

AUTONOMY DEVELOPMENT AND THE INFLUENCE OF
TEMPERAMENT

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ABSTRACT

This study examined how perceptions of adolescent temperament are related to parent-child conflict and the development of autonomy and how temperament might interact with sibling ordinal status. Participants were 145 families. Each family included at least one parent, a first-born in 8th, 10th, or 12th grade, and a second-born sibling. Participants were given questionnaires regarding adolescent temperament, conflict frequency and intensity in the parent-adolescent relationship, expectations for adolescent's behavioral autonomy, and parental authority legitimacy. Results partially confirmed the hypotheses revealing that temperament was related to parent-child conflict and, to a lesser extent, to autonomy development. In particular, parents and adolescents reported that temperamental intensity, persistence, and approach were related to conflict frequency, conflict intensity, and expectations for behavioral autonomy. Persistence was the only temperament that related to parental authority legitimacy. Also, results revealed that temperament interacted with sibling ordinal status, but only for the conflict measures. These reports were more significant for parent reports of adolescent temperament than for adolescent reports.

CHAPTER 1

INTRODUCTION

Overview

Behavioral autonomy, the increasing ability to control decisions, freedoms, and to generally self-direct, is very relevant to the topic of youths' expressions of freedom (Peterson, 1986). Previous research has demonstrated that adolescents are continually trying to increase freedoms that fall under the personal domain (Nucci, Killen, & Smetana, 1996).

Though understanding the autonomy development of adolescents is important, understanding how this development flourishes with multiple children in the family is an important dynamic to consider. First, parents tend to exaggerate differences and use contrast effects when describing the temperaments of their children (Saudino, Wertz, Gagne, & Chawla, 2004). Second, later-born adolescents have been found to desire and obtain greater independence at earlier ages than first-born adolescents (Campione-Barr & Smetana, 2009). If parents and adolescents perceive adolescents as having different temperaments and siblings are asking for more autonomy at inconsistent times, temperament may be interacting with sibling ordinal status.

Specifically, this study investigated the role of temperament in parent-child conflict and the development of behavioral autonomy. The present review begins by addressing issues of healthy autonomy and how family conflict is related to the broadening of the personal domain. Then, temperament and how perceptions of

temperament influence parents' beliefs and parenting styles will follow with a discussion on how temperament may be related to parent-child conflict and adolescent behavioral autonomy. Finally, inconsistencies in sibling expectations for behavioral autonomy will be covered. It is hypothesized that temperament will influence conflict frequency and intensity and autonomy, as well as interact with sibling ordinal status to impact parent-adolescent conflict and autonomy expectations.

Behavioral Autonomy

Adolescent development promotes independence and signifies a transformation from childhood to adulthood. This important time of transition can be processed through understanding autonomy, how it is perceived, attained, and transformed throughout the adolescent years. The different types of autonomy include cognitive (perceived control over one's domain and the subjective feeling of independence in decision-making), emotional (the emotional individuation of children from parents), and behavioral (an active autonomy wherein persons begin to function independently, including increased self regulation and authority in decision-making) (Zimmer-Gembeck & Collins, 2003). Considering the importance of independence and relinquishing constraints from parents during adolescence, behavioral autonomy will be the focus of the present study. Healthy behavioral autonomy has been defined as "pertaining not to freedom *from* others, but freedom *to* carry out actions on one's own behalf while maintaining appropriate connections to others" (Hill & Holmbeck, 1986). The presence of autonomy can promote healthy development in adolescents whereas the absence of autonomy can hinder positive development and result in problematic outcomes (Zimmer-Gembeck & Collins, 2003).

Social domain theory helps to explain some of the intricacies of how parents and adolescents approach behavioral autonomy and what normative levels of autonomy look like. Helwig and Turiel (2002) explain that as children grow, they begin to categorize and organize the domains of morality (harm, justice, and rights) and social convention (social customs). Other domains included in this theory are prudential (harm to one's self), personal (issues of privacy, friends, or leisure activities), and multifaceted (a combination of personal and conventional or prudential domains). As children develop, the breadth of the personal domain increases as those areas that are considered sacred to the self, such as individual freedoms, become more salient.

The personal domain is considered to be under the rule of the self and separate from outsider regulation. In connection with the personal domain, the multifaceted domain can be a source of contention between adolescents and parents for the reason that it combines factors of the personal domain (often significant to the adolescent) with prudential or social conventions (often significant to the parental figure). For instance, sometimes conflicts arise when a parent wants a child to clean his/her room. The conflict surfaces when the parent defines the child's room as part of the house and therefore should be cleaned (social convention). The child, on the other hand, sees the room as a personal space to do with what he/she desires (personal domain). Children are most likely to challenge parental authority regarding the personal and multifaceted domains over other domains. Thus, adolescents who are in pursuit of greater personal freedoms often experience greater parent-child conflict, especially if parents are trying to relinquish freedoms to their children at a slower pace than children desire. Parents with younger adolescents are more likely to retain parental authority over a greater number of issues

(including the personal and multifaceted domains) than those parents with older adolescents (Killen & Smetana, 2005). Since parents are often hesitant to allow adolescents unrestricted authority over these domains, conflicts between parents concerns over health, safety, and social norms and adolescents' personal freedoms tend to battle against each other. The personal and multifaceted domains, therefore, are of great interest when dissecting the fundamentals of conflict frequency and intensity in adolescence. As children mature, they ask for more freedoms to define their sense of autonomy as parents and children continually negotiate these boundaries (Nucci, Killen, & Smetana, 1996).

As parents and adolescents battle for the allowance of freedoms that adolescents request, this dynamic can create power struggles between adolescents' desires to gain more autonomy and parents' desires to hold back. Conflict is likely to occur when parents' or adolescents' expectancies are violated and when the perceptions of parents and adolescents are not aligned, and usually pertains to everyday issues such as breaking rules (Smetana, 1995). Conflict has been defined as an oppositional interaction. During times of transition, conflicts are expected as a natural and normal part of interpersonal relationships (Collins & Laursen, 1992). In this present research, conflict was measured by frequency or rate of conflict and also by intensity or level of negative affect. Smetana (1989) investigated different domains of conflict issues in families of 5th through 12th graders. Among the highest percentage of conflicts were events such as doing chores, getting along with others, regulating activities, and personality characteristics. The researcher also found that girls reported more conflict with mothers than did boys. While conflict is not necessarily a sign of behavioral autonomy, it is a precursor because as

adolescents and parents fight over issues of autonomy, adolescents slowly begin to gain more control and increase their reservoir of freedoms within the personal domain.

Fundamentally, healthy levels of conflict eventually help to produce autonomous young adults.

Looking further at these conflictive dynamics, Smetana and Asquith (1994) studied which domains were perceived as under the dominion of adolescent's personal domain. They found that 6th, 8th, and 10th graders considered all domains, except for the personal domain, as under the legitimate authority of parents, where parents had the legitimacy to form rules under these domains. Parents of 6th and 8th graders found the personal domain to be more subject to parental authority than did parents of 10th graders. So, as adolescents get older, their perceptions of who has legitimate authority over the personal domain begin to shift. Thus, as adolescents become older, conflicts begin to arise, expectations for greater autonomy increase, and perceptions of inclusive parental legitimate authority begin to wane.

In the midst of autonomy granting, the development of healthy autonomy in adolescence is essential. Smetana, Campione-Barr, and Daddis (2004) studied middle-class African American adolescents' autonomy. The researchers found that adolescent control over personal issues promoted healthy growth but that adolescent control over issues better suited for parental authority or combined parent-adolescent authority was associated with poorer adjustment outcomes for adolescents. Reduced academic performance, lower self-worth, and increased deviance were all associated with greater adolescent control in early adolescence. Healthy adjustment was related to more parental control, at least up through middle adolescence. In late adolescence, healthier autonomy

was akin to parents granting more freedoms, yet too much freedom too soon had negative consequences. Given that the ability of adolescents to retain and maintain healthy autonomy increases as they age, it is important to balance the right amount of autonomy at the right time.

Of the many factors that can influence the gaining of autonomy, gender seems to be a factor that produces mixed results within the literature. Although we see more traditional cultures tending to have more loyalty and respect for parental wishes and therefore later timetables for autonomy (Feldman & Quatman, 1988; Feldman & Rosenthal, 1991), other research finds that boys are asking for more autonomy sooner (Zhang & Fuligni, 2006). In more liberal cultures other studies find that older girls with younger brothers are granted more autonomy (except in families with more traditional gender roles) (Bumpus, Crouter, & McHale, 2001), while still other studies find little to no significant gender differences (Daddis & Smetana, 2005). There could be other factors at work besides gender that could cause differences in autonomy expectations for girls and boys (e.g., culture, family values, sibling ordinal status, etc.). Because there are no clear indicators of universal gender effects of autonomy expectations, it seems wise to further investigate this.

The work presented so far has examined why autonomy is important and how it develops within the parent-adolescent relationship. Primarily, autonomy is a process initiated by adolescents wherein they are continually pushing parents for more freedoms. Likewise, there are factors that must influence parent's willingness to relinquish freedoms to their adolescents. There are potentially many factors that could influence parent-adolescent conflict and the desires and expectations of adolescents to gain more

freedoms. Though there may be other factors that could influence adolescents' and parents' interactions with conflict and autonomy, the present study focuses on the impact that temperament, and more importantly, perceptions of temperament, might have on family conflict, adolescents' desires for increasing autonomy, and parents' readiness to grant autonomy. It could be that inherent temperamental qualities lead some adolescents to seek more autonomy sooner than other adolescents. It could also be the case that parents are influenced by their perceptions of their children's temperaments and that this may affect their willingness to grant autonomy.

Temperament and Parental Perceptions

Temperament constitutes the foundation of "individual differences in behavioral style that are visible from early childhood" (Sanson, Hemphill, & Smart, 2002). Though temperament is moderately stable, it does change as children develop. Since temperament in many ways is inborn and unique to each person, it would be reasonable to assume that these unique characteristics would play a part in parent-adolescent conflict and adolescents' quest for autonomy. For instance, some types of temperamental qualities may trigger more conflicts within the parent-child relationship. Likewise, certain temperamental qualities may be less likely to affect earlier expectations for autonomy, while other qualities may produce a stronger "force" that would push some adolescents to desire more autonomy sooner. Furthermore, parents also perceive particular temperamental qualities in their children, and these perceptions may influence the frequency and intensity with which they argue with their adolescents and may also influence desires to hold back or grant more autonomy to their adolescents. To better understand how temperament may function with conflict and autonomy, it is important to

see how temperament affects family dynamics throughout early childhood and into adolescence.

Research on infant and early childhood temperament is especially prolific. Even before birth, perceptions of temperament can be perceived, particularly through mother reports. Zeahnah, Keener, and Anders (1986) found that mothers' ratings of their infants' activity, rhythmicity, and mood prenatally were correlated with mothers' perceptions six months after the child's birth. Though mother reports exhibited considerable flux throughout the seven month testing period, these parental perceptions may play a part in how parents interact with their children later on in life.

Following into toddler years, temperament is one factor that can help make sense of parenting strategies and beliefs, especially when considering the perceptions parents have of their child's temperament. Rubin, Hastings, and Asendorpf (1999) studied the relationship between child social fearfulness/shyness (at two and four years) and parent's preferred socialization and rearing of the child. Parents' subjective perceptions of their child's temperament (shyness) influenced parents the most in terms of how they reacted to their child and what they allowed the child to do, despite inconsistencies between parent and observer ratings. Parents who viewed their child as shy or inhibited were less likely to let their child make his/her own decisions and function as an independent unit. Hence, it was parental perceptions of child characteristics, not objective ratings, that encouraged specific parenting behaviors. Evidently, even at such young ages, parents are using their perceptions of their children's temperaments to gauge the amount of autonomy they should relinquish to their children.

Neitzel and Stright (2004) were interested in the impact of parent perceptions on child temperament and available resources in parents' abilities to enhance cognitive, emotional, and autonomy support in their preschool children during problem-solving tasks. Mothers who were more educated were less likely to perceive the problem-solving tasks as negative events, less likely to see their child as difficult, and were more likely to regulate the difficulty of the task. Those mothers who perceived their children to be difficult were less likely to provide encouragement to them and were more likely to reject the child's efforts to problem solve. Thus, in combination with factors such as mothers' education and resources, the perceptions of mothers to view their children as difficult changed how they interacted with their children. If parents' perceptions of their children's temperaments are influential in early childhood, this would likely carry over into later years. Perhaps those parents who continually perceive their child/adolescent to be more difficult in temperament would have increased conflicts with that adolescent and also be more likely to reject adolescents' desires for more autonomy.

When more than one child is taken into consideration, parents' perceptions of temperament become quite interesting. In the context of parents' perceptions of multiple children, when parents are asked to describe their children, a common response is that they are as different as "night and day." Saudino et al. (2004) tested the validity of parents' perceptions of their children's temperamental differences (mean age of 7.6 years). Interestingly, while parents reported their children as having opposite temperaments for activity level and shyness, the examiners rated substantial similarity between sibling temperaments. Thus, the authors suggest that parents have a tendency to exaggerate sibling differences in temperament, which leads to contrast effects between

siblings. Also, some dimensions seemed to be less affected by contrast effects than others such as approach, fear, low pleasure, smiling and laughter, and perceptual sensitivity. One suggestion made for these contrast effects was that in general, it may be important for parents to contrast the temperaments of their children in order to promote the individuality of each child (Saudino, Wertz, Gagne, & Chawla, 2004). With parent's exaggeration of their children's temperaments, this tendency may be important in determining ordinal status differences in parent-adolescent conflict and behavioral autonomy. It may be that parents place their children on opposite ends of a spectrum when considering certain temperamental qualities and that this may create differences in how parents grant autonomy to each child. Clearly, it is important to understand what effects, if any, temperament has on the autonomy process (either through parent perceptions of adolescent temperaments, adolescent perceptions of their own temperaments, or a combination of both).

Though the majority of work on temperament has been performed on infants and young children, there is value in trying to assess temperament in adolescence instead of assuming adolescence is simply a bridge from childhood temperament to adulthood personality. To distinguish between temperament and personality, temperament qualities are within the broader concept of personality which includes "the content of thought, skills, habits, values, defenses, morals, beliefs, and social cognition" (Rothbart & Bates, 2006). While temperament is considered an inborn characteristic, personality combines temperamental qualities plus life experiences. The present study focuses on temperament because our sample covers a wide range of ages, the youngest participants starting in late

childhood (9-years-old) and as a result life experiences are somewhat limited in this age group.

Though work is more limited with studies of temperament and adolescence, Scheier, Casten, and Fullard (1995) examined adolescence as a transitional time where temperament and personality characteristics collide. In an attempt to tap a more holistic view of temperament in adolescence, the researchers constructed the Adolescent Temperament Questionnaire (ADTQ) which included 11 constructs: mood (negative and positive affectivity), adaptability, approach/withdrawal, activity, rhythmicity, threshold, intensity, persistence, distractibility, and ego control. Looking across all scales, gender differences for items were small; males had lower thresholds for sensory stimuli, reacted more intensely, reported higher positive moods, and approached unknown situations/people more readily.

Other similar scales have attempted to capture dimensions of temperament from early adolescence to early adulthood. The Dimensions of Temperament Survey (DOTS) is based off of work done by Thomas and Chess and includes the temperament measures of activity level, attention span/distractibility, adaptability/approach-withdrawal, rhythmicity, and reactivity (Lerner, Palermo, Spiro, & Nesselroade, 1982). The Dimensions of Temperament Survey-Revised (DOTS-R) was amended from the DOTS and is designed for populations from children to young adults. This scale showed similar dimensions for children and adults with the exception of an extended dimension for young adults separating task orientation into distractibility and persistence (Windle, 1992; Windle & Learner, 1986). The Middle Childhood Temperament Questionnaire (MCTQ) (Hegvik, McDevitt, & Carey, 1982) designed for children from the ages of 8 to

12, contains items that are task or situation specific (persistence) and other broader factors (mood and intensity). The Early Adolescent Temperament Questionnaire (EATQ) (Capaldi & Rothbart, 1992) focuses more on the temperaments of emotionality, reactivity, and activity. Though each of these measures are used to tap relatively similar temperamental behaviors in children through young adults, as a result of the desired age range of our sample (early to late adolescents), the ADTQ measure was used in this study to assess parents and adolescents' perceptions of adolescents' temperaments.

Specifically, four temperaments were extracted from the ADTQ for this particular study and included approach/withdrawal (measuring comfort in approaching strangers or new situations), activity (measuring general activity level such as body movement and reflective thought), intensity (measuring emotional reactions and content and intensity of movement), and persistence (measuring level of determination when working on tasks). These particular temperament qualities were chosen because they appeared to best capture temperaments that would be most related to the autonomy process.

Although past research reveals some important information about temperament in adolescence, it does not address parental and adolescent perceptions of temperament that may have an influence on adolescent's gaining of autonomy. Also, since most research on perceptions of child temperament has been studied in young children from the perspective of parents, it is noteworthy to try and understand these dynamics in adolescence from multiple perspectives (not just from parent reports). Further, more research is needed to understand how autonomy granting and gaining might interact with scenarios in which more than one child is involved.

Multiple Parent-Child Relationships

Exploring specifically when and how autonomy takes place within multiple parent-child relationships, Campione-Barr and Smetana (2009) underscore the importance of sibling ordinal status in expectations for autonomy and parent-child conflict. The research included (a) parents with first-born adolescents and (b) parents with later-born adolescents, with both groups of adolescents in either 7th or 10th grade (half of the adolescent subjects having older siblings and half with younger siblings). In line with prior research, adolescents expected more autonomy than their parents were willing to relinquish; however, later-born adolescents expected to gain more autonomy sooner than first-born adolescents. Also, adolescent females reported the highest amount of conflict with parents, and both males and females reported more conflict with mothers than fathers. Later-borns also reported more conflict than first-borns.

In a related study, Campione-Barr and Smetana (2008) explored expected and actual behavioral autonomy and parent-child conflict for older and younger siblings within the same family. Sibling pairs were examined in three age cohorts: pre-early, early-middle, and middle-late adolescent pairs. Inconsistencies in autonomy expectations based on age cohorts were apparent. In the pre-early adolescent cohort, younger siblings expected to gain autonomy later than older siblings; in the early-middle adolescent cohort, older and younger siblings were reporting similar levels of autonomy expectations; and finally, in the middle-late adolescent cohort, younger siblings expected to gain autonomy sooner than their older siblings. In addition, conflict was more frequent between parents and younger siblings than between parents and older siblings (Campione-Barr & Smetana, 2008).

Taken together, these two studies may help to explain some of the dynamics of sibling expectations for autonomy granting. It is apparent that younger siblings, especially in the older cohorts, are expecting to gain autonomy sooner than first-born adolescents. Consequently, these expectations that younger siblings have for increased autonomy are creating more conflict with parents. These results reveal an interesting developmental pattern as younger siblings are “outrunning” their elder siblings when it comes to conflict frequency and autonomy expectations. This is an intriguing finding since it would seem more appropriate that the older siblings would naturally desire more autonomy sooner simply because they are older. Undoubtedly there are mechanisms at work here that are increasing the expectations of younger siblings over their elder siblings (especially among older adolescents). Though this work is helpful for understanding individual differences in autonomy desires it does not explain what specific processes are at work with regards to inconsistencies of autonomy expectations. One possible explanation is that temperament might be interacting with sibling ordinal status. With parents’ tendency to exaggerate differences in some temperamental qualities of their children, it may impact the frequency and intensity of parent-child conflict and lead parents to grant autonomy to some children differently than others. Likewise, adolescents’ views of their own temperament may affect parent-adolescent conflict and autonomy expectations. It would be beneficial to investigate first if temperament is in some way related to autonomy development. If such a relationship exists, it would be interesting to understand how temperament and ordinal status may interact to impact autonomy.

The Present Study

Adolescents tend to ask for autonomy in those areas in which they desire greater freedom, whereas parents often grant autonomy on the basis of how much autonomy they think is appropriate for their adolescents. As shown, adolescents typically want more freedom sooner than parents are willing to grant. Adolescents are also consistently trying to widen those activities which are within their personal domain (Killen & Smetana, 2005; Nucci, Killen, & Smetana, 1996). This dynamic leads to greater conflict, though we see that as adolescents become older, parents are willing to grant more autonomy (Holmbeck & O'Donnell, 1991; Smetana, 1989; Smetana & Asquith, 1994). Also, we have seen that later-born siblings expect to gain more autonomy sooner than first-borns, particularly by middle adolescence (Campione-Barr & Smetana, 2009). When considering multiple children within the home, siblings are reporting differential experiences. Around 40% of these differential experiences are reported by siblings to contain at least a bit of differential experience within the realm of parental differential treatment (Daniels & Plomin, 1985). So, while adolescents are clamoring for more autonomy, at least in some areas, it is perceived by siblings that parents do not always treat them the same. Moreover, temperament may be partly initiating some of these perceived differential experiences within the family, and in turn, promoting more or less autonomy. For instance, a sibling with a higher activity level may simply desire or push for more freedoms. S/he may ask to play with friends more frequently or want to stay out later to socialize. Likewise, those siblings lower in activity level may not desire as many opportunities to socialize and spend time with friends. Looking at other temperamental tendencies, it could be that siblings higher in persistence, intensity, and willingness to

approach new experiences may be more progressive in simply asking for more autonomy. Though extensive work in the areas of persistence, intensity, and approach has been lacking among adolescent populations, it was hypothesized that these temperamental tendencies would be, to some extent, important in the context of adolescent autonomy desires. For instance, adolescents that are diligent and task oriented (persistent) may be perceived as more responsible and able to handle more autonomy. Those adolescents who are intense may react more strongly and forcefully to gaining more autonomy and finally, those adolescents that approach new situations with ease may desire more freedoms to experience novel situations.

Not only are adolescents' perceptions a part of this dynamic, but parents' perceptions as well. We see that especially in younger children, parents' perceptions of their children's temperaments affect parenting beliefs and strategies. For instance, those parents who regard their children as more shy are less likely to allow their children to function independently (Rubin, Hastings, & Asendorph, 1999). It is also evident that, at least in younger children, parents who perceive their children to have difficult temperaments are less likely to encourage and support them (as seen through problem solving tasks with preschoolers) (Neitzel & Stright, 2004). It could be that even in adolescence, perceptions of adolescent temperament affect parents' beliefs about the level of difficultness of their adolescent and help to structure parenting beliefs about autonomy. Also, it is apparent that parent's natural tendency is to exaggerate some temperamental differences between their children (Saudino, Wertz, Gagne, & Chawla, 2004). With this tendency to contrast their children, it could be that parents may see one child as more difficult than another in terms of temperament, and thus be more hesitant to

grant freedoms to that individual. Finally, it has been shown that parent perceptions of children's temperaments, rather than objective observations, are a key factor in how parents behave towards their children (Rubin, Hastings, & Asendorph, 1999; Saudino, Wertz, Gagne, & Chawla, 2004). Parents may be more likely to grant autonomy to those adolescents whom they perceive to be high in activity (always wanting to be on the move), intensity (needing several outlets to release energy), approach (feeling comfortable in new environments with unfamiliar people), and persistence (faithful to get tasks done).

Following from previous research, adolescent sex effects were investigated. Considering that past research on gender differences in autonomy have been mixed, the investigation of gender effects was exploratory. In the present study it was hypothesized that: (1) adolescents who perceived themselves as having increased activity level, persistence, intensity, and approach would have frequent and intense conflicts with parents, expect earlier autonomy, and less parental authority. For parents, it was hypothesized that: (2) parents who perceived their adolescents to be higher in activity level, persistence, intensity, and approach would report frequency and intense conflicts with those individuals, expect earlier autonomy for them, and have lower authority expectations. It was also hypothesized that: (3) temperament would interact with sibling ordinal status. If conditions are such that conflict and autonomy expectations are greater in second-borns than first-borns and that adolescents with higher levels of the four temperamental qualities report greater autonomy than adolescents with lower levels of those temperamental qualities, then autonomy levels will be higher if these two situations co-occur than if they do not.

CHAPTER 2

METHOD

Participants/Sample

Participants were 145 families with two siblings and at least one biological/adoptive parent from each family. Families that were recruited had an eldest sibling in 8th, 10th, or 12th grade with a second eldest sibling less than five years younger. As part of a larger study, dyads were recruited by the four gender compositions (sister-sister, bother-brother, older sister-younger brother, and older brother-younger sister) with participants divided relatively equally among the age groups; although, for our analyses, instead of examining four gender compositions we studied sex separately for older sibling (male or female) and younger sibling (male or female). Older siblings ranged from 12 to 18 years of age ($M = 14.97$, $SD = 1.69$ years); younger siblings ranged in age from 9 to 17 years ($M = 12.20$, $SD = 1.90$ years). The mean age difference between siblings was 2.77 years. For each family, one parent attended the lab session and, for about half of the families recruited, a second parent completed online questionnaires from home. The majority (96%) of parents that attended the lab session were mothers (139 mothers).

The sample primarily included European Americans (91.7%), with the remaining families being African American (5.6%) or other ethnicities (2.8%). The majority of parents reported being married with both birth parents still together (74.8%) and 14.7% of parents reported being single, divorced, or separated. Parents who specified their education as a college degree made up 43.1% of the sample (29.2% with a graduate

degree and 22.2% with some college experience). The median income families reported was between \$70,000 and 84,000 (13.2%).

Measures

Temperament. The Adolescent Temperament Questionnaire is a 54-item measure (Scheier, Casten, & Fullard, 1995) was used to assess a holistic view of adolescent temperament. The measure includes 11 constructs: mood, adaptability, approach/withdrawal, activity, rhythmicity, threshold, intensity, persistence, distractibility, and ego control. Of these constructs, persistence, approach/withdrawal, activity, and intensity were explored. Parents rated their perceptions of their adolescents' temperaments and adolescents scored their own perceptions of their temperaments on a 4-point Likert scale ranging from 1 (never) to 4 (always). Some sample items included "I easily talk with strangers" and "I fidget during quiet activities." For the present study, across parent and adolescent reports for the four temperament subscales, Cronbach alphas ranged from: approach (.51 - .72), activity (.65 - .76), persistence (.78 - .84), and intensity (.40 - .70). Mean scores for each construct were used in final analyses.

Expectations for Behavioral Autonomy. The Teen Time Table Measure consists of a 20-item measure and was adapted from Feldman and Quatman (1988) and measures parents' and children's beliefs about when children should be able to make decisions for themselves. The original Likert-scale ranged from 1 (indicating that the child could decide that issue before the age of 14) to 5 (indicating the child could decide the issue at 20 years or older). Because of the age ranges of participants being recruited, the scale was modified to the following: parents and children's beliefs that the child can deal with an issue before the age of 12 (score of 1), could be decided by the child between the ages

of 12 and 14 (score of 2), could be decided by the child between the ages of 15 and 17 (score of 3), could be decided by the child between the ages of 18 and 20 (score of 4), and finally, could be decided by the child after the age of 20 (score of 5). There was an additional scale of “never” (indicating that the child should never be able to decide that issue) but this was dropped from the scale due to its confusing nature. Sample items included “go to girl-boy parties with friends” and “decide when and how to do chores.” Across parent and adolescent reports, Cronbach alphas ranged from .81 to .85. Overall mean scores were used in the final analyses.

Parent-Adolescent Conflict. This 11-item assessment adapted from the Issues Checklist from Prinz, Kent, Foster, and O’Leary (1979) and based on content analyses from previous research (Smetana, 1989) was used to measure parent-adolescent conflict frequency and intensity. Parents and adolescents scored a list of issues pertaining first to the frequency of conflict and then to the intensity of conflict on a scale ranging from 1 (not at all) to 5 (often). Adolescents completed this section separately for mothers and fathers, and parents provided their responses for each child. Sample items included “time to be home” and “whether, when, and who to date.” Across parent and adolescent reports, Cronbach alphas for conflict frequency ranged from .75 to .84, and for conflict intensity ranged from .70 to .87. Separate mean scores for frequency and intensity were used in the final analyses.

Parental Authority Legitimacy. The Parental Authority Legitimacy Questionnaire (Smetana & Asquith, 1994) is a 24-item measure that asks parents and adolescents whether it is OK or not OK for parents to make a rule about an issue. Sample items included “telling the truth” and “going places with friends.” Across parent and

adolescent reports, Cronbach alphas ranged from .83 to .89. Responses were coded as 1 (“not OK for parents to make a rule”), 2 (“sometimes OK for parents to make a rule”), or 3 (“OK for parents to make a rule”). Overall mean scores were used in the final analyses.

Procedures

Participants were recruited from three suburban schools within a Midwestern district. Letters describing the nature of the study were sent to families with an eldest adolescent in 8th, 10th, or 12th grade. Some families also received reminder phone calls for further recruitment. All interested families called the investigators to schedule a visit in the lab. Inclusion criterion were that the eldest sibling had to be in 8th, 10th, or 12th grade and the second eldest sibling had to be less than five years younger. Families had to have at least one parent attend the lab visit with the two siblings and were paid honoraria for their participation (\$20 for each adolescent and \$10 for each parent that participated). As part of a larger study, families participated in a 2-hour visit at the university laboratory during which the parent and adolescents completed questionnaires and participated in a one-on-one interview with a trained investigator. Siblings also participated in two interactions. If a second parent within the home chose to participate, questionnaires were completed at home on the Internet or with a paper version if necessary.

CHAPTER 3

RESULTS

Descriptive Statistics

Table 1 reports the means and standard deviations for parent and adolescent reports of temperament, conflict frequency, conflict intensity, expectations for behavioral autonomy, and parental authority legitimacy.

The demographic variables of ethnicity, parental education, and income did not correlate with many of the variables of interest (for both temperament and the dependent variables), and those few correlations that were significant were low and not systematic in any way (see Table 2.A). Therefore, these variables were not included in further analyses. Correlations showed that parent reports of all four temperaments were moderately and positively correlated with adolescent self reports for each respective temperament. Across all reporters, activity level was associated negatively with persistence and positively with intensity, showing that the less persistent and the more temperamentally intense adolescents were perceived, the more active parents and adolescents thought adolescents were. First-born reports of approach were moderately and positively correlated with intensity such that the more first-borns approached new situations and people, the more likely they were to report having an intense temperament. Second-born reports of approach were positively correlated with persistence and intensity, such that the more second-borns approached new situations and people, the more likely they were to rate themselves as more persistent and more temperamentally

intense. Consequently, parent and adolescent moderate correlations across temperaments suggests that both reporters are tapping into similar constructs but are not seeing these constructs exactly the same. Also, even though there were correlations between each of the four temperament constructs, these correlations were not high, suggesting that we were assessing four separate constructs of temperamental qualities (see Table 2.A).

Correlations for the dependent conflict and autonomy variables showed that parent and first-born reports of conflict frequency, intensity, and expectations were moderately and positively correlated. Parent and second-born reports did not correlate on any of the measures. Parent reports of first- and second-borns' conflict variables were moderately and positively correlated such that parents who reported a higher frequency of conflicts reported more intense conflicts with these adolescents. Parents' reports of first-borns' autonomy variables were moderately and positively correlated such that parents who reported later expectations of autonomy for their first-borns also felt they had more authority over autonomy issues. Parent and adolescent reports of parental authority legitimacy did not correlate at all while first- and second-born reports of parental authority legitimacy were moderately and positively correlated. First- and second-born conflict measures were moderately positively correlated such that the more frequent adolescents reported having conflicts with parents, the more intense they reported these conflicts being. First-born reports of the autonomy variables did not correlate at all while second-born reports of parental authority legitimacy were moderately and negatively correlated with conflict intensity such that the more second-borns thought parents had legitimate control over a broad array of issues, the less intense their conflicts with parents were. Overall, parents and first-borns were more cohesive in their interpretations of first-

born's conflict and autonomy development, yet correlations were not high for first-borns supporting the idea that parents and adolescents did not fully agree on these constructs.

As a result of these lower levels of agreement between parents and adolescents on conflict and autonomy measures, the following regressions kept reporters consistent with the independent and dependent variables (e.g. parent reports of the temperament qualities of first-borns with parent reports of conflict with these adolescents) (see Table 2.B).

Relation of Temperament to Autonomy

To understand how parent and adolescents' perceptions of adolescent temperament were related to parent-adolescent conflict and the autonomy development process we ran separate hierarchical regression analyses for parent and each adolescents' reports of the four dependent conflict and autonomy measures. We investigated the extent to which the four temperamental measures (activity, persistence, intensity, and approach) were related to autonomy. We ran two sets of eight hierarchical regression analyses, one set for parent reports and one set for adolescent reports (both sets including 4 regressions for older adolescents and 4 regressions for younger adolescents) of each of the four dependent variables: two conflict variables (conflict frequency and conflict intensity) and two autonomy variables (expectations for behavioral autonomy and parental legitimacy), a total of sixteen analyses. For both parent and adolescent reports, step one included the age and gender of the child (1 = male, 2 = female). Step two included each of the four temperament measures. Parent reports of the independent and dependent variables were matched in the analyses, as were adolescent reports (see Tables 3.A – 3.D). These analyses addressed the first two hypotheses that both adolescents and parents who perceived adolescents to have increased activity level, persistence, intensity,

and approach would have more parent-adolescent conflict, expect earlier autonomy, and have less parental authority. For both hypotheses we were interested in the main effects of each temperament dimension (see Tables 3.A – 3.D). Only significant results are presented in the following section.

Conflict frequency (see Table 3.A). Parents reported that the greater the intensity of the first-born adolescent, the more frequent their conflicts. First- and second-born adolescents also reported that the more intense their temperament was the more frequent their conflicts with parents.

Conflict intensity (see Table 3.B). The greater the parents' perceptions of their first-borns' temperamental intensity, the more intense their conflicts. Also, parents reported that perceptions of lower persistence and approach in first-borns were related to more intense conflicts. First- and second-born adolescents reported that the more intense their temperament was, the more intense their conflicts with parents.

Expectations for behavioral autonomy (see Table 3.C). Parents' reported that first-born adolescents lower in persistence and approach had later expectations for autonomy. Parents reported for their second-borns that the younger these adolescents were, the later their expectations for autonomy. First-borns who reported lower levels of approach and second-borns who reported a less intense temperament had later expectations for behavioral autonomy.

Parental authority legitimacy (see Table 3.D). Parents reported for their first-borns that the younger they were the more likely parents were to maintain legitimate authority over their first-borns. Also, parents of first-born males reported more parental authority legitimacy. Parents reported that the greater the persistence of their second-

borns, the more parental authority legitimacy parents had over these individuals. First-borns reported that the younger they were, the more issues parents had legitimate authority over. Second-born females reported greater parental authority legitimacy than males did such that females felt parents could have authority over more issues. The more persistent second-borns perceived themselves to be, the more they believed that parents had legitimate authority over a broad range of issues.

Interactions Between Sibling Ordinal Status and Temperament

In order to elucidate the relationships between ordinal status and each temperament variable, the following hierarchical regression analyses were run for the interaction between ordinal status and each individual temperament. We were interested in answering our third hypothesis of whether temperament would interact with sibling ordinal status. We ran two sets of sixteen hierarchical regression analyses, one set for parent reports of the four temperament measures and one set for adolescent reports of the four temperament measures, for each of the four dependent conflict and autonomy variables: conflict frequency, conflict intensity, expectations for behavioral autonomy, and parental legitimacy, a total of thirty-two analyses. However, in these analyses, all 290 adolescents were analyzed together (rather than separate analyses for older and younger). Step one included child age and gender (though this step was removed in later analyses due to lack of significance in order to save power and degrees of freedom). Step two included child ordinal status (-1 = younger siblings; 1 = older siblings) and one of the temperamental qualities (activity, persistence, intensity, or approach). Step three included the temperament quality and ordinal status interaction. Parent reports of the independent and dependent variables were matched in the analyses, as were adolescent

reports (see Table 2). For this hypothesis we were interested in any significant interactions between temperament and ordinal status (marginal findings were not interpreted). Significant interactions were graphed and simple slopes were tested for interpretation (see Tables 4.A - 4.H). Only significant interactions are presented in the following section.

Parent Reports

Conflict frequency. (see Table 4.A). For parent reports of activity level, later ordinal status and greater activity were related to more frequent conflicts between parents and adolescents. These main effects were qualified by an interaction between ordinal status and activity level such that parents who rated their second-borns as being higher in activity level rated their conflicts as being more frequent. Second-borns were reported as being consistently higher in conflict frequency than first-borns (see Figure 5.A).

Parents who rated their adolescents as being less persistent had higher rates of conflict frequency with those adolescents. Beyond this main effect, ordinal status and persistence interacted significantly such that parents who reported their second-born adolescents to be higher in persistence were more likely to have increased conflict with them, whereas levels of persistence for first-borns remained stable for conflict frequency; although first-borns were higher in conflict frequency than second-borns (see Figure 5.B).

For parent reports of temperamental intensity, later ordinal status adolescents and those adolescents who had higher temperamental intensity were reported as having more frequent conflicts with parents. These main effects were qualified by an interaction such that parents' reports of high temperamental intensity of their second-borns and low

temperamental intensity for first-borns were related to increased levels of conflict frequency, although second-borns were higher overall (see Figure 5.C).

Conflict intensity. (see Table 4.B). For parent reports of conflict intensity, later ordinal status and increased activity level were related to more intense conflicts between parents and adolescents. These main effects were qualified by an interaction such that the greater parents reported the activity level of their second-born, the more intense their conflicts were. Second-borns were reported as being consistently higher in conflict intensity while first-borns remained low in conflict intensity and constant in reports of activity level (non-significant slope) (see Figure 5.D).

Parents who reported adolescents as lower in persistence rated these individuals higher in conflict intensity. This main effect was qualified by an interaction such that parents who reported their second-born adolescents to be lower in persistence were more likely to have more intense conflicts with them, whereas levels of persistence for first-borns remained stable for conflict intensity even though first-borns were consistently reported as being higher in conflict frequency than second-borns (see Figure 5.E). Parents' reports showed that later ordinal status and greater temperamental intensity were related to more intense conflicts. These main effects were qualified by an interaction such that parents' reports of greater temperamental intensity for second-borns were related to higher levels of conflict intensity. Overall second-borns were reported as being higher in conflict intensity, while first-born levels of temperamental intensity remained stable and non-significant in relation to conflict intensity (see Figure 5.F).

Adolescent Reports

Conflict Intensity. (see Table 4.F). Though the main effects of persistence and ordinal status were non-significant, the interaction between these variables was significant such that the lower first-borns reported their persistence, the more intense their conflict with parents. Though second-borns remained consistently higher in conflict intensity with parents, their scores for persistence remained stable (see Figure 5.G).

Earlier ordinal status adolescents and those adolescents who reported having a more intense temperament also reported having more intense conflicts with parents. These main effects were qualified by an interaction such that for first-borns, the higher their reports of temperamental intensity the more intense their conflicts with parents. First-borns consistently reported higher levels of conflict intensity than second-borns (see Figure 5.H).

CHAPTER 4

DISCUSSION

Temperament in Relation to Autonomy and Ordinal Status

The purpose of the present study was to investigate three hypotheses. The first hypothesis was that adolescents who perceived themselves as having increased activity level, persistence, intensity, and approach would have greater conflict with parents, expect earlier autonomy, and show less approval for parental authority, than those adolescents without those qualities. In other words, the researchers wanted to examine if adolescent temperament was related to parent-adolescent conflict and autonomy development processes. Results found that higher levels of temperamental intensity were related to more frequent and intense conflicts with parents. Greater approach in first-borns and greater intensity in second-borns were related to earlier expectations for autonomy and greater persistence in second-borns was associated with more parental control. These effects were all in the hypothesized direction and partially confirmed our hypothesis with the exception of second-born persistence and parental authority (we expected that greater persistence would be associated with less parental authority). So, to some extent, how adolescents perceive their own temperament is a part of how they function within the parent-child relationship and their autonomy development process.

The second hypothesis stated that parents who perceived their adolescents to be higher in activity level, persistence, intensity, and approach would report greater conflict with those individuals, have earlier expectations for autonomy, and have lower authority

expectations, than those adolescents who were low on the qualities. Overall, there was a lack of findings for parent reports of second-borns. Parents' reports of their first-borns found higher temperamental intensity related to increased frequency and intensity of conflicts, and that higher persistence and approach were related to less intense conflicts. Also, parents' reports of first-borns found lower persistence and approach related to later expectations of autonomy. Finally, parents reported more authority over second-borns with greater persistence. These effects were all in the hypothesized direction and partially confirmed the hypothesis with the exception of second-born persistence and parental authority (we expected that greater persistence would be associated with less parental authority).

In sum, temperamental intensity was the strongest indicator for conflict frequency and conflict intensity. Temperamental intensity was measured as a strong and loud reaction to events and behaviors. If an adolescent's natural response is to be more animated and perhaps over-react, then this behavior might be a trigger for disagreement and conflict among family members. According to adolescent and parent reports, adolescents higher in approach and persistence did not have more frequent and intense conflict. The measurements for approach and persistence, in hindsight, measured more positive attributes (approach: talking easily with strangers, enjoying interacting with others, being able to make friends; and persistence: finishing projects, being focused). These temperament styles may just be less difficult or conflict arousing. Future research should investigate the level of difficultness for each temperament. For instance, it could be that adolescents who are more intense are perceived as being more difficult than adolescents who are low in intensity but high in persistence and approach.

For expectations for autonomy, first-borns higher in approach and second-borns higher in intensity expected earlier autonomy. Also, parents expected earlier autonomy for first-borns who were more persistent and higher in approach. First-borns and parents seemed to agree somewhat on what aspects of temperament are related to expectations for autonomy. However, first- and second-borns cited different temperaments as relating to expectations. It would be interesting to further investigate the reasons why first- and second-borns expect to gain autonomy and why parents relate first-born temperament to expectations, but do not have that same connection for second-borns.

It is interesting to note that although the results did show some relations of temperament to expectations for behavioral autonomy, significant results for parental authority legitimacy were absent for the adolescent reports and minimal for the parent reports. Apparently, how adolescents and parents view these adolescent temperaments is not really connected with how much authority parents should have in adolescents' lives. It could be that other temperaments play more of a role in parental authority. Also, considering that conflict is a precursor to autonomy development (Nucci, Killen, & Smetana, 1996; Smetana, & Asquith, 1994), future longitudinal research on conflict might reveal some changes in autonomy issues later on. For instance, through this process, adolescents and parents raise their conflict frequency and intensity until negotiations about increased autonomy are discussed and adolescent demands for autonomy are met (Killen, & Smetana, 2005; Nucci, Killen, & Smetana, 1996). When adolescent demands for autonomy are met, this process may be an initiation for perceptions of parental authority to wane (since adolescents will be broadening the

boundaries of their personal domain and decreasing those areas that parents have legitimate control over).

The overall lack of significant findings for parent reports of second-borns may reveal a difference in how parents approach their perceptions of first- and second-borns. As the correlations among the major variables of interest showed, parents and second-borns had little to no agreement. Considering the differences in findings for parent and adolescent reports it is important to consider that these results (either for parents, adolescents, or both) may be due to a single informant bias in that parents and/or adolescents have different perspectives. Since parents' reports of the independent measures were matched with parent reports of the dependent measures (as were the adolescent reports), each analysis only contained information from one informant. These differences in report may be due to differences in how parents and adolescents view autonomy (Campione-Barr, & Smetana, 2008; Campione-Barr, & Smetana, 2009). It could also be that the temperament of the first child is a more important indicator for how parents will interact with that child and that overall, parents are more conscientious of their first-born. By the time the second child is born, parents may have more relaxed attitudes, have reduced mental and physical resources, and relate less to second-borns through that adolescent's unique temperamental style. Parents may also be relating to their second-borns like they did with their first-borns instead of seeing their second-borns as individuals with different temperaments, which may result in parent's poorer understanding and greater conflict (Campione-Barr & Smetana, 2009). As stated previously, it could be that parents are just more likely to compare their first- and second-borns and contrast their temperaments on a more extreme continuum, exaggerating

differences between their children. On the other hand, adolescents may have a more limited perspective on their own temperaments. In other words, adolescents may see themselves in a more neutral light when they are only thinking of themselves whereas parents may more readily contrast their children (Saudino, K. J., Wertz, A. E., Gagne, J. R., & Chawla, S., 2004). These findings highlight the importance of including multiple reports of adolescents' temperaments in future research and comparing the responses of different reporters.

Finally, the last hypothesis stated that temperament would interact with sibling ordinal status such that if parent-adolescent conflict and the autonomy variables were greater in second-borns (as found by Campione-Barr & Smetana, 2008; 2009) than first-borns and that adolescents with higher levels of the temperamental qualities reported greater conflict and autonomy than adolescents with lower levels of those temperamental qualities, then conflict and autonomy levels would be higher if these two situations co-occurred than if they did not. In other words, we were interested in two findings: (1) high levels of temperament to affect high levels of conflict, earlier autonomy expectations, and less parental authority, and (2) significant findings for later-borns. Results showed that ordinal status and temperament interacted to influence the conflict measures, but not the autonomy measures. Parents' reports of first-borns' low intensity and second-borns' increased activity level, persistence, and intensity were all related to more conflict frequency and likewise, parents' reports of second-borns' increased activity level and intensity and decreased persistence were related to more intense conflicts. These effects were all in the hypothesized direction with the exception of first-born intensity and conflict frequency and second-born persistence and conflict intensity. For

adolescent reports, the lower first-borns reported being in persistence and the higher they reported being in intensity, the more intense their conflicts with parents. First-born intensity was in the hypothesized direction, but persistence was not. So, it was the parents' perceptions that partially confirmed the ordinal status and temperament interaction hypothesis regarding conflict. Concerning parent reports of conflict frequency and intensity, it was the combination of perceived higher activity, persistence, and intensity for second-borns that supported the hypothesis. And although the interaction of temperamental intensity and ordinal status was significant for first-borns (supporting the hypothesis that higher temperamental qualities would be related to greater conflict), this finding did not support our hypothesis that second-borns would report greater conflict. Although in some cases second-borns were greater than first-borns in conflict intensity, second-borns' reports of their temperaments did not impact conflict.

Parents generally rated second-borns as substantially higher in conflict frequency and intensity. It could be that parents generally perceive their second-borns to be harder to deal with in that parents fight more often and more heatedly with their second-borns. The fact that second-borns did not show these same patterns provides support that second-borns may not see their temperaments as significant in affecting conflict. Also, first- and second-borns had much more similar ratings for their temperaments than parents reported their children having, supporting previous findings that parents tend to exaggerate the temperamental differences of their children (Saudino, K. J., Wertz, A. E., Gagne, J. R., & Chawla, S., 2004). It could be that parents are just more accurate in their perceptions of their first-born's temperament and then just compare their second-born to their first-born and therefore exaggerate the differences between the two. This may

account for the lack of adolescent findings (because they only report on themselves) and the lack of parent - second-born findings.

A greater number of parent-reported findings were significant for the interactions compared to the adolescent self report findings. Beyond the explanation of contrast effects, parents may be influenced by an attributional error (Ross, 1977), where they may be more likely to attribute broad assumptions of temperament to their adolescents. For instance, parents may be more likely to exaggerate an adolescent's temperament and more readily assume that the adolescent is *always* temperamentally intense during conflicts. Whereas for adolescents, they may be more willing to take into consideration certain situations. An adolescent may be more apt to think they are only *sometimes* temperamentally intense during conflict and only if certain issues are discussed.

Depending on the measures used (conflict or autonomy variables), only certain temperaments significantly related to autonomy and interacted with ordinal status. Intensity, persistence, and approach were related to autonomy development but activity level was not. Likewise, activity level, persistence, and intensity interacted with ordinal status but approach did not. As an added surprise, significant findings for high levels of persistence were often related to less conflict, later expectations for autonomy and more parental authority. Perhaps we did not clearly capture the kinds of temperaments that we were interested in researching. For instance, activity level (as it is measured in our study) represents bodily movements—fidgeting and having trouble sitting still. Perhaps if we had defined activity level as more of a personality dimension, such as extroversion (talkative, enjoying the company of others), we would have seen a different pattern. Similarly, approach did not interact with ordinal status. It could be that since these

siblings were so close in age (about two and a half years apart, on average) and in their adolescent or pre-adolescent years, both adolescents were “old enough” to feel comfortable going to new places, making new friends, and interacting with others. All of our participants had been of school age for several years (at least 5 years of schooling for our youngest participants), and in such a setting, children are continually encouraged by the school system to be social, make new friends, and interact with others. Also, persistence was defined as a task-oriented temperament. It could be that other more “annoying” conceptions of persistence (i.e. asking the same question repeatedly) would have resulted in different findings. It could be that an adolescent who consistently exhibited annoying persistence would eventually wear a parent down to the point that the parent would give autonomy to that adolescent out of exhaustion for debating the same issue over and over again.

Age and Gender

Consistent with previous research, the current study showed adolescents later in ordinal status (i.e. second-borns) were less likely to adhere to parental authority over a broad range of issues. Parents were more likely to grant more autonomy to older adolescents than younger adolescents, particularly by allowing them more freedoms and by releasing some restraints on their authority over these adolescents. These findings were consistent with past research that has shown as adolescents get older, parents are more likely to grant freedoms to these individuals and release some parental authority over them (Killen, & Smetana, 2005; Nucci, Killen, & Smetana, 1996). Additionally, the results showed a lack of gender differences. Although there were a few gender differences with regard to parent reports (parents reported greater parental authority over

first-born males), and adolescent reports (second-born females reported greater parental authority), overall, gender differences were not found with the conflict variables or adolescents' expectations for autonomy. Future research could investigate other temperamental qualities that might have more gender saliency.

Limitations and Future Directions

One of the limitation of this study was the inclusion of mostly European-American, educated, upper-middle-class families. In order to confirm that these relations between autonomy development and temperament exist beyond this sample, research using more diverse samples should be utilized. Also, this work only looked at one time point. We have begun to take the first steps in understanding the relation between autonomy development and temperament and future longitudinal research will be able to assess causal directions. Additionally, it is important to further investigate the possibility of a single informant bias with parent and adolescent reports of adolescent's temperament. We cannot just assume that parents or adolescents have more accurate representations of adolescent temperament, but need to take into account multiple perspectives and continue to compare those perspectives.

Also, an important limitation of this work was that it examined adolescent temperaments but did not include parent personality. Parental personality may have an additional affect on how parents respond to and behave towards their adolescents. Certain parental temperaments may either clash with or compliment adolescent temperaments and work to either inhibit or expedite the autonomy process. Though parental personality was not assessed in this research, future research should include both parental and adolescent ratings of temperament/personality.

As a final point, because of the large number of analyses run, there was a greater possibility for type I error. In response to this, significance levels were kept at .05. Marginal findings were not reported for the regressions or interactions. Also, for the interactions, though 32 analyses were run, there were only 16 analyses from each data set (parent ratings versus adolescent ratings). Finally, because detecting moderation or interactions effects requires such a high level of power, the researchers felt it was appropriate to retain a p -value of $< .05$.

The present study begins an understanding of how temperament is related to the early stages of autonomy development and how this may play out in families with multiple children. Clearly, how families interpret the temperament of adolescents has an impact on typical adolescent developmental processes and should be considered in future autonomy development research.

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Table 1

Means (SD) for Different Raters' Reports of Temperament and Dependent Variables

	Parent Reports of Adolescents		Adolescent Reports of Self	
	First-Born	Second-Born	First-Born	Second-Born
Activity	2.55 (0.59)	2.78 (0.56)	3.21 (0.82)	3.05 (0.89)
Persistence	3.07 (0.50)	3.03 (0.47)	3.44 (0.61)	3.53 (0.66)
Intensity	2.98 (0.49)	3.04 (0.56)	3.03 (0.61)	3.13 (0.61)
Approach	3.48 (0.57)	3.37 (0.59)	3.79 (0.70)	3.51 (0.71)
Conflict Frequency	2.54 (0.70)	3.02 (0.50)	2.46 (0.67)	2.40 (0.60)
Conflict Intensity	1.64 (0.47)	3.15 (0.44)	1.68 (0.49)	1.63 (0.50)
Expectations for B.A.	3.12 (0.46)	2.54 (0.24)	2.67 (0.42)	2.77 (0.54)
P.A.L.	2.57 (0.24)	2.97 (0.21)	2.24 (0.32)	2.31 (0.33)

Note. B.A. = behavioral autonomy. P.A.L. = parental authority legitimacy