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Children's Understanding of Parental Differential Treatment

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This study examined whether established associations between perceptions of parental differential treatment and sibling relationship quality are moderated by children's perceptions and attributions about parental behavior. Sixty-one children, aged 11–13 years, and their siblings were interviewed separately about parental differential treatment. Children did not perceive PDT in two-thirds of the instances they reported about, and 75% of the children who acknowledged that differential treatment was occurring in their homes did not find this to be "unfair." Children justified differential parental behaviors by identifying ways that they and their sibling differ from one another, that is, in terms of differences in their age, personal attributes, needs, relationship with parents, or strategic behaviors. Children who perceived their parents' differential behavior to be justified generally experienced more positive appraisals about their sibling relationship. Results reinforce the importance of examining how children construct their experiences in their families.

INTRODUCTION

A well-known correlate of sibling conflict and rivalry is children's perception that parental behaviors are being directed unequally toward them and their siblings. A variety of studies, using diverse methods, has drawn clear links between the presence of parental differential treatment (PDT) and children's sibling relationship quality (Brody, Stoneman, & McCoy, 1992; Bryant & Crockenberg, 1980; Conger & Conger, 1994; McHale, Crouter, McGuire, & Updegraff, 1995; McHale & Pawletko, 1992; Robinson, Case, & Corley, 1990; Stocker, Dunn, & Plomin, 1989; Volling & Belsky, 1992). However, what has not been addressed in previous research is children's understanding about why PDT occurs and its significance for family relationships. The purpose of this study was to further investigate the linkages between PDT and sibling relationship quality by taking into consideration children's understanding of parental differential treatment.

As stated above, recent research has focused on the degree to which sibling relationship quality is related to children's perceptions of PDT. Differential maternal attention has been shown to relate to competition and controlling behaviors between siblings (Stocker et al., 1989) as well as to sibling conflict and antagonism (Furman & Buhrmester, 1985). Similarly, differential maternal responsivity and sensitivity was shown by Bryant and Crockenberg (1980) to be related to greater discomforting and disparagement between female siblings. Associations between parental differential treatment and sibling relationship quality are not confined to maternal parenting practices. Observations of father-sibling interaction conducted by Brody et al. (1992) revealed that paternal differential responsiveness predicted higher rates of negative behavior from younger to older siblings. Furthermore, paternal differential controlling behaviors were associated with higher rates of negative behavior from older to younger siblings. Similarly, Volling and Belsky (1992) observed fewer prosocial interactions between siblings when fathers reported that they were relatively more affectionate toward the younger sibling. McHale et al. (1995) recently extended this line of research and found unique conjoint effects when PDT is performed in varying degrees by mothers and fathers. Thus, previous research has revealed the importance of exploring both maternal and paternal practices of PDT.

Although the research is quite clear in demonstrating children's vulnerability to parental differential treatment, it should be noted that the amount of variance in sibling relationship quality that is accounted for by the presence and/or magnitude of PDT is relatively low. Correlations between estimates of the magnitude of PDT and sibling relationship quality have been in the low to moderate range. For example, reported correlations range from .21 to .25 in the Robinson et al. (1990) study and .30 to .31 in the Volling and Belsky (1992) study. Brody, Stoneman, McCoy, and Forehand (1992) report a somewhat stronger association as fathers' equal treatment of siblings accounted for approximately 17% of the variance in predicting concurrent negative sibling behaviors. Clearly, the prediction of sibling relationship quality may be enhanced by taking other factors into consideration.

In addition to assessing whether or not PDT is present, we may better understand the processes that influence the quality of sibling relationships by ex-

ploring how children perceive and explain PDT. For example, one question that has not been addressed in the literature is whether children make distinctions between times when it is appropriate for parents to engage in differential treatment (e.g., setting different bedtimes for children of different ages) and when it is inappropriate (e.g., hugging one child more than another when both children accomplish the same goal). Although parents may desire to treat children equitably, it is often appropriate and necessary for parents to treat children differentially because of differences in individual children's ages, maturity levels, and needs. However, it is unclear how children respond to these instances of "warranted" differential treatment.

Children may enlist a variety of attributions to understand, rationalize, or condemn their parents' differential treatment of them and their siblings. These rationalizations may, in part, be based on the extent to which children recognize that differences exist between themselves and their siblings and view their parents as responding differently to them because of these differences. For example, children may view PDT as occurring because they and their sibling(s) are of different ages, have different personal attributes, get along better or worse with one or both of their parents, or need, want, or prompt different treatment from their parents. Furthermore, regardless of their reasoning about why PDT occurs, some children may view PDT as justified (although perhaps not desirable) whereas others may not. We believe that children's diverse beliefs about which sibling differences drive PDT in their own families will reveal disparate associations between the magnitude of PDT and sibling relationship quality. We hypothesize that children who view PDT as justified (relatively speaking) will enjoy more positive sibling relationships than children who view PDT as unjustified. This conceptual framework illuminates the processes by which children are active participants in the construction of their own experiences and are not passive recipients of social and/or environmental cues. In other words, although assessing the amount of PDT that exists in a family may be informative, gleaning knowledge about how children actively process and interpret their families' interactions may allow us to further understand the associations between PDT and sibling relationship quality.

Although researchers have not yet examined these hypotheses, some support can be derived from studies of the sibling relationships of disabled and nondisabled children. McHale and Pawletko (1992) demonstrated that although PDT was more likely to occur in families with a disabled child than with nondisabled children, PDT in families with a disabled child was associated with fewer negative effects on sibling relationship quality. In fact, an increase in differential maternal discipline and love was related to more positive sibling behaviors in families with a disabled child. In contrast, among families with nondisabled children, youngsters who experienced relatively more discipline than their sibling reported engaging in lower levels of positive behavior with their sibling. In explaining these divergent findings for the two groups, McHale and Pawletko speculated that children with disabled siblings may view their sibling's additional needs and limitations as legitimizing PDT. As a result, PDT may be associated with fewer negative effects on the sibling relationship in comparison to nondisabled siblings. This is consistent with one of the hypotheses advanced in the current study that children are more likely to perceive PDT as more justified when they view it as occurring in the service of meeting one of their sibling's unique needs.

Attribution theory and social information processing models, which involve studying how people understand and explain the behaviors of others, provide relevant theoretical frameworks from which to assess children's attributions about PDT. Proponents of attribution theory (e.g., Graham & Folkes, 1990) advance that people's perceptions of behavior are filtered through their past experiences and personal meaning and biases. The resulting causal attributions form the basis for their subsequent perceptions and responses. Social information processing models also point to the importance of attributional processes in influencing behavior but make additional contributions by proposing specific processes that link the perception of social situations with the enactment of behavioral responses. Crick and Dodge (1994) propose that the interpretation of internal and external cues, including attributions of cause and intent and inferences about the perspectives of others, is a primary step which leads to the behavioral enactment of a response. Although directed toward explaining the social adjustment of individual children, Crick and Dodge's reformulation of social information processing models may have useful implications for understanding children's interactive behaviors. For example, processes such as encoding, interpretation, goal clarification, and enactment may help explain how children interpret differential behaviors performed by parents and how these interpretations are associated with variations in sibling relationship quality. An additional advantage of social information processing models over other social cognitive models is that it strives to take developmental factors

into account (Crick & Dodge, 1994). Thus, this model can incorporate changes in social information processing relevant to PDT in accordance with development.

In summary, using attribution and social information theories as a base, we examine whether associations between perceptions of PDT and sibling relationship quality are moderated by children's attributions about PDT. We seek to ascertain (1) the extent to which children view PDT as practiced by their mothers and fathers as justified, (2) the types of attributions children enlist to understand PDT, and (3) the associations between children's understanding of PDT (their attributions) and their perceptions of sibling relationship quality.

METHOD

Participants

The participants were drawn from 61 intact Caucasian families that included a child between the ages of 11 and 13 years and a sibling who was 1.5–4 years younger or older. Children in this age group were targeted because previous research has indicated that children over 7 years entertain a more complex social understanding than younger children, particularly about ideas about equity (Sigelman & Waitzman, 1991).

Families were recruited through both child and parental responses to advertisements in local newspapers. Because there could have been more than two children in the family, the elder child was labeled as the earlier-born child, and the other as later-born child. When more than two children in the family were eligible for participation in the study, siblings who were closest in age were selected. Earlier-born children were 13.52 years of age on average (SD = 1.43) and later-born children were 11.01 (SD = 1.57) years. The mean age disparity between the siblings was 2.67 years (SD = 0.86). The average number of siblings per family was 2.63 (SD = 0.82), and 50% of the families included only two children. Forty-one percent of the families included three children, 2% included four children, and 7% included five children. The earlier-born siblings were firstborn children in 81% of the families. Later-born children were usually second in birth order (74%) and were the youngest children in the family (71%). The 61 siblings pairs consisted of 15 older sister–younger sister dyads, 15 older sister–younger brother dyads, 16 older brother–younger brother dyads, and 15 older brother–younger sister dyads. All of the families were maritally intact and had been married for an average of 17.8 years (SD = 2.85). Median income level was $40,000–$50,000.

Procedure

The target siblings were interviewed individually in their homes about their family relationships. After a few minutes of free conversation, children were asked to respond to a set of hypothetical situations in which instances of PDT were blatant. They were asked to state whether the parental behaviors were "fair" or not and to explain their judgment. This warm-up exercise was intended to give children the message that PDT often occurs in families and is an acceptable topic of discussion.

Using a set of standardized instruments, each child was then interviewed about their sibling relationship quality and the degree to which he or she perceived that PDT occurred in the family, their reasoning about why it occurred, whether it was justified or not, and why he or she felt it was either fair or unfair. The administration of the questionnaires was counterbalanced so that half of the children received questions about maternal behaviors first and half received questions about paternal behaviors first. The interviews were audiotaped. General demographic information about the family such as family size, ethnicity, income, and level of education was obtained from parents using a questionnaire.

Measurement of Constructs

Magnitude of perceived parental differential treatment. Three instruments were used to assess the magnitude of perceived maternal and paternal differential treatment. First, using the Differential Control and Differential Affection scales of the Sibling Inventory of Differential Experience (SIDE; Daniels & Plomin, 1985), children rated on a five-point scale how their parents treat them compared to their sibling in the domains of control and affection. The Control scale included four items tapping parental strictness, punishment, blame, and discipline. The Affection scale contained five items measuring relative parental pride, interest, favoritism, enjoyment, and sensitivity. Ratings on the individual items reflected relative scores of parental differential treatment so that negative scores indicated that the later-born sibling was the recipient of more of a particular parental behavior, positive scores indicated that the earlier-born sibling received more PDT, and zero indicated a perceived absence of PDT. Daniels and Plomin (1985) reported satisfactory test-retest reliability for the SIDE. Internal consis-

tency of the Control and Affection subscales with the current sample were .84 and .79 (alpha), respectively.

Second, three items tapping differential experiences of physical affection from parents were administered using the same format as the SIDE. These items assessed differential amounts of hugging, saying "I love you," and sitting next to a child (alpha = .62).

Third, the Rivalry[1] scale (three items) from the Sibling Relationship Questionnaire (SRQ; Furman & Buhrmester, 1985) targeted children's perceptions of which sibling the parent treated better, favored, and paid more attention to. Internal consistency was .76 (alpha).

Due to a significant degree of multicollinearity among the differential treatment measures (correlations ranged from .31 to .75), a composite measure of the magnitude of perceived PDT was calculated by summing the ratings derived from the SIDE Control and Affection subscales, the physical affection subscale, and the SRQ Rivalry scale (alpha = .79). Higher scores on the composite measure indicated perceptions of greater parental differential treatment. In addition, some analyses were conducted looking at differential Control as separate from differential Affection. In this case, a composite score of Differential Affection was derived by combining scores on the SIDE affection subscale, the physical affection subscale, and the SRQ parental partiality scale (alpha = .73).

Estimates of the magnitude of PDT provided by earlier- and later-born siblings were only moderately correlated, $r = .30$ and .38, $p < .01$, when responding about their mothers and fathers, respectively.

Perceptions of PDT as justified or not. Each response that indicated a perception of differential treatment was reviewed with the child to ascertain (1) why he or she thought this event occurred, (2) whether the parental behaviors in question were justified or not (i.e., "fair"), and (3) why he or she felt that the PDT was either fair or unfair. Children's responses about the fairness of each reported instance of PDT were coded as 0 ("unfair") or 1 ("fair"). A summary score was calculated by determining the frequency of occasions in which PDT was reported by the children to be fair as opposed to unfair.

Children's attributions about PDT. Verbatim transcripts of the children's attributions about why PDT occurred, along with the audiotaped interviews, were used to perform a content analysis. Eleven categories emerged; these are described in Table 1. Children's spontaneous attributions were then classified into these 11 categories by independent raters. Each assistant coded the responses of only one child in a family so that their coding would not be influenced by other information about the family. The responses were classified using the code that best described the most prominent feature of the child's attributions. Interrater agreement across the 11 categories was .85 (kappa).

Inspection of the frequencies of the 11 attributional categories revealed that some categories were reported infrequently. Categories were retained for further analysis when they were reported with some regularity, that is, on average at least once per session. The remaining categories reflected five ways in which children understand PDT as occurring because of differences between themselves and their siblings. Children may view PDT as occurring because they and their sibling(s) are (1) of different *ages;* (2) have different *personal attributes;* (3) have different types of relationships with one or both of their parents (*family alliances);* (4) *need* different treatment from their parents; or (5) actively elicit different treatment from their parents (*sibling-driven behavior*). These five categories appeared to be relatively independent constructs; intercorrelations did not exceed .28, $p < .05$.

Sibling relationship quality. The remaining three scales of the SRQ (Furman & Buhrmester, 1985) were used to assess the children's perceptions of sibling relationship quality. Internal consistency coefficients derived with the current sample were .95, .78, and .87 for the scales of Warmth and Closeness, Relative Status/Power, and Conflict, respectively. Furman and Buhrmester (1985) reported a mean test-retest reliability over a 10 day period of .71.

RESULTS

The presentation of results begins with descriptive data on children's perceptions of the magnitude of PDT. We then test the direct links between perceptions of the magnitude of PDT and children's reports of sibling relationship quality. Subsequently, we present descriptive data on children's appraisals of the fairness of PDT as well as the associations between these reports and dimensions of sibling rela-

1. Although the Rivalry scale was intended by Furman and Buhrmester (1985) to be a measure of sibling relationship quality, inspection of the specific items on this scale revealed that it actually assessed dimensions of maternal and paternal differential treatment in how parents treat each sibling. For example, the Rivalry item, "Who does mother usually favor, you or your sibling?" is virtually identical to an item on the differential treatment scale of the SIDE. Therefore, the Rivalry scale was used as a measure of PDT and not as a distinct facet of sibling relationship quality.

Table 1 Attributions Used to Explain Parental Differential Treatment (PDT)

Sibling's needs
PDT is understood as a consequence of a parent's response to a sibling's need. A child may demonstrate this kind of understanding even when considering PDT as "unfair." For example, a child may state that PDT is unfair because the sibling's need is not being addressed.
"My brother has really low self-esteem. My parents praise him more because he needs it to feel better about himself."
Personal attributes
Children report that parents respond differentially because of their disparate personality traits or characteristics.
"My mom listens to my sister more because my sister is a very talkative person."
Family alliances
PDT is attributed to positive relationships between a parent and child or to a dyadic family structure in which each child feels closer to a different parent.
"My mom and I just get along better, so we do more things together."
Sibling-driven behaviors
PDT is attributed to the sibling's self-governed behaviors.
"My brother gets punished more because he asks for it. He knows he shouldn't kick the ball in the house."
Age
PDT is attributed to the age disparity between siblings.
"My sister is older and so she gets punished more than me because my parents think she ought to know better."
Self-driven behaviors
PDT is attributed to the child's own self-governed behaviors.
"I give my parents lots of hugs every day so they hug me a lot more than my brother who never tries to hug them."
Inequality
Children equate fairness with exact equality regardless of the purpose or consequence of the parental behavior.
"It's unfair that my dad pays more attention to me because then it's not equal."
Own needs
Explanations of PDT are based on the parents' responses to the child's own needs.
"My parents pay more attention to me because I need it. I don't have any friends around here but my sister knows lots of people."
Circumstances
PDT is attributed to uncontrollable or incidental causes.
"My dad drives my brother to and from school so they end up spending more time together."
Gender
PDT is attributed to gender differences between the siblings.
"My dad and my brother get along better because they're both boys."
Parent's reasoning is faulty
The child explains that the parent's reason for PDT is incorrect. This response usually accompanies the judgment that PDT is not fair.
"My parents shouldn't punish me more; they let my brother get away with so much that he's not learning the right things to do."

tionship quality. Descriptive information on the specific attributions children use to explain PDT are presented next, followed by an investigation of the ways that the attributions may moderate the association between the magnitude of PDT and sibling relationship quality.

Perceived Magnitude of PDT

When considering children's responses to the SIDE Control and Affection scales, we found that children reported experiencing "similar" treatment (no PDT) as their sibling in 65% of the items. In contrast, some degree of parental differential treatment was reported in 35% of the items that were administered, with 29% of the items reflecting "a bit of difference" and 6% indicating "much difference" in the parental treatment children received. These results are in line with those obtained in previous research (Daniels & Plomin, 1985).

A 2 (birth order) × 2 (parent gender) repeated-measures multiple analysis of variance (MANOVA), with birth order and parent gender as repeated factors, was conducted to investigate the degree to

which children's reports of the magnitude of PDT were related to their birth order. Children's age was included as a covariate. No significant effect was found for parent gender indicating that children saw their mothers and fathers as engaging in roughly the same amount of PDT. However, a significant effect was found for birth order, $F(1, 60) = 6.63$, $p < .01$, with earlier-born children reporting higher levels of maternal PDT ($M = 0.87$, $SD = 3.52$) than later-born children ($M = 0.13$, $SD = 2.93$). Earlier-born children also reported higher levels of paternal PDT ($M = 0.98$, $SD = 4.09$) than later-born children ($M = -0.41$, $SD = 3.05$).

A parallel set of repeated-measures MANOVA considered whether these effects differed when children were responding about Differential Control versus Differential Affection. No significant effects were found for Differential Affection, indicating that children perceived their mothers and fathers to engage in similar levels of differential affection. All children viewed later-born siblings as being the object of more parental affection than earlier-born children. Means for earlier-born children reporting about differential maternal and paternal affection were -0.93 ($SD = 3.57$) and -1.30 ($SD = 3.59$), respectively, whereas means for later-born children reporting about differential maternal and paternal affection were -0.69 ($SD = 4.11$) and -0.20 ($SD = 4.08$), respectively.

A significant effect for birth order was found for children's reports about the magnitude of differential parental control, $F(1, 60) = 9.67$, $p < .01$. Earlier-born children viewed themselves as receiving more control by their mothers ($M = 1.36$, $SD = 2.38$) and fathers ($M = 1.16$, $SD = 2.78$) than their younger siblings. Later-born children also viewed their elder siblings as receiving more control from their mothers ($M = 0.49$, $SD = 2.16$) and fathers ($M = 0.44$, $SD = 1.78$). Thus, in general, children viewed earlier-born children as receiving more parental control than later-born children whereas the latter were seen to garner greater parental affection.

Additional analyses revealed an absence of consistent effects for the reported magnitude of PDT in accordance with children's gender, age spacing, family size, or income.

Associations between the Perceived Magnitude of PDT and Sibling Relationship Quality

Correlations were computed to assess the strength of associations between children's perceptions of the magnitude of PDT and their reports of sibling relationship quality. This analysis was intended to determine whether links between the magnitude of PDT and sibling relationship quality, reported in previous studies, also exist in the current data set. As shown in Table 2, the results were similar to those of earlier studies, as they indicated that higher levels of perceived PDT were associated with less sibling Warmth and Closeness, a greater Status/Power differential, and a trend toward higher levels of sibling Conflict.

Table 2 Correlations between the Perceived Magnitude of PDT and Sibling Relationship Quality ($n = 61$ families)

Respondent and Subject of Report	Sibling Relationship Quality		
	Warmth	Status/Power	Conflict
Earlier-born children:			
Maternal PDT	−.31*	.28*	.20
Paternal PDT	−.39**	.24*	.22
Later-born children:			
Maternal PDT	−.37**	−.24*	.24*
Paternal PDT	−.43***	−.24*	.21

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

Children's Perceptions of PDT as Justified

We next addressed the general question of how children understand PDT by looking at descriptive data on their judgments about its fairness. Table 3 presents the frequencies with which children viewed maternal and paternal PDT as fair versus unfair. Children reported that differential treatment was "fair"

Table 3 Children's Perceptions of PDT as Justified ($n = 61$ Families)

Respondent	Fair	Unfair
Perceptions of maternal PDT as fair or unfair:		
Earlier-born children:		
M	3.86	1.34
SD	2.10	1.43
Frequency	216	75
Later-born children:		
M	3.16	1.11
SD	1.82	1.57
Frequency	167	59
Perceptions of paternal PDT as fair or unfair:		
Earlier-born children:		
M	3.79	1.16
SD	2.28	1.58
Frequency	220	67
Later-born children:		
M	2.78	1.03
SD	2.11	1.44
Frequency	161	60

or justified in 75% of the 1,025 occasions in which some level of PDT was reported to have occurred.

A 2 (birth order) × 2 (parent gender) repeated-measures MANOVA, with birth order and parent gender as repeated factors, controlling for age, was conducted to examine differences in earlier- and later-born children's perceptions of the degree to which PDT was justified. A significant effect was found for birth order, with earlier-born siblings being more likely than later-born siblings to view both their mothers' and fathers' differential behaviors as justified, $F(1, 60) = 7.01$, $p < .01$. No effect was found for parent gender. Corresponding MANOVAs failed to reveal differences in perceptions of fairness in accordance with children's gender. Correlations between the two siblings on perceptions of fairness were −.11, *ns*, when reporting about mothers and −.12, *ns*, when reporting about fathers. Thus, earlier- and later-born siblings had relatively independent judgments about the fairness of PDT.

We next tested the hypothesis that children who viewed differential treatment as more fair experienced a more positive sibling relationship than children who perceived differential parental behavior as more unfair. Given that children were more likely to view PDT as fair than unfair, simple correlational analyses between the proportions of fair PDT and SRQ scores were not appropriate. Instead, the decision was made to split the sample into two groups to represent (1) children who reported that PDT was uniformly fair (Group 1) and (2) children who reported on at least one item that PDT was unfair (Group 2).

The effect of children's perceptions of the fairness of PDT on sibling relationship quality, controlling for children's age, was then explored using a series of repeated-measures MANOVAs. Children's perceptions of sibling Warmth and Closeness, Relative Status and Power, and Conflict served as the repeated dependent factors. Furthermore, because the response patterns of earlier- and later-born siblings differed significantly in previous analyses, within-group tests were conducted with respect to birth order.

The results indicated that earlier-born siblings who perceived maternal PDT as more fair ($n = 21$) reported less of a Status/Power differential ($M = 4.48$, $SD = 4.46$) than children who felt that PDT was more unfair ($n = 35$; $M = 7.23$, $SD = 4.16$), $F(1, 55) = 4.33$, $p < .05$. (Five children were excluded from these analyses because they reported an absence of maternal PDT.) Furthermore, earlier-born siblings who reported that paternal PDT was more fair ($n = 28$) tended to report higher levels of sibling Warmth and Closeness ($M = 48.48$, $SD = 9.57$) than those who felt it was more unfair ($n = 30$; $M = 43.61$, $SD = 8.90$), $F(1, 57) = 5.18$, $p < .05$. Earlier-born children who reported that paternal PDT was more fair also reported less sibling Conflict ($M = 17.93$, $SD = 5.35$) than children who viewed the PDT as unfair ($M = 21.80$, $SD = 4.50$), $F(1, 57) = 8.21$, $p < .01$. No significant differences were found with respect to earlier-born children's perceptions of maternal fairness and their SRQ ratings of Warmth and Closeness and Conflict. Earlier-born children's ratings of Relative Status/Power in their sibling relationship were not related to their perceptions of paternal fairness. In summary, earlier-born children's perceptions of fairness were related to SRQ scores particularly when taking their reports about paternal PDT into consideration.

A parallel set of analyses was conducted using the responses of later-born children. Although no significant effects were found with respect to later-born children's perspectives of maternal PDT, later-born children who felt that their fathers' differential treatment was fair ($n = 30$, $M = 48.53$, $SD = 10.25$) reported more Warmth and Closeness in their sibling relationship than later-born children who thought it was sometimes unfair ($n = 28$, $M = 42.50$, $SD = 9.90$), $F(1, 57) = 6.33$, $p < .05$. (Three children were excluded from these analyses because they reported an absence of paternal PDT.) No other significant findings emerged regarding perceptions of fairness among later-born children.

Children's Attributions about PDT

Table 4 presents descriptive data on the number of items in which children used each of the five attributions under study to explain maternal and paternal PDT. A repeated-measures MANOVA was conducted to determine if these frequencies varied significantly in terms of children's birth order and parent gender, while controlling for age. A significant effect was found only for attributional category, $F(4, 52) = 4.74$, $p < .01$, and so subsequent repeated-measures ANOVAs were conducted for each of the five attributional categories, respectively. Results indicated that earlier-born children were more likely than later-born children to refer to their *sibling's needs* to explain PDT, $F(1, 48) = 9.90$, $p < .01$. Furthermore, both earlier- and later-born children were more likely to refer to their *sibling's needs* when discussing PDT performed by their mothers rather than their fathers, $F(1, 48) = 8.15$, $p < .01$. Earlier-born children were also more likely to refer to children's relative *ages* when explaining PDT than later-born children, $F(1,$

Table 4 Earlier- and Later-Born Children's Use of the Most Commonly Reported Attributional Categories (n = 61 Families)

	Earlier-Born			Later-Born		
Attribution	Frequency	*M*	*SD*	Frequency	*M*	*SD*
Reporting about mothers:						
Sibling's needs	63	1.20	1.28	31	.60	.90
Age	81	1.56	.22	45	.88	1.19
Personal attributes	32	.53	.73	31	.55	.92
Family alliances	33	.62	1.28	28	.52	1.02
Sibling-driven behaviors	31	.58	.88	43	.82	1.22
Reporting about fathers:						
Sibling's needs	42	.76	1.19	19	.31	.74
Age	78	1.36	1.51	39	.71	1.10
Personal attributes	32	.58	.90	32	.55	.86
Family alliances	46	1.31	.18	29	.49	1.00
Sibling-driven behaviors	27	.49	.79	35	.64	1.10

48) = 8.45, $p < .01$. No other differences were found regarding the attributions of earlier- and later-born children.

To discern whether the respondent's gender played a role in their use of attributions to explain PDT, a series of one-way ANOVAs was performed in which the independent variable was sibling gender constellation (four levels). No effects for gender constellation were revealed with regard to any of the five attributional categories.

The Role of Children's Attributions about PDT in Moderating the Association between the Magnitude of PDT and Sibling Relationship Quality

A final question addressed in this research was whether associations between perceptions of PDT and sibling relationship quality are moderated by children's attributions about why PDT occurs. That is, we wished to know whether the associations between children's perceived sibling relationship quality and the magnitude of PDT[2] differed as a function of their reasoning about why it occurs.

Because children's uses of the five attributions were not normally distributed, they were each transformed into categorical variables that denoted either high use of the attribution (i.e., the child used the attribution at least once), or low use (i.e., the child never used the attribution). Correlations between sibling relationship quality and PDT were conducted separately within each attribution group. *R* to *z* transformations were used to compare the strength of the observed associations between the high and low attribution groups.

Sibling's needs. As shown in Table 5, later-born children in the low *sibling's needs* group tended to experience less sibling Warmth and Closeness as the perceived magnitude of PDT increased. Evidence for a disparate pattern was obtained for later-born children in the high *sibling's needs* group as reports of paternal PDT were positively correlated with Warmth and Closeness and reports of maternal PDT were unrelated to Warmth and Closeness. The *R* to *z* transformations indicated significant differences between the correlations obtained from the high versus low *sibling's need* groups when later-born children referred to PDT performed by their mothers, $z = 4.25$, $p < .001$, and fathers, $z = 7.59$, $p < .001$. Thus, more frequent references to a sibling's needs among later-born children were associated with perceptions of closer sibling relationships even when levels of paternal PDT were reported to be high.

A different pattern was found for earlier-born children as children in the low *sibling's needs* group reported a higher Status/Power differential in their sibling relationship in accordance with increasing PDT. This association was not significant for earlier-born children in the high *sibling's needs* group. The *R* to *z* transformations indicated that the difference between these correlations for the high versus low

2. In these analyses, the magnitude of PDT was considered to be the degree to which children felt that they and their sibling were treated differentially and did not take into account which child received favored treatment; thus, absolute rather than relative scores were used.

Table 5 Correlations between the Magnitude of PDT and Sibling Relationship Quality in Accordance with Children's Attributions (n = 61 Families)

	Earlier-Born Children Responding about				Later-Born Children Responding about			
	Maternal PDT		Paternal PDT		Maternal PDT		Paternal PDT	
Attribution	High (n = 34)	Low (n = 27)	High (n = 22)	Low (n = 39)	High (n = 21)	Low (n = 40)	High (n = 13)	Low (n = 48)
Sibling's needs:								
Sibling Warmth and Closeness	.21	−.05	.16	.19	.14	−.39**	.51*	−.40**
Status/Power	.04	.42*	.15	.39**	−.12	−.26	−.08	−.23
Conflict	−.48**	.29	−.34*	−.16	−.22	.27	−.53*	.08
	High (n = 39)	Low (n = 22)	High (n = 36)	Low (n = 25)	High (n = 25)	Low (n = 36)	High (n = 23)	Low (n = 38)
Age:								
Sibling Warmth and Closeness	−.09	−.41*	−.31	−.45*	−.38	−.44**	−.33	−.49**
Status/Power	.17	.33	.34*	.12	−.36	−.10	−.17	−.28
Conflict	.21	.09	.11	.27	.26	.18	−.01	.31*
	High (n = 24)	Low (n = 37)	High (n = 20)	Low (n = 41)	High (n = 21)	Low (n = 40)	High (n = 24)	Low (n = 37)
Personal attributes:								
Sibling Warmth and Closeness	−.46*	−.06	−.41*	−.22	−.21	−.42**	−.30	−.41**
Status/Power	.09	.41**	.14	.34*	.02	−.32	−.38	.09
Conflict	.48**	.13	.29	.17	−.04	.36*	.36	.01
	High (n = 18)	Low (n = 43)	High (n = 21)	Low (n = 40)	High (n = 17)	Low (n = 44)	High (n = 16)	Low (n = 45)
Family alliances:								
Sibling Warmth and Closeness	−.15	−.33*	.11	−.48**	−.20	−.33*	−.37	−.43**
Status/Power	.34	.22	−.03	.30	−.34	−.20	−.36	−.19
Conflict	.55**	−.03	.14	.22	.19	.22	.07	.24
	High (n = 22)	Low (n = 39)	High (n = 19)	Low (n = 42)	High (n = 22)	Low (n = 39)	High (n = 21)	Low (n = 40)
Sibling-driven behaviors:								
Sibling Warmth and Closeness	.07	−.36*	−.36	−.27	−.39	−.25	−.59**	−.36**
Status/Power	.06	.40**	−.02	.38**	−.30	−.22	−.32	−.19
Conflict	.32	.14	.56**	.11	.20	.15	.20	.19

Note: Brackets indicate a significant difference between correlations at $p < .05$.
* $p < .05$; ** $p < .01$.

sibling's needs groups was significant when earlier-born children referred to maternal, $z = 3.14$, $p < .001$, and paternal, $z = 2.01$, $p < .05$, PDT. Thus, whereas greater levels of PDT were associated with a larger status/power differential for earlier-born children in the low *sibling's needs* group, these variables were unrelated when children expressed high levels of the *sibling's needs* rationale.

In addition, estimates of sibling Conflict were negatively correlated with the magnitude of PDT for children in the high *sibling's needs* group. In contrast, there was a tendency for reported sibling Conflict to be unrelated to the magnitude of PDT when the use of the *sibling's needs* rationale was low. These correlations for the high and low *sibling's needs* groups were significantly different when earlier-born children were reporting about maternal PDT, $z = 2.02$, $p < .05$, and when later-born children were reporting about paternal, $z = 5.15$, $p < .001$, PDT. Thus, higher levels of the use of the *sibling's needs* rationale were associated with perceptions of less sibling Conflict in accordance with increasing levels of PDT.

In summary, associations between the magnitude of PDT and sibling relationship quality were quite different in accordance with children's high versus low use of the *sibling's needs* rationale. Across different levels of PDT, more favorable outcomes for sibling relationship quality were observed when children referred to a sibling's need to explain why their parents engaged in PDT.

Age. As shown in Table 5, earlier- and later-born children who rarely used the *age* attribution tended to experience less Warmth and Closeness as the perceived magnitude of PDT increased. Later-born children in the low *age* group also reported greater sibling Conflict as the magnitude of perceived paternal PDT increased. Only one correlation was significant for children in the high *age* group; earlier-born children who referred to the relative ages between siblings as the main reason for PDT reported a greater relative Status/Power differential in their sibling relationship with increasing paternal PDT. Thus, the most consistent finding relating to the use of the *age* attribution had to do with its absence: Children who did not cite *age* as an explanation for PDT reported lower levels of Warmth and Closeness in their sibling relationship when they perceived more PDT. Comparable associations between PDT and Warmth and Closeness were not significant for children who did use the *age* attribution.

Personal attributes. As also shown in Table 5, different patterns of associations between PDT and sibling relationship quality were found for children in the low versus high *personal attributes* groups in accordance with birth order. First, later-born children in the low group tended to report less Warmth and Closeness in accordance with increasing PDT. In contrast, earlier-born children in the high *personal attributes* group tended to report less Warmth and Closeness in accordance with increasing PDT.

Earlier-born children in the low *personal attributes* groups reported a higher Status/Power differential in the sibling relationship in accordance with increased PDT. This was significantly different from the correlation between maternal PDT and Status/Power for earlier-born children in the high *personal attributes* group, $z = 2.66$, $p < .01$. Similar associations were not evident for later-born children.

A different pattern of associations was also found for earlier- and later-born children when we examined the correlations between sibling Conflict and PDT with respect to high and low use of *personal attributes.* For earlier-born children in the high *personal attributes* group, sibling Conflict was positively correlated with the magnitude of maternal PDT. This correlation was significantly different from the corresponding correlation obtained from the low *personal attributes* group, $z = 3.02$, $p < .001$. In contrast, reports from later-born children revealed a positive correlation between sibling Conflict and the magnitude of maternal PDT for children in the low *personal attributes* group. This association was not found for later-born children in the high *personal attributes* group, $z = 3.21$, $p < .001$.

In summary, the pattern of correlations between PDT and sibling relationship quality in accordance with the low versus high use of the *personal attributes* attribution was different for earlier- and later-born children. For earlier-born children, the use of *personal attributes* was associated with less Warmth and Closeness and more Conflict (with regard to maternal PDT) in accordance with increasing levels of PDT. Low use of *personal attributes* by earlier-born children was linked with a greater Status/Power differential with increasing PDT. In contrast, low use of *personal attributes* for later-born children was associated with less Warmth and Closeness and more Conflict (for maternal PDT) in accord with increasing levels of PDT. Levels of Status/Power were unrelated to PDT regardless of whether later-born children used high or low levels of *personal attributes.*

Family alliances. Earlier- and later-born children in the low *family alliances* group consistently reported less Warmth and Closeness as the perceived magnitude of PDT increased. However, in only one case was this association found to be different from chil-

dren in the high *family alliances* group. In this case, earlier-born children in the high *family alliances* group provided a pattern of results in which Warmth and Closeness was unrelated to paternal PDT, $z = 4.87$, $p < .001$.

Earlier-born children in the high *family alliances* group reported more sibling Conflict in accordance with increases in perceived maternal PDT. This correlation was significantly different from the correlation obtained from the low *family alliances* group, $z = 4.98$, $p < .001$. Thus, low use of the *family alliances* attribution may be relatively adaptive for earlier-born children as they report levels of sibling conflict that are independent from their perceptions of maternal PDT. No significant associations were found for later-born children.

Sibling-driven behaviors. For earlier-born children in the low *sibling-driven behaviors* group, perceived maternal PDT was negatively correlated with reported sibling Warmth and Closeness. This was significantly different from the correlation obtained for earlier-born children in the high *sibling-driven behaviors* group, $z = 3.44$, $p < .001$. For later-born children, negative correlations between paternal PDT and sibling Warmth and Closeness were found for children in both the low and high *sibling-driven behaviors* groups. Interestingly, the correlation for the low group was less strong than for the high group, $z = 2.32$, $p < .01$. Thus, a tempering of the association between perceptions of paternal PDT and sibling Warmth and Closeness may occur when later-born children do not see their siblings as the cause of differential treatment.

Earlier-born children in the low *sibling-driven behavior* group also reported a greater Status/Power differential in their sibling relationship in accordance with increased PDT. This correlation was significantly different from those obtained from children in the high *sibling-driven behavior* groups when referring to maternal, $z = 2.80$, $p < .01$, and paternal, $z = 3.23$, $p < .001$, PDT. Thus, greater use of the *sibling-driven behavior* attribution by earlier-born children may be linked with a tempered association between the magnitude of PDT and sibling Status/Power differentials. No significant correlations were obtained using the reports of later-born children.

Finally, earlier-born children in the high *sibling-driven behaviors* group reported more sibling Conflict as the perceived magnitude of paternal PDT increased. This correlation was significantly different than one found for earlier-born children in the low *sibling-driven behaviors* group, $z = 4.02$, $p < .001$. Thus, in this case, reduced use of the *sibling-driven behavior* attribution by earlier-born children may be linked with a tempered association between the magnitude of PDT and sibling Conflict. These associations were not found for later-born children.

DISCUSSION

The results of this study strongly support the approach of looking beyond whether or not differential parental treatment occurs to more fully consider the significance that children place on these events. We cannot assume that the practice of parental differential treatment always has negative effects for children. In the current study, we found that children did not perceive PDT in two-thirds of the instances they reported about, and that 75% of the children who acknowledged that differential treatment was occurring in their homes did not find this to be "unfair." In fact, we found that there are some situations in which children acknowledge that parents treat children in the family differentially but still report satisfactory sibling relationships. As Kagan, Kearsley, and Zelazo (1978) and others who adopt social information processing frameworks have suggested, children are active constructors of their social environments. Thus, it may be children's construction of the meaning of parental behaviors, and not necessarily the behaviors themselves, that influence children's reactions.

Recent research on distributive justice gives us a useful framework for understanding the result that siblings do not generally object to unequal parental treatment. For example, Enright et al. (1984) have shown that children's distribution of resources may be highly influenced by the relationship between participants. Children are much more likely to use "benevolent," equity-based (rather than equality-based) decisions in hypothetical situations concerning family members than nonfamily members (McGillicuddy-De Lisi, Watkins, & Vinchur, 1994). Thus, it is not entirely surprising that children can often justify an unequal distribution of their parent's attention.

This research also extends prior knowledge by identifying some of the ways that children try to justify unequal parental treatment. Once children recognize that PDT is occurring, they may explore some of the ways that they and their sibling differ from one another that may lead their parent(s) to treat them differently. Children may view differences in their age, personal attributes, needs, relationship with their parents, or strategic behaviors as factors that may elicit PDT. In many cases, recognition of these differences may contribute to children's perspective

that PDT may be justified under particular conditions. Furthermore, children who perceived their parents' differential behavior to be justified generally appraised their sibling relationship to be more positive. Earlier-born children who perceived maternal PDT to be more fair reported less of a status/power differential in their sibling relationship. Earlier-born children who perceived paternal PDT to be more fair reported relatively more warmth and closeness and less conflict in their sibling relationship. Later-born children who perceived paternal PDT to be more fair also reported less conflict in their sibling relationship.

Different patterns of associations were found between the magnitude of PDT and sibling relationship quality in accordance with children's low and high use of the attributional categories. In general, the use of *age, personal attributes, family alliances,* and *sibling-driven behaviors* were associated in varying degrees with less warmth and closeness and more conflict, as perceptions of PDT increased. Low use of these attributions was also associated with less warmth and closeness, more conflict, and a greater status/power differential or was unrelated to sibling relationship quality. In contrast, when children used the *sibling's needs* attribution, PDT was related to more Warmth and Closeness (for later-born children) and less sibling Conflict (for earlier-born children and later-born children referring to paternal PDT). Significant differences in the correlations between the perceived magnitude of PDT and the high and low use of the *sibling's needs* attribution suggests that children's ability to take the perspective of others and to respond empathically to complex family relationship situations may have the potential to mitigate the possible undesirable effects of differential treatment. However, the correlational nature of this study makes the exact interpretation of these data ambiguous; alternate explanations are possible. That is, it is possible that some qualities of children (e.g., personality characteristics or temperamental qualities, for example) or properties of the sibling relationship may trigger particular parental responses. For example, parents may be more likely to engage in differential treatment when they perceive their children to be relatively more mature, empathic, or capable of managing sibling conflict.

The results of this study also point to the importance of birth order and developmental level for understanding children's perspectives on complex family relationships. Earlier-born children were more likely than younger children to acknowledge the presence of PDT in their families. Thus, elder children may be more aware of and may be more sensitive to differential processes (Reid, Ramey, & Burchinal, 1990) and may devote more energy toward trying to understand why these processes occur in their families. Alternately, earlier-born children may possess more sophisticated verbal skills with which to describe differential processes to others. Elder siblings were also more likely than younger siblings to use rather sophisticated attributions to explain parental differential treatment, such as an understanding of a sibling's need. Although early psychoanalytic theories (e.g., Levy, 1937) would lead us to expect that elder children would be the most resentful about differential treatment of them and their younger sibling by parents, their ability to justify PDT as occurring in the service of meeting one of their sibling's needs suggests that they are not solely motivated by feelings of jealousy and resentment.

On a practical level, results of this study support the view that children may not necessarily be adversely affected by PDT if they have some mechanisms for interpreting these behaviors adaptively. This finding also suggests that, in certain circumstances, it may be legitimate for parents to place less pressure on themselves to treat their children exactly the same. In fact, under certain conditions, children may view equal treatment across siblings as inappropriate. Thus, open discussions between parents and children about differential treatment may be helpful for clarifying, and perhaps modifying, children's attributions and parental intentions and goals.

Several limitations of the current research need to be addressed. First, this study investigated only two dimensions of PDT: differential affection and control. There may be additional ways that parents treat children differentially that are salient, such as spending different amounts of time together. Second, participants were demographically homogeneous and thus the results may not be generalizable to families who have a different structure, ethnic background, or socioeconomic status. A third limitation is that the children who were interviewed in this study were often not the only children in their family. The contributions of birth order and family characteristics over and above the relative ages of the target children are not addressed. The measures of PDT and sibling relationship quality used in this study were all based on self-report. Whereas this may be perceived as a limitation of this study, we believe that this was appropriate given the stated research objective to assess children's perceptions of family relationships. However, it would be helpful to include additional independent measures of parent-child and sibling relationship processes in future research.

A fourth issue that may limit the generalizability of these results is the possibility that the participants'

reports were influenced by social desirability. Precautions were taken to minimize socially desirable responding in this study. However, one way to address the issue of social desirability in future research would be to assess children's general tendencies to respond in a socially desirable fashion and to subsequently control for desirable responding in a multivariate or covariate analysis. Alternately, it may be profitable to study this phenomenon with groups of children who by virtue of their family situation or developmental level may be in clear need of greater parental attention or control. Children in these situations may be more willing to address the unfair nature of their treatment. This may enable researchers to study a range of complex attributions about PDT for children in diverse family situations.

Future research should adopt a broader lens in examining PDT. It is important to appreciate that in some families, expectations and guidelines about parents' relationships with each of their children may be derived from a very different set of assumptions. Whereas there is an assumption in North American families that parents should strive to treat their children as similarly as possible (Faber & Mazlish, 1987), there may be strong expectations for individual siblings in other societies to adopt divergent roles (Zukow, 1989). Parental differential treatment may be used strategically in these cultures to facilitate this process.

In summary, children are often sensitive to their parents' treatment of themselves and their siblings and form attributions about what these events signify and how these patterns have emerged over time. The results of this study should help to support parents in their attempts to achieve the delicate balance of treating their children fairly and equitably while at the same time meeting their individual needs.

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REFERENCES

Brody, G. H., Stoneman, Z., & McCoy, J. K. (1992). Associations of maternal and paternal direct and differential behavior with sibling relationships: Contemporaneous and longitudinal analyses. *Child Development, 63,* 82–92.

Brody, G. H., Stoneman, Z., McCoy, J. K., & Forehand, R. (1992). Contemporaneous and longitudinal associations of sibling conflict with family relationship assessments and family discussions about sibling problems. *Child Development, 63,* 391–400.

Bryant, N., & Crockenberg, S. (1980). Correlates and dimensions of prosocial behavior: A study of female siblings with their mother. *Child Development, 51,* 529–544.

Conger, K. J., & Conger, R. D. (1994). Differential parenting and change in sibling differences in delinquency. *Journal of Family Psychology, 8,* 287–302.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115,* 74–101.

Daniels, D., & Plomin, R. (1985). Differential experience of siblings in the same family. *Developmental Psychology, 21,* 747–760.

Enright, R. D., Bjerstedt, A., Enright, W. F., Levy, V. M. Jr., Lapsley, D. K., Buss, R. R., Harwell, M., & Zindlar, M. (1984). Distributive justice development: Cross-cultural, contextual, and longitudinal evaluations. *Child Development, 55,* 1737–1751.

Faber, A., & Mazlish, E. (1987). *Siblings without rivalry.* New York: Avon.

Furman, W., & Buhrmester, D. (1985). Children's perceptions of the qualities of sibling relationships. *Child Development, 56,* 448–461.

Graham, S., & Folkes, V. S. (1990). *Attribution theory: Applications to achievement, mental health, and interpersonal conflict.* Hillsdale, NJ: Erlbaum.

Kagan, J., Kearsley, R. B., & Zelazo, P. R. (1978). *Infancy: Its place in human development.* Cambridge, MA: Harvard University Press.

Levy, D. M. (1937). Studies in sibling rivalry. *Research Monographs, American Orthopsychiatric Association* (No. 2).

McGillicuddy-De Lisi, A. V., Watkins, C., & Vinchur, A. J. (1994). The effect of relationship on children's distributive justice reasoning. *Child Development, 65,* 1694–1700.

McHale, S. M., Crouter, A. C., McGuire, S. A., & Updegraff, K. A. (1995). Congruence between mothers' and fathers' differential treatment of siblings: Links with family relations and children's well-being. *Child Development, 66,* 116–128.

McHale, S. M., & Pawletko, T. M. (1992). Differential treat-

ment of siblings in two family contexts. *Child Development, 63*, 68–81.

Reid, M., Ramey, S. L., & Burchinal, M. (1990). Dialogues with children about their families. *New Directions for Child Development, 48*, 5–27.

Robinson, J., Case, C., & Corley, R. (1990, April). *Maternal differential treatment: Effects on the developing twin relationship.* Paper presented at the International Conference on Infant Studies, Montreal.

Sigelman, C. K., & Waitzman, K. A. (1991). The development of distributive justice orientations: Contextual influences on children's resource allocations. *Child Development, 62*, 1367–1378.

Stocker, C., Dunn, J., & Plomin, R. (1989). Sibling relationships: Links with child temperament, maternal behavior, and family structure. *Child Development, 60*, 715–727.

Volling, B. L., & Belsky, J. (1992). The contribution of mother-child and father-child relationships to the quality of sibling interaction: A longitudinal study. *Child Development, 63*, 1209–1222.

Zukow, P. G. (1989). *Sibling interaction across cultures.* New York: Springer-Verlag.