consider an adolescent’s parents as a single unit interacting with other family members. Instead, family systems theory emphasizes the unique structure of the mother-child and father-child relationships (Britner et al., 2003). One reason frequently cited in support of this important parent distinction is based on the gender roles and expectations that often play out in families. For example, mothers typically take on the majority of caregiving responsibilities compared to fathers, despite paternal increases in involvement in recent years (Perry,

Harris, & Minnes, 2004). Possibly as a result, mothers report higher levels of parenting stress than do fathers (Britner et al., 2003) and are more likely to report stress related to the parent-child relationship, whereas fathers more frequently attribute their distress to marital discord (Ponnet et al., 2013). Additionally, the child gender comes in to play in that parents are shown to have different interactions with their same-sex or opposite-sex child. This difference is attributed to a pattern that frequently develops wherein parents become more active in shaping their same-sex child during adolescence, creating a very different dynamic for the adolescent with their same-sex and opposite-sex parent in families comprising parents of different genders (Laursen & Collins, 2009). Collectively these findings point to the varied parenting tasks undertaken by mothers and fathers and their unique vulnerabilities, further highlighting the need to consider the role of both parent and child gender.

Relational health. Within the family system and beyond, relationships are an important component of psychological health (Miller, 1976). Traditional perspectives of psychological health proposed that well-being stems from separation and individuation (Steinberg, 2001). Prior to the 1970's, this model of autonomy was central to adolescent development scholarship, when researchers highlighted the need for teens to distance themselves from their parents in order to become autonomous (McElhaney, Allen, Stephenson, & Hare, 2009). In doing so, adolescents were thought to shed their earlier, more infantile representations of their parents, making room for more mature relationships and interactions to come. It was believed that adolescents would only become autonomous if they were forced to meet their needs independently and develop their own identity, both of which were seen as less feasible with close relationships with

family members (Beyers, Goossens, Vansant, & Moors, 2003). In this sense, therefore, autonomy and family connectedness were seen as mutually exclusive during this time.

This line of thinking has since been supplanted, however, by models of adolescent development that assume the importance of both autonomy and connectedness. It is now believed, for instance, that nurturing autonomy coupled with parental involvement and connection are most beneficial in developing feelings of competence in children (Connell & Wellborn, 1991). This movement away from separation-individuation was then further informed by more recently developed feminist theories (Chodorow, 1990; Mackenzie & Stoljar, 2000b). Previously held beliefs assumed masculine qualities, such as independence, were the ideal of health and well-being. This paradigm was called into question by various contributors from the feminist movement, which commended women's relational abilities that had been so undervalued in traditional frameworks of psychological well-being by assuming these traits were incompatible with autonomy and strength (e.g., Brown & Brodsky, 1992; Gilligan, 1982). Notably, this theoretical understanding highlighted the importance of meaningful relationships and connection as features inherent in understanding the well-being of men and women alike (Liang, Tracy, Kenny, Brogan, & Gatha, 2010). Feminist theories further distance themselves from traditional theories of development by acknowledging that autonomy does not occur through separation, but rather through interdependence and the support of family members and peers (Blustein, Waldbridge, Friedlander, & Palladino, 1991; Jordan, 2001).

One particular derivative of feminist theory was especially integral to merging these feminist beliefs into the world of counseling. The Relational-Cultural Model, developed by researchers at Wellesley College's Stone Center (Miller & Stiver, 1991),

brought to the forefront of the field the importance of relationships as they relate to individual functioning and well-being. Specifically, Relational-Cultural Model theorists identify four critical areas of “growth fostering relationships”: mutual engagement, authenticity, empowerment, and the ability to deal with conflict (Liang, Tracy, Taylor, Williams, Jordan, Miller, 2002b). The Relational-Cultural Model continues by explaining that pain and suffering occur as a result of a lack of meaningful relationships or relational disconnect within existing relationships, whereas healing occurs when these important relationships are present and intact (Jordan, 2001). Based on these theoretical underpinnings, Liang and colleagues coined the term relational health, a construct that is based on one’s sense of connection with others and engagement in relationships that are considered growth-fostering based on the four criteria outlined by the Relational-Cultural Model (Liang et al., 2002b). Although the skills or behaviors required to develop significant relationships have been extensively identified in the literature (Liang et al., 2010), relational health as a measurable construct is unique in that it assesses the experience of connectedness one reports in his or her relationships (Liang, Tracy, Kenny, & Brogan, 2008).

Since the development of this concept, a small number of studies have assessed the relational health of youth and adults, largely within the context of mentorship relationships (Liang, Tracy, Kauh, Taylor, & Williams, 2006; Liang et al., 2008; Liang et al., 2002a). In each of these studies, researchers found a multitude of benefits associated with relationally-centered mentoring. To date, however, the relational health of adolescents with DD and their parents have not been examined. This is a critical area to further explore because of the unique caregiving tasks required of parents of adolescents

with DD that may alter the relational patterns within these families. As a result of these dynamics, the relational health of the adolescent and parents may potentially be compromised or enhanced compared to that of typically developing teens and their parents. For example, it may be that adolescents with DD experience greater relational health within the parent-child relationship because they feel deeply supported by their parents based on the intensive assistance they receive to meet their caregiving needs. Similarly, parents may feel a sense of purpose or growth stemming from this caretaking role (Hastings, Beck, & Hill, 2005) that enables them to feel relationally connected to their child. Alternatively, adolescents with DD and their parents may feel relationally stifled because of the adolescent's dependence on his or her parents and the difficulty of care often reported by parents (Erickson & Upshur, 1989). Although the present study did not incorporate a direct measure of relational health, the research model focused on constructs that relate to the relational well-being of adolescents with developmental disabilities and their caregivers. To that end, the contributing factors of parental well-being will be outlined in the following sections, followed by an analysis of adolescent functioning and its reciprocal relationship with parental well-being outcomes.

Parental Well-being

For caregivers and adolescents alike, the adolescent years are conceptualized as a developmental stage that ushers in great changes within a family. As a result, the expectations and roles of the adolescent and caregiver are in flux, as boundaries and responsibilities are altered based on developmental changes (Laursen & Collins, 2009). Although it is frequently acknowledged that these transitions can prove difficult for the

adolescent, the enormous shifts and struggles for parents are critical to understand and are often overlooked (Steinberg & Silk, 2002).

Acquiring more extensive knowledge about the well-being of parents of adolescents is a valuable endeavor from a psychological perspective in and of itself (Hauser-Cram et al., 2013; Steinberg & Silk, 2002). First and foremost, their overall level of functioning as people outside of their roles as parents is intrinsically important. Parents' relational health in particular is especially noteworthy and central to the present study, given the demonstrated benefits of relational connectedness (Liang et al., 2006; Liang et al., 2008; Liang et al., 2002a). With a deeper understanding of the contributing factors of parental well-being, interventions can provide more informed assistance to parents to aid them during this often challenging period of transition within their family.

Support of parental well-being may be especially pertinent for parents of adolescents in particular. This developmental period is unique in that parental and adolescent roles are changing as old expectations give way for new responsibilities and burgeoning autonomy in typically developing teens (Cicchetti & Rogosch, 2002). As a result of these shifts, the parent-child relationship and the role of the parent is altered (McElhaney et al., 2009). During this time of re-negotiation of new boundaries within the family, increased familial conflict is normative (Silverberg & Steinberg, 1990). Collins (1990) notes that arguments likely stem from a lack of consensus between parents and adolescents in regards to these revised expectations.

Beyond the need to support parents and children as these adolescent changes take place, because of the significant role of parents from a family systems perspective (Bowen, 1966; Minuchin, 1985), their psychological well-being carries an added layer of

importance. As a result of the multidirectional nature of functioning within the family system, the well-being of parents is often related to that of adolescents and vice versa (Lerner, 1991; Shonkoff & Phillips, 2000). Therefore, by understanding the contributing factors to parental well-being, we may better understand how to support parents and in turn benefit their children. Further, children spend much of their prime developmental years in the home, where they are nurtured and taught the building blocks for the remainder of their life (Bronfenbrenner & Morris, 2006). It follows suit, therefore, that despite the iterative nature of well-being between parents and adolescents, parents dictate the emotional climate of the family as the primary caregivers during childhood and adolescent development (Kersh, Hedvat, Hauser-Cram, & Warfield, 2006).

Literature to date has examined a variety of outcomes representative of parental psychosocial functioning (Lerner, Rothbaum, Boulos, & Castellino, 2002; Silverberg & Steinberg, 1990). For parents of children and adolescents with developmental disabilities, however, the findings are more restricted. Although parents of adolescents with DD report having largely positive interactions with their children during this time (Hauser-Cram et al., 2013), the natural developmental changes associated with adolescence create some universal parenting challenges throughout this life phase, as well as some unique aspects of parenting an adolescent with a DD.

Specifically, most of the research on parents of children with disabilities focuses on the elevated levels of stress and lower levels of well-being that are experienced by these parents all too frequently (Hedov, Annerén, & Wikblad, 2002; Scott, Atkinson, Minton, & Bowman, 1997). For example, parents of children with DD report greater financial strain related to secondary medical concerns their children encounter (Parish,

Seltzer, Greenberg, & Floyd, 2004). Indeed, parenting stress is found to be higher for parents of children with a wide range of disabilities (Spratt, Saylor, & Macias, 2007) and reportedly either remains constant over time (Baker et al., 2003) or in some cases intensifies as the child ages (Hauser-Cram et al., 2001). More recently, Woodman and colleagues (2014) found that adolescent behavior problems and parenting stress were found to have bidirectional effects, such that parenting stress predicted their child's behavior problems and vice versa depending on the developmental stage (Woodman, Mawdsley, Hauser-Cram, 2014). During adolescence in particular, the authors determined that parenting stress predicted later adolescent behavior problems. These findings speak to the many stressors experienced by parents of adolescents with DD. Like several of these studies, the current study considered parental levels of stress as a partial proxy for parental well-being, with lower levels of parenting stress indicating greater parental well-being.

As a result of the unique parenting challenges and stressors that exist for these parents compared to those raising typically developing children, the present study aimed to better understand additional factors that contribute to or stunt the well-being of parents of adolescents with developmental disabilities. First the role of parent and adolescent gender in relation to well-being will be discussed, followed by other features of parents and adolescents that were examined in the present study in terms of their relation to parental well-being.

The role of parent and child gender. Several hypotheses have been developed to explain similarities and differences between mothers and fathers' psychological health. Initially, traditional beliefs expressed that gender differences were attributed to biological

differences between men and women. For example, a long held belief espoused that women were more biologically inclined to experience stress than men (Deater-Deckard & Scarr, 1996). More recently, however, the predominant hypotheses in the field have moved away from a biologically-based understanding of gender differences in well-being and instead emphasize the role of societally-informed gender role expectations. In line with this theoretical approach, the social role hypothesis notes that men and women are subjected to different experiences that inform their psychological functioning (Eagly & Wood, 2012). For example, it is because mothers often take on the majority of caregiving responsibilities, not because of an innate predisposition, that they are shown to be more susceptible to stress related to the parenting role (Simon, 1992). This framework holds important meaning for understanding the similarities and differences between men and women in relation to their well-being and their roles both within and outside the context of their family system.

Further, as family system theory purports, the family consists of smaller subsystems outside of the larger family unit that are also of importance (Bowen, 1966; Brown, 1999; Minuchin, 1985). Although parents may experience certain aspects of parenting and well-being similarly, each parent's dyadic relationship with his or her adolescent as well as each parent's own unique well-being is an area requiring ongoing research (Silverberg & Steinberg, 1990). Notably, most of the research to date has explored the mother-child relationship, with a dearth of knowledge investigating father-child dynamics (Hauser-Cram et al., 2013; Lamb & Lewis, 2004). This is due in part to the fact that mothers traditionally assumed the majority of responsibility surrounding daily caregiving tasks (Feldman, Varghese, Ramsay, & Rajska, 2002). In recent decades,

however, fathers have taken on more involved roles as parents (Marsiglio, Amato, Day, & Lamb, 2000). Still, scant literature on fathers of children and adolescents with DD exists and future research will benefit the field by exploring the role of fathers in the home to better understand their psychological functioning. This was one of the many goals of the present study.

Parental gender can play a powerful role in parental well-being, but the gender of the child can also contribute to well-being. Specifically, according to the gender intensification model, the interaction of the parents' and children's gender plays an important role in their relationship, such that parents' relationships with their same-sex child may look different from that with their opposite-sex child (Hill & Lynch, 1983). These gender-based distinctions intensify during adolescence when parents may assume more responsibility for socializing their same-sex child. This model asserts that as a result of the parental role of shaping their same-sex child, conflict between the same-sex child and parent is more likely than with the opposite-sex parent (Laursen & Collins, 2009). Of note, this model is limited by traditional assumptions of parent gender, focusing solely on heterosexual couples and their interactions with their child. With consideration of this caveat, because of the detrimental parental and adolescent mental health outcomes associated with parent-child conflict (Keresteš, Brković, & Jagodić, 2012), these dynamics and potential gender differences will be important to bear in mind in the present study.

Features of parental well-being. Building upon the existing literature, the present study examined several specific features related to parental-well being and explore the role of parent and child gender when relevant. In each case, the literature will

first be discussed more broadly, in terms of the findings for parents of typically developing youth, followed by a review of the research related to parents of youth with DD. The four foci of this particular study will be described in turn: parental social support, partner support, parental employment, and parenting efficacy.

Parental social support. The role of parental support is one of the most integral factors contributing to parental well-being and has gained attention by researchers and clinicians alike (Mitchell & Trickett, 1980). Cobb (1976) defines social support as experiences that allow an individual to feel “that he is cared for and loved, esteemed and valued, and belongs to a network of communication and mutual obligation” (pp. 300). These feelings of support can be elicited by pragmatic and instrumental assistance, as well as by emotional encouragement (Dunst, Trivette, & Cross, 1986). Indeed, social support can take on many forms and is shown to be instrumental to parental well-being in a number of ways. For example, parents who report greater social supports are also better able to navigate major family-related crises (McCubbin, Olson, & Patterson, 1983) and endorse greater overall personal and familial well-being (Dunst et al., 1986). Because the experience of feeling connected and supported is crucial to well-being from a relational health framework (Jordan, 2001), it stands to reason that experiencing support would be powerful for those in the caregiving role.

Although social support is unanimously understood as a protective factor, several theories encompass a more complex understanding of why social support is so beneficial. One such model is the buffering model, which asserts that social support serves as a buffer most notably for those experiencing stress (Cohen & Wills, 1985). The authors assert that when individuals are unable to cope using their own internal resources, social

supports serve as an outlet or an external means of coping. Specifically, social supports may be useful in preventing a stressful response before it takes place, or by providing emotional or instrumental support to navigate an event that has already triggered a stress response in the individual. Alternatively, Cohen and Willis (1985) describe the main effects model, which purports that social support is beneficial even for those who are not experiencing stress. Much like the construct of relational health and its related theories (Liang et al., 2002b), the main effects model explains that humans yearn for a sense of connectedness and belonging that social support provides. In relation to parents, therefore, this model would posit that social support is beneficial for all parents, regardless of the ability status of their child or the amount of stress they encounter.

That being said, other studies indicate that relational connection derived from informal social support may be especially beneficial for parents of adolescents with DD. This is due in part to that fact that findings demonstrate that these parents are at greater risk for feeling more socially isolated than parents raising typically developing children (Seltzer, Greenberg, Flloyd, Pettee, & Hong, 2001) and have fewer social opportunities because of the unique and often time consuming caregiving tasks related to their child (Skok, Harvey & Reddinhough, 2006). Although these parents report having smaller support networks (Kazak & Wilcox, 1984), their level of satisfaction with their support network as opposed to its numerical size is most strongly related to how well their support network buffers stress (Crnic & Stormshak, 1997; Feldman et al., 2002). Additionally, for parents of adolescents with DD, these informal social supports are more often utilized than formal supports (Gallagher, Beckman, & Cross, 1983), making them of paramount importance. Collectively, these findings indicate that both the pragmatic

and emotional assistance provided by social support have great potential for improving the relational health and well-being of parents of adolescents with DD.

The significance of social supports for parents of children with DD is reified by recent research, which notes that the positive correlates of social support for parents of children with DD are many. For parents of children with autism, social support serves as a buffer against stressors associated with their parenting role (Bromley, Hare, Davison, & Emerson, 2004; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001). Further, beyond its known relationship with ameliorating stress, for parents of children with DD social support has also been linked to greater marital satisfaction and overall life satisfaction, as well as gratification within the parenting role (Hauser-Cram & Howell, 2003).

Additionally, social support is associated with fewer family problems for parents raising children with autism (Hastings & Johnson, 2001). Not surprisingly, because of the far-reaching effects of adequate social support, parents of children with DD who feel socially supported experience reduced depressive symptoms (Benson & Karlof, 2009; Glidden, Billings, & Jobe, 2006).

In recent decades, the benefits of social support for parents of children with DD have become a more frequently explored topic in the literature, with some studies focusing on possible similarities and differences between mothers and fathers within this construct. Of the studies that have further probed these questions, some gender differences have arisen in relation to the forms of support that parents find most useful. Some findings indicate, for example, that compared to fathers, mothers of children with DD are found to reap more benefits from social support networks (e.g., Hadadian, 1994). In one study, the stress of mothers with children with DD was also more strongly affected

by their social support networks, whereas fathers' stress was more heavily predicted by the family climate, such as the child's temperament and parent-child relationship (Krauss, 1993). Other research, however, notes that social support was related to greater parenting efficacy for mothers of children with DD but not for fathers (Kersh et al., 2006). For parents of adolescents with DD, one study reported similar findings, noting that informal sources of support were significantly related to well-being (White & Hastings, 2004). It is important to note, however, that the vast majority of respondents in that sample were mothers ($n = 29$) compared to fathers ($n = 2$). Because the majority of research has focused on parents of younger children with DD and has emphasized the experience of mothers, more research is needed to understand the role of social support for mothers and fathers of adolescents with DD. Although findings vary in relation to the role of social support in the lives of mothers and fathers, these studies demonstrate that social support is beneficial for mothers and fathers, albeit in different ways.

Not only is social support linked with positive parental functioning, but it is also a factor that lends itself to interventions, meaning that social supports are a feasible protective factor to build upon as a means of buffering the stressors experienced by many parents (Dunst, Trivette, & Jodry, 1997). Because of this, the present study aimed to examine whether social support was related to greater well-being of both mothers and fathers of adolescents with DD in particular.

Partner support. In addition to the support that parents receive from those in their larger social network, the backing and encouragement garnered from their partner serves as another potential element that contributes to parental well-being, regardless of child age or other family features (Belsky, 1984). This relationship is of particular importance

given our knowledge that the spousal or partner relationship is one of the most central ones within the family unit (Cuskelly, Hauser-Cram, & van Riper, 2009). As such, those who are co-parenting can provide support for one another emotionally and instrumentally, creating a stronger parenting presence when these parental expectations are sufficiently aligned (Grych, 2002).

Although there are a number of features of marital relationships in the existing literature, the present study focused more specifically on partner satisfaction as it related to dyadic adjustment, or the extent to which parenting responsibilities are shared and distributed between caregivers (McHale, 1995). Although the sample of the present study did not consist solely of caregivers who are married or biological parents of their children, the words caregiver, partner, and parent will be used interchangeably in this dissertation based on their shared roles as parents or parent-like figures for the adolescents in this study.

To date, there are several socioemotional outcomes that are continually linked to partner satisfaction. For example, an inverse relationship exists between stress, depression, and partner satisfaction, such that higher levels of stress and depression are associated with lower levels of partner satisfaction (Norlin & Broberg, 2013; Stoneman & Gavidia-Payne, 2006). Beyond parent factors, a number of child determinants are related to the satisfaction experienced between caregivers as well. Specifically, higher behavior problems and lower levels of child well-being are associated with reduced partner satisfaction (Stoneman & Gavidia-Payne, 2006). Partner satisfaction is also affected by the age of the child in question. In relation to the present sample, for example, adolescence is shown to be a particularly taxing time for parents and a period during

which partner satisfaction is at an all-time low (Keresteš et al., 2012). Some researchers speculate that a combination of difficulties related to changes in adolescent behavior coupled with mid-life changes for the caregivers simultaneously contribute to reported levels of partner satisfaction (Keresteš et al., 2012). That is to say, changes occurring within both the adolescent and the caregiver are associated with changes in partner satisfaction during this time.

Far less, however, is known about the role of the partner alliance, or “co-parenting” dyadic adjustment in relation to partner satisfaction. Beyond the romantic qualities of the partner relationship, Minuchin’s theory of family structure (1974) contends that the partner alliance also encapsulates the ways in which the dyad distributes responsibilities and how they support or undermine each other in their caregiving roles. With the many responsibilities inherent in caregiving, it is fitting that adequate cooperation between caregivers is associated with benefits for caregivers and children alike (Floyd & Zmich, 1991). While partner conflict is associated with negative outcomes for the dyad as well as the children involved (McHale, 1995), parental agreement and support positively impact the family system. In one study, a strong caregiver alliance was shown to mediate the relationship between marital quality and parenting experiences (Floyd, Gilliom, & Costigan, 1998). Indeed, the shared caregiving responsibility is influential for parents as they navigate the demands of parenting together.

Notably, caregiving satisfaction and dyadic adjustment are not only associated with caregiver outcomes, but also with the well-being of children. According to the “affective spillover hypothesis”, the affective experience of one context is likely to transfer to others (Minuchin, 1974). Therefore, when applied to parenting, this hypothesis

posits that the experiences between the caregiver dyad carry over to the parent-child relationship. In other words, the satisfaction or lack thereof in the parenting partnership in turn shapes subsequent interactions between parents and their children. As a result, it is believed that caregivers who are more fulfilled and supported in their relationship with their partner are better attuned to the needs of their child (Grych, 2002). One study, for example, found that co-parenting support predicted an increase in maternal warmth (Bonds & Gondoli, 2007), which is shown to positively impact child functioning and well-being (Smith, Greenberg, Seltzer, & Hong, 2008). Collectively, this research demonstrates the power of partner satisfaction and dyadic adjustment for the entire family system.

For parents of adolescents with DD, the role of caregiver agreement and support is thought to be even more essential due to the unique caregiving challenges they encounter (Norlin & Broberg, 2013). To date, the findings related to partner satisfaction for caregivers of children with DD are mixed. Historically, studies assumed that caregivers of children with DD experienced poorer marital satisfaction because of the additional caregiving stressors they encountered, which were presented solely as burdensome in nature (Risdal & Singer, 2004). Even though more recent studies do emphasize the positive impact of parenting in the disability community, some more recent research does note lower levels of marital satisfaction for parents of children with DD (Bristol, Gallagher, & Schopler, 1988; Floyd et al., 1998; Kersh et al., 2006). On the other hand, additional studies report no difference in marital functioning of parents of children with DD compared to parents raising typically developing children (Holmbeck et al., 1997; van Riper, Ryff, & Pridham, 1992). Some researchers even cite higher

partner satisfaction among parents of children with DD (Stoneman & Gavidia-Payne, 2006), which they speculate may in part be attributed to effective coping styles utilized by these families when faced with unique familial challenges. These findings are consistent with studies that demonstrate the resilience some families experience when they give birth to a child with DD by effectively altering their coping strategies to fit the new needs of their family (Costigan, Floyd, Harter, & McClintock, 1997).

Although these studies point to greater parenting satisfaction among some parents of children with DD, research underscores possible factors that contribute to gender differences in marital satisfaction of mothers and fathers. For example, one possible explanation attributed to varying levels of dyadic adjustment is paternal involvement in caregiving related tasks. Some more recent research notes that fathers of children with DD are in some ways more involved than fathers of typically developing children (Hedov, Wikblad, & Annerén, 2006), whereas other studies have historically purported that there is no difference between fathers with and without young children with disabilities in paternal involvement (Gallagher, Scharfman, & Bristol, 1984). As children get older and reach adolescence, however, research findings indicate reduced paternal acceptance and involvement compared to children who are younger (Ricci & Hodapp, 2003). These findings may prove problematic for adolescents in need of full parental support because of the challenging tasks involved in the transition from childhood to adolescence. Therefore, the present study aimed to serve the field by providing additional information on the role of fathers and level of paternal involvement in families with adolescents with DD as has been called for in psychology (Hauser-Cram et al., 2013).

In addition to the role of parental involvement, the importance of maternal satisfaction with her caregiving partner is also shown to have important implications for family functioning. In fact, Simmerman, Blacher, and Baker (2001) found that maternal satisfaction with the father's involvement predicted marital adjustment, indicating that maternal perceptions of paternal involvement greatly influence the dyadic relationship. Grych (2002), however, found that when fathers experienced distress in their marriage or partnership, their relationship with their daughter was negatively impacted more than it was for mothers under distress in relation to their sons. The authors purport that this may be a result of fathers being more affected by the dynamics with their partner than those with their child, whereas mothers' well-being is more strongly associated with the parent-child relationship and is less disrupted by challenging spousal dynamics. Although these findings highlight that feelings of partner support are important for both mothers and fathers, the disparity in gender-based conclusions shed light on the need for continued study in this area.

Additionally, in accordance with family systems theory, the smaller units within the family are equally as important as the larger family structure (Minuchin, 1985). With this understanding, the following gender-based dyads have been explored by researchers to better elucidate family relations, including the mother-son, mother-daughter, father-son, and father-daughter relationships. Shearer, Crouter, and McHale (2005) note that same-sex relationships (e.g. mother-daughter and father-son) are reportedly closer during adolescence than are opposite-sex parent-child relationships. This is attributed in part to the modeling that takes place between same-sex parents and their children, which creates a unique bond within the pair (Russell & Saebel, 1997). Expansion in this knowledge is

particularly critical because of the differential experiences mothers and fathers may encounter in relation to their child, as portrayed in family systems theory's explanation of the subsystems within the family unit (Minuchin, 1985).

The present study built upon the extant literature and addressed the role of partner support in the lives of caregivers of adolescents with disabilities in terms of how this affects their satisfaction with their relationship with their children and their satisfaction with family cohesion. Learning more about the role of partner satisfaction and adjustment is an important area of study given its potential to inform interventions that may more effectively bolster partner satisfaction and foster resilience in the caregiving relationship (Stoneman & Gavidia-Payne, 2006).

Parental employment. Beyond the more insular supports of social networks and spouses or partners, another potential outlet for parents is found through the world of work. The role of employment is especially worthy of attention given that for many, an individual's place of employment is one where significant amounts of time are spent (Tetrick & Quick, 2003). It is only in more recent decades that literature has expanded its focus to the role of employment and begun to appreciate the complex and multifaceted nature of work. According to Blustein's Psychology of Work Framework (2006), for those who have access to employment, work has the potential to meet three primary needs: survival, relationships and connections, and self-determination. Therefore, in addition to the financial benefit and satisfaction workers may derive from their positions, the relationships formed in this domain are critical. The significance of relational connectedness has been expanded upon in Blustein's Relational Theory of Work (2011), which places emphasis on the importance of these relationships, especially for those who

have less volition in their vocational options, and stresses the fact that most work is inherently social and relational. As a result, relationships at work and other work tasks are reciprocally influential with far-reaching effects, such that positive relationships at work not only contribute to other positive work experiences, but that these positive relationships may subsequently carry over to those relationships outside of work.

Blustein's models shed light on both the pragmatic and emotional sources of support that stem from employment and demonstrate its importance in relation to well-being.

Parent outcomes related to work. Based on the theoretical importance of employment and the many hours potentially spent on the job, it stands to reason that work can be either linked to favorable outcomes or serve as a source of stress for parents. Parenting outcomes related to work can be explained in part using the lens of career adaptability (Savickas & Porfeli, 2012), which asserts that one's ability to flexibly adapt to workplace changes without great difficulty is one of the central tasks related to career development. It stands to reason, therefore, that a flexible workplace that fosters career adaptability may be of great importance for the professional well-being of parents. Based on this framework, the present study assessed the extent to which parents' place of employment was experienced as satisfactory and flexible.

In relation to the more positive outcomes associated with the world of work, employment has been linked with increased levels of self-esteem and lower levels of depression (Blustein, 2008) and is associated with overall life satisfaction (Roxburgh, 1999). Even those who describe their jobs as more demanding are shown to report high levels of work satisfaction when they are actively engaged in their job (van Steenbergen, Kluwer, & Karney, 2011). Job satisfaction is also informed by the flexibility of a

particular position, with evidence pointing to greater satisfaction stemming from jobs that are particularly flexible (McNall, Masuda, & Nicklin, 2009). This is due in part to the fact that for both mothers and fathers, flexible employment schedules can help reduce the strain that is likely to arise because of family and work-based conflicts (Grandey & Cropanzano, 1999). Work may also serve as a buffer because of the additional identity, feelings of accomplishment, and relational resources that a job affords parents. That is, employment enables parents to have another venue in which they can experience agency and success even when stressors at home leave them questioning their abilities or satisfaction as a parent (Roxburgh, 1999). These findings illustrate the importance of flexible and meaningful employment for parents.

In contrast to the potential positive outcomes associated with work, taking on multiple positions outside of parenthood can be overwhelming for others. According to the Role Strain Theory (Goode, 1960), conflict may arise when a strain exists between parenting and employee roles, creating negative socioemotional outcomes (Warfield, 2005). Therefore, parents who are working and involved in a caregiving role may find these two roles are at times at odds and experience higher levels of stress. Findings that support this notion note that juggling the many responsibilities from multiple roles may lead to insufficient energy to complete the requirements of these roles (Greenhaus & Beutell, 1986).

The role of gender. These benefits and drawbacks of work may manifest differently for mothers compared to fathers. Beyond the widely publicized higher pay of men when performing the same tasks as their female peers (Buchanan, 2014), recent studies have noted a “work family role convergence”, in which men and women purport

placing equal value and energy on family and work-related tasks (Betz, 2005). Despite this shift, women remain more likely than men to engage in both market work (i.e. paying jobs outside the home) and care work (caring for family members within the home), doubling their work responsibilities (Richardson, 2012). As a result of mothers' more frequently reported dual roles as caregivers and workers, some findings demonstrate that working mothers are more likely to report higher levels of stress than are working fathers (Halpern, 2005). Conversely, it may be that employment serves as a positive outlet for women based on the Multiple Role Theory (Warfield, 2005).

For fathers, a different set of stressors contributes to the role of work in their lives. Despite women's increased presence in the work force, fathers continue to face societal pressure to be the primary provider for their families (Richardson, 2012), making continued exploration of the role of work in their lives critical. Gender role socialization plays a critical role for these men, reinforcing the idea that they are expected to be financially stable and provide for their families (Courtenay, 2000). This is coupled with the idea of gender role strain, which posits that men are often torn between the traditionally ascribed masculine roles and those that are outside of these expectations (Mahalik, Good, & Englar-Carlson, 2003). For example, Mahalik and colleague's "winner script" (2003) asserts that men experience inordinate pressure to succeed. As a result, it may be that the push for fathers to be more involved in their children's lives is at odds with the pressure to spend more time at work to succeed professionally.

Despite the importance of work in relation to parental well-being, relatively little is known about the role of work for parents with children with DD (Matthews et al., 2011). This is especially concerning given the unique conditions inherent to parenting a

child with a disability and the way they influence parental employment. For example, these parents frequently have difficulty finding suitable childcare that fully addresses the needs of their child (Gordon, Cuskelly, & Rosenman, 2008; Warfield & Hauser-Cram, 1996), making it less feasible to take on work outside of the home. Cuskelly, Pulman, and Hayes (1998) highlight the fact that mothers with young children with disabilities were more likely to be unemployed or take on part-time jobs because the severity of their child's complications left few caregiving options. In fact, because of the need to care for their child, it is not uncommon for parents of children with DD to be limited in their employment options or even unable to work outside of the home (Warfield, 2001).

For mothers of children with DD, some research points to the stress that stems from working outside the home (Warfield, 2001). For example, mothers of children with DD who work outside the home are often forced to take more unplanned time off because of urgent caregiving needs of their child that occur far less frequently for mothers with typically developing children (Neal, Chapman, Ingersoll-Dayton, & Emlen, 1993). The lack of flexibility afforded by many jobs only heightens this potential source of stress. Additionally, mothers of children with DD report often going above and beyond expectations at their place of employment to avoid poor performance and reviews at work (Warfield, 2001). It stands to reason, therefore, that some mothers report more stress due to their dual role as a caretaker and professional (Shearn & Todd, 2000).

Work-based stressors aside, other findings indicate that the benefit of work may be even more profound for parents of children with DD than for parents of typically developing children (Freedman, Litchfield, & Warfield, 1995). Studies show that the workplace can serve as a source of respite outside of the demanding tasks associated with

caring for a child with a disability (Einam & Cuskelly, 2002). This separate identity of an employee that exists beyond that of being a parent is also integral to well-being should other domains of their life cause them stress or doubt (Blustein, 2006). For example, Warfield (2005) found that mothers of children with DD who reported greater interest in their jobs outside of the home noted lower stress scores than mothers who did not enjoy their work. Further, the relationships formed in the place of employment may be considerably important for parents who have children with DD, given the limited vocational options and the general isolation these parents report experiencing with some regularity (Hauser-Cram et al., 2004). All in all, work can be both taxing and uplifting for parents of a child with DD.

Parenting efficacy. Parental well-being, social support, and partner support are a few of many components that influence parenting efficacy. In fact, a multitude of factors coalesce to contribute to parenting efficacy, which is defined as confidence in one's own abilities to take on parenting-related tasks and care for one's child successfully (Cuskelly et al., 2008). At its core, research exploring the role of parenting efficacy is informed by the work of Bandura (1982), who theorized that in most cases, reported levels of efficacy are linked to the amount of effort an individual puts into a task. When this framework is applied to parenting, findings demonstrate that parents who feel efficacious in their role as a parent are theoretically more likely to persist with the challenges inherent to parenting (Woodman & Hauser-Cram, 2013). According to these findings, parenting efficacy holds significant potential for overcoming parenting difficulties as they arise.

For parents of typically developing children, parenting efficacy has been broadly considered in the relevant literature, being used as a predictor or correlate, mediator, and

outcome measure (Jones & Prinz, 2005). For example, higher parenting efficacy is associated with greater parenting satisfaction (Coleman & Karraker, 2000), perseverance in the face of parenting difficulties (Ardelt & Eccles, 2001), and is linked to a more positive parental view of the child (Johnston & Mash, 1989). In addition, studies demonstrate that an inverse relationship exists between parenting stress and parenting self-efficacy for mothers (Fox & Garland, 2004) as well as for fathers (McBride, 1989), demonstrating the potential risks associated with parenting stress in relation to parenting efficacy. The benefits of feeling efficacious in the parenting role, however, are extensive. For example, mothers with greater parenting efficacy are shown to exhibit lower depression (Freed & Tompson, 2011; Teti & Gefland, 1991) and parenting guilt (Kuhn & Carter, 2006), and report overall higher levels of well-being (Kuhn & Carter, 2006).

Importantly, much of the literature related to parenting efficacy focuses predominantly on maternal feelings of parenting confidence. Among those studies that do incorporate paternal experiences, parents are frequently considered as a single unit at the exclusion of generating separate analyses for both mothers and fathers (Murdock, 2013). Of the few studies that have examined fathers' parenting efficacy specifically, paternal self-efficacy was positively associated with parent support (Leerkes & Burney, 2007) and negatively correlated with parenting stress and child behavior problems (Meunier & Roskam, 2009). Together, these findings highlight the importance of parenting efficacy for mothers and fathers, also demonstrating the overlapping and unique factors that facilitate paternal and maternal feelings of parenting confidence.

Parents' subjective experience of efficacy is also considered integral in their relationship with their adolescent child. Bogenschneider, Small, and Tsay (1997)

determined that parents who reported higher levels of parenting self-efficacy were seen by their adolescent child as being more responsive and appropriate in monitoring their behaviors. These teens reported this type of parenting as being less controlling and more adaptive. A more recent study also demonstrates the benefits of parenting efficacy for both mothers and fathers, noting that parents with higher levels of parenting efficacy were more involved in their child's activities and school events, and such activities were, in turn, connected to positive outcomes for these adolescents (Shumow & Lomax, 2002). Collectively, the extant body of literature points to the importance of parenting self-efficacy, both for the well-being of parents and indirectly for that of their child.

Of the literature exploring parenting self-efficacy, the majority of studies do not investigate its role for parents of children with DD (Dempsey et al., 2009) despite the fact that there are a number of factors that put parents of children with DD at risk for experiencing lower parenting efficacy. First, parenting efficacy is derived in part by the parent feeling as though his or her child is learning the skills the parent is teaching. This success serves as feedback, reflecting to the parent that he or she is a competent teacher and parent (Cuskelly et al., 2008). Success in this domain may be especially challenging for parents whose child is cognitively impaired and unable to easily learn new information, or for children with DD who have related problem behaviors that impede success in this arena (Woodman & Hauser-Cram, 2013). In fact, one study found that mothers of children with a disability reported lower levels of efficacy in their role as a mother (Beckman, 1991). Additionally, parents of children with DD often report higher levels of stress (Britner et al., 2003), which is associated with lower levels of parenting self-efficacy among parents of typically developing children (Fox & Gefland, 2004;

McBride, 1989). As a result, parents of children with DD may be particularly susceptible to lower parenting self-efficacy based on their greater vulnerability to stress. That being said, other findings indicate that there is no difference in parenting efficacy for mothers of a child with Down syndrome compared to mothers raising a child without a DD (Gilmore & Cuskelly, 2012). This divergence in findings points to the need for future research to develop a more complex way to make sense of the role of parenting efficacy among parents of children with DD.

In addition to general research about parenting self-efficacy for parents of adolescents with DD, it would be beneficial for future research to better understand gender differences within this construct and possible correlates. To that end, the present study examined potential gender differences in reports of parenting self-efficacy. One study to date found that different factors were shown to predict parenting efficacy for mothers compared to fathers (Kersh et al., 2006). Specifically, Kersh and colleagues found that marital quality for mothers and social support for fathers predicted higher levels of parenting efficacy. The authors note that fathers often are less involved in parenting, particularly if their child has a disability. As a result, the contributing factors of parenting efficacy may be different for mothers compared to fathers. The present study aimed to expand upon these findings and better understand the role of parenting efficacy for mothers and fathers of adolescents with DD in particular.

In order to better clarify the role of parenting efficacy as well as the previously outlined features of parental well-being for parents of teens, however, an overview of adolescent functioning is required. In accordance with family systems theory, evidence exists supporting the view that the development of family members is not static, nor does

it occur in a vacuum (Bronfenbrenner & Morris, 2006). Rather, the dynamic changes that take place among children and their caregivers are determined in part by the transactions that take place between family members within the family system (Sameroff, 1975; Sameroff, 2009). This process occurs, according to the transaction model, because organisms are continually adapting to changes within their environment, meaning that both children and parents are always developing and that changes in one family member in turn relate to those of another. In other words, developmental outcomes are neither a result of the person or of the context but a combination of the two. This model of development explains the ways in which learning more deeply about adolescent functioning is an important factor in understanding the well-being and functioning of parents and vice versa. Therefore, elaborating on the features of well-being for both are integral to a comprehensive understanding of functioning of adolescents and parents, both in the case of typically developing teens and their families, as well as adolescents with DD. To that end, the following section will review the relevant literature related to adolescent functioning and well-being.

Adolescent Development

In accordance with Family Systems Theory (Minuchin, 1985), the many features of parental well-being previously outlined only represent one portion of the family system. The other piece of the puzzle necessitates an examination of the well-being and development of adolescents. This knowledge not only informs interventions supporting these teens, but also sheds light on the inter-related nature adolescent functioning and parental well-being that are constantly transacting within the family framework (Rutter & Sroufe, 2000). Compared to other developmental time periods, adolescence in particular

is a time period of great change for the adolescent as well as related family members. At this stage, teens are often considered neither a child nor an adult, creating ambiguity for family members and adolescents as they re-negotiate previously upheld boundaries and expectations (Cicchetti & Rogosch, 2002). Subsequently, adolescence is time of developing more complex view of self and is often associated with shifts in relationships with parents and peers (Hauser-Cram et al., 2004)

Part of these renegotiations involves the newfound responsibilities and freedoms that take form during this time. As a result, one of the central tasks during adolescence is the development of autonomy (Marcia, 1980). Notably, autonomy has taken on many definitions in the developmental literature that have evolved over time. Originally, psychoanalytic thinking posited that adolescent autonomy originated from diminished influence of parent-child relationships, wherein adolescents begin to distance themselves from their families to clarify their own individual identities and cultivate independence (Beyers et al., 2003; Peterson, Bush, & Supple, 1999). More current depictions of autonomy describe the phenomenon as a burgeoning sense of agency that adolescents acquire over time without disconnecting from one's parents (Collins & Luebker, 1994; McElhaney et al., 2009). In other words, autonomy is now considered to stem from interdependence with one's family, as opposed to total independence and isolation from the family system (Spear & Kulbok, 2004).

Further complicating the field's understanding of autonomy is the multifaceted nature of the construct, which is comprised of emotional, cognitive, and behavioral components (Steinberg & Silverberg, 1986). For example, autonomy may include both a sense of emotional competence and belief in oneself, as well as behaviorally

demonstrating independence by taking on more responsibilities with regards to daily tasks (Garber & Little, 2001). Therefore, autonomy may be considered present when adolescents begin to develop practical skills and take on more decision-making responsibilities both in relation to their own care and that of their families (Collins & Luebker, 1994; Connell & Wellborn, 1991). Others, however, describe autonomy being present when adolescents' develop the ability to act upon their own interests (Soenens et al., 2007). Therefore, autonomy is not necessarily seen as increasing responsibility, but rather as having more volition in decision-making in their lives. These studies demonstrate the many manifestations of adolescent autonomy, each of which highlights the many forms of independence teens can take on during this time.

Features of adolescent autonomy. Despite the varying conceptualizations of autonomy in the literature, the benefits of successful autonomy development are more unanimously accepted. For example, research purports that unlike unilateral decisions made solely by parents, joint decision making between parents and teens is linked to more positive development for adolescents and is integral to optimal family functioning (Lamborn, Dornbusch, & Steinberg, 1996). In typically developing teens, general decision-making autonomy increases exponentially from ages 15 to 17 (Gutman & Eccles, 2007). According to traditional developmental timelines, middle and late adolescence is a time of tremendous growth in the domain of autonomy development.

Research demonstrates that the adolescent-parent relationship in particular is valued and of great importance in relation to adolescents' acquisition of autonomous functioning. In one study, Greenberg, Siegel, and Leitch (1983) found that the quality of adolescents' relationships with both their peers and their parents were related to well-

being, although the parental relationship was a more powerful predictor of well-being than were peer dynamics. Additionally, adolescents high in emotional autonomy, but low in parental support, still had adjustment difficulties despite their newfound independence (Lamborn & Steinberg, 1993). Conversely, teens who perceive their parents as supportive reported higher levels of self-worth and self-efficacy (Dekovic & Meeus, 1997), which are important adolescent attributes associated with greater autonomy. These studies highlight the importance of supportive parent-adolescent relationships in relation to adolescents' autonomy development.

Supportive parenting is informed in part by the ability of parents to meet the specific developmental needs of their child. This gradual relinquishment of parental control is shown to benefit the development of autonomy most when aligned with the needs of the adolescent at that time (Eccles et al., 1991). As a result, too much control during this time may devalue adolescents' feelings of self-expression and autonomy (Peterson et al., 1999). The process through which adolescent autonomy develops, however, does not simply involve less reliance on parental assistance to have personal needs met. Instead, in addition to the self-reliance that plays a pivotal role in increasing autonomy during this time, there is also a simultaneous shift in relying more on similar aged peers when assistance is needed (Steinberg & Silverberg, 1986). Although both peers and parents are seen as powerful social supports, when adolescents reach later teenage years, they begin to cite their friends as more important supports than parents for certain tasks (Bokhorst, Sumter, & Westenberg, 2010). Some findings, for example, note that early adolescents rely on friends for support and guidance, whereas early, middle, and late adolescents all turn to parents, and especially mothers, for instrumental help and

a sense of security as a “secure base” (Markiewicz, Lawford, Doyle, & Haggart, 2006, p. 136). These varying sources of attachment and the increased support of peers are related to positive outcomes for teenagers. For instance, adolescents who have more support from same-aged peers who are not involved in deviant activities are also seen as being more autonomous and exhibit more adaptive development (Laursen & Collins, 2009). Evidently, the role of adolescents’ relationships with both their parents and same-aged peers is instrumental in acquiring autonomy during this time and reliance on one over the other varies based on age and the nature of the adolescent’s particular needs.

Autonomy in adolescents with DD. For adolescents with DD and their families, the very definition of autonomy and the timeline of related developmental milestones may differ from typically developing teens. Unlike younger years when children with DD have a superficial understanding of their own abilities and impairments, adolescence is the first time that most teens are forced to integrate disability into their identity (Glidden & Zetlin, 1992). Importantly, the formation of a sense of self is a requisite component of autonomy, in that it enables the adolescent to feel confident separating and individuating from parents (Koepke & Denissen, 2012). Research in line with this link between identity and autonomy shows that the ability to gain a deeper sense of self is sometimes compromised by more severe levels of cognitive impairment (Jenkinson, 1999). Therefore, those with more profound cognitive impairments and severe disabilities may exhibit more limited autonomy and instead remain more dependent on their parents (Holmbeck et al., 1997). These studies serve as evidence that disabling conditions do in fact impact teens’ ability to be autonomous.

The greater parental dependency experienced by adolescents with DD is due in part to their complex medical needs that typically require parental assistance, which in turn inherently reduces an adolescent's ability to operate independently (American Academy of Pediatrics Medical Home Initiatives for Children with Special Needs Project Advisory Committee, 2002). Some researchers note that the lower sense of agency experienced by many adolescents with DD leaves them more susceptible to developing learned helplessness and remaining dependent on others (Jenkinson, 1999). For this reason, fostering efficacy is a crucial part of parenting during this time. In fact, Hauser-Cram and colleagues found engagement in agency from a young age predicted their development of life skills that in turn relate to autonomy over a 10-year period (Hauser-Cram et al., 2001). Indeed, the evolving sense of self and acquisition of autonomy greatly defines adolescence for teens with DD and their families as it does for typically developing teens, although the chronological age and speed at which this occurs may be somewhat delayed for those with DD.

Another critical experience unique to these families during the adolescent years is the need for parents to consider the long-term implications of the teen's disabling condition. For example, the questions of whether the adolescent can drive, care for himself or herself, or eventually live independently are just a few of the issues that impact these families' plans for the future (Hauser-Cram et al., 2004). Some research shows that the increased importance of parental involvement of adolescents with DD may in turn be associated with higher levels of parenting stress during these years, although many parent-adolescent relationships are in fact shown to be positive during this time despite this added stress (Hauser-Cram et al., 2013). Collins and Laursen (2004) purport that

adolescent-parent relationships may be particularly strong during this time as a means of lessening the adverse consequences of the social struggles adolescents with DD often encounter. Specifically, adolescents with DD reportedly have fewer friendships and less participation in social and after-school activities than their typically-developing peers (Matheson, Olsen & Weisner, 2007). Because of the difficulties adolescents with DD face in forming supportive peer networks and their continued reliance on their parents, it may be that their trajectory to becoming autonomous is different than that of their typically developing peers.

Research Questions and Rationale

Although there is a wealth of research related to the well-being and functioning of typically developing adolescents and their parents, there is far less related to this dynamic for teens with DD and their parents. Based on the existing literature, the aim of the present study was to examine the well-being of adolescents with DD and their parents, as well as the ways in which the functioning of adolescents was related to that of the parents and vice versa. To accomplish these goals, several research questions were analyzed. In this section, each question is presented, followed by a brief rationale, drawing on the literature reviewed in this chapter:

1) What parental and child factors are related to the well-being of parents with children with developmental disabilities?

The literature of parents of typically developing teens points to the importance of parenting efficacy in relation to maternal and paternal well-being. For example, greater levels of parenting efficacy have been linked with lower levels of stress for mothers (Fox & Gelfand, 1994) and fathers (McBride, 1989). Additionally, mothers who report feeling

more efficacious in the parenting role report lower levels of depressive symptoms (Freed & Tompson, 2011; Teti & Gelfand, 1991). In contrast to extensive data on parents of typically developing adolescents, little is known about the relationship between parenting efficacy and parental well-being among parents of adolescents with DD (Dempsey, Keen, Pennell, O'Reilly, & Neilands, 2009). Therefore, the role of parent efficacy as a predictive factor was examined.

Additionally, social support is considered a crucial component of greater parental and familial well-being (Dunst et al., 1986; McCubbin et al., 1983). Research demonstrates that for parents of adolescents with DD, social supports are associated with greater parental well-being (Krauss, 1993; White & Hastings, 2004), better management of parenting stressors (Bromley et al., 2004) and fewer depressive symptoms (Benson & Karlof, 2009; Glidden et al., 2006). This dissertation, therefore, tested the role of social support as a predictive factor in the present sample.

Finally, adolescent factors inform parental well-being. For example, parents of adolescents with DD cite lack of adolescent autonomy as one of their primary stressors (Baine et al., 1993). As a result, parents of adolescents who are more autonomous may report greater levels of well-being. Given the negative parental outcomes associated with child and adolescent problem behavior (Erickson & Upshur, 1989; Hastings, 2003), greater adolescent autonomy may not be as influential if adolescents also exhibit behavior problems. Based on these findings, this dissertation also examined the role of adolescent autonomy as a predictive factor and adolescent behavior problems as a moderator in the present sample.

- For both mothers and fathers, what parenting factors when their adolescent with DD is age 15 (parenting efficacy and social support) predict parental well-being (total parenting stress and parental depressive symptoms) three years later (when their adolescent is age 18)?
- For mothers and fathers, is adolescent autonomy related to parental well-being (lower total parenting stress and lower parental depressive symptoms) when their adolescent with DD is age 18? Is this relationship moderated by adolescent behavior problems?

2. How is parent partner satisfaction related to the parent-child relationship and satisfaction with family functioning?

In line with the “affective spillover hypothesis”, the experience we have in one setting shapes our other experiences (Minuchin, 1974). Therefore, the nature of the relationship between parents may transfer to their relationships with their children and family, such that a satisfactory relationship between partners is associated with positive experiences between parents and children and greater levels of family cohesion and harmony. Additionally, mothers who feel supported by their partner show an increase in maternal warmth toward their child (Bonds & Gondoli, 2007) and report a more positive parenting experience (Floyd et al., 1998).

Satisfaction within the parent-child relationship and family cohesion may be compromised, however, by difficulty of care. Specifically, parents of children with greater behavior problems report lower partner satisfaction and less positive parenting experiences (Stoneman & Gavidia-Payne, 2006). This dissertation examined the role of

partner satisfaction as a predictive factor and difficulty of care as a moderator in the present sample.

- For mothers and fathers, is partner satisfaction related to parent satisfaction with parent-child relationship and satisfaction with family cohesion when their adolescent with DD is age 18? Is this relationship moderated by difficulty of care?

3. How are work characteristics related to parental well-being (total parenting stress and parental depressive symptoms) and parental satisfaction with the parent-child relationship?

The importance of meaningful and flexible work is paramount in the lives of parents. More flexible employment has been linked to greater work satisfaction (McNall et al., 2009) and more satisfying employment is connected to lower levels of depression (Blustein, 2008). Flexible and satisfying work may also be associated with more satisfying relationships between parents and their children. For example, flexible work reduces the tension experienced by parents in relation to work-family conflicts (Grandey & Cropanzano, 1999), which may enable them to spend more time and have more positive interactions with their children. Despite these findings, little is known about the role of employment for parents of adolescents with DD (Matthews et al., 2011).

Subsequently, the present study examined the role of job satisfaction and work flexibility as predictor factors.

- For mothers and fathers, are work flexibility and job satisfaction related to parent satisfaction with the parent-child relationship and to parental well-being (total parenting stress and parental depressive symptoms) when their adolescent with DD is age 18?

- For mothers and fathers, are work flexibility and job satisfaction (work composite) related to parental well-being (total parenting stress and parental depressive symptoms) above and beyond satisfaction with the parent-child relationship when their adolescent with DD is age 18?

4. What factors predict and relate to adolescents' autonomy in youth with developmental disabilities?

Peer support is shown to be an integral component of autonomy development during adolescence (Bokhorst et al., 2010; Steinberg & Silverberg, 1986). It stands to reason, therefore, that adolescents who feel more socially accepted and supported by their friends would potentially, in turn, be more autonomous in later adolescence. Additionally, adolescents' own internal resources, such as greater self-efficacy, (Jenkinson, 1999) and perceived support from their parents (Dekovic & Meeus, 1997; Lamborn & Steinberg, 1993) are also important in relation to autonomy development. Therefore, the present dissertation tested the role of social acceptance, adolescent self-efficacy, and adolescent perceived supportive parenting as predictive factors.

- For adolescents with DD, is adolescent social acceptance at age 15 predictive of adolescent autonomy three years later (when the adolescent with DD is age 18)?
- For adolescents with DD, are adolescent self-efficacy and perceived supportive parenting related to adolescent autonomy when the adolescent with DD is age 18?

Chapter 3: Methodology

Participants

This dissertation drew upon data from the Early Intervention Collaborative Study (EICS), a longitudinal investigation of children with developmental disabilities and their families (Hauser-Cram et al., 2001; Shonkoff, Hauser-Cram, Krauss, Upshur, & Sameroff, 1992). EICS was created in 1985 to conduct research and support families raising a child with a DD in a longitudinal fashion to meet their ever-changing needs. Families were recruited for the study upon requesting Early Intervention Services in 29 publicly funded programs in the Northeast region of the United States. The original sample, which consisted of 190 children and families, was comprised of children diagnosed with including Down syndrome (N=54), motor impairment (N=77), or developmental disability of unknown etiology (N=59). Data for this project were collected at multiple times by way of home visits when the children with DD were 1, 2, 3, 5, 10, 15, 18, and 23. This dissertation focused on data collected when the children were age 15 and 18.

The sample used for this dissertation consisted of 133 adolescents and their families, including 133 mothers and 97 fathers. At age 15, the adolescents' type of disability was distributed among the three diagnostic categories, with 41% with Down syndrome, 32% with motor impairment, and 27% with a developmental delay with unknown etiology. The average IQ of the target child at age 15 was 57.10 (SD = 25.88.). Approximately half of the adolescents at this time point were female (51%) and the majority were of European American descent (93%), which mirrors the racial and ethnic makeup of Massachusetts and New Hampshire during the time when participants initially were recruited into this study.

At the time of which the target child was 15 years old, mothers and fathers had completed an average of 14.16 (SD = 2.37) and 14.44 (SD = 3.32) years of school respectively and 69.9% of mothers and 86.1% of fathers were employed full-time or part-time. Data at this time point was collected from 1999 to 2003, at which point the median income in the United States was \$42,228 (DeNavas-Walt & Cleveland, 2002). In the present sample, approximately 70.5% of families participating reported annual family incomes greater than \$40,000 when their child was 15 years old. The majority of adolescents (86.1%) lived with both parents and the majority of both mothers (77.9%) and fathers (88.5%) were married. In addition to the target child of the study, the average additional children living in the home was equal to 2.06, with families ranging from having 0 to 5 other children living in the home.

Procedure

Within six months of the child's fifteenth and eighteenth birthdays, families were contacted to ascertain their continued participation in the EICS study. Following permission granted by the participants, trained research assistants contacted families to schedule home visits. Prior to the in-home assessments at each time point, parents were sent consent forms that were collected at the time of data collection. Adolescents were asked to sign consent or assent forms at each time point as well if cognitive ability permitted them to do so. These forms were collected by research assistants during the home visit.

During each of these home visits, one research assistant conducted the structured evaluation of the child and interviewed the father, while the other interviewed the mother. If the family reported their day as being atypical in any way, the home visit was

rescheduled for another day. Each home visit lasted approximately two to three hours and participants were compensated at the time of the visit. Research assistants were blind to the study hypotheses and were trained to code consistently to achieve inter-rater reliability on all study measures.

Measures

The following section will outline the measures utilized in the present study. For each measure, a description of its contents and rating scales as well as its reliability and validity will be described. A summary of this information is provided in Table 2.

Family demographics. During home visits, mothers provided information about parental educational attainment and family income (see Table 1). Because maternal education was moderately correlated with family income ($r = .53, P < .01$), scores were converted into z-scores and averaged to create a composite variable. This composite variable will represent the socioeconomic status (SES) of the family and will serve as a control variable in the main analyses.

Parent characteristics.

Total parenting stress. Mothers and fathers each completed the Stress Index for Parents of Adolescents (Sheras, Abidin, & Konold, 1998) at age 18, which was used to determine parental well-being, such that low levels of parenting stress represent greater parental well-being. Although low levels of parenting stress is only one indicator of well-being, the preponderance of studies on parenting children with DD have utilized parenting stress measures to assess parental well-being (e.g., Baker et al., 2003; Crnic & Low, 2002; Hanson & Hanline, 1990; Hastings, 2003; Kersh et al., 2006; Warfield, 2001). The SIPA's 90 items were used in this dissertation and were comprised of three domains:

the Adolescent Domain (AD; stress related to the behaviors, attitudes, and achievements of the adolescent), the Parent Domain (PD; stress related to the effect of parenting on other life roles and relationships), and the Adolescent-Parent Relationship Domain (APRD; stress related to the relationship between the parent and adolescent), which collectively make up the Index of Total Parenting Stress (TS). Both the AD and PD include four subscales. For the AD, the subscales include Moodiness/Emotional Lability (MEL), Social Isolation/Withdrawal (ISO), Delinquency/Antisocial (DEL), and Failure to Achieve or Persevere (ACH). The PD subscales are the Life Restrictions (LFR), Relationship with Spouse/Partner (REL), Social Alienation (SOC), and Incompetence/Guilt (INC). Parents responded to the first 90 items using a 5-point Likert Scale, ranging from 1 – “Strongly Disagree” to 4 – “Strongly Agree”. Raw scores are calculated for the AD and PD subscales are added to the APRD to acquire the total score (TS), where higher scores indicate higher parenting stress.

The SIPA measure demonstrates good reliability, with all subscale alpha coefficients exceeding .75 and the total score having an alpha of .90 (Sheras et al., 1998). The scale also showed convergent validity, negatively correlating with a frequently used Parenting Alliance Inventory ($r = -.57$), which assesses parental perception of the parenting alliance (Sheras et al., 1998). The reliability in the present sample was satisfactory, with alpha levels of .96 for both mothers and fathers. Maternal and paternal parenting stress were used as outcome variables in the main analyses examining parent well-being.

Parental depressive symptoms. Mothers and fathers completed the Center for Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977) at age 18. This 20-

item measure described a range of behaviors and emotional responses and asks parents to consider how frequently they endorsed each of the statements over the past two weeks (e.g. “I was bothered by things that don’t usually bother me”). For each item, parents were asked to rate the frequency of their feelings or behaviors using a 4-point Likert Scale, ranging from 0 – “Rarely” to 3 – “Most of the time”, with higher scores represent greater depressive symptomology.

The CES-D demonstrates adequate concurrent validity with other self-report depression measures, as well as good discriminant validity (e.g., Radloff, 1977). The reliability for this measure has reported alpha levels of .85 (Radloff, 1977). The reliability for the EICS sample was also satisfactory, with alpha levels of .91 for mothers and .88 for fathers. Maternal and paternal depressive symptoms were used as outcome variables in the main analyses examining parent well-being.

Parenting efficacy. Mothers and fathers completed the “Parenting Confidence” subscale of the Family Experiences Questionnaire (FEQ; Frank, Jacobson, & Hole, 1986) to assess their level of parenting confidence at age 15. Parents were asked to complete this survey in a packet of self-administered questionnaires prior to the home visit. This subscale consists of 15 items measuring to what extent parents feel they are doing a good job in the parenting role and their attitudes toward parenting (“e.g. “I have the knowledge I need to be a good parent”, “When there is a crisis with the children I know I will do what needs to be done”). Parents respond to these questions using a 4-point Likert scale, ranging from 1 – “Strongly agree” to 4 – “Strongly disagree”, with higher scores indicate greater parent efficacy.

The measure had adequate validity and reliability with reported alpha levels of .85

(Frank et al., 1986). Similarly satisfactory reliability was found for the present sample, with alpha levels of .91 for both mothers and fathers. Maternal and paternal parenting efficacy were used as predictor variables in the main analyses.

Social support. Maternal and paternal social support was assessed at age 15 using the Social Network Questionnaire (SNQ). The SNQ utilizes a social map whereby parents conceptualize their support network in a hierarchical fashion, delineating the sources of support in their life and the closeness of these supports (Antonucci, 1986). Each individual added to the social support network is categorized as either 3 (“so close it is hard to imagine life without them”) to 1 (“less close but still important”). Of the subscales within the SNQ, only the network size and satisfaction with support were utilized in the present study. Network size was determined by calculating the sum of supports in the participant’s network, and satisfaction with supports was obtained by adding the responses to the six yes or no questions related to satisfaction (e.g. “wanting more people in their network or in whom to confide”) to create a total score.

Adequate validity for the measure has been reported (Antonucci, 1986). The subscale of network size has satisfactory reliability one year after assessment ($r = .60$) as was parental satisfaction with supports, with alpha levels of .80 and a one-year stability coefficient of .71 (MacPhee, Fritz, & Miller-Heyl, 1996). In the present sample, alpha levels of .69 for mothers and .65 for fathers were found. Maternal and paternal social support were used as predictor variables in the main analyses.

Satisfaction with parent–adolescent relationship. Mothers and fathers completed the Satisfaction with Parent-child Relationship Scale (Simons, Beaman, Conger, & Chao, 1993) at age 18. This 4-item measure assesses parents’ perception of their relationship

with their son or daughter (e.g. “Would you agree or disagree that being a parent to (target child) has been an enjoyable experience?”). Items were rated using a 4-point Likert scale, ranging from 1 – “Strongly agree” to 4 – “Strongly disagree”. These items were summed to create a total score indicative of parental reports of emotional closeness with their son or daughter, where higher scores indicate higher parent satisfaction with their relationship with their child.

The measure’s validity is adequate and its reliability has been reported as having alpha levels of .84 for mothers and .81 for fathers (Simons, Beaman, Conger, & Chao, 1993). The reliability in the present sample was also satisfactory, with alpha levels of .85 and .83 for mothers and fathers respectively. Maternal and paternal satisfactions with their parent-child relationship were used as a predictor and outcome measure in the main analyses.

Family cohesion. Mothers and fathers completed the Family Adaptability and Cohesion Evaluation Scale (FACES) (Olson, Portner, & Bell, 1982) at age 18. The FACES measure is composed of 16 items used to assess parental perceptions of family cohesion (e.g. “Family members are supportive of each other during difficult times”). Parents responded on the 5-point Likert scale, with response options ranging from 1 – “Almost never to 5 – “Almost always”, with higher scores representing a greater sense of family closeness and cohesion.

The measure’s validity and reliability have been reported as adequate in other studies (Simons et al., 1993). The reliability in the present sample was also satisfactory, with alpha levels of .84 for both mothers and fathers. Maternal and paternal sense of cohesion was used as an outcome measure in the main analyses.

Partner satisfaction. The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a 32-item measure used to assess the quality of the relationship of those who are cohabitating. In the present sample, this construct was evaluated for mothers and fathers at age 18. This measure asks parents the extent to which they experience agreements within four central components of dyadic adjustment in relation to their partner: dyadic consensus (e.g. “handling family finances”), satisfaction (e.g. “In general, how often do you think that things between you and your partner are going well?”), cohesion (e.g. “Work together on a project”), and affectional expression (e.g. “Demonstrations of affection”). The present study did not incorporate the affectional expression scale and consisted of 28 items. Caregivers responded using multiple Likert Scales throughout the measure, with higher scores consistently indicating greater dyadic adjustment.

Adequate construct validity for the measure in its entirety was found for both married respondents ($r = .86$) and divorced respondents ($r = .88$) when compared to a frequently used marital adjustment scale (Lock-Wallace Marital Adjustment Scale, 1959). The reliability of this measure has been reported as $\alpha = .96$ (Spanier, 1976). For the EICS sample, the reliability of this measure was satisfactory, with alpha levels of .97 and .95 for mothers and fathers respectively. Maternal and paternal dyadic adjustments were used as predictor variables in the main analyses.

Difficulty of care. Difficulty of care for mothers and fathers was assessed at age 18 using the Burden of Care Scale (Zarit, Reever, & Bach-Peterson, 1980). This 29-item self-report measure assesses the amount of discomfort caregiving concerns cause parents, which is assumed to be indicative of difficulty of care (e.g. “I worry about what will happen to my child when I can no longer take care of him/her”; “My child will always be

a problem to us”). Parents respond to a 3-point Likert scale, ranging from 0 – “Not at all” to 2 – “Extremely”, in which higher total scores indicate higher burden of care.

According to the creators of the scale, the measure demonstrates adequate validity and reliability (Zarit et al., 1980). In the present study, the reliability was also satisfactory, with alpha levels of .88 for mothers and .85 for fathers in the present sample. Difficulty of care was used as a moderator in the present study.

Work Flexibility. Work flexibility was assessed at age 18 using the 5-item Work Flexibility measure (Rothausen, 1994). Mothers and fathers were asked to assess the extent to which they have can take off time for family needs while meeting expectations at their job. Parents indicated their degree of satisfaction with their employment flexibility using a 5-point Likert scale, with responses ranging from 1 - “Strongly dissatisfied” to 5 – “Strongly satisfied”. Higher total scores represent greater satisfaction about parents’ work flexibility.

Adequate validity for the measure was found and its reliability has reported alpha levels of .87 (Rothausen, 1994). Using the EICS data, reliability was also satisfactory, with alphas of .91 and .85 for mothers and fathers respectively. Work flexibility was used as a predictor variable in the main analyses of this dissertation and parents who were employed at least part-time were included in analyses.

Job Satisfaction. Maternal and paternal job satisfaction was measured at age 18 using the Minnesota Job Satisfaction Questionnaire (Weiss, Dawis, England, & Lofquist, 1967). This self-administered scale consists of 20-items and asks parents about their level of satisfaction at their current job. The scale comprises three subscales: Intrinsic Satisfaction, Extrinsic Satisfaction, and General Satisfaction. General satisfaction is the

sum of Intrinsic and Extrinsic Satisfaction subscales. Responses to items (e.g. “the feeling of accomplishment I get from the job”) are measured on a 5-point Likert scale, ranging from 1 – “Very dissatisfied” to 5 – “Very satisfied”, with higher total scores indicating greater job satisfaction.

Adequate construct validity for the measure has been reported and its reliability has reported alpha levels within the high .80’s across studies (Decker & Borgen, 1993). In the present study, reliability was also satisfactory with alpha levels of .93 for mothers and .94 for fathers. Job satisfaction was used as a predictor variable in the main analyses of this dissertation and parents who were employed at least part-time were included in analyses.

Adolescent characteristics.

Adolescent gender. Gender information was collected when participants were initially recruited to take part in the study. Adolescent gender will be used as a control variable in the main analyses.

Adolescent behavior problems. Mothers and fathers completed the Child Behavior Checklist (CBCL; Achenbach, 1991) at age 18. This measure is composed of 112 statements describing child behavior, differentiating between internalizing (items indicating the child is “shy or timid”) and externalizing behavior problems (items indicating the child “physically attacks people”). Mothers were asked to respond on a 3-point Likert scale, ranging from 0 – “true” to 2 – “very/often true”, whether the statement was descriptive of their child taking part in the study. Internalizing and externalizing subscale scores were derived and summed to create a total behavior problem t-score, where higher scores indicated greater behavior problems.

The CBCL is widely used and espouses high validity and reliability, with alpha levels ranging from .78 to .97 (Achenbach, 1991). The reliability for the EICS sample produced alphas of .84 for the internalizing subscale, .85 for the externalizing subscale, and .92 for the total scale for mothers and alphas of .99 for the internalizing subscale, .99 for the externalizing subscale, and .99 for the total scale for fathers. The CBCL total scale score and its subscales were used as predictors and moderators in the main analyses.

Autonomy. Autonomy was assessed at age 18 using the ARC Self-Determination Scale (Wehmeyer & Kelchner, 1995). This self-report measure was created for use with adolescents with disabilities. It is based on a self-determination framework (Deci & Ryan, 1985), which assesses the degree to which one experiences agency in making choices regarding one's own life without outside interference (Wehmeyer & Kelchner, 1995). The autonomy subscale of the ARC assesses the adolescent's ability to act independently based on one's own preferences in relation to personal care and family oriented function, interaction with the environment, recreational and leisure time, community involvement and interaction, post-school directions, and personal expression.

Adolescents in the EICS sample were only asked questions included in the areas of personal care and family oriented functions, recreational and leisure time, and personal expression. This adaptation resulted in a 17-item scale in which adolescents were asked to respond on a 4-point Likert scale, with responses ranging from 1 – “I do not” to 4 – “I do every time,” in relation to the extent they engage in autonomous activities (e.g., “I choose my clothes and the personal items I use every day”). Total autonomy scores were calculated by adding the scores of each item, with higher scores representing higher levels of autonomy.

Adequate construct validity for the measure has been reported as has its reliability, which has alpha levels of .90 (Wehmeyer & Kelchner, 1995). The reliability for this sample was also satisfactory, with alpha levels of .77. Adolescent autonomy was used as a predictor, outcome, and moderator in the main analyses.

Self-efficacy. Self-efficacy was assessed at age 18 using the Perceived Self-Efficacy Scale (Cowen et al., 1991). This 10-item self-report measure measures the ability to achieve desired goals in common problem situations, which is introduced as follows: “Some things that happen we feel we can handle easily; other things we feel we can’t handle at all.” This was followed by questions that began with “How sure are you that things will work out well for you when...”. The adolescent was asked to respond to scenarios that take place at school, with family and peers, and in new situations (e.g., “You have to work out a problem with a friend,” “You have to get something done right under pressure”). For each item, adolescents responded using a 5-point Likert scale, ranging from 1 – “Not at all sure” to 5 – “Very sure”, to indicate their level of certainty in their ability to achieve a desired outcome. Total self-efficacy scores were calculated by adding scores of each of the items, with higher scores indicating higher levels of self-efficacy.

Adequate construct validity for the measure has been demonstrated and its reliability has been reported of having alpha levels of .79 (Battistich, Solomon, Kim, Watson, & Schaps, 1995). The reliability for this sample was satisfactory, with alpha levels of .66. Adolescent self-efficacy was used as a predictor in the main analyses.

Social acceptance. Social acceptance was assessed at age 15 using the social acceptance subscale of the Perceived Competence Scale for Learning Disabled Students

(Renick & Harter, 1989). This self-report subscale consists of a 6-item scale that assesses perceived social acceptance. Statements related to social acceptance were written (e.g. “Some teens do things with a lot of friends, while some teens do things by themselves”) and adolescents indicated which part of the statement they identify with more, and whether that statement is *really true* or *sort of true* for them. Total social acceptance scores were calculated by summing the scores of each response, with higher scores indicating greater levels of perceived social acceptance.

Adequate construct validity for the measure has been demonstrated as has its reliability, which has been reported as having alpha levels of .72 (Renick & Harter, 1989). The reliability for this sample was satisfactory, with alpha levels of .72. Social acceptance was used as a predictor in the main analyses.

Supportive parenting. Supportive parenting as perceived by the adolescent was assessed at age 18 using an adapted version of the Supportive Parenting Scale (Simons, Lorenz, Conger, & Wu, 1992). This scale is comprised of 9 items and measures acceptance, involvement, and other components of supportive parenting as perceived by the adolescent (e.g., “How often does your mom (dad) talk with you about what is going on in your life?”). Adolescents indicated how often each statement is true of their view of their parents using a 5-point Likert scale, ranging from 1 – “Never” to 5 – “Always”. Total supportive parenting was calculated by summing each of the scores, with higher scores reflect higher levels of supportive parenting.

The validity of this measure has been described as adequate as has its reliability, with reported alpha levels of .88 and .89 for child reports of satisfaction with his or her mother or father respectively (Simons et al., 1992). The reliability for this sample was .76.

Supportive parenting was used as a predictor in the main analyses.

Analytic Approach

Missing data. Prior to conducting analyses, multiple imputation was used to substitute missing values. Multiple imputation is an effective method to deal with moderate to large amounts of missing data (i.e., greater than 5%; Widaman, 2006). One alternative to handling missing data, listwise deletion, is a frequent default on computer programs that involves deleting any cases that are missing one or more variables included in relevant analyses (Widaman, 2006). Despite its utility, listwise deletion presents several drawbacks. Most notably, comparing results from multiple data frequently reduces the available sample size because not all cases have complete data for a particular variable. In turn, this potentially reduces power to levels insufficient to detect significant relationships (Widaman, 2006). Additionally, the data that are missing may be systematically different from cases with complete data. For example, Siddiqui, Flay, and Hu (1996) found that in their smoking cessation intervention, Black participants were more likely to drop out of the study and participants who completed the study were more highly educated than those who discontinued. This example highlights the risk of biased population parameters based on systematic differences that may exist between cases with complete data and those with missing data (Widaman, 2006).

These limitations are not present when utilizing multiple imputations, which also addresses the limitations of other popular methods such as pairwise substitution, sample mean substitution, individual mean substitution, and regression substitution (Widaman, 2006). Both single and multiple imputations use information from non-missing data to estimate missing values, although multiple imputations are recommended for larger

amounts of missing data (Widaman, 2006). Unlike regression substitution, imputation estimates include random variability to imitate the variability that exists within the complete data sets. Notably, single imputation methods create one complete data set, whereas multiple imputations create multiple complete data sets (Widaman, 2006). Within each data set, the imputed value for missing data remains consistent. Variability is introduced, however, across data sets in that random components are factored in every time a value is imputed (Widaman, 2006). Finally, these data sets are combined to create a single data set and analyses are undertaken with the complete data.

Table 3 displays the percentage of missing data for each variable used in the present study when the target child was 15 and 18 years old respectively. Significant data were missing by these time points in the study due to the attrition that occurred as a result of the longitudinal nature of this data set. At these two time points, between 0.7% and 41.6% of data was missing for mothers, 1.5% and 10.9% for fathers, and 2.2% and 36.5% for adolescents. On average, missing data was lowest for fathers and highest for adolescents.

Main analyses. To address research questions 1-4, a series of ordinary least-squares (OLS) regression models were conducted. OLS regressions are an appropriate approach when using continuous dependent variables. These analyses enable researchers to better understand patterns or predict outcomes of dependent variables in relation to predictive or exploratory variables (Tabachnick & Fidell, 2007). Regression models provide clarity by better understanding the role of the predictor variables selected. For example, a variable may increase, decrease, or not alter the probability of a particular outcome variable. In more complex analyses, regression models may include interaction

effects, which allow the researcher to understand whether the effects of one predictor vary depending on the level of the other predictor (Tabachnick & Fidell, 2007).

Prior to conducting analyses with interaction terms, centering of continuous predictors and covariates is suggested. To do so, the sample mean is subtracted from each individual score for each particular variable (Bickel, 2007). In the present study, the following predictors and covariates were centered when used as part of an interaction term: the composite variable representing SES, the composite variable representing adolescent intellectual and adaptive functioning, parenting efficacy, parent social support, parent well-being, parent depressive symptoms, adolescent autonomy, behavior problems, partner satisfaction, satisfaction with parent-child relationship, satisfaction with family functioning, difficulty of care, work flexibility, work satisfaction, adolescent social acceptance, adolescent self-efficacy, and supportive parenting (adolescent report).

Analysis of research questions. The following section will outline the research questions and hypotheses that were examined in this dissertation. The analytical approach that was undertaken for each question is described. The four overarching questions and their sub-questions are addressed below.

Research question 1: What parental and child factors are related to the well-being of parents of adolescents with DD?

Research Hypothesis 1a: For both mothers and fathers, higher parenting efficacy and greater social support when their child is age 15 is predictive of greater parental well-being (lower total parenting stress and lower parental depressive symptoms) when their child is age 18.

Statistical analysis. To address research question 1a, four separate regression analyses were conducted. In the first two, maternal and paternal total parenting stress were regressed separately on the predictor variables of parenting efficacy and social support when their child was age 15, controlling for SES, child gender, and child functioning. The model is represented as follows:

$$Y \text{ (T18) Total parenting stress} = a + \beta_1 x_1 \text{ (SES)} + \beta_2 x_2 \text{ (composite of child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (child gender)} + \beta_4 x_4 \text{ (T15 parenting efficacy)} + \beta_5 x_5 \text{ (T15 social support)} + e$$

In the third and fourth regression analyses, parental depressive symptoms when their child was age 18 were regressed on the predictor variables of parenting efficacy and social support when their child is age 15, controlling for SES, child gender and child adaptive and intellectual functioning. The model, which was analyzed once to assess maternal depressive symptoms and once for paternal depressive symptoms, is represented as follows:

$$Y \text{ (T18) Parental depressive symptoms} = a + \beta_1 x_1 \text{ (SES)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (child gender)} + \beta_4 x_4 \text{ (T15 parenting efficacy)} + \beta_5 x_5 \text{ (T15 social support)} + e$$

Research Hypothesis 1b: For both mothers and fathers, greater adolescent autonomy is related to greater parental well-being (lower total parenting stress and lower depressive symptoms) when their child is age 18. Within this model,

behavior problems will modify the relationship, where higher levels of behavior problems will attenuate the relationship between greater adolescent autonomy and greater parental well-being.

Statistical analysis. To address research question 1b, four regression analyses were conducted. In the first two models, total parenting stress was regressed on the predictor variable of adolescent autonomy and the interaction term of adolescent autonomy and total child behavior problems when their child was age 18, controlling for SES and child adaptive and intellectual functioning. The model was analyzed once to assess maternal total parenting stress and once to assess paternal total parenting stress and is represented as follows:

$$Y \text{ (T18) Total parenting stress} = a + \beta_1 x_1 \text{ (SES)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (child gender)} + \beta_4 x_4 \text{ (T18 adolescent autonomy)} + \beta_5 x_5 \text{ (T18 child behavior problems)} + \beta_6 x_4 x_5 \text{ (interaction between adolescent autonomy and child behavior problems)} + e$$

In the third and fourth regression analyses, parental depressive symptoms at child age 18 was regressed on the predictor variables of adolescent autonomy and child behavior problems when their child was age 18, controlling for SES, child gender and child adaptive and intellectual functioning. The model, which was also analyzed once to assess maternal depressive symptoms and once for paternal depressive symptoms, is represented as follows:

Y (T18) Parental depressive symptoms = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (T18 adolescent autonomy) + $\beta_5 x_5$ (T18 child behavior problems) + $\beta_6 x_4 x_5$ (interaction between adolescent autonomy and child behavior problems) + e

Research question 2: How is partner satisfaction related to the parent-child relationship and family cohesion for parents of adolescents with DD?

Research Hypothesis 2a: For mothers and fathers, greater partner satisfaction is related to higher levels of parent satisfaction with parent-child relationship and satisfaction with family cohesion when their child is age 18. Within this model, difficulty of care of the adolescent will modify the relationship, where higher levels of difficulty of care will attenuate the relationship between greater partner satisfaction and satisfaction with the parent-child relationship and family cohesion.

Statistical analysis. To address research question 2a, four regression analyses were conducted. In the first model, parental satisfaction with the parent-child relationship was regressed on the predictor variable of dyadic adjustment and the interaction term of dyadic adjustment and difficulty of care when their child was age 15. This model controlled for SES and child adaptive and intellectual functioning. The model was analyzed once to assess maternal satisfaction with the parent-child relationship and once to assess paternal satisfaction with the parent-child relationship and is represented as follows:

Y (T18) Parental satisfaction with the parent-child relationship = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (T18 dyadic adjustment) + $\beta_5 x_5$ (T18 difficulty of care) + $\beta_6 x_4x_5$ (interaction between dyadic adjustment and difficulty of care) + e

In the second regression analysis, parental satisfaction with family cohesion was regressed on the predictor variable of dyadic adjustment and the interaction term of dyadic adjustment and difficulty of care when their child was age 15, controlling for SES and child adaptive and intellectual functioning. The model was analyzed once to assess maternal satisfaction with family cohesion and once to assess paternal satisfaction with family functioning and is represented as follows:

Y (T18) Parental satisfaction with family cohesion = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (T18 dyadic adjustment) + $\beta_5 x_5$ (T18 difficulty of care) + $\beta_6 x_4x_5$ (interaction between dyadic adjustment and difficulty of care) + e

Research question 3: How are work characteristics related to parental satisfaction with the parent-child relationship and with parental well-being?

Research Hypothesis 3a: For mothers and fathers, greater work flexibility and greater job satisfaction are related to greater satisfaction with the parent-child relationship and greater parental well-being (lower total parenting stress and lower depressive symptoms) when their child is 18.

Statistical analysis. To address research question 3a, a series of regression analyses were conducted. In the first model, parental satisfaction with the parent-child relationship was regressed on the predictor variables of work flexibility and job satisfaction when their child was age 18, controlling for child gender, SES, child adaptive and intellectual functioning, and difficulty of care. The model was analyzed once for maternal satisfaction with the parent-child relationship and once to assess paternal satisfaction with the parent-child relationship and is presented as follows:

$$Y \text{ (T18) Parental satisfaction with the parent-child relationship} = a + \beta_1 x_1 \text{ (SES)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (child gender)} + \beta_4 x_4 \text{ (difficulty of care)} + \beta_5 x_5 \text{ (T18 work flexibility)} + \beta_6 x_6 \text{ (T18 job satisfaction)} + e$$

In the second model, total parenting stress was regressed on the predictor variables of work flexibility and job satisfaction when their child was age 18, controlling for child gender, SES, child adaptive and intellectual functioning, and difficulty of care. The model was analyzed once for maternal total parenting stress and once to assess paternal total parenting stress and is presented as follows:

$$Y \text{ (T18) Total parenting stress} = a + \beta_1 x_1 \text{ (SES)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (child gender)} + \beta_4 x_4 \text{ (difficulty of care)} + \beta_5 x_5 \text{ (T18 work flexibility)} + \beta_6 x_6 \text{ (T18 job satisfaction)} + e$$

In the final model, parental depressive symptoms was regressed on the predictor variables of work flexibility and job satisfaction when their child was age 18, controlling for child gender, SES, child adaptive and intellectual functioning, and difficulty of care. The model was analyzed once for maternal depressive symptoms and once to assess paternal depressive symptoms and is presented as follows:

$$Y \text{ (T18) Parental depressive symptoms} = a + \beta_1 x_1 \text{ (SES)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (child gender)} + \beta_4 x_4 \text{ (difficulty of care)} + \beta_5 x_5 \text{ (T18 work flexibility)} + \beta_6 x_6 \text{ (T18 job satisfaction)} + e$$

Research Hypothesis 3b: For mothers and fathers, greater work flexibility and greater job satisfaction (work composite) are related to greater parental well-being (lower total parenting stress and lower depressive symptoms) above and beyond satisfaction with the parent-child relationship when their child is age 18.

Statistical analysis. To address research question 3b, a series of hierarchical regression analyses were conducted. The first hierarchical regression analyses included total parenting stress when their child was age 18 regressed on control variables of family SES, child gender, and child adaptive and intellectual functioning, as well as predictor variables of satisfaction with the parent-child relationship when their child was age 18 and the work composite (also at child age 18, entered in the last step). The model was analyzed once for maternal total parenting stress and once to assess paternal total parenting stress and is presented as follows:

Y (Age 18) Total parenting stress = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 satisfaction with the parent-child relationship) + $\beta_5 x_5$ (Age 18 work composite) + e

The second hierarchical regression analyses included total parenting stress when their child was age 18 regressed on control variables of family SES, child gender, and child adaptive and intellectual functioning, as well as predictor variables of satisfaction with the parent-child relationship when their child was age 18 and the work composite (also at child age 18, entered in the last step). The model was analyzed once for maternal depressive symptoms and once to assess paternal depressive symptoms and is presented as follows:

Y (Age 18) Parental depressive symptoms = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 satisfaction with the parent-child relationship) + $\beta_5 x_5$ (Age 18 work composite) + e

Research question 4: What adolescent, peer, and parent factors predict and relate to adolescent autonomy in teens with DD?

Research Hypothesis 4a: Greater adolescent social acceptance at age 15 is predictive of greater adolescent autonomy at age 18.

Statistical analysis. To address research question 4a, a regression analysis was conducted. In this model, adolescent autonomy was regressed on the predictor variable of

social acceptance when the adolescent was age 15, controlling for child gender and child adaptive and intellectual functioning. The model is represented as follows:

$$Y \text{ (T18) Adolescent autonomy} = a + \beta_1 x_1 \text{ (child gender)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (T15 social acceptance)} + e$$

Research Hypothesis 4b: Greater adolescent self-efficacy and supportive parenting are related to greater adolescent autonomy when the adolescent is age 18.

Statistical analysis. To address research question 4b, a regression analysis was conducted. In this model, adolescent autonomy was regressed on the predictor variables of self-efficacy and supportive parenting when the adolescent is age 18, controlling for child gender and child adaptive and intellectual functioning. The model is represented as follows:

$$Y \text{ (T18) Adolescent autonomy} = a + \beta_1 x_1 \text{ (child gender)} + \beta_2 x_2 \text{ (child adaptive and intellectual functioning)} + \beta_3 x_3 \text{ (T18 self-efficacy)} + \beta_4 x_4 \text{ (T18 supportive parenting)} + e$$

Implications

The questions addressed in findings of this dissertation were designed to address gaps in the existing literature related to the well-being of adolescents with DD and their parents. Specifically, critical questions were constructed about factors contributing to

parental well-being that are understudied in the DD literature, such as the role of employment for mothers and fathers of adolescents with DD (Matthews et al., 2011). More broadly, the goal of this dissertation was to investigate questions that may deepen our understanding of fathers of adolescents with DD, who are all too frequently omitted in much of the existing literature (Hauser-Cram et al., 2013; Lamb & Lewis, 2004).

Further, because many studies focus predominantly on the well-being of parents of teens with DD, the research questions related to adolescent functioning may shed light on factors that will promote adolescent autonomy, which is a cornerstone of adolescent development and a building block for future well-being (Connell & Wellborn, 1991). Of equal importance, the dissertation's examination of the role of adolescent autonomy related to parental well-being may lead to a deeper understanding of the intersection between adolescent and parental functioning. Therefore, the questions asked in this dissertation may directly address the trajectory of autonomy in adolescents with DD and its relationship to parental well-being.

In sum, garnering a deeper understanding of the transactions occurring between the functioning of adolescents with DD and their parents will heighten our understanding of their functioning from a Family Systems perspective. This, in turn, will allow providers to better support adolescents with DD and their parents by identifying crucial protective factors. Subsequently, more targeted interventions could be created to more fully meet the needs of this population.

Chapter 4: Results

This chapter presents the results of the hypotheses guiding this dissertation. First, however, it includes descriptive information for each of the four data sets included in the primary analyses, as well as a review of the missing data. Then, primary analyses assessing normality of the sample are presented, followed by bivariate correlations including the variables utilized in the main analyses. Then, participants who score above clinical cut-offs are identified in comparison to normative samples. Finally, results of each of the four overarching research questions and related supplementary research questions are presented.

Data Sets

Separate multiple imputed data sets were created for each of the four overarching questions and related sub-questions to account for missing data. A basic description of each of these data sets can be found in Tables 4 through 7. The first data set included all adolescents and parents who completed measures at ages 15 and 18. The second data set included only partnered parents, given the emphasis of dyadic satisfaction within the related series of questions. Based on the focus on the role of employment, the third data set was limited to fathers and mothers who were working at least part-time. A final data set was created for the last set of questions, which included only adolescents whose cognitive abilities enabled them to complete the autonomy measure independently, given the emphasis on adolescent autonomy across these final questions.

Missing Data

Due to the attrition at the time points analyzed in this study, multiple imputation procedures were utilized for all constructs with the exception of demographic information.

Missing data were imputed using SPSS version 22. Imputation was created based on child and parent variables from age 15 and age 18 of the EICS data. Five imputed data sets were generated for all analyses except for the third data set related to employment, which was imputed eight times given the greater amount of imputation required for these questions. Fitting with the present sample, multiple imputation is considered an effective method to deal with moderate to large amounts of missing data (i.e., greater than 5%; Widaman, 2006). This method draws upon estimates that include random variability to imitate the variability that exists within the complete data sets, creating a more representative data set.

Basic Frequencies and Checks

Prior to conducting the primary analyses, data were screened for univariate normality and were determined to conform and meet guidelines for appropriate skewness and kurtosis (i.e., skewness < 3.0 and kurtosis < 10.0; Weston & Gore, 2006).

Correlations were run between all independent and dependent variables to assess multi-collinearity concerns, and none were noted. The correlations for variables included in equations for each research question can be found in Tables 8 through 14.

Preliminary Analyses

Clinical cut-offs. A clinical cut-off is a value that serves as a boundary to distinguish between a response representative of a “normal range” and that of a “clinical range”. Those responses that are deemed clinically significant, or above the clinical cut-off, “indicate the likely need for some...intervention” (Achenbach & Edelbrock, 1983, p. 13). The present study utilized two such measures that relied on cut-off values, including

the Center for Epidemiologic Studies Depression Scale (Radloff, 1977) and the Child Behavior Checklist (Achenbach, 1991).

The percentage of parents scoring above the clinical cut-off (greater than or equal to 16) on the Center for Epidemiologic Studies Depression Scale was 16% for mothers and 9% for fathers when their child was 18 years of age. In comparison, within normative data, 4.7% of adults in the general population score above the clinical cut-off (Radloff, 1977). In relation to the second measure, according to mothers' reports on the Child Behavior Checklist, the percentage of children at risk at age 18 for clinically significant behavior problems (>60) was 28.9%. Additionally, the percentage of children at high risk for clinically significant behavior problems (>70) was 3.2% at age 18. Comparatively, 2.3% of children in normative samples exhibited clinically significant behavior problems.

Primary Analyses

Research question 1: What parental and child factors are related to the well-being of parents of adolescents with DD?

Research Hypothesis 1a: For both mothers and fathers, higher parenting efficacy and greater social support when their child is age 15 is predictive of greater parental well-being and lower parental depressive symptoms when their child is age 18.

To address question 1a, a series of regression analyses were conducted. Total parenting stress and parental depressive symptoms when their child was age 18 were analyzed in parallel regression models, resulting in two separate regression analyses to address question 1a. The regression analyses included total parenting stress and parental

depressive symptoms when their child was age 18, regressed on control variables of family SES, child functioning, and child gender, and predictor variables parenting efficacy when their child was age 15, and parental social support when their child was age 15. The models are presented as follows:

$$(Y1) \text{ Age 18 Total parenting stress} = a + \beta_1 x_1 (\text{SES}) + \beta_2 x_2 (\text{composite of child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{child gender}) + \beta_4 x_4 (\text{Age 15 parenting efficacy}) + \beta_5 x_5 (\text{Age 15 social support}) + e$$

$$(Y2) \text{ Age 18 Parental depressive symptoms} = a + \beta_1 x_1 (\text{SES}) + \beta_2 x_2 (\text{child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{child gender}) + \beta_4 x_4 (\text{Age 15 parenting efficacy}) + \beta_5 x_5 (\text{Age 15 social support}) + e$$

As seen in Tables 15 and 16, adolescent functioning, gender, and the family's SES were not predictive of later parenting stress. Additionally, the main effect of parental social support (at child age 15) did not predict total parenting stress (at child age 18) for mothers ($p = .270$) or fathers ($p = .499$). Parenting efficacy (at child age 15) was, however, predictive of total parenting stress (at child age 18) of both mothers ($p = .007$) and fathers ($p = .040$), with higher levels of parenting efficacy predicting lower levels of total parenting stress.

As seen in Tables 17 and 18, adolescent functioning, gender, and SES were non-significant in predicting parental depressive symptoms. The main effect of social support (at child age 15) predicting depressive symptoms (at child age 18) was non-significant for mothers ($p = .422$) and fathers ($p = .437$). The main effect of parenting efficacy (at child

age 15) was predictive of depressive symptoms (at child age 18) for mothers ($p = .027$) and fathers ($p = .016$), with higher levels of parenting efficacy predicting lower levels of parental depressive symptoms.

Further analyses were conducted to explore the significance of parenting efficacy (at child age 18) in relation to particular stresses experienced by parents using each of the subscales of parenting stress according to the Stress Index for Parents of Adolescents (SIPA), all at child age 18: stress related to the effect of parenting on other life roles and relationships (Parenting Stress SIPA subscale), stress related to the behaviors, attitudes, and achievements of the adolescent (Adolescent Stress SIPA subscale), and stress related to the relationship between the parent and adolescent (Parent-Adolescent SIPA subscale). To address this question, three parallel regression analyses were conducted including each of the three subscales of parenting stress (at child age 18), regressed on control variables of family SES, child functioning, and child gender, and on the predictor variable of parenting efficacy (at child age 15). The model is presented as follows:

(Y1) Age 18 Parenting Stress SIPA subscale = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (composite of child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 15 parenting efficacy) + e

(Y2) Age 18 Adolescent Stress SIPA subscale = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (composite of child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 15 parenting efficacy) + e

(Y3) Age 18 Parent-Adolescent Stress SIPA subscale = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$
(composite of child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$
(Age 15 parenting efficacy) + e

For mothers and fathers, adolescent functioning and gender were not predictive of later parental well-being, as measured by parenting stress. Findings revealed that for both mothers and fathers, the main effect of parenting efficacy was significantly related to the parenting subscale of the parenting stress measure ($p = .025$ for mothers, $p = .018$ for fathers), such that greater levels of parenting efficacy (at child age 15) predicted lower parenting stress related to the effect of parenting on other life roles and relationships (at child age 18). Similarly, the main effect of parenting efficacy was significant in relation to the parent-adolescent relationship stress domain ($p = .011$ for mothers, $p = .012$ for fathers), indicating that greater levels of parenting efficacy (at child age 15) predicted lower parenting stress related to the relationship between the parent and adolescent (at child age 18). Finally, the main effect of parenting efficacy approached significance in predicting the adolescent domain of parenting stress for mothers ($p = .077$) and fathers ($p = .098$), such that greater levels of parenting efficacy (at child age 15) nearly predicted lower parenting stress related to the behaviors, attitudes, and achievements of the adolescent (at child age 18).

Research Hypothesis 1b: For both mothers and fathers, greater adolescent autonomy is related to greater parental well-being (lower total parenting stress and lower depressive symptoms) when their child is age 18. Within this model,

total behavior problems will modify the relationship, where higher levels of total behavior problems will attenuate the relationship between greater adolescent autonomy and greater parental well-being.

To address question 1b, a series of regression analyses were conducted. Total parenting stress and parental depressive symptoms were analyzed in parallel regression models, resulting in two separate regression analyses to address question 1b. The regression analyses included parental total stress (at child age 18) and parental depressive symptoms (at child age 18), regressed on predictor variables of family SES, child functioning, and child gender, and predictor variables adolescent autonomy (at child age 18), total child behavior problems (at child age 18), and the interaction effect between adolescent autonomy and total child behavior problems. The models are represented as follows:

(Y1) Age 18 Parenting stress = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 adolescent autonomy) + $\beta_5 x_5$ (Age 18 total child behavior problems) + $\beta_6 x_4 x_5$ (interaction between adolescent autonomy and total child behavior problems) + e

(Y2) Age 18 Parental depressive symptoms = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 adolescent autonomy) + $\beta_5 x_5$ (Age 18 total child behavior problems) + $\beta_6 x_4 x_5$ (interaction between adolescent autonomy and total child behavior problems) + e

As seen in Tables 19 and 20, the main effects for SES, adolescent functioning, and adolescent gender were non-significant in relation to total parenting stress. Further, the main effect for adolescent autonomy relating to total parenting stress was also not significant for mothers ($p = .805$) or fathers ($p = .199$). For mothers, a significant main effect was found for total child behavior problems relating to total parenting stress ($p = .005$), such that greater levels of behavior problems (at child age 18) were related to higher levels of total parenting stress (at child age 18). For fathers, the main effect of total child behavior problems in relation to total parenting stress was non-significant ($p = .200$). Additionally, the interaction effect was not significant for mothers ($p = .892$) or fathers ($p = .376$).

As seen in Tables 21 and 22, the main effects for SES, adolescent functioning, and adolescent gender were non-significant in relation to parental depressive symptoms. Further, for both parents, the main effect for adolescent autonomy remained non-significant ($p = .159$ and $.195$ for mothers and fathers respectively). For mothers, a significant main effect was found for total child behavior problems relating to parental depressive symptoms ($p = .000$), such that greater levels of total behavior problems (at child age 18) were related to higher levels of maternal depressive symptoms (at child age 18). For fathers, the main effect of total child behavior problems in relation to paternal depressive symptoms was non-significant ($p = .669$). Additionally, the interaction term was not significant for mothers ($p = .602$) or fathers ($p = .439$), indicating that total behavior problems did not moderate the relationship between adolescent autonomy and parental depressive symptoms.

Additional analyses were conducted to discern whether total parenting stress was differentially related to the adolescents' internalizing behavior problems, externalizing behavior problems, or only to total behavior problems across these two subscales. To address these questions, a series of regression analyses were conducted. Total parenting stress was analyzed in separate parallel regression models for both internalizing and externalizing behavior problems, for mothers and fathers. The regression analyses included total parenting stress (at child age 18), regressed on predictor variables of family SES, child functioning, and child gender, and on the predictor variable of either internalizing behavior problems (at child age 18) or externalizing behavior problems (at child age 18). The models are represented as follows:

(Y1) Age 18 Total parenting stress = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 internalizing behavior problems) + e

(Y2) Age 18 Total parenting stress = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 externalizing behavior problems) + e

For mothers, no main effect was found for the specific domain of behavior problems (internalizing behavior problems or externalizing) in relation to maternal total parenting stress ($p = .531, .226$ for internalizing and externalizing respectively). Thus, for mothers, although total behavior problems were related to total parenting stress in the

previous model, no specific type of adolescent behavior problems was related to their parenting stress.

For fathers, the main effect of internalizing behavior problems related to overall paternal well-being (was non-significant ($p = .945$). A main effect was found, however, for externalizing behavior problems relating to overall paternal well-being ($p = .010$), such that greater externalizing behavior problems of adolescents (at child age 18) were related to higher paternal total parenting stress (at child age 18).

Based on the analyses of 1A and 1B, additional analyses were conducted to determine whether parenting processes (i.e. parenting efficacy) predict parent well-being and parental depressive symptoms above and beyond the effects of total child behavior problems. To address these questions, a series of hierarchical regression analyses were conducted. Parental well-being and depressive symptoms were analyzed in separate parallel regression models, resulting in two regression analyses for mothers and fathers. The regression analyses included parental well-being and depressive symptoms (at child age 18), regressed on control variables of family SES, child functioning, and child gender, and predictor variables including total child behavior problems (at child age 18), and parenting efficacy (at child age 15, entered in the last step). The models are represented as follows:

(Y1) Age 18 Total parenting stress = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 total child behavior problems) + $\beta_5 x_5$ (Age 15 parenting efficacy) + e

(Y2) Age 18 Parental depressive symptoms = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age total 18 child behavior problems) + $\beta_5 x_5$ (Age 15 parenting efficacy) + e

For both mothers and fathers, the main effects for SES, adolescent functioning, and adolescent gender were non-significant in relation to total parenting stress and parental depressive symptoms. For mothers, the main effect of parenting efficacy (entered in the last step) was significant ($p = .031$) in predicting maternal total parenting stress, indicating that parenting efficacy (at child age 15) predicted greater well-being of mothers (as measured by total parenting stress at child age 18) above and beyond total child behavior problems ($p = .000$). In relation to maternal depressive symptoms, however, parenting efficacy did not significantly predict maternal depressive symptoms ($p = .131$) above and beyond total adolescent behavior problems ($p = .000$).

For fathers, the main effect of parenting efficacy was significant ($p = .011$), indicating that parenting efficacy (at child age 15) predicted lower total parenting stress (at child age 18) above and beyond total child behavior problems (at child age 18, $p = .036$). The main effect of parenting efficacy was also significant in relation to the depressive symptoms of fathers ($p = .003$), such that above and beyond total child behavior problems ($p = .306$), greater paternal parenting efficacy predicted lower levels of paternal depressive symptoms.

Research question 2: How is partner satisfaction related to the parent-child relationship and family cohesion for parents of adolescents with DD?

Research Hypothesis 2a: For mothers and fathers, greater partner satisfaction (dyadic adjustment) is related to higher levels of parent satisfaction with parent-child relationship and satisfaction with family cohesion when their child is age 18. Within this model, difficulty of care of the adolescent will modify the relationship, where higher levels of difficulty of care will attenuate the relationship between greater partner satisfaction and satisfaction with the parent-child relationship and family cohesion.

To address these questions, a series of regression analyses were conducted. Parental satisfaction with the parent-child relationship and parental satisfaction with family cohesion were analyzed in parallel regression models, resulting in two separate regression analyses for mothers and fathers. The regression analyses included parental satisfaction with the parent-child relationship (at child age 18) and parental satisfaction with family cohesion (at child age 18) regressed on control variables of family SES, child functioning, and child gender, and predictor variables dyadic adjustment (at child age 18), difficulty of care (at child age 18), and the interaction effect of dyadic adjustment and difficulty of care. The models are represented as follows:

$$Y1) \text{ Age 18 Parental satisfaction with the parent-child relationship} = a + \beta_1 x_1 (\text{SES}) + \beta_2 x_2 (\text{child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{child gender}) + \beta_4 x_4 (\text{Age 18 dyadic adjustment}) + \beta_5 x_5 (\text{Age 18 difficulty of care}) + \beta_6 x_4 x_5 (\text{interaction between dyadic adjustment and difficulty of care}) + e$$

(Y2) Age 18 Parental satisfaction with family cohesion = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 dyadic adjustment) + $\beta_5 x_5$ (Age 18 difficulty of care) + $\beta_6 x_4x_5$ (interaction between dyadic adjustment and difficulty of care) + e

As seen in Tables 23 and 24, the main effects for SES, adolescent functioning, and adolescent gender were non-significant in relation to parents' satisfaction with the parent-child relationship. Additionally, the main effect of dyadic adjustment was found to be non-significant for mothers ($p = .805$) and fathers ($p = .912$) in relation to parent satisfaction with the parent-child relationship. For mothers, the main effect of difficulty of care was non-significant ($p = .651$). For fathers, however, a significant main effect was found for difficulty of care ($p = .006$), such that greater difficulty of care (at child age 18) was associated with lower levels of satisfaction within the father-child relationship (at child age 18). Further, the interaction term was not significant for mothers ($p = .782$) or fathers ($p = .306$), indicating that difficulty of care did not moderate the relationship between dyadic adjustment and parental satisfaction with the parent-child relationship.

As seen in Tables 25 and 26, the main effects for SES, adolescent functioning, and adolescent gender were non-significant in relation to parental satisfaction with family cohesion. Additionally, the main effect of difficulty of care was found to be non-significant in relation to maternal ($p = .974$) and paternal ($p = .362$) satisfaction with family cohesion. For mothers, the main effect of dyadic adjustment in relation to family cohesion was non-significant ($p = .745$). For fathers, the main effect of dyadic adjustment was trend-level ($p = .084$), such that greater levels of dyadic adjustment (at child age 18)

were nearly related to greater levels of paternal satisfaction with family cohesion (at child age 18). Finally, the interaction effect was not significant for mothers ($p = .861$) or fathers ($p = .115$), indicating that difficulty of care did not moderate the relationship between dyadic adjustment and parental satisfaction with family cohesion.

Based on these findings, a regression analysis was conducted to determine whether positive aspects of the parent-child relationship relate to family cohesion. The regression analysis included parental satisfaction with family cohesion (at child age 18) regressed on control variables of family SES, child functioning, and child gender, and predictor variables including difficulty of care (at child age 18) and satisfaction with the parent-child relationship (at child age 18). The model is represented as follows:

$$Y (\text{Age 18}) \text{ Parental satisfaction with family cohesion} = a + \beta_1 x_1 (\text{SES}) + \beta_2 x_2 (\text{child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{child gender}) + \beta_4 x_4 (\text{Age 18 difficulty of care}) + \beta_5 x_5 (\text{Age 18 satisfaction with the parent-child relationship}) + e$$

For mothers and fathers, the main effects for SES and adolescent gender were non-significant in relation to parental satisfaction with family cohesion. The main effect of adolescent functioning was significant for mothers ($p = .005$) and trending for fathers ($p = .096$), such that greater adolescent adaptive and intellectual functioning was related to lower levels of parental satisfaction with family cohesion (at child age 18) for both mothers and fathers. The main effect of difficulty of care was non-significant in relation to satisfaction with family cohesion for mothers ($p = .340$). For fathers, this main effect was significant ($p = .003$), indicating that greater difficulty of care (at child age 18)

was related to lower levels of paternal satisfaction with family cohesion (at child age 18). Additionally, the main effect of satisfaction with the parent-child relationship was trend level for mothers ($p = .060$) and significant for fathers ($p = .037$), such that greater satisfaction with the parent-child relationship (at child age 18) was related to greater sense of family cohesion for mothers and fathers (at child age 18).

Research question 3: How are work characteristics related to parental satisfaction with the parent-child relationship and with parental well-being?

Research Hypothesis 3a: For mothers and fathers, greater work flexibility and greater job satisfaction are related to greater satisfaction with the parent-child relationship when their child is age 18, and lower total parenting stress and lower depressive symptoms when their child is 18.

To address question 3a, a series of regression analysis were conducted using a subset of parents ($n = 93$ mothers, $n = 105$ fathers) who were employed full-time or part-time. Parental satisfaction with the parent-child relationship, total parent stress, and parental depressive symptoms were analyzed in parallel regression models, resulting in three separate regression analyses for mothers and fathers. The regression analyses included parental satisfaction with the parent-child relationship (at child age 18), total parenting stress (at child age 18), and parent depressive symptoms (at child age 18) regressed on control variables of family SES, child functioning, child gender, and predictor variables of difficulty of care (at child age 18), work flexibility (at child age 18), and job satisfaction (at child age 18). The models are represented as follows:

Y (Age 18) Parental satisfaction with the parent-child relationship = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 difficulty of care) + $\beta_5 x_5$ (Age 18 work flexibility) + $\beta_6 x_6$ (Age 18 job satisfaction) + e

Y2 (Age 18) Total parenting stress = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 difficulty of care) + $\beta_5 x_5$ (Age 18 work flexibility) + $\beta_6 x_6$ (Age 18 job satisfaction) + e

Y3 (Age 18) Parental depressive symptoms = $a + \beta_1 x_1$ (SES) + $\beta_2 x_2$ (child adaptive and intellectual functioning) + $\beta_3 x_3$ (child gender) + $\beta_4 x_4$ (Age 18 difficulty of care) + $\beta_5 x_5$ (Age 18 work flexibility) + $\beta_6 x_6$ (Age 18 job satisfaction) + e

As seen in Tables 27 and 28, the main effects for family SES, child adaptive and intellectual functioning, and child gender relating to parental satisfaction with the parent-child relationship were non-significant. A significant main effect was found for difficulty of care relating to parental satisfaction with the parent-child relationship among employed mothers ($p = .000$) and employed fathers ($p = .000$), where greater difficulty of care (at child age 18) was related to lower levels of satisfaction with the parent-child relationship (at child age 18). The main effect of work flexibility relating to parental satisfaction with the parent-child relationship was non-significant for mothers ($p = .395$) and fathers ($p = .711$). Similarly, for both mothers and fathers, the main effect for job

satisfaction relating to parental satisfaction with the parent-child relationship was non-significant ($p = .909, .564$ for mothers and fathers respectively).

As seen in Tables 29 and 30, the main effects for family SES, child adaptive and intellectual functioning, and child gender relating to total parenting stress were non-significant. A significant main effect was found for difficulty of care relating to total parenting stress among employed mothers ($p = .000$) and employed fathers ($p = .000$), where greater difficulty of care (at child age 18) was related to higher levels of total parenting stress (at child age 18). The main effect of work flexibility relating to total parenting stress was non-significant for mothers ($p = .441$) and fathers ($p = .956$). For mothers, the main effect for job satisfaction relating to total parenting stress was non-significant ($p = .212$). For fathers, however, the main effect of job satisfaction relating to total parenting stress was significant ($p = .034$), such that greater job satisfaction was related to lower total parenting stress among fathers.

Finally, as seen in Tables 31 and 32, the main effects for family SES, child adaptive and intellectual functioning, and child gender relating to parental depressive symptoms were non-significant. A significant main effect was found for difficulty of care relating to parental depressive symptoms among employed mothers ($p = .000$) and employed fathers ($p = .000$), where greater difficulty of care (at child age 18) was related to higher levels of parental depressive symptoms (at child age 18). For mothers, the main effects of work flexibility and job satisfaction ($p = .441, .462$ respectively) were non-significant in relation to maternal depressive symptoms. For fathers, the main effect of work flexibility relating to parental depressive symptoms was significant ($p = .011$), indicating that greater work flexibility was related to lower paternal depressive symptoms. Additionally,

the main effect of job satisfaction was trending ($p = .087$), such that greater job satisfaction was nearly significantly related to lower paternal depressive symptoms.

Research Hypothesis 3b: For mothers and fathers, greater work flexibility and greater job satisfaction (work composite) are related to greater parental well-being (lower total parenting stress and lower depressive symptoms) above and beyond satisfaction with the parent-child relationship when their child is age 18.

To be consistent with prior outcomes, additional analyses were conducted to examine the role of work in relation to parental well-being (measured by total parenting stress and depressive symptoms) above and beyond the parent-child relationship. Because job satisfaction was highly correlated with work flexibility for both mothers ($r = .617$) and fathers ($r = .525$), a composite value (titled *work composite*) was created to assess the overall effects of parental employment. To address these questions, a series of hierarchical regression analyses were conducted. Parenting total stress and parental depressive symptoms were analyzed in parallel regression models, resulting in two separate regression analyses for mothers and fathers. The first hierarchical regression analysis included total parenting stress (at child age 18) as the outcome variable, and the second hierarchical regression analysis included parental depressive symptoms (at child age 18) as the outcome variable. In two parallel analyses, each variable was separately regressed on control variables of family SES, child gender, and child adaptive and intellectual functioning, as well as predictor variables of satisfaction with the parent-child

relationship (at child age 18), and the work composite (at child age 18, entered in the last step). These models are represented as follows:

$$Y1(\text{Age 18}) \text{ Total parenting stress} = a + \beta_1 x_1(\text{SES}) + \beta_2 x_2(\text{child adaptive and intellectual functioning}) + \beta_3 x_3(\text{child gender}) + \beta_4 x_4(\text{Age 18 satisfaction with the parent-child relationship}) + \beta_5 x_5(\text{Age 18 work composite}) + e$$
$$Y2(\text{Age 18}) \text{ Parental depressive symptoms} = a + \beta_1 x_1(\text{SES}) + \beta_2 x_2(\text{child adaptive and intellectual functioning}) + \beta_3 x_3(\text{child gender}) + \beta_4 x_4(\text{Age 18 satisfaction with the parent-child relationship}) + \beta_5 x_5(\text{Age 18 work composite}) + e$$

As seen in Tables 33 and 34, the main effects for family SES, child adaptive and intellectual functioning, and child gender relating to total parenting stress were non-significant. The main effect of satisfaction with the parent-child relationship significantly predicted parenting stress for both mothers ($p = .000$) and fathers ($p = .000$), such that satisfaction with the parent-child relationship (at child age 18) predicted lower total parenting stress (at child age 18) for both mothers and fathers. For mothers, the main effect of the work composite was significant ($p = .003$) in relation to maternal stress, indicating that maternal work flexibility and satisfaction (at child age 18) contributed to lower levels of total parenting stress of mothers (at child age 18) after accounting for maternal satisfaction with the parent-child relationship. Similar results were found for fathers, where the main effect of the work composite was significant ($p = .001$) in relation to total paternal stress, indicating that paternal work flexibility and satisfaction (at child

age 18) contributed to lower levels of total parenting stress (at child age 18) after accounting for paternal satisfaction with the parent-child relationship.

As seen in Tables 35 and 36, the main effects for family SES, child adaptive and intellectual functioning, and child gender relating to parental depressive symptoms were non-significant. The main effect of satisfaction with the parent-child relationship significantly predicted parental depressive symptoms for both mothers ($p = .000$) and fathers ($p = .000$), such that satisfaction with the parent-child relationship (at child age 18) predicted lower parental depressive symptoms (at child age 18) for both mothers and fathers. For mothers, the main effect of the work composite was significant ($p = .040$) in relation to maternal depressive symptoms, indicating that maternal work flexibility and satisfaction (at child age 18) contributed to lower levels of depressive symptoms among mothers (at child age 18) after accounting for maternal satisfaction with the parent-child relationship. Similar results were found for fathers, where the main effect of the work composite was significant ($p = .000$) in relation to paternal depressive symptoms, indicating that paternal work flexibility and satisfaction (at child age 18) contributed to lower levels of depressive symptoms among fathers (at child age 18) after accounting for paternal satisfaction with the parent-child relationship.

Research question 4: What factors predict and relate to adolescent autonomy in teens with DD?

Research Hypothesis 4a: Greater adolescent social acceptance at age 15 is predictive of greater adolescent autonomy at age 18.

To address question 4a, a regression analysis was conducted that included adolescent autonomy at age 18 regressed on control variables of child functioning, and child gender, and the predictor variable of age 15 social acceptance. The model is represented as follows:

$$Y (\text{Age 18}) \text{ Adolescent autonomy} = a + \beta_1 x_1 (\text{child gender}) + \beta_2 x_2 (\text{child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{Age 15 social acceptance}) + e$$

As seen in Table 37, the main effect for child gender was non-significant. A trend-level main effect was found for adolescent adaptive and intellectual functioning ($p = .056$), indicating that higher levels of adolescent adaptive and intellectual functioning at age 15 predicted greater levels of adolescent autonomy at age 18. Additionally, a significant main effect was found for age 15 social acceptance ($p = .000$), with higher levels of social acceptance predicting greater later adolescent autonomy.

Based on the significant role of autonomy indicated by these findings, additional analyses were conducted to determine if adolescent autonomy was related to internal adolescent processes (self-efficacy) controlling for previous social acceptance. To address this question, a hierarchical regression analysis was conducted that included age 18 adolescent autonomy regressed on control variables of child gender and child adaptive and intellectual functioning, and predictor variables of age 15 social acceptance and age 18 self-efficacy (entered in the last step). The model is represented as follows:

$$Y (\text{Age18}) \text{ Adolescent autonomy} = a + \beta_1 x_1 (\text{child gender}) + \beta_2 x_2 (\text{child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{Age 15 social acceptance}) + \beta_4 x_4 (\text{Age 18 self-efficacy}) + e$$

The main effects of child gender and child adaptive and intellectual functioning were not significant. A significant main effect was found for both social acceptance at age 15 ($p = .008$) and self-efficacy ($p = .010$) at age 18, indicating that self-efficacy was related to adolescent autonomy above and beyond age 15 social acceptance.

Research Hypothesis 4b: Greater adolescent self-efficacy and supportive parenting are related to greater adolescent autonomy when the adolescent is age 18.

To address question 4b, a regression analysis was conducted that included age 18 adolescent autonomy regressed on control variables of child gender, child adaptive and intellectual functioning, as well as predictor variables of age 18 self-efficacy and age 18 supportive parenting. The model is represented as follows:

$$Y (\text{Age 18}) \text{ Adolescent autonomy} = a + \beta_1 x_1 (\text{child gender}) + \beta_2 x_2 (\text{child adaptive and intellectual functioning}) + \beta_3 x_3 (\text{Age 18 self-efficacy}) + \beta_4 x_4 (\text{Age 18 supportive parenting}) + e$$

As seen in Table 38, the main effects for child gender and adaptive and intellectual functioning were not significant. A significant main effect was found for age 18 self-efficacy ($p = .002$), with higher levels of self-efficacy relating to greater adolescent autonomy. The main effect for supportive parenting at age 18 relating to adolescent autonomy at age 18 was non-significant ($p = .131$).

Chapter 5: Discussion

This chapter begins with a review of the theoretical orientations informing this dissertation. First, the central tenets of family systems theory are outlined, followed by an overview of relevant developmental theory as it relates to both typically developing adolescents and those with DD. Next, The Relational Cultural Model (Miller & Stiver, 1991) and the concept of relational health (Liang et al., 2002b) will be detailed as mechanisms that shed light on the significant role of relational connection underlying several of the present study's findings. Following, Blustein's Psychology of Work Framework (Blustein, 2006) and Relational Theory of Work (Blustein, 2011) will be reviewed in relation to the significant role of job satisfaction and work flexibility for parents in the present sample. After the theoretical overview, the aims of the present study and findings are reviewed in the context of existing literature. Finally, limitations of the study and implications for future research related to adolescents with DD and their families are assessed.

Theoretical Overview

Family systems and adolescent development. One of the central tenets of family systems theory is that all members of the family unit are interdependent (Bowen, 1966; Minuchin, 1985). In turn, an individual cannot be understood outside of his or her context. In the case of this dissertation, an adolescent cannot fully be understood without consideration of his or her caregivers, nor can the caregivers' well-being be grasped without a clear sense of the functioning of their child and the parent-child relationship (Cox & Paley, 2003; Lerner & Callina, 2014). Given the iterative nature of development, changes in one family member may co-occur or precipitate changes in other members of

the family. Notably, these changes may be internal and physiological, such as those related to natural development and maturation, or external or environmental, such as shifts in workplace expectations for parents (Minuchin, 1985). During adolescence in particular, the family system is consistently considered one of the most influential in regards to individual development and family well-being (Laursen & Collins, 2009).

Maintaining a family unit's homeostasis becomes particularly threatened during adolescence because of the many biological, cognitive, and psychosocial changes ushered in by parents and adolescents alike (Cicchetti & Rogosch, 2002; Steinberg & Silverberg, 1986). Biologically, although pubertal development is not definitively or linearly related to parent-child conflict during adolescence, hormonal changes can precipitate increased moodiness throughout adolescence (Steinberg & Sheffield Morris, 2001), thus contributing to the possible intra-familial conflict and the higher levels of behavior problems reported at this time. For some adolescents with DD, such as those with spina bifida, precocious puberty is common, meaning these changes and related concerns may be premature within these families (Holmbeck, 2002). While managing these changing dynamics in the parent-adolescent relationship, parents are concurrently confronting their own developmental challenges, such as caring for aging parents (Steinberg & Silk, 2002). These biological changes highlight both the noteworthy hormonal changes and greater mood lability among adolescents, but the secondary psychosocial consequences that reverberate throughout the family system at this time.

Cognitively, adolescence is a time when higher level reasoning abilities and executive functioning skills begin to develop, resulting in important psychosocial changes for adolescents and parents alike. For example, teens' burgeoning abilities to

think independently of others coincide with their expectations of more egalitarian relationship with their parents (Laursen & Collins, 2009). As a result, conflicts are more likely to arise during this time given the renegotiation of rights and responsibilities taking shape between parents and adolescents (Laursen & Collins, 2009; Silverberg & Steinberg, 1990). To that end, typically developing adolescents begin to spend less time with parents and seek out the support of their peers more frequently (Shearer, Crouter, & McHale, 2005), which is crucial given that peer support is shown to be instrumental in autonomy development (Laursen & Collins, 2009). Although historical models of development called for full separation from parents for adolescents to become autonomous (Beyers et al., 2003; McElhaney et al., 2009), it is now widely accepted that adolescents develop competence when parents foster independence while remaining connected to their child (Connell & Wellborn, 1991).

For children with DD and their parents, adolescence presents with unique challenges not necessarily encountered by parents of typically developing teens. For example, many adolescents with DD struggle to form the reciprocal friendships that scholars indicate are foundational in the development of autonomous functioning (Matheson et al., 2007). In many cases, the stunted autonomy of youth with DD necessitates more intensive parental support than it does with their other typically developing children. Furthermore, adolescence may be the first developmental period wherein parents and adolescents fully grasp the extent of the adolescent's disability and the implications of their impairments. Specifically, while parents of typically developing adolescents begin to focus on supporting their child in their future vocational or educational endeavors (Hauser-Cram et al., 2004), adolescents with DD and their parents

may begin to recognize limitations in comparison to typically developing peers within these spheres (Glidden & Zetlin, 1992). Most notably, the elevated level of behavior problems exhibited by adolescents with DD (Hauser-Cram & Woodman, 2015; Feldman, Hancock, Rielly, Minnes, & Cairns, 2000) and the reduced level of autonomy noted among many adolescents with DD are reportedly some of the most salient stressors for parents of adolescents with DD (Baine, McDonald, Wilgosh, & Mellon, 1993). Given the more extensive needs of youth with DD, it is frequently noted that parents of young children and adolescents (Erickson & Upshur, 1989; Mugno, Ruta, D'Arrigo, & Mazzone, 2007) also report stronger feelings of caregiving difficulties and higher levels of stress compared to parents of typically developing youth (Hastings, 2003).

Outlets for developing relational health. Due to the greater risk of elevated stress reported among parents of youth with DD, the protective factors in relation to the well-being of these adolescents and their parents is all the more important. According to the Relational Cultural Model (Miller & Stiver, 1991), opportunities that encourage genuine, authentic relationships with others are universal across all constructs that promote well-being (Jordan, 2001). In line with this, Liang and colleagues coined the term relational health, which is based on one's sense of connection with others and engagement in relationships that are considered growth-promoting for men and women alike (Liang et al., 2002b; Liang et al., 2010). Though historical models of development touted individuation and separation from family as signs of mature development (McElhaney, Allen, Stephenson, & Hare, 2009; Steinberg, 2001), the Relational Cultural Model and construct of relational health underscore the importance of relationships in informing well-being.

Notably, parents are exposed to a number of outlets that provide opportunities for connectedness and fulfillment. Of interest to this dissertation, parental social support, partner support, parental work flexibility and job satisfaction, and parenting efficacy were considered as factors that would likely promote parental well-being among parents of adolescents with DD.

In regards to social support, parents of children with DD are at greater risk for feeling more socially isolated than parents raising typically developing children (Seltzer, Greenberg, Flloyd, Pettee, & Hong, 2001) and have fewer social opportunities due to the time consuming caregiving tasks they so frequently take on (Skok, Harvey & Reddinough, 2006). Among these parents, research has linked greater perceived social support with a stronger ability to manage stressors associated with parenting (Bromley, Hare, Davison, & Emerson, 2004; Dunn, Burbine, Bowers, & Tantleff-Dunn, 2001), greater gratification within the parenting role (Hauser-Cram & Howell, 2003), and reduced depressive symptoms (Benson & Karlof, 2009; Glidden, Billings, & Jobe, 2006). Beyond the support that parents receive from those in their social network, parents' relationship with one another is one of the most central dyads within the family unit (Cuskelly, Hauser-Cram, & van Riper, 2009). For parents whose child has a disability, research findings vary in terms of whether these parents are reportedly less satisfied in their marriage or partnership due to their child's heightened caregiving needs (Bristol, Gallagher, & Schopler, 1988; Floyd et al., 1998; Kersh et al., 2006) or more satisfied than parents of typically developing children based on the ways their child contributes to the family and the meaning made by parents in the caretaking role (Stoneman & Gavidia-

Payne, 2006). Evidently, further research exploring the marital satisfaction of parents with a child with DD is merited.

Outside of social and marital support, the world of work is one where significant amounts of time are spent (Tetrick & Quick, 2003). Blustein's Psychology of Work Framework (2006) illustrates work's potential to fulfill individual survival needs, provide individuals with meaningful relationships and connections, and promote self-determination. Importantly, Blustein's perspective also broadens the definition of work to include care work and encapsulates the caregiving tasks parents undertake, which were historically ignored in vocational literature. Additionally, the Psychology of Work Framework highlighted the notion that *career* connotes volition in one's line of work, which excludes the vast numbers of people who have little choice or stability within their vocation. These concepts may be particularly relevant for parents of adolescents with DD, who are often required to leave their jobs and become full-time caregivers (Warfield, 2001) or are limited in their employment options because of their child's intense caregiving needs (Cuskelly et al., 1998).

The importance of the world of work is expanded upon in Blustein's Relational Theory of Work (2011), which highlights the ways in which most work is inherently relational and serves as a means of deeper self-understanding through relational connection. Blustein's theory details the reciprocal nature of work and relationships in that an individual's relationships can impact the work experience in adaptive or maladaptive ways, and the satisfaction or stress of work in turn informs the quality of one's relationships. It is through this theory's interactive lens that relationships within the home and place of work are thought to be meaningful and mutually influential. Though

the role of work is under-examined among parents of children with DD (Matthews et al., 2001), the limited findings to date overlap in several ways with the literature of parents of typically developing children. For example, Role Strain Theory (Goode, 1960) states that conflict may arise in light of the taxing responsibilities both as an employee at work and as a parent at home. This role strain is evident among parents of children with DD based on their reported stress stemming from work in light of their many caretaking responsibilities (Warfield, 2001). On the other hand, research also demonstrates that the workplace can serve as a respite for parents caring for a child with a disability (Einam & Cuskelly, 2002) and can reduce stress levels among mothers (Warfield, 2005). This aligns with Blustein's Psychology of Work Framework (2006), which attests that work can operate as a venue in which parents can experience success and agency even at moments when parenting may serve as a source of stress (Blustein, 2006).

Collectively, parental social support, partner support, and employment are a few of many components that influence parenting efficacy, or parents' confidence in their abilities to care for their child successfully (Cuskelly et al., 2008). Greater parenting efficacy is widely accepted as a factor linked to parental well-being and is associated with lower levels of parent stress (Meunier & Roskam, 2009) and lower levels of depression (Freed & Tompson, 2011; Teti & Gefland, 1991). At its foundation, parenting efficacy is informed by the work of Bandura (1982), who theorized that efficacy is linked to the amount of effort an individual puts into a task. In the case of parenting, therefore, parents of a child with DD who feel more efficacious in their role as a parent are more likely to persist in the face of parenting challenges (Woodman & Hauser-Cram, 2013). Because children with a disability may be cognitively impaired or exhibit behavior problems, they

may struggle to learn tasks and parents may in turn feel less efficacious in their parenting skills or their ability to successfully teach their child new things (Woodman & Hauser-Cram, 2013). Research involving parents of children with DD reveals mixed findings, with some studies pointing to lower levels of parenting efficacy among this parent population (Beckman, 1991) and others finding no difference for these parents compared to their parent counterparts raising typically developing children (Gilmore & Cuskelly, 2012).

Adolescent autonomy development. In accordance with Family Systems Theory (Mincuhin, 1985), however, these features of parental well-being only represent one segment of the family system and its functioning. As a result of the iterative nature of functioning within the family system (Lerner, 1991; Shonkoff & Phillips, 2000), adolescent functioning is not only important in its own right, but also informs parental well-being. One of the central tasks undertaken during adolescence is the development of autonomy (Marcia, 1980), which is comprised of emotional, cognitive, and behavioral components that facilitate a growing sense of independence (Steinberg & Silverberg, 1986). Autonomy development is aided in part by another central task in adolescence, which is comprised of forming and maintaining peer relationships. Specifically, as adolescents come to rely less on their parents, they turn to their peers for instrumental and emotional support (Bokhorst, Sumter, & Westenberg, 2010; Steinberg & Silverberg, 1986). Following this, experiencing a sense of social support and connectedness with peers is central in facilitating autonomy development.

For adolescents with DD, the struggle to develop these meaningful relationships is at times stunted, with these youth reporting having fewer friendships in and outside of

school in comparison to their typically developing peers (Matheson, Olsen & Weisner, 2007). Based on these social difficulties, adolescents with DD may be forced to rely more on their parents for support in lieu of their same-aged peers. This greater reliance on parents may in turn reduce the likelihood that adolescents become fully autonomous, as they may be involved in a pattern of having their needs met by their parents and thus may not acquire skills that foster independence (Jenkinson, 1999). Additionally, autonomy development requires a solid understanding of oneself, suggesting that those adolescents with DD who experience severe levels of cognitive impairment may have impeded autonomy trajectories (Holmbeck et al., 1997). Therefore, the development of autonomy and the formation of friendships during adolescence, both central to healthy development, may be jeopardized in those with DD.

Review of the Aims of the Current Dissertation

The first aim of this dissertation was to explore parental and child factors that relate to the well-being of parents with children with DD. Within the literature of parents of typically developing children, parents who report greater levels of parenting efficacy also report lower levels of stress (Fox & Garland, 2004; Kuhn & Carter, 2006; McBride, 1989) and lower levels of depression (Freed & Tompson, 2011; Teti & Gefland, 1991). Among parents of adolescents with DD, however, little is known about the relationship between parenting efficacy and parental well-being (Dempsey, Keen, Pennell, O'Reilly, & Neilands, 2009). As a result, one aim of this dissertation was to gain a deeper understanding of the role of parent efficacy in supporting the well-being of parents raising an adolescent with DD.

Social support is also widely lauded as a promotive factor of parental and familial well-being (Dunst et al., 1986; McCubbin, Olson, & Patterson, 1983). For parents of adolescents with DD, for example, social supports are associated with greater overall parental well-being (Krauss, 1993; White & Hastings, 2004), lower levels of depression (Benson & Karlof, 2009; Glidden, Billings, & Jobe, 2006), and resilience in the face of parenting stressors (Bromley et al., 2004). Based on the significant role social support plays in the extant literature, its relation to the well-being of both mothers and fathers of adolescents with DD was analyzed in this dissertation.

In addition to parent constructs that inform well-being, factors related to the adolescent and his or her functioning deserve consideration. For parents of adolescents with DD, lack of adolescent autonomy has been identified as a primary source of stress, with parents of adolescents who are less autonomous reporting lower levels of well-being (Baine, McDonald, Wilgosh, & Mellon, 1993). Beyond the influence of adolescent autonomy, extensive research has shown that behavior problems are another potent stressor for parents (Beck, Hastings, Daley, & Stevenson, 2004; Erickson & Upshur, 1989; Hastings, 2003; Woodman, 2014). In fact, many studies have found that child behavior problems, not child cognitive abilities, are the driving force behind parenting stress (Blacher, Shapiro, Lopez, & Diaz, 1997; Woodman, Mawdsley, & Hauser-Cram, 2015). This is particularly salient for parents of children with DD, whose children tend to exhibit more behavior problems than their typically developing peers (Baker, Blacher, Crnic, & Edelbrock, 2002; Blacher & McIntyre, 2006; Green, O'Reilly, Itchon, & Sigafos, 2005). Based on these collective findings, this dissertation examined the role of adolescent autonomy and adolescent behavior problems in relation to parental well-being.

The next aim of this dissertation was to understand how parent partner satisfaction related to the parent-child relationship and satisfaction with family functioning. In accordance with Minuchin's "affective spillover hypothesis" (1974), which posits that the experiences from one setting shape our experiences in other settings, it stands to reason that parents' level of satisfaction and fulfillment with their partner may in turn relate to their satisfaction with their relationship with their child and their family system overall. More recently, Mitchell, Szczerepa, and Hauser-Cram (in press) found evidence of the spillover hypothesis among parents of children with DD. Specifically, their findings demonstrated that mothers and fathers whose partner indicated experiencing higher levels of stress perceived their family unit as being less cohesive. The authors posit that partners' concern about the other partner's stress may take time and attention away from the larger family system, thus lessening the sense of cohesion. These findings indicate the powerful effects of one parent's functioning and well-being on the other parent's views of the family, further highlighting the importance of garnering a deeper understanding of partner satisfaction and attunement among parents of adolescents with DD.

Despite the benefits stemming from greater partner satisfaction, difficulty of care may be a powerful force that potentially compromises these effects. Within the developmental literature, difficulty of care, often referred to as burden of care, comprises the negative consequences and strain resulting from daily caregiving tasks (McManus et al., 2011). This is particularly salient for parents of children and adolescents with DD, whose more extensive caregiving responsibilities are commonly associated with greater stress and higher levels of reported difficulty of care (Hauser-Cram, Krauss, & Kersh, 2004; Kandolkar & Kenchappanavar, 2014; Kring, Greenberg, & Seltzer, 2008).

Specifically, the greater reliance of many children with DD on their parents is a frequently cited stressor. In one study, mothers who had a child with autism who was more dependent and required more caregiving reported greater levels of burden of care than mothers of children with autism who required less care (Fitzgerald, Birkbeck, & Matthews, 2002). Parents of adolescents in particular may endure greater stress and caregiving difficulties as their child begins to age out of pediatric care and the support that is provided by many schools in earlier years (Mitchell & Hauser-Cram, 2008; Vogan et al., 2014). In light of these changes of care, the intensive caregiving tasks taken on by parents of children and adolescents with DD have been associated with higher levels of parental depression and anxiety (Kim, Greenberg, Seltzer, & Krauss, 2003) and less satisfaction in the caregiving role (Pruncho, 2003). Indeed, the potentially detrimental effects of difficulty of care necessitate further exploration of its related factors in an effort to better support these parents.

One commonly cited correlate or predictor of difficulty of care is behavior problems, which are often more pronounced among youth with DD (Bauminger, Solom, & Rogers, 2010; Feldman et al, 2000; Hauser-Cram et al., 2004) across disability diagnoses (Blacher & McIntyre, 2006). In fact, some estimate that youth with DD are 3 to 7 times more likely to exhibit behavior problems in comparison to their typically developing peers (Baker et al., 2002). Notably, parents of children with greater behavior problems report lower partner satisfaction and less positive parenting experiences (Stonemann & Gavidia-Payne, 2006) as well as lower levels of parental well-being overall (Lounds, Seltzer, Greenberg, & Shattuck, 2007). Some researchers have found that mothers in particular are more susceptible to reduced parenting confidence in the

presence of youth behavior problems (Bogenschneider et al., 1997), whereas others find mothers are no more susceptible than fathers (de Haan et al., 2009). Even among parents with typically developing children the effects of behavior problems can be lasting, with one study indicating that children's externalizing problems predicted lower parenting confidence among mothers and fathers into the adolescent years (Slagt, Dekovic, de Haan, van den Akker, & Prinzie, 2012). In light of the knowledge gleaned from relevant literature and the potential detrimental effects of greater difficulty of care and behavior problems reported within the disability community, this dissertation examined the roles of these factors in the present sample.

Because work is widely accepted as a central experience in adult life (Blustein, 2006), another aim of the study was to gain a deeper understanding of the ways in which work characteristics related to parental well-being and parental satisfaction with the parent-child relationship in this sample. According to research, flexible employment has been associated with greater work satisfaction (McNall, Masuda, & Nicklin, 2009) and a higher level of job satisfaction has been linked to lower levels of depression (Blustein, 2008). In addition to the possible benefits of flexible and satisfying work for parents, these factors may also positively impact their relationship with their child. For example, flexible work has been touted as reducing the tension experienced by parents in relation to work-family conflicts (Grandey & Cropanzano, 1999). In effect, a more flexible work environment may in turn enable parents to have more positive interactions with their child based on the "affective spillover hypothesis" (Minuchin, 1974), or the ways in which a parents' satisfaction at work may relate to, or spillover, to the relationship they have with their child. Of note, however, the role of employment for parents of

adolescents with DD remains largely unknown (Matthews, Booth, Taylor, & Martin, 2011). Subsequently, the present study examined the role of job satisfaction and work flexibility in relation to the well-being of mothers and fathers in this sample.

Lastly, this dissertation aimed to uncover factors that predict and relate to adolescent autonomy in youth with DD. Because peer support is a crucial tool of autonomy development during adolescence (Bokhorst, Sumter, & Westenberg, 2010; Steinberg & Silverberg, 1986), it is probable that adolescents who report feeling more supported by their peers would report more autonomous functioning later in adolescence. It is through these invaluable peer relationships that adolescents develop an understanding of reciprocity, intimacy, and trust in relation to others (Hartup, 1993). Peer support is crucial to autonomy development in part, therefore, because adolescents develop foundational social skills that serve them in their independent functioning. Additionally, adolescents begin to turn to their peers for instrumental and emotional support while simultaneously relying less on their parents (Steinberg & Silverberg, 1986). Therefore, the support of peers is essential to adolescents as it indirectly and directly informs autonomous functioning.

In addition to peer support, other internal and familial resources, such as greater self-efficacy (Jenkinson, 1999) and perceived support from parents (Dekovic & Meeus, 1997; Lamborn & Steinberg, 1993) have been linked to autonomy development in the literature examining typically developing adolescents. An important building block of autonomous behavior, self-efficacy, enables adolescents to feel confident and take risks making their own decisions (Jenkinson, 1999), whereas support from parents may bolster teens when these personal efforts and peer support are insufficient. Because more

information is required to better understand autonomy development among adolescents with DD, the present dissertation further explored the roles of social acceptance, adolescent self-efficacy, and perceived supportive parenting as possible factors that promote adolescent autonomy in this sample.

Discussion of Research Findings

Several control factors were incorporated into the majority of analyses in the present study, including adolescent functioning (cognitive performance and adaptive functioning), adolescent gender, and family SES. Unless otherwise specified, these factors were not significantly related to any of the constructs analyzed. Adolescent functioning was considered in each of the analyses and despite the range of functioning in this sample ($M = 48.73$; $SD = 25.01$), it was only significant in two instances. As the main analyses outlined in the previous chapter indicate, several important factors related to parental well-being may have superseded the importance of adolescent functioning in most cases. This will be elaborated upon in later sections of this chapter.

Gender was an expected point of interest because developmental literature notes the uniqueness of parent-child dyads, which are dependent on both child and parent gender (Collins & Russell, 1991). For example, Laursen and Collins (2009) describe how same-sex parent-child dyads are frequently associated with greater conflict and more difficulties during adolescence (Laursen & Collins, 2009). The study of behavior problems is one such area of research that points to pronounced gender differences. Within the typically developing literature, girls reportedly exhibit greater internalizing behaviors (Sterba et al., 2007), whereas boys more consistently display externalizing behavior problems (Miner and Clarke-Steward, 2008). Other research studying behavior

problems in children with DD do not reveal these gender differences that are so frequently cited (Hauser-Cram & Woodman, 2015). Therefore, it may be that disability, not gender, is driving the behavior problems noted in the literature.

Lastly, family SES served as an additional control within many of the models analyzed in the present study. Based on the 2001 United States Census Bureau data, which aligns with the adolescent data collection of the present study from 1999-2003, approximately 71% of families participating in the study reported annual family income consistent with the median family income at this time. Therefore, it may be that family SES was less salient to the majority of these families than might be the case if they were less financially secure. Additionally, the homogeneity of the sample and the minimal variation reported in annual income reduces the likelihood that it would be a statistically significant contributor in the analyses.

Parental well-being: Internal and external resources.

The first series of questions aimed to better understand what parent and child factors relate to the overall well-being, operationalized as less parenting stress and fewer depressive symptoms of parents of adolescents with DD. Of note, well-being was measured by parenting stress using the SIPA (Sheras et al., 1998), such that lower parenting stress scores indicated greater parental well-being. In the present sample, 8.9% of mothers and 3.0% of fathers scored above the clinical cutoff (> 90%). Additionally, the percentage of parents in the present sample scoring above the clinical cutoff (>15) on the Center for Epidemiologic Studies Depression Scale was 16% for mothers and 9% for fathers when their child was 18 years. Within the rest of the population, 4.7% of parents reportedly score above the clinical cutoff. This suggests that based on this sample, a

greater portion of parents of adolescents with DD exhibited higher levels of overall stress and of clinically significant depressive symptoms in comparison to the general population.

To begin, the first set of models analyzed the external and internal resources available to parents in relation to their well-being (parenting stress and depressive symptoms). Parental social support (external resources) and parenting efficacy (internal resources) when children were 15 years of age were explored as predictors of parental well-being (overall stress and depressive symptoms) three years later, when their child was 18 years of age. Counter to expectations, parental social support was not a significant predictor of parental stress or depressive symptoms for parents. This contrasted with the literature, which demonstrates that social support is a crucial component of well-being for parents of children with DD (Benson & Karlof, 2009; Bromley et al., 2004; Glidden, Billings, & Jobe, 2006; Krauss, 1993; White & Hastings, 2004). The non-significant result may be attributable to problematic aspects of the measure, the Social Network Questionnaire, utilized in this study (Antonoucci, 1986). For example, this particular social support measure does not incorporate various forms of support, but rather focuses exclusively on the total number of social supports listed by parents. Parents are then asked to complete a single item that determines their level of satisfaction with their support, which they evaluate on a four-point Likert scale, ranging from “completely dissatisfied” to “completely satisfied”. In the present sample, 63% of mothers and 60% of fathers reported being “completely satisfied” with their supports. This limited variability in responses, in combination with the simplicity of this measure and its reliance on a single-item response, may have compromised its validity in the present study.

Unlike social support, parenting efficacy was predictive of parental well-being based on a number of outcome measures. First, greater parenting efficacy when their child was age 15 predicted greater overall parental well-being (measured by lower stress and lower depressive symptoms) for both mothers and fathers three years later when their child was age 18. These findings align with the extant literature of typically developing children that demonstrates an inverse relationship between parenting stress and parenting self-efficacy for mothers (Fox & Garland, 2004) as well as for fathers (McBride, 1989). For mothers in particular, research reveals that those with greater parenting efficacy exhibit lower levels of depression (Freed & Tompson, 2011; Teti & Gefland, 1991) and report overall higher levels of well-being (Kuhn & Carter, 2006).

Although relatively little research has been conducted in relation to parents of children with DD (Dempsey et al., 2009), the limited findings to date point to the importance of parenting efficacy. For parents of children with autism, for example, research has shown that parenting self-efficacy is inversely related to depression (Kuhn & Carter, 2006) and mediates the effects of behavior problems on anxiety and depression for parents whose child has autism (Hastings & Brown, 2002). The powerful role of parenting efficacy is particularly important for parents of children with DD, in that these parents are at greater risk of reduced parenting efficacy due to the increased likelihood that their child may not learn new information as quickly as their typically developing peers (Woodman & Hauser-Cram, 2013).

For mothers and fathers, parenting efficacy when their child was age 15 was also predictive of lower stress related to each of the subscales of parenting stress when their child was age 18: stress related to the effect of parenting on other life roles and

relationships (Parenting Stress SIPA subscale), stress related to the behaviors, attitudes, and achievements of the adolescent (Adolescent Stress SIPA subscale), and stress related to the relationship between the parent and adolescent (Parent-Adolescent SIPA subscale). It follows that parents who experience confidence in their ability to parent experience less stress related to their adolescent. These findings are largely consistent with the extant literature for parents of typically developing children and parents of children with DD. For example, higher parenting efficacy is linked to a more positive parental view of the child (Johnston & Mash, 1989).

The relationship between parents' efficacy and stress may be best understood in relation to Bandura's feedback loop (1986, 1987). This process underscores the way in which people continue to engage in endeavors in which they experience success. Therefore, parents in the present study who report greater parenting efficacy may be more likely to engage in positive interactions with their child, which in turn relates to better outcomes for that child. As a result of witnessing the growth in their child, parents' parenting efficacy continues to increase and the feedback loop continues.

More recent literature has substantiated Bandura's theory by re-examining this feedback loop. For parents of typically developing children, those with high parenting self-efficacy were more likely to engage in promotive parenting strategies and in turn, their child experienced greater academic and psychosocial success (Ardelt & Eccles, 2001). Additionally, Shumow and Lomax (2002) found that parents with higher levels of parenting efficacy were more involved in their child's activities and school events. For parents of children with DD, research shows that parents' efficacy relates to their child's ability to acquire the skills that they teach (Cuskelly, Hauser-Cram, & Van Riper, 2008).

This supports the notion that if a child successfully acquires skills taught by the parent, the parent in turn feels more efficacious and is more likely to continue to have positive interactions with their child. In the present study, parenting efficacy was a powerful protector of parental well-being and various forms of parenting stress for both mothers and fathers regardless of the extent of their child's cognitive and functional skills.

The present study's findings contribute uniquely to the literature on fathers, who remain largely under-researched in typically developing and DD literature (Hauser-Cram et al., 2013; Lamb & Lewis, 2004). This under-representation is concerning and coincides with frequent under-reporting of fathers' mental health concerns that present during the transition to fatherhood and throughout the lifespan. For example, fathers are susceptible to post-partum anxiety and depression, though they are rarely diagnosed or treated (Musser et al., 2013). Paternal mental health difficulties may stem in part from the strain they experience as they attempt to balance traditional masculine expectations (e.g. providing for their family, disciplining children) with the seemingly opposing contemporary expectations of fathers being a nurturer and caretaker (Silverstein, Auerbach, & Levant, 2002). Although fathers were historically portrayed as being less involved in parenting tasks in comparison to mothers (Feldman, Varghese, Ramsay, & Rajska, 2002), parenting efficacy has become more salient for fathers as they continue to become more involved in the care of their children in recent decades (Marsiglio, Amato, Day, & Lamb, 2000). This greater involvement bodes well for fathers, whose level of involvement corresponds to their responsiveness to the needs of their child (Lewis & Lamb, 2003).

Parental well-being: the role of adolescent behavior problems and autonomy.

For the next set of questions, adolescent factors (autonomy and behavior problems) were brought in to the analyses to determine how they relate to parental well-being (parenting stress and depressive symptoms). First, adolescent reports of their own autonomy at age 18 did not relate to overall stress or depressive symptoms for mothers or fathers. These non-significant findings may be due in part to the constructs assessed within the ARC Self-Determination Scale used to assess adolescent autonomy (Wehmeyer & Kelchner, 1995). Within the closed responses, the questions within this measure are divided into three categories: independence, acting on beliefs regarding recreation and leisure time, and acting on beliefs regarding personal expression. Upon closer examination of the “independence” subscale, the tasks that adolescents evaluate are less substantial than some of the medical assistance and other caregiving responsibilities parents likely take on. For example, some of the items include “I make my own meals or snacks” and “I do simple first aid for myself, like putting on a Band-Aid”. Therefore, even if adolescents were to report being largely autonomous, the tasks in which they are independent may not necessarily lessen the amount of meaningful and time-consuming care provided by parents.

Beyond concerns related to the adolescent autonomy measure, other factors shed light on possible reasons adolescent autonomy was not a significant factor in relation to parental well-being. Of note, within the present sample the average IQ of the target child at age 15 was 57.10 (SD = 25.88). Based on these cognitive limitations, parents of adolescents with DD may have varying levels of autonomy expectations for their child. Research demonstrates that children with more pronounced impairments typically require

more parental involvement (American Academy of Pediatrics Medical Home Initiatives for Children with Special Needs Project Advisory Committee, 2002). As a result, it may be that parents may have already come to expect that their children will need extensive support in a short or long-term sense, making their child's level of autonomy less meaningful in relation to parents' well-being. Further, the self-report nature of the autonomy measure only assesses the adolescent's perception of his or her level autonomy, which may be vastly different from that of parents. In fact, the correlation between adolescents' self-reported autonomy and parent-reported adolescent functioning in the present sample was only trending ($r = .186, p = .083$), suggesting that parent and adolescent views of adolescent autonomy vary.

Another possible explanation is that there may also be protective factors that weren't accounted for within the models analyzed that included the adolescent autonomy measure. For example, if a child is less autonomous, parents may cope with heightened caregiving needs by working fewer hours, remaining unemployed, utilizing effective coping strategies, or relying on familial support. In effect, a parent facing the challenges of raising a child with DD may opt for caregiving work (Richardson, 2012), which is clearly a viable option for many working people. One study that examined parents of children with DD found that parents who coped by using positive reappraisal of their problems reported higher levels of overall well-being (Glidden et al., 2006). Therefore, these families may be compensating for their child's limited autonomy in ways that are not directly captured in these analyses.

The other adolescent factor analyzed in relation to various aspects of parental well-being was adolescent behavior problems. In the present sample, 29% of adolescents

were reported as exhibiting high levels of behavior problems at age 18, as indicated by scoring above the clinical cutoff (T scores above 60) on parent reports of behavior problems (Child Behavior Checklist - CBCL). Analyses indicated that for mothers, but not fathers, behavior problems when their child was age 18 significantly related to lower maternal well-being (greater total parenting stress and parental depressive symptoms) when their child was age 18. Collectively, these findings point to important gender differences between mothers and fathers when considering the impact of adolescent behavior problems.

Based on the significant role of adolescent behavior problems in relation to the total stress and depressive symptoms of mothers, further analyses were conducted to determine whether internalizing and externalizing problems when their child was age 18 related to parental well-being when their child was age 18 differently. Findings indicated that internalizing behavior problems were not significantly related to parental well-being for mothers or fathers. For mothers, no differences based on the behavior problem subscales (i.e., internalizing and externalizing) were found; instead, cumulative behavior problems were the central predictor of maternal total parenting stress. For fathers, however, greater externalizing behavior problems were related to greater total parenting stress.

Several explanations shed light on the gender differences between the well-being of mothers and fathers in relation to adolescent behavior problems. For fathers, gender role scripts dictate that men should play a dominant role within their family system and enforce the rules of the home (Mahalik et al., 2003). In fact, fathers of typically developing children were shown in one study to report that their sense of parenting

efficacy was more strongly related to their ability to control their child (Murdock, 2013). Therefore, one may anticipate that if fathers' discipline or limit setting efforts are unsuccessful, which may be the case with more pronounced externalizing behaviors, this disobedience may be more detrimental to fathers' well-being.

Another possible explanation for the variable findings for mothers compared to fathers is that mothers may remain largely in charge of a great deal of caregiving tasks, especially those that may necessitate more limit setting (hygiene, bedtime, and schoolwork). For example, among mothers in the original sample, 37% of mothers work full time compared to 78% of fathers. As a result, it may be that mothers are still in the home more frequently than fathers, meaning mothers may engage more in difficult caregiving tasks that elicit behavior problems and may in turn be more negatively impacted by the totality of their adolescent's behavior problems. Research indicates, for example, that mothers are the primary caregiver in many cases (Kersh et al., 2006), so it is possible that the whole range of behavior problems are more salient in their day-to-day lives than they are for fathers and make their well-being more susceptible to difficult behavior problems.

Based on these findings, fathers may experience more stress in relation to their adolescent's externalizing behavior problems if they are less frequently exposed to managing them, whereas mothers report feeling stressed in relation to cumulative behavior problems since gender role expectations dictate that they are expected to help maintain order in the home while fathers' roles place value on discipline and adolescent compliance (Perry, Harris, & Minnes, 2004; Silverstein, Auerbach, & Levant, 2002). Because of the centrality of the caregiving role for mothers, research indicates that they

are more likely to report stress related to the parent-child relationship, whereas fathers more frequently attribute their distress to marital discord (Ponnet et al., 2013). These findings indicate that even for mothers who are not working or work part-time, being a mother may contribute more to their overall identity than it does for fathers, especially for fathers who work full time. Of note, it is because mothers often take on the majority of caregiving responsibilities, not because of an innate predisposition, that they are shown to be more susceptible to stress related to the parenting role (Eagly & Wood, 2012; Simon, 1992). Alternatively, therefore, fathers might not relate their adolescents' behavior problems to themselves in relation to their parenting, but rather focusing on the adolescent as the problem or source of stress. These gender differences highlight the role of relational health for fathers in particular, given that externalizing behavior problems and thereby their dynamic with their child were associated with their level of stress. This lies in contrast to the role of cumulative behavior problems mothers, which were related to their sense of parenting and psychological distress but not their relationship with their child.

The difficulty parents encounter managing children's behavior problems may be even more pronounced for parents of adolescents with DD, who are more likely to exhibit behavior problems (Hastings, Daley, Burns, & Beck, 2006). There are several plausible ways to understand the fact that fathers in the present sample appear more sensitive to externalizing behavior problems in comparison to mothers. It may be, for example, that fathers' work schedule results in them bearing witness to externalizing problems more exclusively because they are present during transitions, such as getting ready for school in the morning and preparing for bed at night, which may exacerbate acting out or

resistance among adolescents. As a result, fathers may have a limited range of interactions with their child and have fewer points of comparison than do mothers.

Based on the previous findings illustrating the powerful role of both parenting efficacy and child behavior problems, another model was analyzed to determine whether parenting efficacy as a promotive factor was meaningful above and beyond child behavior problems in relation to well-being when a child was age 18. For mothers, parenting efficacy was only significant above and beyond behavior problems in relation to parenting stress but not to depressive symptoms. For fathers, parenting efficacy was significant above and beyond behavior problems in relation to both parenting stress and depressive symptoms. It may be the case, therefore, that even if adolescents with DD are being disobedient and exhibiting high levels of behavior problems, parents' confidence in their ability to manage their adolescent's behaviors is even more meaningful than the behavior problems themselves. In other words, it may be that parents' abilities to cope with or control their child's behavior problems account for greater parenting efficacy which in turn, relates to more positive well-being.

The added vulnerability of fathers in this sample is consistent with the literature, wherein fathers' stress is more heavily predicted by the family climate, such as the goodness of fit between a child's temperament and the parent-child relationship (Krauss, 1993; Thomas & Chess, 1977). One study demonstrated that fathers of adolescents or young adults with autism reported parenting experiences that were more negatively impacted by factors that related to their child (such as their child's poor health, more severe autism symptoms, and having a child that resides in the parents' home), in comparison to mothers, whose closeness with their child was unaffected by these factors

(Hartley, Barker, Seltzer, & Greenberg, 2011). These findings and those from the present study demonstrate support for the “father sensitivity” hypothesis, such that the father-child relationship is more susceptible to negative outcomes related to stress than is the mother-child relationship (Almeida, Wethington, & Chandler, 1999; Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Cummings, Goeke-Morey, & Raymond, 2004). Scholars understand the increased sensitivity of fathers within the context of traditional gender role expectations (Courtenay, 2000; Hosley & Montemayor, 1997, Richardson, 2012), which highlight the societal pressure for fathers to provide for their family economically and ensure that their child is well behaved. In turn, the weightiness of fathers’ identity being intertwined with the functioning of their child and family accentuates their vulnerability in response to adolescent factors.

Family cohesion and the parent-child relationship: the role of dyadic adjustment.

The next set of questions analyzed the role of partner satisfaction in relation to satisfaction with the parent-child relationship and satisfaction with family cohesion, with consideration of adolescent behavior problems and parents’ levels of difficulty of care. The first set of results indicated that dyadic adjustment (i.e. partner satisfaction) when the adolescent with DD was age 18 was significantly related to greater satisfaction with family cohesion for fathers but was not significantly related to satisfaction with the parent-child relationship at that time point for either mothers or fathers. One possible explanation of the lacking significance of dyadic adjustment in regards to the parent-child relationship may be informed by the centrality of caring for the adolescent. In other words, the parents’ relationship with one another (dyadic adjustment) may become less of

a focal point amidst the important impact of coping with adolescent behavior problems and other caregiving tasks that take precedence within the family dynamics (Hauser-Cram, Warfield, Shonkoff, & Krauss, 2001).

Further analyses revealed that difficulty of care when the focal child was age 18 was not significant for mothers in relation to their satisfaction with the parent-child relationship or family cohesion at that time point. For fathers, however, greater difficulty of care was related to poorer satisfaction with the parent-child relationship but was not related to levels of satisfaction with family cohesion at when their child was age 18. Several explanations for this difference among mothers and fathers are supported by other scholars' findings. In the typically developing literature, for example, mothers report being more intensely involved with caregiving tasks compared to fathers despite an increase in co-parenting in recent decades (Forehand & Nouisinen, 1993; Renk et al., 2003). Researchers (Hastings et al., 2005) speculate that because mothers are more centrally involved in caretaking tasks and may in turn spend more time with their child, they may see a fuller range of functioning and the positive contributions their child makes to the family in comparison to fathers, who may spend less time in the home. As a result, mothers may experience more moments of joy with their child, whereas fathers are more sensitive to caregiving demands given the infrequency with which they are charged with prominent caregiving tasks.

Collectively, these findings demonstrate fathers' sensitivity to externalizing behavior problems and the demands of caregiving. Given the tendency for fathers to adopt the role of the disciplinarian according to gender role theory (Hosley & Montemayor, 1997), managing behavior problems or intensive caregiving needs may be

especially challenging for fathers in that it impinges upon their role to discipline their child effectively and calls into question their parenting authority. As a result, the caregiving demands parents in this sample encounter may obscure the positive family interactions at home and lead parents to feel less connected to their child and family system at large. Additionally, many of the fathers in the sample work full-time and may experience satisfaction at work when satisfaction with their child and family is jeopardized by difficulty with caregiving tasks.

Dyadic adjustment was also not related to family cohesion for mothers, but was for fathers (greater dyadic adjustment related to greater paternal satisfaction with family cohesion). These findings shed light on the existing literature, which attests that fathers' well-being may be more heavily informed by their relationship with their partner, whereas, whereas mothers' well-being is less disrupted by challenging spousal dynamics (Grych, 2002). It stands to reason, therefore, that fathers' dyadic adjustment is more strongly related to their view of family cohesion than was reported by mothers in the present sample.

Collectively, these findings serve as evidence supporting the presence of the affective spillover effect, wherein the functioning and satisfaction within one relationship, such as the marital relationship, in turn carries over to other relationships, such as that between parent and child (Minuchin, 1974). Other findings have highlighted this effect in other samples, with one study demonstrating that the perceived level of open communication within parents' marital relationship affected the communication within the parent-child relationships for both mothers and fathers (Ponnet et al., 2013). These authors found that when parents experienced more stress and depression in relation to one

another, they also reported less open parent-child communication. Findings of the present study support this notion of affective spillover for fathers and also fit with the father sensitivity hypothesis in relation to dyadic adjustment in this study (Cummings, Goeke-Morey, & Raymond, 2004).

In addition to the stressors in the lives of these parents, further analyses were conducted to determine whether positive aspects of the parent-child relationship related to family cohesion. Findings indicated that for mothers and fathers, greater satisfaction with the parent-child relationship at when their child was age 18 was related to greater satisfaction with family cohesion when their child was age 18. This finding serves as more evidence of the centrality of the parent-child relationship, which may be more pronounced for parents of adolescents with DD due to the intensive caregiving tasks they often encounter and the substantial time they spend with their child. Further, the importance of the parent-child relationship demonstrated among these parents aligns with the Relational Cultural Model (Miller & Stiver, 1991) and Liang and colleague's concept of *relational health* (2002b), both of which highlight the myriad benefits of relational connectedness (Liang, Tracy, Kauh, Taylor, & Williams, 2006; Liang et al., 2008; Liang et al., 2002a). Therefore, the present findings underscore the importance of relational health in the form of a satisfying parent-child relationship and family cohesion among parents of adolescents with DD.

When analyzing whether parent satisfaction with the parent-child relationship was related to family cohesion, the control of adolescent and intellectual functioning was significant for the first time in this study. In contrast to expectations, higher levels of adolescent functioning when their child was age 18 were significantly related to lower

levels of maternal satisfaction with family cohesion when their child was age 18 and were trend level for fathers. Thus, parents whose adolescent with DD is lower functioning report having a more cohesive family. One possible explanation for this inverse relation may be that adolescents who are higher functioning in some ways may act more like typically developing teens and challenge their parents whereas those adolescents who are lower functioning may act more like younger children and follow their parents' directives. The developmental literature demonstrates that in typically developing adolescents, some conflict surrounding a desire for independence and autonomy is frequently reported (Laursen & Collins, 2009; Steinberg, 2002) and is characterized by adolescents attempting to gain control in domains their parents previously monitored (Steinberg, 2001). This same desire for individuation and freedom may lead to difficult decisions for parents of adolescents with DD, who may feel more cautious to grant such privileges if their child's limitations or impairments are substantial. As a result, conflict may arise in the context of raising a higher functioning adolescent and contribute to the poorer family cohesion reported by the parents in this sample.

The role of work in relation to parental well-being.

Next, a series of questions assessed the role of work in relation to parents' satisfaction within their relationship with their child, as well as their total parenting stress and parental depressive symptoms. The initial hypotheses that job satisfaction and work flexibility when their child was age 18 would relate to greater parental satisfaction with the parent-child relationship when their child was age 18 were non-significant for mothers and fathers. Similarly, work flexibility when their child was age 18 was not related to total parenting stress or parental depressive symptoms when their child was age

18 for mothers, but greater work flexibility did relate to lower depressive symptoms for fathers when their child was age 18. In relation to total parenting stress, job satisfaction was non-significant for mothers but was significant for fathers, indicating that greater paternal job satisfaction was related to lower total parenting stress when their child was age 18. Additionally, in relation to parental depressive symptoms, job satisfaction was non-significant for mothers but was trending for fathers, indicating that greater paternal job satisfaction when their child was age 18 was nearly related to lower parental depressive symptoms when their child was age 18 for fathers.

The non-significant role of work flexibility in this sample in relation to the parent-child relationship and total parenting stress may indicate that aspects of employment that do positively impact parents are not captured in the measure utilized in these analyses. For example, mothers of children with DD report feeling as though they have to go 'above and beyond' at work to make up for taking time off to care for their child (Warfield, 2001). Therefore, work flexibility itself may not be sufficient in alleviating stress and promoting well-being for these parents.

The significance of job satisfaction in relation to lower total parenting stress and parental depressive symptoms for fathers is in line with the spillover hypothesis (Minuchin, 1974), which attests that the affective experience in one context often translates to others. Therefore, these findings may demonstrate that greater satisfaction at work for fathers translates to a less stressful and more positive experience within the home. As previously noted, a greater number of fathers are working (and working full-time) compared to mothers in this sample. Therefore, work satisfaction may be more salient for fathers since a greater portion of them work and work full-time, and because

the gender role expectation of fathers to provide economically for their family is so powerful (Courtenay, 2000; Richardson, 2012).

The impact of gender roles are further informed by the concept of partner crossover effects, which illustrates the way in which one caregiver is affected when the other is struggling to find a balance between work and family. One study demonstrates this phenomenon, noting that within their sample, “when one spouse experiences high levels of work-family conflict, demanding a great investment of time and effort at work, the other spouse may exhibit high levels of family-work conflict because he or she has no option but to invest more in the family, and vice versa” (Cinamon, Weisel, & Tzuk, 2007, p. 93). Bearing this in mind, job satisfaction may have presented as more central for fathers given that a greater portion of fathers in this sample were working full time. This is in comparison to the majority of mothers in the study, who were predominantly unemployed or working part-time and may be more affected by factors related to caregiving tasks than work outside the home.

Based on the strong relationship between the parent-child relationship and parent well-being, a final analysis was conducted controlling for parents’ satisfaction with the parent-child relationship. Once accounting for parents’ satisfaction with the parent-child relationship when their child was age 18, greater work flexibility and job satisfaction (work composite) related to lower total parenting stress and lower parental depressive symptoms for both mothers and fathers when their child was age 18. These results reify the importance of work for parents of adolescents with DD, above and beyond parents’ satisfaction with the parent-child relationship. These findings are consistent with others, which demonstrate that the workplace does appear to have the potential to serve as a

source of respite outside of the demanding tasks associated with caring for a child with a disability (Einam & Cuskelly, 2002; Freedman et al., 1995) and satisfying work in particular has been associated with lower stress scores among mothers of children with DD (Warfield, 2005).

The underlying mechanisms of these findings are more deeply understood by considering Blustein's Psychology of Work Framework (2006), which highlights a job's ability to meet the needs of survival, relationships and connections, and self-determination. Therefore, the caregiving reprieve experienced by parents raising an adolescent with a disability through their workplace may meet these universal human needs despite any stressors occurring within the parenting role. Further, in line with Blustein's Relational Theory of Work (2011), a parents' place of work may serve as a venue through which these parents can connect to others and engage in meaningful relationships. This may prove especially meaningful for parents in the present sample given the frequently reported social isolation parents of children with DD experience (Hauser-Cram et al., 2004). In sum, the results of the present study expand the role of work within the disability literature by providing evidence of its beneficial effects among mothers and fathers of adolescents with DD.

Adolescent autonomy development: predictors and related factors.

Finally, adolescent, peer, and parent factors were analyzed in relation to adolescent autonomy. In the first analysis, greater adolescent social acceptance at age 15 predicted greater adolescent autonomy at age 18. These findings reflect the extant literature involving typically developing teens, which notes that adolescents typically begin to detach from their parents in early or mid adolescence and begin to rely more on

their peers (Berndt, 1989; Bokhorst, Sumter, & Westenberg, 2010; Buhrmester, 1996). This developmental process is consistent with Liang's concept of relational health (Liang et al., 2002b), with its emphasis on the benefits of authentic connection and relationships with others. Scholars describe this as a normal and healthy transition away from reliance on parents, which may at times occur before autonomy is fully developed as they transition to relying more on peers (Steinberg & Silverberg, 1986). Notably, research indicates that adolescents with DD struggle more to form reciprocal friendships (Bottroff et al., 2002; Orsmond, Krauss, & Seltzer, 2004) and as a result parents often remain very connected to their adolescent with DD to provide support in light of this deficit with same-aged peers (McGrew, Johnson, & Bruininks, 1994). That being said, this does not indicate that teens with DD fail to become autonomous when peers accept them, but rather that teens with DD tend to struggle in peer relationships and rely more on their parents. The present findings, therefore, demonstrate the power of social support as a predictor of adolescent autonomy among teens with DD, despite their well-documented struggles forming reciprocal friendships.

Also within this model, results indicated that for the second and only other time in this study that adolescent adaptive and intellectual functioning was significantly related to adolescent autonomy, such that greater adolescent adaptive functioning was related to greater adolescent autonomy when their child was age 18. These findings are consistent with the notion that greater intellectual and functional capacity promotes independence, whereas those with more profound cognitive impairments and severe disabilities may exhibit more limited autonomy and instead remain more dependent on their parents (Holmbeck et al., 1997). In one sample of adolescents with spina bifida, researchers

found that these teens' autonomy skills were 25 to 30% delayed in comparison to their typically developing adolescents, attributable to cognitive ability and not physical deficits (Davis, Shurtleff, Walker, Seidel, & Duguay, 2006). The present findings and the extant literature speak to the powerful role of adolescent adaptive functioning as it relates to autonomy development.

Based on the established significance of peer social support at age 15, social acceptance was accounted for when determining whether adolescent self-efficacy at age 18 was related to adolescent autonomy at age 18. Findings indicated that greater self-efficacy was significantly related to greater autonomy above and beyond peer social support. These findings echo other research involving children with intellectual disabilities, which illustrate that adolescents' own internal resources, such as greater self-efficacy, are important in relation to autonomy development (Jenkinson, 1999). Similar to the explanation supporting the importance of parenting self-efficacy, these adolescents too may be understood in relation to Bandura's Social Cognitive Theory, or feedback loop (1986). This process underscores the way in which people continue to engage in activities in which they experience success. In this case, adolescents with greater self-efficacy may feel more confident in caring for themselves and be more engaged in taking on new responsibilities and tasks that promote autonomous development.

In accordance with the self-determination framework (Deci & Ryan, 1985), it may also be that adolescent self-efficacy and autonomy development is informed in part by self-determination, or the degree of agency an individual experiences making choices regarding his or her own life without outside influence (Wehmeyer & Kelchner, 1995). Whereas Bandura's Social Cognitive Theory (1986) elaborates upon the feedback loop

whereby success reinforces future involvement and success, self-determination theory highlights the development of behaviors that promote autonomous behavior, such as those gleaned through support that fosters self-awareness, self-advocacy, and problem-making skills to name a few (Wehmeyer & Palmer, 2000). Therefore, it is possible that in addition to the powerful reinforcement adolescents with DD may experience resulting from success, it may be that they exhibit increased levels of autonomy over time also through the advancement of these self-determination skills.

In addition to the powerful role of social support and self-efficacy in relation to adolescent autonomy, adolescent perceived parental support was expected to be a meaningful contributor as well. Findings revealed, however, that parental support was not significant within the present sample, such that adolescents determined that greater support from their parents was not related to their development of autonomy. This contradicts some of the theoretical and empirical literature that has demonstrates the importance of parental support in relation to developing autonomy through adolescence (McElhaney, Allen, Stephenson, & Hare, 2009).

Though the complex medical needs of adolescents with DD typically require additional assistance and reduce an adolescent's ability to operate independently (American Academy of Pediatrics Medical Home Initiatives for Children with Special Needs Project Advisory Committee, 2002), the crucial role of peer relationships during adolescence may shed light on the lack of significance of perceived parental support in the present study. Specifically, given the developmentally normative propensity to rely on same aged peers during adolescence (Bokhorst, Sumter, & Westenberg, 2010; Steinberg &

Silverberg, 1986), social support may be more salient and central for these adolescents than their perceived parental support.

Implications

The findings of this dissertation hold important meaning for the field by expanding the developmental literature related to the well-being of adolescents with DD and their parents. Some of the most striking findings illuminated the powerful role of parenting efficacy among parents of adolescents with DD, who reported that higher levels of perceived parenting efficacy were significantly related to lower levels of depressive symptoms and various forms of stress, above and beyond the salient role of child behavior problems. Fortunately, extensive literature demonstrates the utility of interventions that seek to improve parenting efficacy among parents of children with DD. One well-researched intervention is Parent Management Training (PMT), wherein parents are taught how to reinforce positive behavior and reduce negative behavior in their children. These interventions also purport to teach these parents how to advocate and make decisions that benefit their child most, all of which are believed to contribute to greater parents' sense of agency in the parenting role. One study analyzing the effectiveness of a PMT for mothers and fathers of children with autism demonstrated improved parent reports of self-efficacy upon completion of the intervention, as well as three months after its conclusion (Sofronoff & Farbotko, 2002).

Another frequently researched intervention is the Stepping Stones Triple P Positive Parenting Program, which was developed specifically to help parents of children with disabilities with behavior management (Sanders, 1999). Components of this program include teaching parents about positive attention, active ignoring, teaching

children communication of their needs and improving their social understanding, and constructive ways for parents to manage difficult behaviors. One randomized controlled trial found that this program improved parenting efficacy and reduced parental conflict months after the intervention ended (Sofronoff, Jahnel, & Sanders, 2011). These interventions that cultivate some of the core components of parenting efficacy are crucial in light of the beneficial role of higher levels of parenting efficacy among parents in the present study.

As indicated by the present findings, the importance of work for parents of adolescents with DD warrants a consideration of subsequent implications. Specifically, the significant role of job satisfaction and work flexibility in relation to parental well-being in the present study address the frequently understudied the role of employment for mothers and fathers of adolescents with DD in the disability literature (Matthews et al., 2011). More broadly, these findings deepen our understanding of fathers of adolescents with DD, who are all too frequently omitted in much of the existing literature (Hauser-Cram et al., 2013; Lamb & Lewis, 2004), by highlighting the reprieve these fathers may experience in their place of employment.

In light of the importance of job satisfaction and work flexibility among parents of adolescents with DD in this sample, the potential benefit of education surrounding self-advocacy in the world of work and flexible employment for parents is substantial. Because parents of children with DD are faced with unique and often intensive caregiving tasks, helping them manage the work-life balance, either through advocacy in the work place or individual stress-management, is essential. In one study, Crettenden, Wright, and Skinner (2014) found that 9 out of 10 parents did not know their local

legislation that outlined their legal right to flexible employment. As a result of these findings, the authors note that significant gains can be made by educating employers about how to create a “carer friendly workplace” as a means of reducing parenting stress. Mothers in the study of Crettenden and colleagues (2014) also suggested employers enable them to make up missed hours and complete more work from home so they are not punished for attending to caregiving tasks. In sum, the importance of work for parents of adolescents with DD necessitates a greater understanding on the part of employers and may call for advocacy-based interventions on the part of providers of these families.

Among the findings related to adolescent autonomy development, the role of adolescent self-efficacy as promotive of autonomy development is promising given how effectively interventions can target and bolster this in youth. For example, researchers note that self-determination, a crucial component of self-efficacy, is lower in environments that are more restrictive and require less autonomous functioning or decision-making (Wehmeyer & Garner, 2003). Bearing this in mind, research demonstrates that effective interventions that promote self-determination and self-efficacy aid in effectively teaching children and adolescents with disabilities how to problem solve and make decisions, set goals, and advocate for themselves (Wood, Fowler, Uphold, & Test, 2005). Through this education, researchers posit that adolescents will develop a greater sense of agency and internal locus of control in relation to their own choices. One meta-analysis of self-determination interventions among people with DD noted that successful interventions varied in their approach and methodology but consistently focused on fostering some combination of the following skills: self-instruction, self-monitoring, decision-making, self-advocacy, and social skills (Wood,

Fowler, Uphold, & Test, 2005). These interventions utilized a variety of techniques to intervene and successfully help develop skills that facilitate autonomy development in those with DD. In contrary to long held beliefs that those with disabilities may not have the capacity to develop agency or full independence (Wehmeyer & Palmer, 2000), the present findings and related research highlight the importance of self-efficacy and autonomy development among adolescents with DD.

In addition to interventions targeting the social skills of adolescents with DD, others highlight the value of programs for typically developing youth that aim to foster acceptance of their peers with disabilities. Though some programs focus on improving the social skills of those with disabilities (Hughes, Killian, and Fischer, 1996), others target their typically developing peers to cultivate greater acceptance among these youth (Carter & Hughes, 2005). One such program implemented and tested by Mpofu (2003) assessed the effectiveness of an intervention created to increase the social acceptance of adolescents with physical disabilities among typically developing peers. The program components included role salience activities (i.e. assigning one student with a disability and one typically developing student to salient roles and tasks within the classroom), peer interaction intervention (i.e. engaging in common interest activities with students with and without disabilities outside of their pre-established friend group), and an academic support intervention (i.e. targeted academic support based on student requests and needs). These three interventions were assessed in relation to perceived and actual social acceptance outcomes of students with disabilities before beginning the study and six months in to the intervention. Notably, findings indicated that a combination of all three interventions was most effective in fostering actual (student report) and perceived social

acceptance (self-report) among students with disabilities. Additionally, results demonstrated that perceived social acceptance was most influenced by role salience and actual social acceptance was most significantly informed by peer interaction. These findings shed light on several strategies that may enable future classroom-based interventions to improve the social acceptance of adolescents with disabilities within schools, where so much of an adolescent's time is spent.

Limitations

Though this study contributes to the literature related to the well-being of adolescents with DD and their parents, several important limitations must be acknowledged. First, aside from a select few models, the majority of analyses in this dissertation were not predictive in nature, but rather demonstrated significant relationships between constructs. Therefore, causality cannot be assumed. As with all correlational models and some predictive analyses, the direction of the relationship is not necessarily apparent. For example, findings indicated greater parenting efficacy was related to lower levels of depressive symptoms among fathers in the present sample. These results do not allow us to determine, however, whether lower paternal parenting efficacy predicts greater depressive symptoms in fathers, or alternatively, whether fathers who are depressed are more likely to express lower parenting efficacy.

Another limitation of this dissertation is the potential bias inherent to self-report measures. Specifically, the present study relied exclusively on single reporter self-report measures. In other words, analyses were assessed based on the experience of constructs according to a single person. Though the utility of self-report measures is widely accepted in developmental literature, the lack of multiple reporters prevents analyses of

converging data. This is particularly noteworthy when considering adolescent reports, which may not align with parents' views. For example, adolescents' understanding of their level of autonomy may be vastly different than parents' or teachers' views of the actual objective tasks adolescents take on in relation to their own care. Future studies would expand upon the present findings by drawing upon additional reports.

Finally, the generalizability of this dissertation's findings may be limited as a result of the nature of the sample. The homogeneity of this sample includes adolescents and families that are largely middle-class and European-American. Though this reflects the demographic composition of families in Massachusetts and New Hampshire during the time of data collection, findings should be translated to other contexts with caution. For example, the role of work-based factors and the impact of family SES may take on other meanings in families with more financial difficulties. The present findings must be interpreted with an understanding of the limits of external validity of this dissertation.

Future Research

Despite the limitations of the present study, the current findings serve as a meaningful platform for future research within the disability community. Several of the findings related to parental well-being warrant further exploration. First, the lack of significance of parent support in relation to parental well-being in the present study was surprising in light of research demonstrating the many benefits of social support for parents (Benson & Karlof, 2009; Bromley et al., 2004; Glidden, Billings, & Jobe, 2006; Krauss, 1993; White & Hastings, 2004). Future research may better explain these disparate findings by examining the social support of parents of adolescents with disabilities using measures that assess a wider array of aspects of satisfaction with

parental supports as compared to the single-item social support satisfaction item utilized in the present study (Antonoucci, 1986). This nuanced approach may shed light on the types of social support parents find most useful, such as instrumental or emotional support, which may vary in utility based on the task at hand. This knowledge would benefit providers and possible interventions to support parents and assist them in fostering meaningful support networks to better meet their diverse needs.

Also of note in the present study is the profound role of adolescent behavior problems and the deleterious effect they have on parental well-being. Managing behavior difficulties proved demanding for both mothers and fathers but externalizing behavior problems were particularly challenging for fathers in the present study, serving as further support of the father sensitivity hypothesis, which demonstrates the susceptibility of paternal functioning in the midst of managing parenting obligations (Almeida, Wethington, & Chandler, 1999; Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Cummings, Goeke-Morey, & Raymond, 2004). The present findings demonstrated that fathers experience their child's externalizing behaviors as being particularly difficult. Future research that more deeply understands the aspects of these behavior problems that are most challenging for fathers would enable providers to create more targeted interventions. For example, this may illuminate whether different types of support not already being accessed would be beneficial, or if parent programs that hone in on fathers' internal psychological experience of having difficulty managing their child's behavior would be most promotive of parental well-being.

Another important component of parental well-being highlighted in this study is the role of job satisfaction and work flexibility, both of which were shown to relate to

greater levels of well-being among mothers and fathers of adolescents with DD. Future research should continue to expand the exploration of other work factors that relate to the functioning of these parents. For example, though outside of the scope of the present study, data have been collected regarding the level of prestige of parents' employment. Additionally, qualitative studies may acquire a deeper understanding first-hand from parents about others aspects of work that have not been addressed in recent research, such as aspects of their work environment and amongst their colleagues that they find most supportive in the context of balancing the often extensive caregiving needs of children with DD. Factors such as these may represent under-researched areas of understanding that would enable providers and employers and providers alike to best support these parents.

Other encouraging findings include the far-reaching benefits of high levels of parenting efficacy, which were shown to contribute to greater parental well-being, lower levels of depressive symptoms, and lower levels of various sources of stress among parents of adolescents with DD, even when considering the presence of adolescent behavior problems. Ongoing investigations may bring to light novel components of parenting efficacy that have not yet been analyzed in studies or intervention programs. This is crucial for this population given that bolstering parenting efficacy was shown to override the well-documented challenges arising from behavior problems among youth with DD.

Finally, the present study's findings illustrated several factors supportive of autonomy development among adolescents with DD that serve as a foundation upon which further research can be conducted. First, given the significant role of adolescent

self-efficacy predicting later autonomy, ongoing exploration of factors that promote or impede the development of self-efficacy among adolescents with DD would be beneficial. Additionally, because adolescent social support predicted later autonomy among these adolescents, it will be useful for future studies to assess ways in which peer relations can be bolstered among youth with DD, given their reported difficulties forming reciprocal friendships (Matheson et al., 2007). Further, it may be an asset for future research to include qualitative investigations that more comprehensively address the experience of adolescents with DD in regards to their autonomy development and their process compared to that of their typically developing peers to provide more effective services.

The goals of these future studies may be especially meaningful in light of the fact that adolescents in the present sample did not endorse parental support as essential to their autonomy development. Therefore, there may be aspects of the autonomy development of these adolescents that have not yet been addressed. Additionally, because some adolescents with DD have exhibited a delayed onset of independent functioning in comparison to typically developing peers (Davis et al., 2006; Holmbeck et al., 1997) longitudinal analyses of autonomy in these youth five, 10, or 15 years after their adolescent years may highlight aspects of the autonomy development process not yet captured in current findings.

In sum, continuing to garner a deeper understanding of the transactions occurring between the functioning of adolescents with DD and their parents will heighten the field of psychology's understanding of their independent and collective functioning from a Family Systems perspective. This, in turn, will allow providers to better support adolescents with DD and their parents by identifying crucial protective and promotive

factors. Subsequently, more targeted interventions could be created to more fully meet the needs of this population.

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Appendix

Table 1

Family and Child Demographic Characteristics at Child Age 15 (N = 133)

	%	Mean (SD)
<i>Child</i>		
Type of disability		
Down syndrome	41.1%	
Motor impairment	31.5%	
Developmental delay of unknown etiology	27.4%	
Gender		
Female	50.7%	
Racial/ethnic origin		
European American	93.2%	
African American	1.4%	
Hispanic	1.4%	
Mixed race/other	4.1%	
Lived with both parents	65.6%	
<i>Family</i>		
Income (1999-2003)		
Less than 20K	8.2%	
Between 20K and 30K	4.1%	
Between 30K and 40K	9.5%	
More than 40K	71.1%	
Number of additional children		2.06 (.98)
<i>Mother</i>		
Marital status (married)	71.2%	
Employment status (employed)	69.9%	
Education (years)		14.14 (2.37)
Age (years)		43.59 (5.13)
<i>Father</i>		
Marital status (married)	68.1%	
Employment status (employed)	78.9%	
Education (years)		14.43 (3.32)
Age (years)		45.87 (5.86)

Table 2

List of Measures

Construct	Description	Measure	Reporter	Time Point	Cronbach's Alpha
Socioeconomic status	Control	Demographic questionnaire	Mother	15	n/a
Adolescent adaptive and intellectual functioning	Control	Demographic questionnaire	Mother	15	n/a
Child gender	Control	Demographic questionnaire	Mother	15	n/a
Parenting Efficacy	Predictor	Family Experiences Questionnaire (FEQ; Frank et al., 1986)	Mother and father	15	0.91 mothers 0.91 fathers
Parent Social Support	Predictor	Social Network Questionnaire (SNQ; Antonoucci, 1986)	Mother and father	15	0.69 mothers 0.65 fathers
Parent well-being	Outcome	Stress Index for Parents of Adolescents (SIPA; Sheras, Abidin, & Konold, 1998)	Mother and father	18	0.96 mothers 0.96 fathers
Parent depressive symptoms	Outcome	Center for Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977)	Mother and father	18	0.91 mothers 0.88 fathers

Table 2 Continued

Construct	Description	Measure	Reporter	Time Point	Cronbach's Alpha
Behavior problems	Moderator	Child Behaviour Checklist (CBCL; Achenbach, 1991)	Mother and father	18	0.92 mothers 0.99 fathers
Partner satisfaction	Predictor	The Dyadic Adjustment Scale (DAS; Spanier, 1976)	Mother and father	18	0.97 mothers 0.95 fathers
Satisfaction with parent-child relationship	Predictor and outcome	Satisfaction with parent-child relationship scale (Simons, Beaman, Conger, & Chao, 1993)	Mother and father	18	0.85 mother 0.83 fathers
Satisfaction with family functioning	Outcome	Family Adaptability and Cohesion Evaluation Scale (FACES) Olson, Portner, & Bell, 1982)	Mother and father	18	0.84 mothers 0.84 fathers
Difficulty of care	Moderator	Burden of Care Scale (Zarit, Reever, & Bach-Peterson, 1980)	Mother and father	18	0.88 mothers 0.85 fathers

Table 2 Continued

Construct	Description	Measure	Reporter	Time Point	Cronbach's Alpha
Work flexibility	Predictor	Work Flexibility measure (Rothausen, 1994)	Mother, father	18	0.91 mothers 0.85 fathers
Work satisfaction	Predictor	Minnesota Job Satisfaction Questionnaire (Weiss, Dawis, England, & Lofquist, 1967)	Mother, father	18	0.93 mothers 0.94 fathers
Adolescent autonomy	Outcome and moderator	Arc Self-Determination Scale Wehmeyer & Kelchner, 1995)	Teen	18	.77
Adolescent social acceptance	Predictor	Perceived Competence Scale for Learning Disabled Students (Renick & Harter, 1989)	Teen	15	.72
Adolescent self-efficacy	Predictor	Perceived Self-Efficacy Scale (Cowen et al., 1991)	Teen	18	.66
Supportive parenting (adolescent)	Predictor	Supportive Parenting Scale (Simons, Lorenz, Conger, & Wu, 1992)	Teen	18	.76

Table 3

Percentage of Missing Data: Child and Family Data (N=133)

Construct	% Missing Original Data Set	% Missing Restricted Data Set
Family SES	4.1	
Maternal educational attainment	0.0	
Child gender	0.0	
Child type of disability	0.0	
Parenting efficacy		
<i>Mother report</i>	43.2	11.3
<i>Father report</i>	57.7	34.6
Parent social support		
<i>Mother report</i>	37.6	1.5
<i>Father report</i>	55.9	31.6
Parent overall stress		
<i>Mother report</i>	56.3	31.6
<i>Father report</i>	64.3	45.1
Parent depressive symptoms		
<i>Mother report</i>	47.9	18.8
<i>Father report</i>	61.0	39.8
Behavior problems		
<i>Mother report</i>	44.1	12.8
<i>Father report</i>	54.5	30.1
Partner satisfaction		
<i>Mother report</i>	57.7	29.1
<i>Father report</i>	64.8	36.4
Satisfaction with parent-child relationship		
<i>Mother report</i>	48.4	20.0
<i>Father report</i>	60.6	30.9
Satisfaction with family cohesion		
<i>Mother report</i>	48.4	19.1
<i>Father report</i>	62.0	33.6

Table 3 Continued

Construct	% Missing Original Data Set	% Missing Restricted Data Set
Difficulty of care		
<i>Mother report</i>	48.4	20.0
<i>Father report</i>	61.0	31.8
Work flexibility		
<i>Mother report</i>	65.3	30.1
<i>Father report</i>	65.3	38.1
Work satisfaction		
<i>Mother report</i>	68.1	34.3
<i>Father report</i>	66.7	41.0
Adolescent social acceptance	52.1	4.5
Adolescent self-efficacy	56.8	5.6
Supportive parenting (adolescent)	63.8	20.2
Adolescent autonomy	58.2	0.0

Table 4

Information Regarding Data Set 1

Descriptor	Relevant Data Set
Inclusion Criteria	Parents completed measures at ages 15 and 18
Used for Questions	1a, 1b and supplemental questions
Number of Cases	133
Mean score of outcome variables in main analyses	Maternal Depressive Symptoms = 10.05 Paternal Depressive Symptoms = 8.75 Maternal Total Stress = 187.13 Paternal Total Stress = 186.44

Table 5

Information Regarding Data Set 2

Descriptor	Relevant Data Set
Inclusion Criteria	Parents who identified as being partnered
Used for Questions	2a, and supplemental questions
Number of Cases	110
Mean score of outcome variables in main analyses	Maternal Satisfaction with Parent-Child Relationship = 12.96 Paternal Satisfaction with Parent-Child Relationship = 13.16 Maternal Satisfaction with Family Cohesion = 59.30 Paternal Satisfaction with Family Cohesion = 58.29

Table 6

Information Regarding Data Set 3

Descriptor	Relevant Data Set
Inclusion Criteria	Mothers and fathers who were employed part-time or full-time
Used for Questions	3a, 3b, and supplemental questions
Number of Cases	93 mothers employed, 105 fathers employed
Mean score of outcome variables in main analyses	Maternal Satisfaction with Parent-Child Relationship = 13.10 Paternal Satisfaction with Parent-Child Relationship = 13.20 Maternal Total Stress = 179.86 Paternal Total Stress = 184.28

Table 7

Information regarding data set 4

Descriptor	Relevant Data Set
Inclusion Criteria	Adolescents who completed the autonomy measure
Used for Questions	4a, 4b, and supplemental questions
Number of Cases	89 adolescents
Mean score of outcome variables in main analyses	Adolescent autonomy = 53.57

Table 8

Correlations between Variables Included in Equations for Research Question One - Mothers

	1	2	3	4	5	6	7	8
1. Family SES	--	.147	.151	-.060	-.032	.059	.050	-.062
2. Adolescent Functioning		--	.052	.084	-.136	.027	.146	-.132
3. Age 15 Maternal Parenting Efficacy			--	.128	-.338**	-.256*	.066	-.262**
4. Age 15 Maternal Social Support				--	-.184	-.116	-.071	-.219*
5. Age 18 Maternal Stress					--	.403**	-.069	.466**
6. Age 18 Maternal Depressive Symptoms						--	-.226*	.432**
7. Age 18 Adolescent Autonomy							--	-.080
8. Age 18 Adolescent Behavior Problems								--

Note. $N = 133$.

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

Table 9

Correlations between Variables Included in Equations for Research Question One - Fathers

	1	2	3	4	5	6	7	8
1. Family SES	--	.147	.159	-.025	-.036	.050	.050	.074
2. Adolescent Functioning		--	.004	.054	-.106	-.028	.146	-.196
3. Age 15 Paternal Parenting Efficacy			--	.056	-.233*	-.344**	.049	.075
4. Age 15 Paternal Social Support				--	-.095	-.173	.080	.005
5. Age 18 Paternal Stress					--	.538**	-.099	.230*
6. Age 18 Paternal Depressive Symptoms						--	-.104	.136
7. Age 18 Adolescent Autonomy							--	-.006
8. Age 18 Adolescent Behavior Problems								--

Note. $N = 133$.

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 10

Correlations between Variables Included in Equations for Research Question Two - Mothers

	1	2	3	4	5	6
1. Family SES	--	.159	-.156	.003	-.077	.084
2. Adolescent Functioning		--	-.083	-.191	-.075	.075
3. Age 18 Maternal Caregiving Difficulty			--	-.333**	-.055	-.615**
4. Age 18 Maternal Family cohesion				--	.206	.364**
5. Age 18 Maternal Dyadic Adjustment					--	.120
6. Age 18 Maternal Satisfaction with Parent-Child Relationship						--

Note. $N = 110$.

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 11

Correlations between Variables Included in Equations for Research Question Two - Fathers

	1	2	3	4	5	6
1. Family SES	--	.159	.004	.076	-.034	-.006
2. Adolescent Functioning		--	-.155	-.070	-.002	.078
3. Age 18 Paternal Caregiving Difficulty			--	-.341**	-.104	-.461**
4. Age 18 Paternal Family cohesion				--	.148	.352**
5. Age 18 Paternal Dyadic Adjustment					--	-.124
6. Age 18 Paternal Satisfaction with Parent-Child Relationship						--

Note. $N = 110$.

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

Table 12

Correlations between Variables Included in Equations for Research Question Three - Mothers

	1	2	3	4	5	6	7
1. Family SES	--	.161	.077	.068	-.017	-.052	-.065
2. Adolescent Functioning		--	.128	-.086	.059	-.037	-.009
3. Age 18 Maternal Satisfaction with Parent-Child Relationship			--	-.130	-.079	-.577**	-.373**
4. Age 18 Maternal Work Flexibility				--	.607**	-.172	-.143
5. Age 18 Maternal Job Satisfaction					--	-.178	-.140
6. Age 18 Maternal Total Stress						--	.592**
7. Age 18 Maternal Depressive Symptoms							--

Note. $N = 93$.

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

Table 13

Correlations between Variables Included in Equations for Research Question Three - Fathers

	1	2	3	4	5	6	7
1. Family SES	--	.125	.033	.057	-.093	-.076	-.026
2. Adolescent Functioning		--	-.028	.095	.151	-.093	-.007
3. Age 18 Paternal Satisfaction with Parent-Child Relationship			--	.156	.150	-.621**	-.418**
4. Age 18 Paternal Work Flexibility				--	.593**	-.308**	-.534**
5. Age 18 Paternal Job Satisfaction					--	-.344**	-.429**
6. Age 18 Paternal Total Stress						--	.528**
7. Age 18 Paternal Depressive Symptoms							--

Note. $N = 105$.

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 14

Correlations between Variables Included in Equations for Research Question Four

	1	2	3	4	5	6	7
1. Gender	--	.078	.028	.008	-.020	.067	.139
2. Family SES		--	.261*	.035	-.059	-.055	.015
3. Adolescent Functioning			--	-.017	.180	-.004	.186
4. Age 15 Adolescent Peer Acceptance				--	.332**	.178	.361**
5. Age 18 Adolescent Self-Efficacy					--	.207	.382**
6. Age 18 Adolescent Supportive Parenting						--	.239*
7. Age 18 Adolescent Autonomy							--

Note. $N = 89$.

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

Table 15

Effects of Age 15 Parenting Efficacy and Age 15 Parent Social Support on Age 18 Maternal

Well-being

		β	SE(β)
Step 1	Adolescent Functioning	-2.824	2.330
	Gender	6.799	11.005
	SES	.289	1.498
Step 2	Parenting Efficacy	-2.362**	.797
	Parental Social Support	-8.785	7.698

Note. N = 133. All coefficients presented are from the final model

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

Table 16

Effects of Age 15 Parenting Efficacy and Age 15 Parent Social Support on Age 18

Paternal Well-being

		β	SE(β)
Step 1	Adolescent Functioning	-1.647	1.414
	Gender	1.454	5.360
	SES	.188	.935
Step 2	Parenting Efficacy	-1.328*	.619
	Parental Social Support	-2.280	3.289

Note. N = 133. All coefficients presented are from the final model

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

Table 17

Effects of Age 15 Parenting Efficacy and Age 15 Parent Social Support on Age 18 Maternal

Depressive Symptoms

		β	SE (β)
Step 1	Adolescent Functioning	.196	.455
	Gender	-.745	1.681
	SES	.298	.358
Step 2	Parenting Efficacy	-.394*	.169
	Parental Social Support	-1.137	1.406

Note. N = 133. All coefficients presented are from the final model

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

Table 18

Effects of Age 15 Parenting Efficacy and Age 15 Parent Social Support on Age 18 Paternal

Depressive Symptoms

		β	SE (β)
Step 1	Adolescent Functioning	-.082	.312
	Gender	-.510	1.279
	SES	.256	.200
Step 2	Parenting Efficacy	-.415*	.147
	Parental Social Support	-.881	1.057

Note. N = 133. All coefficients presented are from the final model

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

Table 19

Effects of Age 18 Adolescent Autonomy and Age 18 Child Behavior Problems on Age 18

Maternal Total Stress

		β	SE(β)
Step 1	Adolescent Functioning	-1.795	2.485
	Gender	3.341	11.140
	SES	.105	1.436
Step 2	Child Total Behavior Problems	1.811**	.609
	Adolescent Autonomy	-.262	1.046
Step 3	Child Behavior Problems x Autonomy	.107	.778

Note. N = 133. All coefficients presented are from the final model

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

Table 20

Effects of Age 18 Adolescent Autonomy and Age 18 Child Behavior Problems on Age 18

Paternal Total Stress

		β	SE(β)
Step 1	Adolescent Functioning	-.625	1.473
	Gender	-.303	5.291
	SES	-.452	.949
Step 2	Child Total Behavior Problems	-.604	.470
	Adolescent Autonomy	.330	.255
Step 3	Child Behavior Problems x Autonomy	.294	.331

Note. N = 133. All coefficients presented are from the final model

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

Table 21

Effects of Age 18 Adolescent Autonomy and Age 18 Child Behavior Problems on Age 18 Maternal Depressive Symptoms

		β	SE(β)
Step 1	Adolescent Functioning	.532	.447
	Gender	-1.069	1.547
	SES	.293	.318
Step 2	Child Total Behavior Problems	.429***	.115
	Adolescent Autonomy	-.230	.163
Step 3	Child Behavior Problems x Autonomy	-.073	.139

Note. N = 133. All coefficients presented are from the final model

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

Table 22

Effects of Age 18 Adolescent Autonomy and Age 18 Child Behavior Problems on Age 18

Paternal Depressive Symptoms

		β	SE(β)
Step 1	Adolescent Functioning	.046	.340
	Gender	-1.015	1.166
	SES	.104	.193
Step 2	Child Total Behavior Problems	-.136	.104
	Adolescent Autonomy	.031	.071
Step 3	Child Behavior Problems x Autonomy	.061	.078

Note. N = 133. All coefficients presented are from the final model

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

Table 23

Effects of Age 18 Dyadic Adjustment and Age 18 Difficulty of Care on Age 18 Maternal Satisfaction with Parent-Child Relationship

		β	SE(β)
Step 1	Adolescent Functioning	.089	.121
	Gender	.260	.401
	SES	.008	.072
Step 2	Dyadic Adjustment	-.214	.822
	Difficulty of Care	-.409	.854
Step 3	Dyadic Adjustment x Difficulty of Care	.242	.830

Note. N = 110. All coefficients presented are from the final model

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

Table 24

Effects of Age 18 Dyadic Adjustment and Age 18 Difficulty of Care on Age 18 Paternal Satisfaction with Parent-Child Relationship

		β	SE(β)
Step 1	Adolescent Functioning	-.012	.097
	Gender	-.423	.311
	SES	.007	.063
Step 2	Dyadic Adjustment	-.006	.050
	Difficulty of Care	-.132**	.046
Step 3	Difficulty of Care x Dyadic Adjustment	-.049	.048

Note. N = 110. All coefficients presented are from the final model

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

Table 25

Effects of Age 18 Dyadic Adjustment and Age 18 Difficulty of Care on Age 18 Maternal Satisfaction with Family Cohesion

		β	SE(β)
Step 1	Adolescent Functioning	-.992	.414
	Gender	-.551	1.960
	SES	.087	.283
Step 2	Dyadic Adjustment	.425	1.305
	Difficulty of Care	-.042	1.290
Step 3	Dyadic Adjustment x Difficulty of Care	-.227	1.295

Note. N = 110. All coefficients presented are from the final model

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

Table 26

Effects of Age 18 Dyadic Adjustment and Age 18 Difficulty of Care on Age 18 Paternal Satisfaction with Family Cohesion

		β	SE(β)
Step 1	Adolescent Functioning	-.514	.344
	Gender	-.143	1.177
	SES	.261	.221
Step 2	Dyadic Adjustment	.422†	.231
	Difficulty of Care	-.183	.198
Step 3	Dyadic Adjustment x Difficulty of Care	-.359	.217

Note. $N = 110$. All coefficients presented are from the final model

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

Table 27

Effects of Age 18 Work Flexibility and Age 18 Job Satisfaction on Age 18 Maternal Satisfaction with Parent-Child Relationship

		β	SE(β)
Step 1	Adolescent Functioning	.044	.111
	Gender	.198	.407
	SES	-.101	.069
	Difficulty of Care	-.221***	.032
Step 2	Work Flexibility	-.058	.068
	Job Satisfaction	-.003	.023

Note. $N = 93$. All coefficients presented are from the final model

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 28

Effects of Age 18 Work Flexibility and Age 18 Job Satisfaction on Age 18 Paternal Satisfaction with Parent-Child Relationship

		β	SE(β)
Step 1	Adolescent Functioning	-.086	.114
	Gender	-.178	.385
	SES	.047	.074
	Difficulty of Care	-.176***	.032
Step 2	Work Flexibility	-.029	.077
	Job Satisfaction	.012	.021

Note. $N = 105$. All coefficients presented are from the final model

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 29

Effects of Age 18 Work Flexibility and Age 18 Job Satisfaction on Age 18 Maternal Total Parenting Stress

		β	SE(β)
Step 1	Adolescent Functioning	.889	1.618
	Gender	4.247	5.813
	SES	2.000	1.031
	Difficulty of Care	4.013***	.480
Step 2	Work Flexibility	-.822	1.065
	Job Satisfaction	-.440	.352

Note. $N = 93$. All coefficients presented are from the final model

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 30

Effects of Age 18 Work Flexibility and Age 18 Job Satisfaction on Age 18 Paternal Total Parenting Stress

		β	SE(β)
Step 1	Adolescent Functioning	-.050	1.582
	Gender	-.816	5.442
	SES	-1.231	.902
	Difficulty of Care	2.661***	.474
Step 2	Work Flexibility	.066	1.187
	Job Satisfaction	-.689*	.324

Note. N = 105. All coefficients presented are from the final model

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

Table 31

Effects of Age 18 Work Flexibility and Age 18 Job Satisfaction on Age 18 Maternal

Depressive Symptoms

		β	SE(β)
Step 1	Adolescent Functioning	.229	.339
	Gender	-.715	1.207
	SES	.289	.218
	Difficulty of Care	.622***	.098
Step 2	Work Flexibility	-.174	.225
	Job Satisfaction	-.054	.073

Note. N = 93. All coefficients presented are from the final model

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

Table 32

Effects of Age 18 Work Flexibility and Age 18 Job Satisfaction on Age 18 Paternal

Depressive Symptoms

		β	SE(β)
Step 1	Adolescent Functioning	.322	.282
	Gender	-.578	1.063
	SES	-.113	.176
	Difficulty of Care	.482***	.089
Step 2	Work Flexibility	-.568**	.220
	Job Satisfaction	-.103†	.060

Note. $N = 105$. All coefficients presented are from the final model

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

Table 33

Effects of Age 18 Work Composite on Age 18 Maternal Total Parenting Stress

		β	SE(β)
Step 1	Adolescent Functioning	.706	1.696
	Gender	5.613	6.231
	SES	-.165	1.041
	Satisfaction with Parent-Child Relationship	-10.152***	1.396
Step 2	Work Composite	-5.131**	1.722

Note. N = 93. All coefficients presented are from the final model

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

Table 34

Effects of Age 18 Work Composite on Age 18 Paternal Total Parenting Stress

		β	SE(β)
Step 1	Adolescent Functioning	-1.095	1.430
	Gender	-2.301	4.817
	SES	-.579	.901
	Satisfaction with Parent-Child Relationship	-9.196***	1.252
Step 2	Work Composite	-4.517**	1.374

Note. N = 105. All coefficients presented are from the final model

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

Table 35

Effects of Age 18 Work Composite on Age 18 Maternal Depressive Symptoms

		β	SE(β)
Step 1	Adolescent Functioning	.164	.363
	Gender	-.557	1.309
	SES	-.069	.222
Step 2	Satisfaction with Parent-Child Relationship	-1.190***	.298
Step 3	Work Composite	-.752*	.365

Note. $N = 93$. All coefficients presented are from the final model

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

Table 36

Effects of Age 18 Work Composite on Age 18 Paternal Depressive Symptoms

		β	SE(β)
Step 1	Adolescent Functioning	.233	.295
	Gender	-1.393	1.071
	SES	-.068	.186
Step 2	Satisfaction with Parent-Child Relationship	-1.077***	.271
Step 3	Work Composite	-1.732***	.293

Note. $N = 105$. All coefficients presented are from the final model

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

Table 37

Effects of Age 15 Adolescent Social Acceptance on Age 18 Adolescent Autonomy

		β	SE(β)
Step 1	Adolescent Functioning	.925†	.484
	Gender	2.147	1.607
Step 2	Social Acceptance	.726***	.197

Note. N = 89. All coefficients presented are from the final model

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

Table 38

Effects of Age 18 Self-Efficacy and Age 18 Supportive Parenting on Age 18 Adolescent Autonomy

		β	SE(β)
Step 1	Adolescent Functioning	.607	.501
	Gender	2.141	1.598
Step 2	Self-Efficacy	.734**	.233
	Supportive Parenting	.239	.158

Note. $N = 89$. All coefficients presented are from the final model

$\dagger p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

Table 39

Summary of Research Questions and Results

Research Question	Results
1) What parental and child factors are related to the well-being of parents of adolescents with DD?	
1a) Do parenting efficacy and social support when their child is age 15 predict parenting total stress and depressive symptoms at age 18?	<p>Age 15 parenting efficacy was a significant predictor of age 18 parenting total stress, with higher levels of parenting efficacy leading to lower levels of total parenting stress for mothers and fathers.</p> <p>Age 15 parenting efficacy was a significant predictor of age 18 parental depressive symptoms, with higher levels of parenting efficacy leading to lower levels of depressive symptoms for mothers and fathers.</p> <p>Age 15 parental social support was not a significant predictor of age 18 parenting total stress or depressive symptoms for mothers or fathers.</p>
1a supplemental) Does parenting efficacy at child age 15 predict specific subscales of parenting stress at child age 18, including stress related to parenting, stress related to the adolescent, and stress related to the parent-child relationship?	<p>Age 15 parenting efficacy was a significant predictor of age 18 stress related to parenting (SIPA – parenting) for mothers and fathers, such that greater parenting efficacy at age 15 predicted lower parenting stress at age 18 for mothers and fathers.</p> <p>Age 15 parenting efficacy approached significance in predicting age 18 stress related to the adolescent (SIPA – adolescent) for mothers and fathers, such that greater parenting efficacy at age 15 predicted lower stress related to the adolescent at age 18 for mothers and fathers.</p>

Table 39 Continued

Research Question	Results
1a supplemental continued)	Age 15 parenting efficacy was a significant predictor of age 18 stress related to the parent-child relationship (SIPA – parent-child relationship) for mothers and fathers, such that greater parenting efficacy at age 15 predicted lower stress related to the parent-child relationship at age 18 for mothers and fathers.
1b) Does adolescent autonomy at child age 18 relate to parenting total stress and depressive symptoms at child age 18? Do adolescent behavior problems modify the relationship, such that higher levels of behavior problems attenuate the relationship between adolescent autonomy and parenting total stress?	The main effect of age 18 adolescent autonomy was non-significant in relation to total stress for mothers and fathers.
	The main effect of age 18 child behavior problems was significantly related to age 18 total stress for mothers only, indicating that greater levels of behavior problems were related to higher levels of overall parenting stress for mothers. This main effect was not significant for fathers.
	The interaction term was non-significant for mothers and fathers, indicating that age 18 behavior problems did not moderate the relationship between age 18 adolescent autonomy and age 18 parenting total stress.
	The main effect of age 18 adolescent autonomy was non-significant in relation to depressive symptoms for mothers and fathers.
	The main effect of age 18 child behavior problems was significantly related to age 18 depressive symptoms for mothers only, such that greater levels of behavior problems were related to higher levels of depressive symptoms for mothers. This main effect was not significant for fathers.

Table 39 Continued

Research Question	Results
1b continued)	The interaction term was non-significant for mothers and fathers, such that age 18 behavior problems did not moderate the relationship between age 18 adolescent autonomy and age 18 parental depressive symptoms.
1b supplemental) Do internalizing and externalizing behavior problems at child age 18 relate to total parenting stress at child age 18?	<p data-bbox="824 600 1354 741">Age 18 internalizing behavior problems were non-significant in relation to age 18 total parenting stress for mothers and fathers.</p> <p data-bbox="824 783 1386 1031">Age 18 externalizing behavior problems were significantly related to age 18 total parenting stress for fathers, such that greater externalizing behavior problems were related to higher total parenting stress. This main effect was non-significant for mothers.</p>
1b supplemental continued) Does parenting efficacy at child age 15 predict parenting total stress and parental depressive symptoms at child age 18 above and beyond behavior problems at child age 18?	<p data-bbox="824 1073 1386 1289">Age 15 parenting efficacy was a significant predictor of age 18 parenting total stress above and beyond adolescent behavior problems, with higher levels of parenting efficacy leading to lower total parenting stress for mothers and fathers.</p> <p data-bbox="824 1335 1386 1614">Age 15 parenting efficacy was a significant predictor of age 18 paternal depressive symptoms above and beyond adolescent behavior problems, with higher levels of parenting efficacy leading to lower levels of depressive symptoms for fathers only. This main effect was non-significant for mothers.</p>

Table 39 Continued

Research Question	Results
<p>2) How is partner satisfaction related to the parent-child relationship and family cohesion for parents of adolescents with DD?</p>	
<p>2a) Does parental dyadic adjustment (partner satisfaction) at child age 18 relate to parent satisfaction with the parent-child relationship at child age 18 and satisfaction with family cohesion at child age 18? Does difficulty of care at child age 18 modify the relationship, where higher levels of difficulty of care will attenuate the relationship between greater partner satisfaction and satisfaction with the parent-child relationship and family cohesion?</p>	<p>The main effect of age 18 dyadic adjustment was not significant in relation to age 18 satisfaction with the parent-child relationship for mothers or fathers.</p> <p>The main effect of age 18 difficulty of care was significantly related to age 18 satisfaction with the parent-child relationship for fathers, such that greater difficulty of care was associated with lower levels of satisfaction within the father-child relationship. This main effect was non-significant for mothers.</p> <p>The interaction term was non-significant for mothers and fathers, indicating that age 18 difficulty of care did not moderate the relationship between age 18 dyadic adjustment and age 18 satisfaction with the parent-child relationship.</p> <p>The main effect of age 18 dyadic adjustment was trend level significant in relation to age 18 satisfaction with family cohesion for fathers, such that greater levels of dyadic adjustment were related to greater levels of paternal satisfaction with family cohesion. This main effect was non-significant for mothers.</p>

Table 39 Continued

Research Question	Results
2a continued)	<p>The main effect of age 18 difficulty of care was non-significant in relation to age 18 satisfaction with family cohesion for mothers and fathers.</p> <p>The interaction term was non-significant for mothers and fathers, indicating that age 18 difficulty of care did not moderate the relationship between age 18 dyadic adjustment and age 18 satisfaction with family cohesion.</p>
<p>2a supplemental) Does parental satisfaction with the parent-child relationship at child age 18 relate to parent satisfaction with family cohesion at child age 18? (controlling for child age 18 difficulty of care)</p>	<p>Age 18 difficulty of care was significantly related to age 18 parental satisfaction with the family cohesion for fathers, such that greater difficulty of care was related to lower levels of satisfaction with family cohesion for fathers. This main effect was non-significant for mothers.</p> <p>Age 18 parental satisfaction with the parent-child relationship was significantly related to age 18 parental satisfaction with family cohesion for mothers (trending) and fathers, such that greater satisfaction with the parent-child relationship was related to greater sense of family cohesion for mothers and fathers.</p>
<p>3) How are work characteristics related to parental satisfaction with the parent-child relationship and with parenting total stress?</p>	
<p>3a) Are work flexibility and job satisfaction at child age 18 related to satisfaction with the parent-child relationship at child age 18, total parenting stress at child age 18, and parental depressive symptoms at child age 18?</p>	<p>Age 18 work flexibility was non-significant in relation to age 18 satisfaction with the parent-child relationship for mothers and fathers.</p> <p>Age 18 job satisfaction was non-significant in relation to age 18 satisfaction with the parent-child relationship for mothers and fathers.</p>

Table 39 Continued

Research Question	Results
3a continued)	<p>Age 18 work flexibility was non-significant in relation to age 18 total parenting stress for mothers and fathers.</p> <p>Age 18 job satisfaction was non-significant in relation to age 18 total parenting stress for mothers. For fathers, age 18 job satisfaction was significantly related to age 18 total parenting stress, such that greater job satisfaction was related to lower total parenting stress.</p> <p>Age 18 work flexibility was non-significant in relation to age 18 parental depressive symptoms for mothers. For fathers, age 18 work flexibility was significantly related to age 18 parental depressive symptoms, such that greater work flexibility was related to lower parental depressive symptoms for fathers.</p> <p>Age 18 job satisfaction was non-significant in relation to age 18 parental depressive symptoms for mothers. For fathers, age 18 job satisfaction was significantly related to age 18 parental depressive symptoms, such that greater job satisfaction was related to lower parental depressive symptoms for fathers.</p>
<p>3b) Is the work flexibility and job satisfaction composite (work composite) at child age 18 related to greater parental well-being (lower parenting total stress and lower parental depressive symptoms) above and beyond satisfaction with the parent-child relationship when their child is age 18?</p>	<p>Age 18 work composite was significantly related to age 18 parenting total stress, such that greater work composite scores were related to lower total parenting stress for mothers and fathers above and beyond parental satisfaction with the parent-child relationship.</p>

Table 39 Continued

Research Question	Results
3b continued)	Age 18 work composite was significantly related to age 18 parental depressive symptoms, such that greater work composite scores were related to lower parental depressive symptoms for mothers and fathers above and beyond parental satisfaction with the parent-child relationship.
4) What factors predict and relate to adolescent autonomy in teens with DD?	
4a) Is adolescent social acceptance at age 15 predictive of adolescent autonomy at age 18?	Age 15 social acceptance significantly predicted age 18 adolescent autonomy, with higher levels of social acceptance at age 15 predicting greater adolescent autonomy at age 18.
4a (supplemental) Is adolescent self-efficacy at age 18 related to age 18 adolescent autonomy controlling for previous social acceptance at age 15?	Age 18 adolescent self-efficacy was significantly related to age 18 adolescent autonomy above and beyond age 18 social acceptance, with higher levels of self-efficacy at age 18 relating to greater adolescent autonomy at age 18.
4b) Are adolescent self-efficacy at age 18 and supportive parenting at age 18 related to adolescent autonomy at age 18?	Age 18 adolescent self-efficacy was significantly related to age 18 adolescent autonomy, with higher levels of self-efficacy at age 18 relating to greater adolescent autonomy at age 18.
	Age 18 adolescent supportive parenting was non-significant in relation to age 18 adolescent autonomy.