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Do Older Siblings Differentiate From Their Younger Siblings? Predictors and Longitudinal Correlates

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DO OLDER SIBLINGS DIFFERENTIATE FROM THEIR YOUNGER SIBLINGS?

PREDICTORS AND LONGITUDINAL CORRELATES

by

Iliana Wilkinson

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ABSTRACT

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Predictors and Longitudinal Correlates

by

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Utah State University, 2024

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Research demonstrates that siblings are influential in shaping adolescent development. One such process is sibling differentiation, a dynamic by which siblings choose diverse interests and express different personality traits in order to decrease rivalry and conflict and ultimately improve their relationship. To date, this process has been primarily studied among younger siblings; however, research shows that sibling influence is bidirectional and older siblings also engage in differentiation. Using longitudinal data from 682 families, this thesis explored the predictors and implications of sibling differentiation for older siblings. Analyses found that contrary to expectations, structural and relational processes did not predict older sibling differentiation. Rather, older sibling differentiation was predicted by social comparison, parental favoritism, and younger siblings' differentiation. Examining the longitudinal implications of differentiation, this study found that older sibling differentiation was associated with increased conflict and decreased intimacy over time.

(52 pages)

PUBLIC ABSTRACT

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Families are a critical part of an individual's development, yet sibling influences on development are rarely studied. Siblings often share the same genetics and live in the same environment, yet many remark that they are nothing like their brothers or sisters. One proposed reason for these differences is sibling differentiation, a process by which individuals become different from their sibling in order to reduce conflict and rivalry as well as increase intimacy in the sibling relationship. To date, this process has been studied from the perspective of the younger sibling; the current study focused on older siblings. Using longitudinal data from 682 families, I first investigated predictors of older siblings' engagement in differentiation and found that unlike previous studies which showed differentiation was most likely to occur between siblings of the same gender who were close in age, older siblings' reports of differentiation was not predicted by these structural factors. Instead, older siblings' differentiation was predicted by their proclivity for social comparison, parental favoritism, and younger siblings' reports of differentiation. Secondly, I investigated whether differentiation improves sibling relationships over time. In contrast to theoretical predictions, but consistent with recent empirical work, I found that differentiation was not correlated with improved sibling relationships; instead, differentiation was associated with increased conflict and decreased intimacy two years later.

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CHAPTER I
INTRODUCTION

Much of the research in the field of human development focuses on the influence of relationships and interactions on individual development. It is through interactions with others that individuals learn social skills and understand norms of behavior (Bandura, 1962). Family systems theory states that to understand an individual you must understand their family system, i.e., the individuals and the social structures within a family unit (Smith & Hammon, 2022). The majority of children in the United States grow up with at least one sibling (Hernandez, 1997). In fact, it is estimated that over 80% of children under the age of 18 live with at least one sibling – which is a greater percentage than those who live with a father figure (McHale et al., 2012). Yet, research on sibling relationships lags behind other close relationships (Perez-Brena et al., 2022; Whiteman et al., 2011). During an individual's life, siblings play numerous roles including confidants, playmates, and teachers (Whiteman et al., 2011). Indeed, during childhood, roughly half of an individual's free time is spent in the company of one's siblings, often without any adult supervision (Dunifon et al., 2017; McHale, et al., 2012). In order to increase our understanding about how relationships shape development, research on siblings and sibling relationship processes is critical given their ubiquitous presence in children's and adolescents' lives.

According to social learning theory, siblings should develop similar attributes and behaviors by watching and mimicking each other's behaviors (Bandura, 1977). The closer siblings are in age, the more likely they are to spend time interacting (Dunifon et al., 2017) and model the behavior of their siblings (Whiteman et al., 2007). Despite this

proclivity towards similarity, brothers and sisters often develop their own identities and characteristics, and even monozygotic twins report they have more differences than similarities (Watzlawik, 2009). Researchers have noted there is little evidence that the environmental and biological differences significantly influence the peer characteristics of siblings, rather it is how an individual reacts to and perceives those differences that drive divergence individual development (Daniels et al., 1985; Plomin et al., 2001). Put another way, when solely examining biological influences or environmental influences, there is not sufficient evidence to explain differences. This indicates sibling differences are not solely caused by nature or nurture, but rather a unique interaction between the two. Biological factors likely influence how an individual responds to their own environment and vice versa. For this reason, it is clear social learning is not the only process responsible for shaping siblings' behaviors and characteristics (Her et al., 2021; Whiteman et al., 2007).

Schachter and colleagues (1976) described a psychological process termed sibling deidentification, now commonly referred to as sibling differentiation, a process that pushes for differences between siblings. Differentiation theory describes how siblings unconsciously aim to become different from each other in behavior and personality in an effort to reduce sibling rivalry (also known as the Cain Complex). In other words, siblings have an innate drive to react to the same environment differently, in an effort mitigate rivalry and/or conflict. In recent years Whiteman and colleagues (2007, 2010) have proposed that that process of differentiation may be a conscious effort of siblings, rather than solely an unconscious process. Adding to the literature on sibling

differentiation, this thesis focuses on the predictors and implications of sibling differentiation for the older sibling in a dyad (a population rarely studied).

CHAPTER II

LITERATURE REVIEW

This section discusses the existing literature on sibling differentiation and how the theory was utilized as a framework to inform the current study's hypotheses. The conclusion of this section discusses the objectives of the current study.

Sibling Differentiation and Relational Correlates

Schachter and colleagues (1976) were among the first to empirically study sibling differentiation dynamics, a process they termed sibling deidentification. They specifically attempted to define what it means to be different from one's siblings and how those differences come to be. Their 1976 study examined university students from two- and three-child families and investigated differences between consecutively-born siblings (i.e., first- and second-borns; second- and third-borns) and jump-pairs (i.e., first- and

third-borns). These researchers found that siblings who reported they were different from their sibling were polarized on significantly more personality dimensions than participants who reported they did not differ from their sibling. Examining between pair effects, the researchers found that first pair siblings (first- and second-born siblings) had the highest levels of differentiation, whereas jump-pairs had the lowest levels of differentiation (Schachter et al., 1976). Further, within-pair effects revealed that siblings from same-sex pairs were much more likely to differentiate than other-sex pairs (Schachter et al., 1976). These findings led to the conclusion that differentiation processes are pronounced among closer-in-age siblings and same-gender siblings.

Several years after the initial study, Schachter and colleagues (1978) studied differentiation from the perspective of mothers. Specifically, mothers of two and three children reported on the differences they observed between their children who ranged in age from one month old to 18 years old. Findings supported the results of the earlier study, specifically that first-pair siblings had the highest rate of differentiation, jump-pair siblings the lowest rate of differentiation, and same-sex siblings were more likely to differentiate than other-sex siblings (Schacter et al., 1978). The authors interpreted these findings as support for the hypothesis that differentiation is a defense against sibling rivalry and suggested that "[differentiation] may be a defensive, somewhat muted, socially acceptable form of expressing sibling conflict" (Schachter et al., 1978, p. 545). This study also revealed that differentiation processes are observable to those outside of the sibling dyad, indicating that children engage in actions that demonstrate differences rather than merely perceiving differences between themselves and their siblings that may only be subjective.

After investigating differentiation as reported by individuals and mothers, Schachter examined sibling differentiation in a clinical study, focusing on how sibling relationships affect family functioning as a whole (Schachter, 1985). Schachter studied 39 sibling dyads who were pulled from a sample of families referred to Schachter for therapy, all but four of which were referred for behavior problems, learning problems, or both. The findings from this work were consistent with the previous studies, with same-sex siblings and first-pair siblings being the most likely to differentiate. The study found that, in most cases, the differentiation in the first-pair was extreme, with one sibling being designated as the "good child" and the other as the "bad child." From this study, Schachter concluded that there are two types of differentiation, normal and pathological. Normal differentiation is classified as benign differences in the sibling pair in terms of interests and attitudes and leads to reduced sibling rivalry. In contrast, in cases of pathological differentiation siblings differ in extreme ways that led them to be classified by observers as "good" and "bad" respectively, and there seems to be increased conflict between the siblings. Schachter suggested that pathological differentiation exists in dysfunctional families due to the lack of functional, healthy conflict resolution in the home (Schachter, 1985). In these instances, the process of differentiation was not always successful in reducing conflict. Indeed, Schachter and Stone (1988) observed that when siblings took on the role of *angel* or *devil*, differentiation processes failed to reduce conflict between children, because the parental interference in protecting the *angel* child created more conflict between siblings.

Across these studies, Schachter and colleagues were among the first to empirically test differentiation dynamics highlighting the structural factors (i.e., age

difference, gender composition of the sibling dyad) that were related to greater differentiation. Although they often discussed that sibling deidentification would serve as mechanism to promote relational harmony and decrease rivalry, such associations were never explicitly tested.

Addressing this gap, over a decade later, Feinberg and Hetherington (2000) found that contrary to expectations that sibling differentiation would mitigate sibling rivalry and conflict, differentiation between siblings was unrelated to the quality of the sibling relationship. Studying over 700 families with two children of the same gender less than four years apart in age, ranging from age nine to age 18, Feinberg and Hetherington (2000) found that siblings closer in age were more likely to differentiate, with the exception being siblings within a one-year age difference. However, inconsistent with Schachter's propositions, sibling relationship qualities (positive or negative) were not associated with differentiation. In a subsequent study, taking a family systems perspective, Feinberg and colleagues (2003) examined the role of parent-child warmth and parent-child conflict in predicting sibling differentiation. Consistent with Schachter and colleagues' positions that family functioning influences differentiation (Schachter, 1985; Schachter & Stone 1988), Feinberg and colleagues (2003) found that the quality of the relationship with parents influenced sibling differentiation. In this two-year longitudinal study, Feinberg and colleagues examined the changes in the quality of relationships between parents and children in 185 families with two children, as well as sibling relationships over the course of two years. Consistent with a differentiation perspective, they found that if the amount of warmth in the parent-child relationship differed greatly from the warmth the participant perceived the parent had with their

sibling (i.e., more difference), youth had higher levels of warmth and lower levels of conflict in the sibling relationship. This pattern was assumed to be because siblings with differing levels of relationship quality with parents would have differing relationships with parents that do not conflict with the sibling's relationship. The study, however, found no evidence that gender composition or age spacing of the dyad were related to differentiation. In sum, the authors concluded that the results supported the theory of sibling differentiation only when examined in the context of sibling warmth with parents (Feinberg et al., 2003).

Jensen and colleagues (2023) conducted a multi-level meta-analysis and found that parental differential treatment was most likely to occur when siblings are further apart in age or different genders. Age difference between siblings was only related to parental differential treatment in the domains of autonomy and control, suggesting that older siblings are given more autonomy as is appropriate for their age. These findings suggest that parents treat children differently because they are different individuals with unique needs (Jensen et al., 2023). Taking this knowledge into consideration when examining Feinberg and colleagues' findings, one may wonder if the perceived differing levels of parental warmth to each sibling may in fact be the result of siblings being in differing stages of development. As mentioned earlier, Schachter and Stone (1988) found that when parents protected or favored one sibling in the dyad, differentiation did not improve sibling relationship quality, which is contrary to Feinberg and colleague's findings. It is therefore possible that moderate levels of differential treatment (i.e., differing levels of parental warmth) are natural in a typical family because despite what the children think of as 'fair,' parents must treat each child differently to meet that child's

developmental needs. This differential treatment is evidence to the child they are different from their sibling, therefore contributing to the process of differentiation. However, in extreme cases of differential treatment, such as those observed by Schacter and Stone (1988), the differential treatment may disrupt the process of a sibling developing their own identity and having a positive relationship with their sibling. It is therefore important that studies not only measure the differential treatment, but also consider how extreme the differential treatment is and which sibling is receiving more warmth from parents.

In the studies conducted by Schachter and colleagues as well as Feinberg and colleagues, processes of sibling differentiation were inferred based on outcomes. In a series of more recent studies, Whiteman and colleagues sought to overcome this limitation by investigating the degree to which (primarily) younger siblings reported *consciously* trying to differentiate from their older siblings and how that process related to sibling relationship qualities as well as similarities and differences in attitudes, behavior, and adjustment. For example, using data from two waves of a longitudinal study which included 171 maritally intact families with two adolescent aged children, Whiteman et al. (2007) found that, inconsistent with differentiation theory propositions, younger siblings who reported higher levels of differentiation had lower levels of sibling warmth compared to their counterparts who reported modeling their older siblings. Consistent with differentiation theory, however, youth who reported greater differentiation processes reported low levels of competition with their sibling. There was no evidence, however, that those who differentiated experienced improvement in relationships over time and or that gender composition exacerbated the effects of

differentiation (i.e., that differentiation processes would be more pronounced for same-gender siblings).

In a mixed methods study, Whiteman and Christiansen (2008) further examined the nature and implications of various sibling influence processes, including measuring the extent that differentiation processes operated and how family contexts promoted or suppressed the process. Drawing data from a longitudinal study of 191 families, they found that a significant minority of firstborn siblings reported that they actively differentiated from the second-born sibling. Additionally, they showed that compared to dyads who reported modeling or no influence, second-born siblings were more likely to differentiate when the first-born sibling engaged in high-risk behavior, whereas first-born siblings were more likely to differentiate when the second-born sibling was more socially competent and engaged in fewer risky behaviors. Inconsistent with early work, the study showed that gender composition was not related to sibling influence processes. Contrary to the differentiation hypothesis which suggests that differentiation should improve sibling relationships, siblings who reported differentiation had lower levels of sibling intimacy. This may be due to the actual act of differentiation being contentious, but in time the process will lead to greater intimacy in the relationship. As such, longitudinal data is needed to test such hypotheses. The study also revealed that sibling influence is bi-directional, but the nature of the influences may be quite different for older and younger siblings (Whiteman & Christiansen, 2008). This discovery is important as it questions the assumption that younger siblings are influenced by older siblings but not vice versa.

In 2010, Whiteman and colleagues published a study that further examined the associations between sibling differentiation, social learning, and sibling relationship qualities (Whiteman et al., 2010). Using a measure designed to assess (as opposed to infer) differentiation and social learning dynamics, Whiteman and colleagues surveyed 171 African American adolescent sibling dyads. Consistent with theoretical propositions, both sibling differentiation and sibling modeling dynamics were associated with sibling relationship qualities. However, these associations were non-linear and moderated by the gender composition of the sibling dyad. Specifically, for mixed-gender dyads, average levels of sibling differentiation were associated with poorer relationship qualities, whereas extremes levels of differentiation (high or low) were associated with spending more time together and having a more positive relationship. This pattern may reflect that given innate differences in mixed-gender dyads, moderate levels of differentiation may do little to help reduce rivalry and conflict. For same-gender dyads, higher levels of differentiation were associated with less warmth and greater conflict in the sibling relationship. This finding was contrary to prior studies and differentiation theory which suggest differentiation is protective process that improves relational harmony. Whiteman and colleagues suggested several different reasons for the differing findings including the idea that it takes time for differentiation to reduce sibling conflict. Therefore, longitudinal studies are needed to determine if differentiation predicts reduced conflict between siblings over time.

Vivona (2007) acknowledged that differentiation is a process of identity development and theorized the process operates by four mechanisms including comparison. If we follow the logic that comparison is a process that leads to

differentiation, and differentiation is a mechanism to reduce conflict and improve relationships, one could assume that greater social comparison would lead to healthier sibling relationships. However, in a study of 338 youth, Jensen and colleagues (2015) found that greater social comparison between siblings was linked to greater depressive symptoms and increased conflict, yet increased warmth. The phenomenon of increased warmth and increased conflict could be due to the fact that siblings who compare themselves are equally likely engage in differentiation behaviors and modeling behaviors, as the two are not opposites but can occur simultaneously (Whiteman et al., 2014). This raises the question of whether differentiation works to improve sibling relationships by decreasing the negative effects of social comparison (a predictor of less conflict) or if sibling differentiation is a product of conflict that exists from social comparison (a consequence of conflict). As such, it is important for future studies of differentiation to include measures of social comparison as statistical controls.

In addition to focusing on the relational correlates of sibling differentiation, a number of papers examining sibling differentiation dynamics have focused on the function of differentiation (i.e., creating differences between siblings). For example, in a study of monozygotic twins, dizygotic twins, and non-twin siblings with an age difference of less than 24 months, Watzlawik (2009) explored domains and characteristics in which siblings may differentiate. Overall, Watzlawik found that siblings were more likely to perceive similarities in areas of interests and abilities/activities, and perceive differences in areas of character traits, physical appearance, and athletic abilities. Further, in accordance with differentiation theory, dyads generally reported more differences than similarities. Monozygotic twins reported fewer differences than the other types of sibling

compositions, but reported the same number of similarities as other groups. This indicates that monozygotic twins may have a more difficult time creating individual niches in their lives, but still do so. Overall, the study shows that siblings may differentiate in many different aspects of life, rather than a set area, and that sibling differences are not solely due to genetic differences (Watzlawik, 2009).

A series of studies by Osai and colleagues explored the roles of sibling differentiation (as well as modeling) and youth's participation in sports. For example, using home interviews with 197 maritally intact families that included mothers, fathers, and adolescent first and second born siblings, Osai and Whiteman (2017) found that siblings who engaged in modeling reported higher levels of warmth in the sibling relationship. This implies that siblings with lower levels of warmth also are the siblings who are differentiating. In a following study, Osai and colleagues (2020) examined siblings' sport participation in the context of differentiation and modeling and found that youth who reported greater differentiation were less likely to play the same sport as their sibling. The study surveyed 221 adolescents who participated in sports and asked about family dynamics including sibling relationships with the sibling closest in age. Contrary to differentiation theory, the dyads with the greatest associations between differentiation and sport participation were mixed-sex dyads with greater age spacing (Osai et al., 2020). This is possibly due to the gendered nature of different sports and indicates that outside influences may create the appearance of differentiation without siblings actively engaging in the process of differentiation.

In recent years Whiteman and colleagues have focused on studying high-risk behaviors such as underage drinking and cigarette use, and whether siblings

bidirectionally influence each other to engage in these behaviors. In 2013, Whiteman and colleagues sought to explain how siblings influenced each other in regard to high-risk behaviors. Data was collected via phone interviews from 326 families that included one parent and two adolescent siblings. They found that siblings who engaged in differentiation behaviors had diverging attitudes about alcohol consumption and other delinquent behaviors. The exception were sibling dyads who were mixed-gendered. When siblings were of different gender, they often had similar patterns of alcohol use (Whiteman et al., 2013). This is possibly because gender is not as important as other characteristics, such as a shared peer group, when influencing alcohol use. It is important to further study the importance of gender on differentiation behaviors. In a subsequent study, Whiteman and colleagues (2017) sought to better understand the bidirectional influence of sibling behavior in relation to deviant behaviors. Data was collected from first and second born siblings from 201 families on five occasions over the span of 10 years. Analyses revealed that contrary to expectations, younger siblings' deviant behaviors were more predictive of older sibling deviant behaviors than the inverse across the transition to adulthood. Older siblings being influenced by younger siblings is rarely examined in the literature and this work raises questions about whether older siblings engage in process of modeling and/or differentiation with their younger siblings.

Current Study

Research and theory on sibling differentiation commonly rely on the assumption that younger siblings react to the actions, behaviors, and qualities of their older sibling,

and then the younger sibling differentiates. During childhood and adolescence this orientation is logical as older siblings not only are more advanced physically and cognitively, but they typically hold a more powerful and dominant role in the family (Lindell & Campione-Barr, 2017). One study focusing on gender development found that older siblings tend to differentiate from their younger siblings, whereas younger siblings tend to model their older siblings (McHale et al., 2001). Research also has shown that younger siblings compare themselves to their older sibling more than vice versa (Jensen et al., 2015). However, research reveals that relationships are bidirectional, so while the effect may be less prevalent, younger siblings' actions influence their older brothers and sisters (Whiteman & Christiansen, 2008; Whiteman et al., 2017).

To date, most previous studies of sibling influence have investigated differentiation processes from the perspective of the younger sibling. However, research shows that older and younger siblings influence each other in myriad ways, including in social and cognitive development (Brody, 1998; Her et al., 2021; Whiteman et al., 2019). Due to the nature of sibling relationships, individuals are more likely to compare themselves, and be compared to their sibling (Jensen et al., 2015). These comparisons may lead individuals to alter behavior and decisions from that of their sibling, or in other words to engage in the process of differentiation (Whiteman et al., 2011). It is therefore logical to conclude that older siblings may differentiate from their younger siblings, just like younger siblings differentiate from their older siblings. It may even be the case that the younger siblings' differentiation affects older sibling differentiation, by either causing the older sibling to engage in the process or removing the need for the older sibling to differentiate. The present thesis explored this possibility.

Overall, it was expected that older sibling differentiation would occur in the same instances as younger sibling differentiation. For example, differentiation theory posits that siblings close in age and of the same gender are more likely engage in differentiation. Therefore, I expected that older siblings' reports of differentiation would be greater when their younger sibling was closer in age and the same gender than if they were more distal in age and a different gender. Research also suggests that differentiation is related differences in parent-adolescent relationship qualities, specifically warmth in the relationship. Given work by Feinberg and colleagues (2003), I expected parents' differential treatment of siblings (i.e., greater differences between siblings in parent-adolescent warmth) to be associated with older siblings' reports of differentiation. Additionally, I examined whether receiving preferential or favored treatment (i.e., direction of differential treatment) was related to older siblings' reports of differentiation. Research conducted by Jensen and colleagues (2015) shows that social comparisons are related to sibling relationship dynamics. As such, I expected a positive relationship between youth's frequencies of social comparisons and reports of differentiation.

Research on the implications of differentiation for sibling relationship qualities varies. Early work that did not specifically measure differentiation processes led researchers to suggest that differentiation served as a protective factor, reducing sibling conflict, and increasing harmony (Schachter et al., 1976, 1978, 1983). More recent work explicitly measuring youth's efforts to differentiate, however, indicates that differentiation, measured concurrently, is linked to more negative and less positive sibling relationship qualities (Whiteman et al., 2007, 2010). The present study added to this debate by exploring the links between older siblings' efforts to differentiate and their

sibling relationship qualities two years later. Given the mixed evidence in the literature, this research question was exploratory and directional hypotheses were not offered. Importantly, however, I controlled for older sibling's proclivity towards social comparison, improving previous studies and disentangling whether differentiation processes improve sibling relationships by decreasing the negative effects of social comparison or if sibling differentiation is a product of conflict that exists from social comparison. Additionally, I included measures of parental favoritism as previous studies proposed that sibling differentiation improved sibling relationships only when examined in the context of sibling-parent relationship (Feinberg et al., 2003). Lastly, I included a measure of the younger sibling differentiation as research documents that sibling influence is bi-directional and younger siblings' differentiation efforts may be related to older brothers'/sisters' perceptions of sibling relationship qualities.

CHAPTER III
METHODS

Participants

Data came from a larger longitudinal study that involved annual data collection from 2019 through 2023, with the exception of 2020 when an additional wave was collected at the onset of the COVID-19 pandemic. This study used data from the first wave collected in 2019-2020 (Time 1) and the third wave collected in 2022 (Time 2).

Participants were residents of five states in the Midwestern United States (Illinois, Indiana, Ohio, Pennsylvania, and Wisconsin). Participants included two adolescent siblings and one parent from 682 families at Time 1 and 613 of the same families at Time 2. At Time 1, older siblings (50.59% female) averaged 15.67 (*SD* = 0.68) years old and younger siblings (48.39% female) averaged 13.21 (*SD* = 1.12) years of age. Older siblings were an average of 2.48 (*SD* = 1.03) years older than their younger siblings. Ninety-seven percent of the sibling dyads were biological siblings, 353 dyads were same-gender and 329 were mixed-gender. At Time 1, parents who participated in the study (84.60% female; 15.25% male; 82.55% biological parent of older child; 81.67% biological parent of younger child) averaged 45.15 (*SD* = 5.37) years old. Eighty-seven percent of parents reported their race to be White, 9% as Black, and 4% other racial groups. Five percent of parents reported they were Hispanic or Latino. Eighty-two percent of parents reported they were married, 98% of the parents were high school graduates, and 67% had four-year college degrees. Regarding income, 21% of parents reported household incomes below $59,999, 22% between $60,000 and $99,999, 27% between $100,000 and $149,999, and 30% above $150,000.

Procedure

Names and addresses of families with at least one child in 8th, 9th, or 10th grade were identified from a sampling frame provided by a survey research firm. Parents in this frame were sent letters outlining the study purpose and eligibility criteria. Interested parties were instructed to visit a website to determine eligibility. To be eligible to

participate, the family needed to have (at least) two adolescent-aged siblings, the older being in Grades 8 through 10 and a consecutively-born younger sibling in grades 5 through 9. Other siblings could be present in the family, but they were not participants in the study. Among the 1,448 parents who used the screener website, 1,008 parents were eligible to participate in this study, and ultimately 682 families with all three members (i.e., two siblings and one parent) participated in Time 1. Data were collected via web-based surveys hosted on Qualtrics. Parents provided consent for themselves and their children, adolescents provided assent, and all surveys were completed independently. At Time 1, participants received $30 for the completion of their annual survey. At Time 2, participants received $50 for the completion of their annual survey. All study procedures and protocols were approved by the Institutional Review Board at Utah State University.

Measures

Older siblings' differentiation (T1, T2) and *younger siblings' differentiation* (T1) were measured as continuous variables by utilizing a scale created by Whiteman and colleagues (2010). On a response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) youth rated their agreement with 10 statements about their efforts to differentiate from their sibling. Example items included, "[SIBLING NAME] sets a bad example for me" and "I want to be different from [SIBLING NAME]." Total differentiation scores were measured by averaging the response across the statements with higher scores indicating greater differentiation efforts. Scales were internally consistent for both older siblings (α = .82 - .85) and younger siblings (α = .81).

Sibling conflict (T2) was measured using the Revised Network of Relationships Inventory (Furman & Buhrmester, 2009). The original scale included five subscales to measure positive and negative interactions between siblings. The current study only used two of the three negative interaction subscales which were conflict and antagonism (five items total). On a response scale ranging from 1 (*Not at all*) to 5 (*Very much*) youth rated how much they engaged in conflictual and antagonistic behaviors. Example items included, "How much do you and [SIBLING NAME] get upset or mad at each other" and "How much do you and [SIBLING NAME] disagree or quarrel?" Total scores were created by averaging participants' responses across the questions with higher scores denoting more conflict. The conflict scale was internally consistent ($\alpha = .95$).

Sibling intimacy (T2) was measured using eight items taken from the Social Relations Questionnaire (Blyth, Hill, & Thiel, 1982) which was used to examine intimacy in a variety of relational contexts and later revised Blyth and Foster-Clark (1987). For this study, questions were tailored to ask about sibling relationships. On a response scale ranging from 1 (*Not at all*) to 5 (*Very much*), youth rated how much they engaged in intimate behaviors with their siblings. Examples included, "How much do you go to [SIBLING NAME for advice/support" and "How much do you want to be like [SIBLING NAME]?" Total scores were created by averaging participants' responses across the questions with higher scores denoting more intimacy. The intimacy scale was internally consistent ($\alpha = .86$).

Social Comparison Orientation (TI) was assessed by examining the extent to which participants compared themselves to their sibling using a shortened version of Gibbons and Buunk's Social Comparison Orientation scale (1999). The original scale

contained 11 items, but items that could not be easily adapted to reference sibling comparison and items that performed poorly on the original scale were removed to reduce the final number to five items. On a response scale ranging from 1 (*Strongly disagree*) to 5 (*Strongly agree*), youth rated how much they compare themselves to their siblings. Examples included "I always pay a lot of attention to how I do things compared with how [SIBLING NAME] does things" and "If I want to find out how well I have done something, I compare what I have done with how [SIBLING NAME] has done." Total scores were creased by averaging participants' responses across the questions with higher scores denoting higher levels of comparison. Social comparison scores were internally consistent ($\alpha = .76$).

Parents' acceptance of older (T1) *and younger children* (T1) was measured using a shortened version of the 24-item subscale from the Children's Report of Parental Behavior Inventory (CRPBI, Schafer, 1965). On a response scale ranging from 1 (*Not at all*) to 5 (*Very much*), parents rated how much they engaged in accepting behaviors towards their children. Parents responded to the questionnaire twice, once in regard to their older child and once in regard to their younger child. Examples included, "I am a person who sees [*Child O/Y*'s] good points more than his/her faults" and "I am a person who almost always speaks to [*Child O/Y*] with a warm and friendly voice." Total scores were created by averaging participants' responses across the questions with higher scores denoting higher levels of acceptance. The acceptance inventory was found to be reliable for both older ($\alpha = .88$) and younger siblings ($\alpha = .88$), respectively.

Parental differential treatment (T1) was calculated by subtracting the parental acceptance score for the younger child from the parental acceptance score for the older

child and taking the absolute value. Higher scores denote there is greater levels of differential treatment. To index whether older youth were favored or disfavored by parents, a dummy code denoting *parental favoritism* (0 = favored or equally treated; 1 = disfavored) was created from this difference score. Prior to taking the absolute value, a positive number indicated that the older child was disfavored, as the younger sibling had a higher *parental acceptance* score.

Sibling age difference was calculated by subtracting younger sibling age in years from the older siblings age in years. *Gender composition* of the sibling dyad was dummy coded as either same- (0) or mixed-gender (1). The independent factor variable of *gender* of the oldest sibling was dummy coded (0 = female; 1 = male; as described below, those who reported other were omitted).

Analytic Plan

Prior to analysis, descriptive statistics were run on all study variables (*M* and *SD* for continuous, *N* and percentages for categorical data) to reveal patterns of non-normality and potential outliers (see Table 1). As part of the data cleaning process the individuals who had listed their gender as 'other' ($n = 2$) were removed from the data given the number of participants required per group to meet assumptions of statistical tests ($N = 680$).

Analyses were conducted to investigate whether older siblings who participated in Time 1, but not Time 2 ($n = 69$) were different than those who participated in both

occasions across all study variables and key demographics. There were no significant differences between the groups.

To address the research questions put forward in this thesis, three multiple regression analyses were conducted. The first analysis addressed variables associated with older siblings' differentiation. Specifically, older siblings' differentiation was regressed onto younger sibling differentiation, gender composition of the sibling dyad, sibling age difference, parental differential treatment, parental favoritism, and social comparison orientation. The model controlled for older sibling gender and age. All variables were entered into the model simultaneously. The assumptions of independence, linearity, and homoscedasticity were tested, and no violations were found. A collinearity assessment revealed no collinearity issues among the predictor variables.

The second and third analyses were used to determine the longitudinal implications of older sibling differentiation. In these models regressed sibling conflict and sibling intimacy (separately) onto older siblings' differentiation, younger siblings' differentiation, social comparison orientation, parental differential treatment, parental favoritism, gender composition of the sibling dyad, sibling age difference, as well as older sibling age and gender. All variables were entered into the model simultaneously. The assumptions of independence, linearity, and homoscedasticity were tested, and no violations were found. A collinearity assessment revealed no collinearity issues among the predictor variables.

All data manipulation and analyses were conducted using R (2023) and the following R packages: dplyr, tidyverse, haven, gtsummary, jtools, car, lmtest, olsrr, and scatterPlotMatrix.

CHAPTER IV
RESULTS

Characteristics of the sample are presented in Table 1.

Results of the first multiple regression analysis that addressed the correlates of older sibling differentiation are presented in Table 2. Collectively, the predictors in the model accounted for (or explained) 10% of the variance in older siblings' differentiation (F (8, 653) = 9.19, $p < 0.001$). Younger siblings' differentiation was positively associated with older siblings' differentiation ($b = 0.24$, $SE = 0.05$, $\beta = 0.20$, $p < 0.001$), such that a 1-point increase in younger siblings' differentiation was associated with a 0.24-point increase in older siblings' reports of differentiation. Parents' favoritism of younger children was negatively associated with older siblings' differentiation ($b = -0.13$, $SE = 0.06$, $\beta = -0.08$, $p = 0.04$), such that a 1-point increase in parents' favoritism of younger siblings was associated with a 0.13-point decrease in older siblings' reports of differentiation. Social comparison orientation was positively linked older siblings' differentiation ($b = 0.16$, $SE = 0.03$, $\beta = 0.18$, $p < 0.001$), such that a 1-point increase in social comparison orientation was associated with a 0.16-point increase in older siblings' reports of differentiation. Gender of the older sibling, gender composition of the sibling dyad, age difference, age, and the magnitude (absolute value) of parents' differential treatment were not significant predictors of older siblings' differentiation.

To examine whether differentiation led to closer sibling relationships over time, the second multiple regression analysis addressed whether older siblings' differentiation efforts were linked to sibling intimacy at Time 2. The results of the analysis are presented

in Table 3. Collectively the predictors in the model accounted for (or explained) 9% of the variance in sibling intimacy as reported by older siblings (F (9, 563) = 5.95, p < 0.001). Older sibling differentiation was negatively associated with sibling intimacy (b = -0.20, SE = 0.04, β = -0.21, p < 0.001), such that a 1-point increase in older sibling differentiation (T1) was associated with a 0.21-point decrease in sibling intimacy (T2). Older siblings' social comparison (T1) was positively associated with later sibling intimacy (b = 0.09, SE = 0.03, β = 0.11, p = 0.01), such that a 1-point increase in social comparison orientation was associated with a 0.09 higher score in sibling intimacy. Older siblings' gender was also related to sibling intimacy, with males reporting less intimacy than females (b = -0.24, SE = 0.06, β = -0.15, p < 0.001).

To investigate whether differentiation that differentiation decreases conflict over time, the third, and final, multiple variable regression analysis addressed the correlates of sibling conflict at Time 2 (see Table 4). Collectively the predictors in the model accounted for 7% of the variance in sibling conflict as reported by the older sibling (F (9, 562) = 4.48, p < 0.001). Older sibling differentiation (T1) was positively associated with sibling conflict (T2) (b = 0.15, SE = 0.05, β = 0.12, p < 0.001), such that a 1-point increase in sibling differentiation was associated with a 0.15 higher score in sibling conflict. Older sibling's age was significantly, negatively associated with sibling conflict (b = -.11, SE = 0.05, β = -0.09, p = 0.05), such that being younger was associated with more sibling conflict. Additionally, older siblings' gender was related to sibling conflict, with males reporting less conflict than females (b = -0.27, SE = 0.07, β = -0.15, p < 0.001).

CHAPTER V
DISCUSSION

The current study sought to answer two questions regarding the nature and implications of sibling differentiation. While the process of differentiation has been studied in younger siblings (e.g., Feinberg & Hetherington 2000; Whiteman et al., 2007), the same process for older siblings has been largely unexamined. As such, this study examined the predictors (question 1) and relational outcomes (question 2) of older siblings' reported efforts to differentiate from their younger siblings.

Predictors of Older Siblings' Differentiation

Rooted in theory and past research on (younger) sibling differentiation, I hypothesized that predictors of older siblings' differentiation would be the same as for younger sibling differentiation. Namely, older siblings' differentiation efforts would be predicted by structural variables of the sibling dyad, including being close-in-age and sharing the same gender. Inconsistent with this hypothesis and theory (Schachter et al., 1976), I found that neither gender composition of the sibling dyad nor sibling age difference were predictive of older sibling differentiation. Although inconsistent with theory, these results were not totally unexpected as recent studies by Whiteman and colleagues have found that gender composition was not related to youth reported differentiation (Whiteman & Christiansen 2008; Whiteman et al., 2007). One potential explanation for these findings is that the current study utilized measure of perceived

differentiation rather than “objective” differentiation. For example, it is possible that gender dynamics may push for differences in activities and personal qualities as opposed to youth “wanting” or “trying” to act different than their sibling. Another related explanation for these findings is that gender roles have changed in the decades since Schachter and colleagues’ studies. In the past, stricter gender roles may have removed the need for differentiation among mixed-gender dyads, as a men and women were expected to adopt certain roles that differed from the other’s gender. It is possible that more flexible gender roles in modern society have removed the differences previously created by societal structures, and now mixed-gender siblings have a greater need to differentiate than they did in past decades. Social structures creating the need for or appearance of differentiation is supported by Osai and colleagues (2020) study, which noted mixed-gender siblings were more likely to differentiate, possibly because the gendered nature of different sports was creating the appearance of higher levels of differentiation.

The most likely explanation for the finding that age difference was not associated with differentiation is, as mentioned earlier, this sample was limited to consecutively-born sibling dyads that by design were close in age. As such, the sample may have lacked sufficient variability to detect age-spacing differences. When Feinberg and Hetherington (2000) specifically looked at families with children less than 4 years apart in age and found, that with the exception of siblings within a one-year age difference, siblings closer in age were more likely to differentiate. As such future studies should utilize a larger variation of age spacing.

Given that previous research suggests that differentiation is related to differences in parent-adolescent relationship qualities (Feinberg et al., 2000; Schachter & Stone

1988), I predicted that there would be a positive relationship between parent's differential treatment of siblings (i.e. greater differences between siblings in parent-adolescent warmth) and older siblings' reports of differentiation. Results, however, revealed no relationship between these variables. This could be in part because parental differential treatment is more likely to occur when siblings are further apart in age (Jensen et al., 2023) and our sample only included siblings who were approximately two years apart in age. While it is possible that this sample does not have a great enough representation of parental differential treatment to predict differentiation behaviors, results suggest that the difference between how one sibling is treated to another is not as important as being the favored sibling. Supporting this idea, I found a positive association between parental favoritism and older siblings' differentiation. Specifically, older siblings were more likely to engage in the process of differentiation when their younger sibling was favored by parents.

Lastly, I sought to examine the effects of social comparison on older sibling differentiation, as some studies have shown that social comparisons are related to sibling relationship dynamics (Jensen et al., 2015). As predicted, I found a positive relationship between older siblings' frequencies of social comparisons to their younger siblings and their reports of differentiation. In other words, the more older siblings compared themselves to their younger siblings, the more they reported engaging in the process of differentiation. This outcome is likely a result of trying to establish and create a unique identity, as comparison is a key part of identity development (Vivona, 2007). Wong and colleagues (2010) found that while siblings are important in shaping identity development, differentiation was not associated with the process of identity development,

but rather the content. In other words, siblings can have similar levels of commitment in work or school, but be committed to different topics. It is possible that adolescents engage in the process of differentiation regarding their interests, which are easily identifiable, but do not differentiate in personality traits.

Longitudinal Correlates of Older Sibling Differentiation

Early research on differentiation did not examine the outcomes of differentiation processes specifically; rather, researchers hypothesized that differentiation was an unconscious behavior that served as a protective factor, ultimately, reducing sibling conflict, and increasing harmony in the sibling relationship (Schacter et al., 1976, 1978, 1983). However, studies that have examined differentiation by explicitly measuring youth's efforts to differentiate have generally found that differentiation was concurrently linked to more negative and less positive sibling relationship qualities (e.g., Whiteman et al., 2007, 2010). Building on this literature, I examined the longer-term implications of the older siblings' differentiation efforts by looking at the associations between older siblings' reports of differentiation (T1) and their later sibling relationship qualities almost two years later (T2). Given the mixed evidence in earlier work, I did not offer any directional hypotheses.

Older siblings' reports of differentiation were negatively associated with their perceptions of sibling intimacy and positively association with sibling conflict. This suggests that when an older sibling engages in the process of differentiation, it is related to more conflict and less intimacy in the sibling relationship two years later. This finding

is contrary to differentiation theory as posed by Schacter and colleagues (1976, 1978, 1983), but consistent with more recent studies that have directly examined the differentiation process (Whiteman et al., 2007, 2010). It is important to note, this study used the same measure utilized in Whiteman and colleagues' studies, and that the measure of sibling differentiation assessed youth's perceptions of trying to be different from their sibling. It could be that conscious perceptions of differentiation operate differently than the unconscious processes proposed by Schachter and colleagues (1976, 1978). Further, this study did not assess whether siblings were objectively different from one another across a range of areas (e.g., identity, adjustment, behaviors, interests). Therefore, it is possible that active efforts to differentiate are linked with less harmonious sibling relationships, whereas achieved differentiation (i.e., actual differences in key dimensions) is associated with improved relationship qualities. It is also possible that siblings who do not like each other report higher levels of perceived differentiation, when there is not a high level of objective differentiation. As such, future studies should investigate the links between efforts to differentiate, sibling differences, and sibling relationship qualities.

Another possible reason that differentiation was related to less sibling intimacy over time is that the process of differentiation could remove the shared interests and experiences that promote bonding and increase the intimacy in their relationship. Indeed, in a study that focused on siblings in the context of sports, Osai and colleagues (2017) found that siblings who were modeling, or engaging in the same activities, had higher levels of warmth in their relationship. One possible explanation for this increased level of warmth is that siblings' bond, or increase in their intimacy, was achieved by playing and

practicing the same activity with each other. Similarly, by developing their own identities and interests through the process of differentiation it is possible that the siblings have more to argue over, thereby increasing conflict in the relationship.

When considering these results it could be that older siblings differentiate for one of two reasons. First, they may be seeking a way to stand out from their sibling and be praised for accomplishments that differ from that of the younger sibling -- this is what Schachter and Stone (1988) termed normal differentiation. Another possibility is that the unfavored child is acting out and taking on the role of what Schachter and Stone termed the *devil child*. This kind of differentiation was termed by Schachter as pathological differentiation and would worsen rather than improve the sibling relationship (Schachter & Stone, 1988). As this study did not measure the type of differentiation that was occurring, it is possible (though unlikely given the non-clinical sample) the differentiation being measured is pathological rather than normal. Future studies should consider types differentiation in order to draw more accurate results regarding how differentiation shapes sibling relationships over time.

An important contribution of this study was the inclusion of older siblings' proclivity towards social comparison as a statistical control. Research has shown that brothers' and sisters' social comparisons are linked with conflict between siblings (Jensen et al., 2015). As discussed above, social comparisons were positively linked to older siblings' reports of differentiation. Therefore, it is important to account for social comparison orientations when examining the relational implications of differentiation, as questions arise as to which outcomes are related to social comparison and which are being linked to differentiation. By including the measure of social comparison in my

analysis, I was able to help untangle whether social comparison masked the effects of differentiation. Earlier studies that did account for sibling differentiation found that social comparison was associated with greater sibling conflict (Jensen et al., 2015). However, when I examined social comparison alongside sibling differentiation, the measure of social comparison was positively associated with sibling intimacy, but was not associated with sibling conflict. This finding suggests that differentiation perhaps serves as a protective factor by decreasing the negative effects of social comparison. Future studies should examine this possibility in a mediation framework.

Finally, the study revealed that when older siblings were male, they reported less intimacy and less conflict in the sibling relationship. While the existence of less conflict and less intimacy simultaneously may seem counter-intuitive, these two measures are not true opposites. This finding is consistent with the literature that suggests that sisters tend to have closer, more positive relationship then their male counterparts (Gilligan et al., 2020; Maccoby, 1998; McHale et al., 2012). This finding is likely reflective of older brothers having potentially fewer and less affective interactions with their younger siblings. As such it may be that, at least in the case of older siblings engaging in differentiation, over time siblings interact with each other less. While this distance does reduce conflict, it does not increase intimacy.

Limitations and Future Directions

This study had several limitations that are important to note. First, despite having a large sample size drawn from a several different states, the sample was primarily

middle class and white. As such, the results of this study may not generalize to underrepresented groups. For example, in families with low socioeconomic status, older siblings, especially older daughters, may be called upon to fulfill a caretaking role for younger siblings, as the adults in the household work. This dynamic could make sibling relationships more hierarchical (i.e., older siblings have more power and control) and increase differentiation dynamics. Additionally, family processes that emphasize togetherness and the centrality of the family (e.g., familism) are endorsed more strongly among ethnic minority families, and may shape the degree to which siblings look towards each other as models or foils. Therefore, an important future direction is to assess the associations between sibling differentiation and relationship qualities in more economically and racially/ethnically diverse populations.

Second, although this study accounted for parental differential treatment and parental favoritism, it did consider look at family structure. It is possible that differentiation dynamics operate differently in single parent households. Similarly, this study did not control for any other adults living in the house such as grandparents or a parent's partner. Additional individuals in the home may alter the sibling dynamic and outcomes, in ways such as having an increasing number of people comparing the siblings or providing favoritism that is not coming from the parent who responded in the study. This study also did not account for any other siblings in the household or the ordinal positioning of the dyad (i.e., if the dyad were the oldest two children in the house, the middle, or youngest). In families with more than two children, it is possible that differentiation dynamics may be different for other dyads. For example, another sibling may hold power by being older than the children included in the study. The older sibling

in this study may be more influenced by their oldest sibling rather than their younger sibling. Another possibility is that other siblings in the family may receive more favored treatment from parents than either child in the researched dyad.

Third, as mentioned above, this study relied on youth's self-reports of differentiation. Future research would benefit from measuring actual differences between siblings in addition to their perceived efforts to differentiate. Fourth, early studies on differentiation showed that the process and outcomes of differentiation are skewed when there are children with behavioral problems and/or learning disabilities (Schachter 1985, Schachter & Stone 1988). This community sample was not designed to account for such factors, and I did not control for any learning disabilities or behavior problems of the siblings. Fifth, this study did not account for earlier levels of relationship qualities, and therefore the study was unable to assess the change in the relationship qualities overtime.

Finally, future studies would benefit from examining older and younger siblings in conjunction as research indicates that there are bi-directional influences between siblings (e.g., Whiteman et al., 2017). For example, older siblings' efforts to differentiate may be shaped by their younger siblings modeling or differentiation behaviors. Future studies also would benefit from looking at social influences outside they dyad that may affect the sibling relationship such as parents, friends, teachers, and other siblings. As discussed earlier, future studies would benefit from examining differentiation processes (i.e., perceived differentiation → sibling differences → improved sibling relationships) in a mediation framework.

Conclusions

Overall, results of this study indicated that the strongest predictors of older sibling differentiation were younger sibling differentiation and the degree to which older siblings engaged in social comparison and not sibling structural variables (i.e., gender composition and age-spacing). Recent literature suggests that the previously theorized predictors of differentiation for older and younger siblings, such as being close in age and the same gender (e.g., Schachter et al., 1976, 1978) are consistent predictors of perceived differentiation. More research is needed to properly determine the predictors of older and younger siblings' differentiation efforts. The findings of this study suggests that environmental and psychological factors, rather than structural factors, predict differentiation. There are a multitude of processes including genetic, environmental, and the interaction of the two, that push siblings to be different. Studying the process of differentiation specifically allows us to understand if there is an internal, psychological drive that promotes siblings to develop unique identities and interests.

Schachter's early studies on differentiation proposed that differentiation would promote relational harmony and decrease sibling rivalry (Schacter et al., 1976, 1978, 1983). An initial look at the outcomes of this study suggest that this theory is inaccurate, as sibling differentiation was associated with lower intimacy and higher conflict over time. Importantly, these results are consistent with more recent work examining the relational correlates of sibling differentiation (e.g., Whiteman et al., 2010). As mentioned earlier, it could be that conscious reports of differentiation are more closely linked with negative relationship qualities than positive. It also is possible that active reports of

differentiation are reflective of the differentiation process still developing and that relational harmony will be seen when siblings complete their identity development.

This study contributes to the existing literature, by providing evidence that the theory of differentiation may need to be adjusted. Specifically, older siblings' differentiation was not predicted by structural factors, namely gender composition of the sibling dyad and the age difference between siblings. Rather differentiation was predicted by the behavior of the younger sibling, in this case the younger sibling also engaging in differentiation behaviors, and the social comparison between the siblings. This work further added to the literature by providing additional data on the outcomes of differentiation over time. Inconsistent with theory, but in line with recent work, this study found that differentiation was not predictive of improving sibling relationships over time, and instead was related to relational disharmony.

Table 1

Descriptive Statistics

	Same-Sex (*N* = 353)				Mixed-Sex (*N* = 327)			
	Female (*N* = 173)		Male (*N* = 180)		Female (*N* = 172)		Male (*N* = 155)	
Characteristic	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Older Sibling Age (T1)	15.7	0.6	15.7	0.7	15.6	0.7	15.7	0.7
Age Difference	2.5	1.1	2.5	1.0	2.5	1.1	2.5	0.9
Older Sibling Differentiation (T1)	3.0	0.9	3.1	0.8	3.1	0.8	2.9	0.8
Older Sibling Differentiation (T3)	3.0	0.8	2.8	0.8	2.9	0.8	2.8	0.8
Younger Sibling Differentiation (T1)	3.3	0.7	3.4	0.7	3.3	0.6	3.2	0.7
Social Comparison Orientation	2.7	1.0	2.4	1.0	2.6	0.9	2.5	1.0
Sibling Intimacy (T2)	3.3	0.8	3.0	0.8	3.2	0.7	3.1	0.7
Sibling Conflict (T2)	3.0	0.9	2.6	0.9	2.8	0.9	2.5	0.9
Parent Differential Treatment	0.4	0.4	0.5	0.4	0.5	0.5	0.4	0.4
Favoritism								
Older Favored	92 (54.4%)*		78 (43.6%)*		96(57.5%)*		72.0 (47.1)*	
Younger Favored	77 (45.6%)*		101(56.4%)*		71 (42.5%)*		81(52.9%)*	

**n*(%)

Table 2

Predictors of Differentiation in Older Siblings

Effect	Estimate	*SE*	ß	*p*
Fixed effects				
Intercept	1.50	.73		.04
Younger Sibling Differentiation (T1)	.24	.05	.20	< .001
Sex Composition				
Mixed Sex	- .04	.06	-.03	.51
Age Difference	- .05	.03	-.06	.11
Parental Differential Treatment	-.03	.07	-.01	.71
Favoritism				
Younger Favored	- .13	.06	-.08	.04
Social Comparison Orientation	.16	.03	.18	< .001
Older Sibling Sex				
Male	-.01	.06	-.00	.98
Older Sibling Age (T1)	.03	.05	.03	.47

Table 3

Longitudinal Correlates of Differentiation on Sibling Intimacy

Effect	Estimate	*SE*	ß	*p*
Fixed effects				
Intercept	4.26	.74		< .001
Older Sibling Differentiation (T1)	-.20	.04	-.21	< .001
Younger Sibling Differentiation (T1)	-.09	.05	-.08	.07
Social Comparison Orientation	.09	.03	.11	.01
Parental Differential Treatment	-.07	.07	-.04	.39
Favoritism				
Younger Favored	-.02	.07	-.01	.74
Sex Composition				
Mixed Sex	-.04	.06	-.02	.54
Age Difference	.02	.03	.02	.52
Older Sibling Age (T1)	-.02	.05	-.02	.67
Older Sibling Sex				
Male	-.24	.06	-.15	< .001

Table 4

Longitudinal Correlates of Differentiation and Sibling Conflict

Effect	Estimate	*SE*	ß	*p*
Fixed effects				
Intercept	3.82	.85		< .001
Older Sibling Differentiation (T1)	.15	0.05	.13	< .001
Younger Sibling Differentiation (T1)	.05	.05	.04	.35
Social Comparison Orientation	.04	.04	.05	.30
Parental Differential Treatment	.10	.09	.02	.28
Favoritism				
Younger Favored	-.14	.07	-.07	.06
Sex Composition				
Mixed Sex	-.11	.07	-.06	.14
Age Difference	.04	.04	.04	.30
Older Sibling Age (T1)	-.11	.05	-.09	.05
Older Sibling Sex				
Male	-.27	.07	-.15	< .001

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