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Distributive Justice Development: Cross-cultural, Contextual, and Longitudinal Evaluations

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ENRIGHT, ROBERT D.; BJERSTEDT, ÅKE; ENRIGHT, WILLIAM F.; LEVY, VICTOR M., JR.; LAPSLEY, DANIEL K.; BUSS, RAY R.; HARWELL, MICHAEL; and ZINDLER, MONICA. *Distributive Justice Development: Cross-cultural, Contextual, and Longitudinal Evaluations.* CHILD DEVELOPMENT, 1984, **55**, 1737–1751. The development of distributive justice was examined with the Distributive Justice Scale (DJS) in 3 studies. In Study 1, 176 children, ages 7, 9, and 11, from Sweden and the United States were given the DJS and 2 Piagetian logical reasoning tasks. Significant age trends in DJS scores and the relation with logical reasoning were comparable in the 2 cultures. In Study 2, 75 5- and 7-year-old children were given the standard peer DJS and a comparable family DJS to assess reasoning in different contexts. Family stimuli elicited higher levels of reasoning than peer stimuli. In Study 3, 84 6- and 9-year-old children were administered the DJS twice at 1-year intervals. Age trends with no cohort biases were found. Implications for distributive justice research are drawn.

Distributive justice development describes a child's progressive understanding of what constitutes fair criteria for the distribution of goods. This positive justice domain was first recognized by Damon (1975), and it has attracted much empirical interest in recent years. It is hypothesized that distributive justice follows an orderly stage sequence. In the first stage, 0-A, the child believes that whoever wants the most money or goods should have it. In stage 0-B, the child is said to base distributive decisions solely on external characteristics. For example, the *oldest* or *tallest* child should get more than the other children. In the next stage, 1-A, the child believes that everyone should receive the same amount, regardless of qualifying characteristics. In stage 1-B, the child rewards effort and bases decisions on behavioral reciprocity. In other words, the child believes that those who work harder or do more should receive more. In stage 2-A, the child distributes according to

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need or psychological reciprocity. Finally, in stage 2-B, the individual recognizes the importance of both behavioral and psychological reciprocity, and therefore seeks a compromise between these justice claims.

The distributive justice construct is supported by a number of studies with quite different methodologies. Damon (1980), for example, provided longitudinal evidence for the sequence using the *method clinique*. Others (Enright & Sutterfield, 1980) have examined the relation between distributive justice, using the same method, and competent social behavior in a natural environment. Support for the construct is further seen in studies including an objectively scored and standardized oral assessment in which distributive justice was found to relate not only to Piagetian logical development (Enright, Franklin, & Manheim, 1980), but also to social class and peer nominations as well (Enright, Enright, & Lapsley, 1981).

While these studies provide encouraging support for the construct, they do not exhaust the need for validation. It is necessary, for example, to provide thorough cross-cultural evidence to establish the generality of the construct. To this end we have examined distributive justice among Swedish and American children (Study 1). The samples were chosen because there is reason to believe that distributive norms are quite different in the two cultures. Popular writings have made clear that distributive decisions in Sweden are largely based on criteria of need (e.g., Fleisher, 1967), while the distributive ethic in the United States is one of competition and reward for initiative.

A second unexplored issue concerns the context within which distributive decisions are made. Existing evidence suggests that the moral context has a determinate influence on the level of moral reasoning observed in children's thinking (Larson & Kurdek, 1979; Leming, 1978; Levine, 1979). Leming (1978), for example, found that children scored at lower levels of justice reasoning on practical as opposed to hypothetical dilemmas. Although Damon (1977) has similarly pursued contextual variation based on hypothetical and practical dilemmas in the distributive justice domain, there has yet been no investigation of other areas of contextual variation, namely, family and peer contexts. Hence, in Study 2 we compared children's distributive decisions in these two contexts. The theoretical justification for choosing these contexts will be elaborated in that section.

Finally, in Study 3, we attempted to assess distributive justice reasoning longitudinally in two different cohorts. The traditional longitudinal design is limited to the extent that development may be idiosyncratic to a particular cohort. A more complete picture emerges with the use of a longitudinal sequence in which two different cohorts representing identical age periods are simultaneously examined in the same design. One can then examine replications and the rate of growth rather than idiosyncratic sampling variations.

Study 1

A first study was designed to assess the cross-cultural generality of the distributive justice contruct. This type of evidence is of interest because of the universality claims that accompany structural developmental sequences. For distributive justice, the most sensitive test of such a claim would be in a society where the political system contains sanctions affording different norms of social distribution. For this reason we chose Sweden. Sweden's culture has been characterized as the "great middle way"—a society that is both socialistic and capitalistic. Over 90% of all trade and industry are in private hands, yet the government provides a vast social welfare program that emphasizes the varying needs of each citizen. In addition to free public education through university and vocational schools, free medical care, and full unemployment and pension benefits, the state provides each family with an allowance for every child under 16 and for each older child in secondary school and university. Housing and furnishing allowances and even money for family vacations are available depending on need (see *The New Encyclopaedia Britannica*, 1979, s.v. "Sweden"). While one could characterize the U.S. distributive norm as "to each according to his effort," the distributive norm in Sweden is clearly "to each according to his needs."

The principle question of interest was to determine whether the age-related trends are similar in both cultures, or whether the observed sequences are peculiar to a particular distributive ethos. We were also interested in determining the strategic priority among logical and justice structures. Structural developmentalism assumes that Piagetian logical structures set limits on moral reasoning (Enright et al., 1980; Gilligan & Kohlberg, 1978). If this assumption has cross-cultural generality, then we should observe the same general mechanism and process of development operating in both cultures. Should this assumption

be violated, then one could not avoid the conclusion that logical and social cognitive development are either orthogonal processes or that the putative relationship between logical and social development reflects a cultural bias. This would call into question the extant view that the relation between logical and social development is one of "necessity, but not sufficiency" (Selman & Damon, 1975).

Subjects.—Subjects in the American sample consisted of 87 elementary and middle-school children. There were 29 7-year-olds (M = 7.5 years, range = 7–8), 14 males and 15 females; 29 9-year-olds (M = 9.4 years, range = 9–10), 14 males and 15 females; and 29 11-year-olds (M = 11.6 years, range = 11–12), 15 males and 14 females. The children were in the second, fourth, and sixth grades of school, respectively. At each age one subject's data were omitted because a task could not be completed owing to the child's absence.

The Swedish educational system is such that first graders there are the age equivalents of U.S. second graders. Because of rather intensive education in these early years, the educational experiences for a Swedish first grader are roughly comparable to those of a U.S. second grader (Bjerstedt, personal communication). In the Swedish sample, 89 middle-class children participated. There were 29 7-year-olds (M = 7.7 years, range = 7–8), 14 males and 15 females; 30 9-year-olds (M = 9.8, range = 9–10), with equal numbers of boys and girls; and 30 11-year-olds (M = 11.9, range = 11–12), again balanced by gender. The children were in the first, third, and fifth grades of school, respectively. One first-grade boy's data were omitted since he did not complete the distributive justice measure.

Both samples were drawn from roughly equivalent communities. They are both centers of government and education and of comparable size, approximately 150,000 people. In addition, the children were drawn from largely middle-class families in both countries.

Instruments.—To assess distributive justice, a standardized measure, the Distributive Justice Scale (Enright et al., 1980; Enright, Note 2), was selected to insure equivalent assessments across cultures. The Distributive Justice Scale (DJS) is an objectively scored paired-comparisons test. In contrast to Damon's (1975) production task, this is a recognition task. Two distributive dilemmas are presented. After each is presented, the child is shown 15 pairs of pictures and statements. Each picture and accompanying statement represent a particular stage of distributive justice reasoning. For each pair of pictures, the child is asked to determine which picture (stage) better ends the story.

For example, a teacher lets four children in the same classroom make paintings that they sell for some nickels. The subject must decide how to split up the nickels among the children in the story who possess the following characteristics: Sue wanted the nickels more than the others (Stage 0-A), Jim was the biggest (Stage 0-B), Mary made the most pictures (Stage 1-B), and Billy was poor (Stage 2-A). Each of the 15 pictures has Jim in the upper left, Billy in the upper right, Mary in the lower left, and Sue in the lower right. Each stage picture is distinguished by the number of nickels placed next to the child. For instance, for the Level 0-A picture, Sue has five nickels, and the rest have one. For the 2-B picture, Mary has three nickels, Billy has three, and the rest have one; this shows the compromise between hard work and need. For 1-A, all have two nickels. Statements accompany each picture. For the 1-A example, the experimenter says, "In this picture, all children get the same number of nickels so there won't be any fights about who gets more."

The order of picture pairing is randomized, and within each pair the decision as to which stage is presented first is also randomized to control for order effects. Statements accompanying each picture are equated for length. Besides the 15 pairings per dilemma, three pairs are repeated to check for consistency. The repeated pairs are presented in reverse order of their original pairings to control for primacy or recency effects. If the child does not pass three of the six repeats (at least one per dilemma), he or she should be omitted; no child in this study, however, was omitted by this procedure. Total administration time is approximately 12–15 min per child.

The DJS is scored by selecting the child's preferred stage via the picture comparisons for each dilemma. If a triangular relationship emerges (e.g., 2-A > 1-B; 1-B > 1-A; 1-A > 2-A), the lowest stage of the triangle constitutes the child's stage for that dilemma. The final score is obtained by converting the stages into numerical values (e.g., 0-A = 0; 0-B = .5; etc.) and taking a mean of the two dilemmas. Detailed examples of scoring can be found in Enright (Note 2). There is adequate construct validity for the DJS. In three initial validation studies, it has shown strong developmental

age trends, a significant relationship with Piagetian reciprocity tasks, a minimal relationship with verbal ability, and a replication in an African culture. The internal consistency reliability has been shown to be adequate for the range of ages reported in this and all subsequent studies (Enright et al., 1980; Enright, Note 2).

For the logical reasoning tasks, the classic Piagetian tasks of liquid and mass conservation (Flavell, 1963) were given to each child. Liquid conservation involves pouring water from one size beaker into another size, thus transforming shape, but not quantity. The child must decide which beaker has more liquid. Strict scoring on a pass-fail dimension was used; the child had to clearly state that liquid quantity was conserved in the liquid transfer. Mass conservation involves transforming one of two ball-shaped masses of clay into an oblong-shaped mass. Again, strict pass-fail criteria were used for the child's responses to which mass has more clay. Both were given so that the logical and social reciprocity relation, if found with one Piagetian task, could be replicated with the other.

Procedure.—For the purposes of this study, the DJS was translated into Swedish. The original pictures were judged appropriate by a Swedish professional in developmental psychology and hence retained. Three Swedish examiners were trained using detailed administration instructions (see Enright, Note 2). All examiners practiced the procedure first with adults and then with children (two at each appropriate grade level) before beginning the study. Within the DJS the order of dilemmas was randomized, as were the liquid and mass components of the logical reasoning task. The order of presentation of the DJS and logical reasoning tasks was also randomized. For the American subjects, a similar procedure using the standard DJS and logical reasoning tasks was used.

Results and discussion.—Internal consistency was adequate. The percentage of time American children matched stage on the two DJS dilemmas was 65% (significantly different from chance at $p < .05$ by the binomial z statistic). For the Swedish children, the internal consistency was 51%, also significant, $p < .05$.

Distributive justice development was examined in a 3 (age) × 2 (country) × 2 (gender) ANOVA design. The main effects for age, $F(2,164) = 12.00$, $p < .001$, and for gender, $F(1,164) = 6.60$, $p < .05$, were both significant. The important variable for country was not significant; both groups of children developed in a similar way. There were no significant interactions. To further examine the age effects, we used post-hoc Scheffé contrasts at $p < .05$ collapsed across countries because no interactions between grade and country were found. The analysis revealed that the 7-year-olds were significantly different from the 11-year-olds, and the 9-year-olds were also significantly different from the 11-year-olds. Means and standard deviations are in Table 1.

The next analysis examined the relation between distributive justice reciprocity and logical reciprocity. A point-biserial correlation could not be performed here, since the great majority of sixth graders had passed both conservation tasks, leaving no variability in these scores. To eliminate any ceiling biases and to test the hypothesis that Piagetian logical reciprocity precedes social cognitive reciprocity, contingency tables such as Table 2 were constructed. Logical reciprocity is defined as the child's passing a test of conservation, whereas social reciprocity is defined as the child's distributive justice total score being 1.5 or higher. Only at 1.5 does the subject child begin to compensate individuals for special characteristics they have, thus showing reciprocity for those characteristics. Table 2 shows the presence or absence of both logical and social reciprocity across age. The relation is shown with both liquid and mass conservation. The two logical domains were not collapsed to allow for a direct comparison with similar data for younger children in Enright et al. (1980).

A previous study (Enright et al., 1980) had shown that as children develop from kindergarten through fourth grade, they progress from the lower right cell (showing neither kind of reciprocity) in kindergarten, to the lower left cell (showing logical reciprocity only) in second grade, and the upper left (both reciprocities) in the oldest group. Few, as expected, progressed to the "error" cell in the upper right, where social but not logical reciprocity is realized. When this happened, it tended to occur in the youngest group. As Table 2 shows, the data for both liquid and mass conservation in both countries suggest the expected trend. The 7-year-olds are primarily in the lower left cell, and the 11-year-olds are primarily in the upper left cell.

To test this, multinomial analyses were performed on the dichotomous responses across age for liquid conservation and distributive justice within each country. First, in the American sample, the shift from the pass logical and fail social reciprocity cell to the

TABLE 1

MEANS AND STANDARD DEVIATIONS FOR THE DISTRIBUTIVE JUSTICE SCALE IN THE UNITED STATES AND SWEDEN

	UNITED STATES			SWEDEN			COUNTRIES COLLAPSED		
AGES	Male	Female	Total	Male	Female	Total	Male	Female	Total
7 years:									
$\bar{X}$	1.33	1.31	1.32	1.41	1.03	1.21	1.37	1.17	1.26
SD	.46	.42	.43	.44	.33	.43	.45	.37	.41
N	14	15	29	14	15	29	28	30	58
9 years:									
$\bar{X}$	1.67	1.15	1.40	1.50	1.46	1.48	1.58	1.30	1.44
SD	.60	.28	.53	.57	.49	.52	.58	.38	.48
N	14	15	29	15	15	30	29	30	59
11 years:									
$\bar{X}$	1.91	1.75	1.83	1.63	1.60	1.61	1.77	1.67	1.72
SD	.58	.53	.56	.69	.37	.54	.63	.47	.54
N	15	14	29	15	15	30	30	29	59

TABLE 2

RELATIONS BETWEEN LOGICAL AND DISTRIBUTIVE JUSTICE RECIPROCITY IN AMERICA AND SWEDEN

DISTRIBUTIVE JUSTICE RECIPROCITY	LOGICAL RECIPROCITY			
	Liquid Conservation		Mass Conservation	
	Pass	Fail	Pass	Fail
America:				
Second grade:				
Pass	6	5	7	4
Fail	13	5	15	3
Fourth grade:				
Pass	11	2	12	1
Fail	13	3	15	1
Sixth grade:				
Pass	20	1	20	1
Fail	8	0	8	0
Sweden:				
First grade:				
Pass	5	5	6	4
Fail	11	8	15	4
Third grade:				
Pass	16	0	15	1
Fail	12	2	12	2
Fifth grade:				
Pass	18	2	20	0
Fail	10	0	10	0

pass logical and social cell was examined. This was tested by comparing the proportion in each of these two cells at age 7 versus the proportion at age 11. A complete pairwise procedure including 9-year-olds was not done so that the alpha level could remain at $p < .05$ while still examining a monotonic trend. The z statistic showed significance (3.53, the critical value being 1.645). This suggests a shift from passing only logical reciprocity to passing both with age. The same pattern was replicated with mass conservation, $z = 3.71$, $p < .05$. The Sweden data replicated the American data, for liquid, $z = 2.57$, $p < .05$, and for mass, $z = 3.45$, $p < .05$. These data show that Piagetian logical reciprocity tends to precede the development of distributive justice reciprocity in both cultures. By the end of childhood, the majority of subjects have developed both reciprocities.

The pattern of results is interesting. Both the Swedish and American samples show similar developments in distributive justice reasoning. This is true not only for the sequence of development, but also for the fact that logical development tends for the most part to precede and set limits on reasoning in the distributive domain. Thus, the universality claim of structural development finds support in the distributive justice domain. One issue worthy of attention is that the logical reasoning and distributive justice link is not quite as strong in the youngest group as in the older. This may be due to measurement error, but it may also be the case that the putative relation between logical and social development does not obtain quite so well prior to a certain level of development. As a speculation, once concrete operations are well established they may then guide social reasoning. Before such operations are established, social reasoning may not be as dependent on logical reasoning. One puzzling finding in this study was the significant main effect for gender. We believe that an interpretation of this effect is premature. No gender effects have ever been found in distributive justice with any measure, including the DJS. In addition, Studies 2 and 3 here do not show gender effects. Only if gender were to emerge as a significant source of variance in future studies would interpretive speculation be warranted.

Study 2

The results of Study 1 revealed that children in both Sweden and the United States show similar patterns of distributive justice reasoning in spite of differences in cultural

ethos regarding distribution. It is important to ask, however, whether the observed pattern of distributive justice development is subject to more immediate contextual variation than culture. Indeed, reasoning differences as a function of context are now a vital part of cognitive and social cognitive development (e.g., Ackerman, 1982; Bearison & Gass, 1979; Erkut, Jaquette, & Staub, 1981; Levine, 1979).

While most investigations of distributive justice development have asked children to make distributive decisions in a peer context, there is reason to believe that a family context may exert a differential influence or "pull" on observed levels of distributive justice reasoning. In particular, the family context should be expected to pull toward an understanding of need, while the peer context should favor the equity norm (Lerner, 1974). This is so because distribution based on need may be more pertinent in the home, whereas equity and competition may be more characteristic of peer or work settings. This suggestion was supported by Peterson (1975) in a nondevelopmental study. She found that subjects given normative family dilemmas favored need as the distributive criterion, while subjects given peer dilemmas found equitable solutions. The purpose of Study 2 was to examine this possible source of contextual variation in a developmental study. We hypothesized that children exposed to distributive dilemmas in a family context would more often favor need than when dilemmas occurred in a peer context.

This prediction may seem counterintuitive for two reasons. First, contextual variations are thought to be precluded by structured whole, invariant sequence, and hierarchical integration stage assumptions. However, these assumptions are not thought to apply rigidly to the distributive justice sequence (Damon, 1975, 1980). However, it can also be argued that, contrary to our prediction, the influence of family context may operate to reinforce heteronomy and adult constraint, since the distributive decisions are likely made by parents. In addition, reciprocity is thought to develop first in peer contexts. Thus, the intuition, based on Piaget (1932), is to expect more advanced levels of reasoning in the peer as opposed to the family context, which is the reverse of our prediction. However, Piaget (1932) argues not only that justice reasoning cannot be arranged in a strict sequence (pp. 193, 284), but that it may also be affected by family upbringing or social milieu (p. 210). Piaget (1932) argues that the heteronomous respect for adults can be attenuated by child-rearing practices, particularly those practices that emphasize reciprocity or other more advanced justice principles. We contend, as does Lerner (1974), that distributive decisions in the home are more likely to emphasize the individual needs of the family members than equality or equity. For example, if a child requires a new pair of shoes, it is unlikely that parents will buy shoes for every child in the family, or require that the child somehow deserve their buying it. Hence, we do not believe that family distributive practices necessarily reinforce adult constraint, but may rather exert a pull in the direction of need-based distributive criteria.

In sum, if the development of distributive justice is attenuated by contextual variables, we would expect that: (*a*) distributive justice development varies with distributive context; (*b*) the family context exerts a "pull" on distributive reasoning in that consideration of need is favored in a family but not a peer context; and (*c*) based on knowledge of distributive justice development, context alone may not determine need judgment, but instead an interaction of context and developmental constraints may be occurring. In other words, young children may show more complex reasoning in a family than in a peer context, but reasoning in the former setting may not involve need and thus may still be lower than Levels 2-A or 2-B. The purpose of this study was to explore these ideas in a developmental study of distributive justice reasoning about peers and family.

Subjects.—Seventy-five predominantly white and middle-class 5-year-old and 9-year-old children (kindergarten and third grade) participated. There were 35 5-year-old subjects (M = 5.8, range = 5–6), 17 males and 18 females, and there were 40 9-year-old subjects (M = 8.7, range = 8–10), equally distributed by gender. The majority of the children were from intact, nuclear families. In the kindergarten sample, five children originally tested were not included because of inconsistency on the DJS.

Instruments.—Two versions of the DJS were used, one being the standard version with peers and the other consisting of family dilemmas. The peer DJS was the same as in Study 1. The family DJS was similar to the peer DJS. An example of a family story follows:

This is the Jones family. This is the father who is a hard worker. This is the mother; she is the oldest member of the family. This is their son Bob who is just about your age and in the first grade. And this

is his older brother John who needs some money because he will be going on an important field trip soon. One day the family was trying to think of a project they could all do together. They decided it would be fun to go for a hike and pick berries. When they were all done, father worked hardest and picked 4 baskets of berries, mother picked 2 baskets of berries, their son Bob picked 2 baskets of berries, and his older brother John picked 2 baskets of berries. They brought the berries to the side of the road and sold their berries at a roadside stand and got a lot of nickels. The family had to decide how to split up the nickels. What do you think is the best way to split up the nickels?

Remember—the father worked the hardest in picking the most berries, the mother is the oldest person in the family, Bob wanted those nickels more than anyone else in the family, and John was going on an important school trip and needs the nickels most.

It should be noted that the conditions of "hard worker," "need," "oldest," and "want" were randomly assigned to characters on this and the other dilemma. The exception to this is that, for example, the same character could not be assigned as "hard worker" on both dilemmas. Also, of course, only father or mother were eligible for "oldest." If we had not randomized but instead had kept the same characters with the same conditions, a child who picked the father for the most reward across both dilemmas would appear to be at stage 1-B (child rewards hard work). This would occur even though the child may have chosen the father for a reason other than his being a hard worker. Our randomization procedure eliminated this potential source of measurement error.[1] Other cautions that exist in the peer DJS were built in here—namely, equivalent length of statements across stages read to the children, the use of a consistency check, varying the oldest character (father is oldest in the other dilemma), randomized ordering of pictures on the page, and randomized ordering of picture pairs.

One difference between the family and peer DJS was in the use of different forms. To emphasize the nature of a family, we always had one child in the pictures with the same gender and age as the subject child. Because age and gender of the other sibling may influence the subject child's responses, we systematically varied the other sibling in four possible presentations for males and four possible for females. The eight variations are in Table 3. Each child was randomly assigned to one of the four conditions depending on his or her gender in a blocking design. Therefore, approximately equal numbers of subjects were represented across the eight conditions.

Procedure.—To control for order effects, the following conditions were counterbalanced across age and gender: (1) both peer stories followed by both family; (2) both family, then both peer; (3) peer, family, peer, family.[2] Approximately one-third of the children in each of the eight cells of Table 3 were randomly assigned to one of the three conditions.

Approximately half the children (approximately equal numbers of males and females) were individually administered the tasks by an adult white male, and the other half by an adult white female. Both interviewers were trained in the administration of the DJS and both were blind to specific ideas being explored in the study.

Results and discussion.—Internal consistency again was adequate. The percentage of time children matched stage on the two peer DJS dilemmas was 54% (significantly different from chance at $p < .05$ by the binomial z statistic). The internal consistency for the family DJS was 38% ($p < .05$). Because differences across different DJS contexts would be compared, we first assessed synchrony within each DJS context. Synchrony within peer dilemmas was strong (.70 via the Spearman-Brown formula), and there were no mean differences between the peer dilemmas via a repeated-measures t test. The family dilemmas were also strongly related to each other (.55 via the Spearman-Brown formula) and showed no differences via the repeated-measures t test.

To test the strength of the relation between reasoning in the peer and family areas, a zero-order correlation and a partial correlation (with age) were run. Both were strong and significant (.56, $p < .001$, and .40, $p < .001$, respectively). Although these analyses in isolation might suggest synchronous development, repeated-measures analyses suggest otherwise.

[1] No randomization procedure could prevent the child from choosing father both times. This is a problem with all forced-choice tests. But, on the second dilemma, father's condition was Level 0-B (biggest); thus, the child's choosing father both times would reduce the child's score and reduce reliability of the instrument, and if this happened often, the low reliability would lead to an abandonment of further analyses.

[2] This condition actually had four variations, as follows: (*a*) peer, family, peer, family; (*b*) family, peer, family, peer; (*c*) family, peer, peer, family; and (*d*) peer, family, family, peer.

TABLE 3

VARIATIONS IN THE FAMILY DISTRIBUTIVE JUSTICE SCALE PICTURES

Male Subjects	Female Subjects
1. One sibling = same age and gender as *S*;[a,b] other sibling = older brother (*N* for this condition = 9)	5. Other sibling = older brother (*N* = 9)
2. Other sibling = younger brother (*N* = 9)	6. Other sibling = younger brother (*N* = 10)
3. Other sibling = older sister (*N* = 10)	7. Other sibling = older sister (*N* = 10)
4. Other sibling = younger sister (*N* = 9)	8. Other sibling = younger sister (*N* = 9)

[a] Because all conditions contained a pictured sibling who was the same age and gender as the subject child, it will not be referred to in the other seven conditions here.

[b] Older siblings were always larger and the younger were always smaller than the same age/same gender child pictured.

TABLE 4

MEANS AND STANDARD DEVIATIONS FOR THE PEER AND FAMILY DISTRIBUTIVE JUSTICE SCALES

	PEER DJS			FAMILY DJS		
GRADE	Male	Female	Total	Male	Female	Total
Kindergarten:						
$\bar{X}$	.69	.65	.67	1.05	.92	.98
SD	.68	.68	.67	.70	.58	.64
N	17	18	35	17	18	35
Third grade:						
$\bar{X}$	1.41	1.48	1.45	1.60	1.71	1.65
SD	.51	.63	.57	.63	.53	.58
N	20	20	40	20	20	40

To test the differences between peer and family DJS, a 2 (age) × 2 (gender) × 3 (order of dilemmas) × 2 (peer DJS vs. family DJS as the repeated measure) repeated-measures ANOVA was run.[3] There were two significant results: the main effect for age, $F(1,63) = 38.22$, $p < .001$, and the main effect for the repeated measure favoring the family DJS over the peer, $F(1,63) = 10.24$, $p < .002$. No interactions reached significance. See Table 4 for means and standard deviations. The results show that not only do both peer and family DJS scores advance with age, but also the family DJS is significantly higher at each age. That is, while there was a developmental advance from age 5 to age 9 within either context, the family context generated consistently higher distributive justice scores at each age, as Table 4 indicates. The repeated-measures analyses, then, suggest a systematic asynchrony, with reasoning about family advancing ahead of reasoning about peers. Further, one cannot claim that subjects were using conventional rather than justice reasoning in that they usually chose father or mother regardless of the stage they represented in a given dilemma. Among the 5-year-olds, for example, 12 children chose mother on the berry-picking

[3] Order of dilemmas refers to the following three presentation patterns: (1) both peer dilemmas followed by both family; (2) both family followed by both peer; and (3) the splitting of peer and family dilemmas. For each of the three conditions, the four dilemmas were averaged to test the main effect of condition. It was thought necessary to test this because family DJS was expected to be higher, and therefore both family dilemmas being presented first may bias the subsequent peer scores. Conversely, peer first may depress subsequent family scores. As the ANOVA shows, no such bias occurred. The level of analysis was not brought down to the eight conditions in Table 3 because of small cell sizes.

dilemma when she represented stage 0.5; only four chose her when she represented stage 2.0 on the other dilemma. Among the 9-year-olds, none chose mother when she represented stage 0.5, while 16 chose her on the 2.0 response. Similar patterns accrued for father across ages and dilemmas.

As expected, distributive justice reasoning in a family context leads to higher development than such reasoning in a peer context. Among the 5-year-olds, peer reasoning is closer to Level 0-B, whereas family reasoning is closer to Level 1-A, where equality is stressed. Among the 9-year-olds, peer reasoning is closest to Level 1-B, or behavioral reciprocity, whereas family reasoning includes both behavioral reciprocity (Level 1-B) and need (Level 2-A) as the basis of distribution. Thus, a family context pulls children to higher stages than does a peer context. This is consistent with the social-psychological findings that families operate at a higher justice level than do peer groups (Peterson, 1975).

Several conclusions are suggested from the data. First, the claim of contextual synchrony in social cognitive development is often made by examining significant correlations (see Enright & Lapsley, 1980; Urberg & Docherty, 1976). As the present study suggests, an exclusive adherence to correlational techniques is unwarranted and leads to biased conclusions. Although complexity of reasoning in the peer and family areas are related, there are clear differences between them. Without a concomitant examination of mean differences, one might be tempted to claim from correlational analyses that synchrony characterizes development when, in fact, asynchrony more accurately describes the developmental pattern. And this asynchrony is only evident when comparing reasoning about peers with reasoning about families; comparisons within peer or within family showed synchronous patterns (see repeated-measures *t* test data).

Second, the contexts were not confounded by a competence-performance difference across tasks (see Flavell & Wohlwill, 1969). The latter idea concerns an inverse interaction of cognitive complexity and stimulus complexity; the more complex the stimuli, the less complex the subject appears to be on the task performance. The attempt was made here to keep the complexity of the peer and family tasks virtually identical. In fact, the same kind of test structure was used for both. Therefore, a difference in competence-performance task demands across the peer and family stimuli seems unlikely. Also, both were done within the hypothetical realm rather than one referring to the child's actual friends or family. Therefore, the possible differences attributable to familiar as opposed to remote stimuli are not an issue here (see Freedman, 1974).

Third, the results cannot be explained by stimulus context alone. Not only was there a main effect favoring family over peer means, but there also was an age effect without an interaction between age and context. This shows that in the sample, 5-year-olds were more advanced in reasoning about families than about peers, 9-year-olds showed a similar pattern, and the 9-year-olds were higher than the 5-year-olds. In other words, both peer and family reasoning developed. If context were exclusively or even primarily responsible for the complexity of reasoning, we should have seen only a main effect for peer versus family (without an age effect), or at least an age × context interaction in which the peer DJS would show development across age but the family DJS would be consistently high (because the family context, according to this theory, induces reciprocal thought regardless of age). Neither pattern occurred.

Finally, we do not have a picture of consistent imposition of one's highest cognitive structure to all problems as the structured-whole hypothesis would imply. Nor do we have a consistent imposition of certain cognitive structures in particular contexts as social-psychological theory (Lerner, 1974) seems to imply. Instead, the data suggest an interaction between the cognitive developmental and social-psychological theories in that the child develops "faster" in one context than another. And even though context seems to influence response, that response still appears to have a developmental constraint upon it.

It should be stressed that this idea is different from the notions put forward by Damon (1977) and Selman (1976), who made the claim that reasoning in different domains (e.g., logical reasoning in comparison to distributive justice) develops asynchronously. It is being claimed here, in contrast, that even within the domain of distributive justice, reasoning structures may develop asynchronously, depending on the nature of the context. When compared to the Study 1 results, it seems that the more immediate context of family may have a greater pull or influence on development than the more abstract or amorphous cultural norms that a concrete reasoner may fail to grasp.

Study 3

There were two main purposes of Study 3. As previously stated, no distributive justice investigations have been based on designs more complex than simple longitudinal ones. The longitudinal sequence allows for replications of age-stage progressions by comparing two or more longitudinal designs (see Baltes, 1968). A second objective of this study was to examine such longitudinal patterns within early childhood and compare those patterns with middle childhood ones. For example, Damon (1980) described longitudinal change for subjects between the ages of 4 and 9 without examining whether younger children grow at a similar rate as older children. We thus do not yet know whether change is gradual and continuous across childhood, or whether there are growth spurts and plateaus. This study examined change within early childhood and then within middle childhood to explore such patterns.

Subjects.—Eighty-four predominantly white and middle-class 5-year-old and 9-year-old children were assessed at 1-year intervals. Table 5 shows the breakdown by grade, gender, and cohort. Cohort 1 was tested at 5 years old in 1978 (M = 5.6, range = 5–6) and again at 6 years old in 1979 (M = 6.5, range = 6–7). Cohort 2 was tested at 5 years old in 1979 (M = 5.7, range = 5–6) and again at 6 years old in 1980 (M = 6.7, range = 6–7). The same pattern accrued for the 9- and 10-year-old cohorts 3 and 4 (M for both was approximately 9.4 at time 1 and 10.5 at time 2, ranges = 9–10 and 10–11, respectively). One child in the first cohort group and two in the second had their data removed from analyses because of inconsistency on the DJS.

Instruments.—The DJS was again used. The only difference in the scale in comparison to Studies 1 and 2 is that no 2-B items were used. Study 3 began 2 years before the others, before 2-B was devised and validated. To assure comparability of results across time and cohort, it was thought best not to include 2-B in the final year of testing when that item was available.

Procedure.—Each year (1978–80) three interviewers well trained in the administration of the DJS did the assessments. Each interviewer was blind to a child's score and to group means of the previous year.

Results and discussion.—Internal consistency was adequate by the binomial z procedure. The percentage of time both 5-year-old cohorts matched stage on the two DJS dilemmas was 43%, $p < .05$. The percentage for both 9-year-old cohorts was 67%, $p < .05$.

To examine developmental trends, a 2 (cohort) × 2 (gender) × 2 (time 1 and time 2) repeated-measures ANOVA was run for each of the two age groups. We thus had two such ANOVAs to examine growth: 5–6 years old as a separate analysis, and 9–10 years old. The critical test was the gain from time 1 to time 2. For the 5–6-year-old group, only gain (time 1 to time 2) was significant, $F(1,28) = 4.78$, $p < .04$. Means and standard deviations are in Table 6. No gender or cohort differences were apparent. For the 9–10-year-old group, no significant main effects or interactions were observed.

On inspection of the data, it became clear that the above analyses were not the only ones or even the most appropriate ones to run. In the 5-year-old cohorts, six subjects were already at the highest stage at first testing; for the 9-year-old cohorts, 19 were at the ceiling at time 1. We reran the above repeated-measures ANOVAs without these subjects, since they could not improve their scores. It should be pointed out that by removing ceiling subjects the remaining subjects may not be characteristic of children at the developmental levels of interest. These analyses showed both longitudinal sequences with a significant time 1 to time 2 gain. No other effects were significant. The gain statistics are as follows: 5–6 years old, $F(1,22) = 15.63$, $p < .001$; 9–10 years old, $F(1,29) = 5.23$, $p < .03$. The new means and standard deviations are in Table 6.

Two different patterns emerged as a result of the two different analyses. The first

TABLE 5

NUMBERS OF SUBJECTS IN THE LONGITUDINAL SEQUENCES IN STUDY 3

Cohort and Grade	Males	Females	Total
Cohort 1 (tested in 1978 and 1979) (K)	8	10	18
Cohort 2 (tested in 1979 and 1980) (K)	6	8	14
Cohort 3 (tested in 1978 and 1979) (4)	14	15	29
Cohort 4 (tested in 1979 and 1980) (4)	11	12	23

TABLE 6

MEANS AND STANDARD DEVIATIONS FOR THE DISTRIBUTIVE JUSTICE SCALE IN TWO COHORTS

	AGE							
	5[a]		6		9		10	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1978 cohort	.85 (N = 18)	.61	1.28	.48	1.45 (N = 29)	.45	1.35	.38
1979 cohort	1.16 (N = 14)	.62	1.37	.47	1.53 (N = 23)	.45	1.52	.51
1978 cohort (2.0 removed)[b]	.62 (N = 15)	.33	1.27	.49	1.20 (N = 20)	.30	1.34	.35
1979 cohort (2.0 removed)[b]	.93 (N = 11)	.49	1.34	.48	1.17 (N = 13)	.21	1.39	.51

[a] Each pair of ages represents a one year longitudinal study.
[b] This represents the group in which subjects scoring 2.0 at first testing had their data removed.

analysis, run with all subjects, suggests that the youngest children, those with the lowest mean, tend to change the most after 1 year. This finding is different from Damon's (1980), whose data indicated that growth after 1 year is minimal. Recall that he collapsed all data for 4–9-year-olds. Without a more detailed analysis within a given age, as was done here, we too may have concluded the same. Instead, we found that change over 1 year was strong from age 5 to age 6.

The second pattern that excluded those at the ceiling during time 1 suggests that subjects in early and middle childhood grow in distributive justice development after 1 year. The growth, on the average, is between a half stage (early childhood) and a quarter of a stage (middle childhood) during that time. These patterns are not cohort specific but are instead characteristic of all four cohort groups. As the means in Table 6 show, the elementary school years are characterized by Level 1.0 (treating all the same) and Level 1.5 (the harder workers get more) reasoning. One further qualification needs to be added. Since only a single year separated the longitudinal sequences in this study, it is likely that the present design did not afford the most powerful test of possible cohort effects on distributive justice development. While the results of Study 3 offer considerable replication of Damon's (1980) longitudinal findings, they should be seen as offering only a preliminary analysis of cohort differences.

The individual patterns of Table 7 generally support the developmental conclusions with one important modification. Nine of the 9- and 10-year-olds changed from Level 2.0 to Level 1.0. This happened too frequently to claim that measurement error alone is the culprit; measurement error would disperse scores, not cluster them. It may be that during the important transition years to adolescence, some children once again believe that equality is more important than need. If so, we are not looking at a rigid, invariant sequence at all. Instead, we may have a general upward progression that fluctuates in the transition years to adolescence. Beyond this, the 9–10-year-old children's pattern suggests stability (26 subjects) and upward change of approximately one-half stage (11 subjects). The 5–6-year-old children, on the other hand, often showed full-stage growth (seven children) as well as half-stage (seven children). Only rarely was there greater growth than this (four children). The other downward changes besides the one above are in line with the relative infrequency of this pattern in the Kohlbergian moral domain (see Kuhn, 1976; Rest, Davison, & Robbins, 1978).

General Discussion

The construct of distributive justice development for the most part withstood the validation tests performed here. It appears that the development of distributive justice is a robust construct; the stage progression has been validated in the United States and Sweden as well as in Africa (see Enright et al., 1980). Not only is the rate of growth similar in the United States and Sweden, but the necessary Piagetian reciprocity structures operate similarly in both cultures. Piagetian reciprocity precedes distributive justice reciprocity in both cultures.

Distributive justice reasoning seems also to vary with the peer or family context of rea-

TABLE 7

PATTERNS OF INDIVIDUAL CHANGE AFTER ONE YEAR ON THE DISTRIBUTIVE JUSTICE SCALE

Pattern of Change from First to Second Year		5–6 (Both Cohorts)	9–10 (Both Cohorts)
Upward change	0, .5	2	0
	0, 1.0	1	0
	0, 1.5	1	0
	0, 2.0	1	0
	.5, 1.0	4	0
	.5, 1.5	3	1
	.5, 2.0	2	0
	1.0, 1.5	1	7
	1.0, 2.0	3	1
	1.5, 2.0	0	4
No change	0, 0	0	0
	.5, .5	1	0
	1.0, 1.0	5	12
	1.5, 1.5	0	4
	2.0, 2.0	2	10
Downward change	.5, 0	0	0
	1.0, .5	0	1
	1.0, 0	0	0
	1.5, 1.0	2	3
	1.5, .5	0	0
	1.5, 0	0	0
	2.0, 1.5	1	0
	2.0, 1.0	3	9
	2.0, .5	0	0
	2.0, 0	0	0

soning. That is, one cannot describe a child as advanced or delayed without specifying the distributive context. A child who does not display advanced levels of reasoning may actually reason more complexly given a particular issue or context. Reasoning about families brings out higher levels of distributive justice than reasoning about peers, as first hypothesized by social psychologists (i.e., Lerner, 1974). The finding is a caution to researchers in this area; one cannot stage-type a subject without qualifying the context.

Finally, distributive justice development does not seem to be an artifact of the cross-sectional design limitations of previous research. Our analysis indicates the operation of no cohort effects, though again, we hasten to caution that this analysis should be considered preliminary, since only a single year separated our longitudinal sequences. Distributive justice seems to develop in spurts—very quickly in early childhood, and more slowly in middle childhood. In addition, those in middle childhood who have not yet reached the ceiling continue to develop.

The one unexpected finding was the relatively large numbers of 10-year-olds who changed from 2.0 (need) to 1.0 (equality) reasoning. Damon (1975) suggested that distributive justice is not rigidly stagelike, and our finding supports that. But why should this particular pattern emerge? As a speculation, it could be tied to the peer-conformity demands of late middle childhood and early adolescence. Social experiments for decades have shown that peer conformity peaks at 11–13 years old and gradually declines thereafter. Many have found such a pattern (see, e.g., Berndt, 1979; Coleman, 1980; Costanzo & Shaw, 1966; Hartup, 1983). In all cases, those who conform are concerned that everyone, including the self, behave in the same way. Recall that our Study 2 here suggests the importance of context. Given peer stimuli and given that most of our older subjects were 11 years old or approaching it, the pull of peer conformity may have influenced their responses. Level 1.0 *is* the peer-conformity stage in which the subject treats everyone the same. In the cohorts with 10-year-olds there were 24 of 52 children in this stage. Damon's (1980) recent longitudinal study did not show pronounced regression to Level 1.0, possibly because his research included subjects only up to age 9, before peer conformity is strong. Fur-

ther research must examine whether those approaching adolescence who score 1.0 also evidence the most conformity to peer pressure (Costanzo & Shaw, 1966). If so, we may need to revise our thinking about general development in this domain to make allowance for this early adolescent transition.

Reference Notes

1. Bjerstedt, Å. Personal communication, Dec. 3, 1979.
2. Enright, R. *Manual for the Distributive Justice Scale.* Unpublished manuscript, University of Wisconsin—Madison, 1981.

References

Ackerman, B. Children's use of contextual expectations to detect and resolve comprehension failures. *Journal of Experimental Child Psychology,* 1982, **33,** 63–73.

Baltes, P. Longitudinal and cross-sectional sequences in the study of age and generation effects. *Human Development,* 1968, **11,** 134–171.

Bearison, D., & Gass, S. Hypothetical and practical reasoning: Children's persuasive appeals in different social contexts. *Child Development,* 1979, **50,** 901–903.

Berndt, T. Developmental changes in conformity to peers and parents. *Developmental Psychology,* 1979, **15,** 608–616.

Coleman, J. Friendship and the peer group in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology.* New York: Wiley, 1980.

Costanzo, P., & Shaw, M. Conformity as a function of age level. *Child Development,* 1966, **37,** 967–975.

Damon, W. Early conceptions of positive justice as related to the development of logical operations. *Child Development,* 1975, **46,** 301–312.

Damon, W. *The social world of the child.* San Francisco: Jossey-Bass, 1977.

Damon, W. Patterns of change in children's social reasoning: A two-year longitudinal study. *Child Development,* 1980, **51,** 1010–1017.

Enright, R., Enright, W., & Lapsley, D. Distributive justice development and social class: A replication. *Developmental Psychology,* 1981, **17,** 826–832.

Enright, R., Franklin, C., & Manheim, L. Children's distributive justice reasoning: A standardized and objective scale. *Developmental Psychology,* 1980, **16,** 193–202.

Enright, R., & Lapsley, D. Social role-taking: A review of the constructs, measures, and measurement properties. *Review of Educational Research,* 1980, **50,** 647–674.

Enright, R., & Sutterfield, S. An ecological validation of social cognitive development. *Child Development,* 1980, **51,** 156–161.

Erkut, S., Jaquette, D., & Staub, E. Moral judgment–situation interaction as a basis for predicting pro-social behavior. *Journal of Personality,* 1981, **49,** 1–14.

Flavell, J. H. *The developmental psychology of Jean Piaget.* New York: Van Nostrand, 1963.

Flavell, J. H., & Wohlwill, J. Formal and functional aspects of cognitive development. In D. Elkind & J. H. Flavell (Eds.), *Studies in cognitive development.* New York: Oxford University Press, 1969.

Fleisher, F. *The new Sweden: The challenge of a disciplined democracy.* New York: McKay, 1967.

Freedman, S. *Individual difference in moral judgment by children and adolescents.* Unpublished doctoral dissertation, University of Wisconsin—Madison, 1974.

Gilligan, C., & Kohlberg, L. From adolescence to adulthood: The rediscovery of reality in a post-conventional world. In B. Presseisen, D. Goldstein, & M. Appel (Eds.), *Topics in cognitive development* (Vol. **12**). New York: Plenum, 1978.

Hartup, W. Peer relations. In P. H. Mussen (Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology.* (Vol. **4**): *Socialization, personality, and social development.* New York: Wiley, 1983.

Kuhn, D. Short term longitudinal evidence for the sequentiality of Kohlberg's early stages of moral judgment. *Developmental Psychology,* 1976, **12,** 162–166.

Larson, S., & Kurdek, L. Intratask and intertask consistency of moral judgment indices in first-, third-, and fifth-grade children. *Developmental Psychology,* 1979, **15,** 462–463.

Leming, J. Intrapersonal variations in stage of moral reasoning among adolescents as a function of situational context. *Journal of Youth and Adolescence,* 1978, **7,** 405–416.

Lerner, M. The justice motive: "Equity" and "parity" among children. *Journal of Personality and Social Psychology,* 1978, **29,** 539–550.

Levine, C. Stage acquisition and stage use: An appraisal of stage displacement explanations of variation in moral reasoning. *Human Development,* 1979, **22,** 145–164.

The new encyclopaedia Britannica: Macropaedia. Chicago: Encyclopaedia Britannica, Inc., 1979.

Peterson, C. Distributive justice within and outside the family. *Journal of Psychology,* 1975, **90,** 123–127.

Piaget, J. *The moral judgment of the child.* London: Routledge & Kegan Paul, 1932.

Rest, J., Davison, M., & Robbins, S. Age trends in judging moral issues: A review of cross-sectional, longitudinal, and sequential studies of the Defining Issues Test. *Child Development,* 1978, **49,** 263–279.

Selman, R. Toward a structural-developmental analysis of interpersonal relationship concepts: Research with normal and disturbed preadolescent boys. In A. Pick (Ed.), *Minnesota symposia on child psychology* (Vol. **10**). Minneapolis: University of Minnesota Press, 1976.

Selman, R., & Damon, W. The necessity "but insufficiency" of social perspective taking for conceptions of justice at three early levels. In D. DePalma & J. Foley (Eds.), *Contemporary issues in moral development*. Hillsdale, N.J.: Erlbaum, 1975.

Urberg, K., & Docherty, E. Development of role-taking skills in young children. *Developmental Psychology*, 1976, **12**, 198–203.