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ABSTRACT
                This longitudinal study analyzed the relationship
between structure and content of socio-moral reasoning. Using a
system that defines independently the cognitive organizational and
content aspects of socio-moral reasoning, the study examined whether
persons at different developmental levels make use of different
content categories, and whether the thematic context of reasoning
provides an additional source of variation for content. Reasoning
about moral obligations and interpersonal responsibilities was
assessed in 97 subjects (45 females, 52 male) successively at the
ages of 9, 12, and 15 years. Subjects were interviewed extensively
about a conflict based on Selman's (1980) friendship dilemma, in
which the protagonist has promised to meet the best friend at a
certain time, but later receives an attractive invitation from a
third child who has recently moved to the neighborhood. In the
interview, the perspectives of the persons involved in the dilemma
were reconstructed. Upon analysis of the interviews, subjects were
grouped according to three developmental levels. Data demonstrated
the empirical interaction of developmental level, content, and topic.
Analyses revealed that at the lowest level, subjects already had
available to them reasons that refer to moral obligations and
interpersonal responsibilities, in both practical and moral
reasoning. This result supports the idea that children have a genuine
interpersonal and moral understanding. Seven data tables and one
figure are included. (Contains 25 references.) (MM)

Structure and content in socio-moral reasoning[1]

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This paper analyzes the relationship between structure and content aspects of socio-moral reasoning. In past research the focus of attention has been almost exclusively either on the cognitive organization of reasoning (e.g. Damon, 1977; Kohlberg, 1976) or on the content of reasoning, which may or may not represent different cognitive organizations (Blasi, 1984; Eisenberg, 1982; Smetana, Killen & Turiel, 1991). The one important exception is Kohlberg (1976; 1984) who has assessed both structure and content by specifying content categories for each structural level of moral reasoning. We want to argue here, however, that for empirical and for theoretical reasons his category system is not satisfactory.

First, the theoretically most elaborated system has not been tested in empirical research, either by Kohlberg himself or by others. Reliability of the classification procedure by which actual arguments are matched to the criterion judgments of the scoring manual (Colby, Kohlberg et al., 1987) was determined only for the structural levels and not for content. (In empirical analyses of content categories these were collapsed into global categories or types (Kohlberg, 1984; Walker, de Vries, & Trevethan, 1987).)

Second, structure and content are not independent. Empirically, it has been shown that content categories are unequally distributed across the stages (Cortese, 1984; Eckensberger & Burgard, 1986). Moreover, only a small

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number of content categories are defined hierarchically, such that they are redefined at successively complex structural levels (Reuss & Becker, 1990). With regard to preconventional moral reasoning we have argued that genuine moral and interpersonal concerns are excluded by the structural definition. Thus, unilateral authority focus and instrumental reciprocity are part of the structural definition and not types of possible content. In agreement with other research in the field (e.g. Eisenberg, 1982; Turiel, 1983) we have shown in our research that these concerns can be seen as content aspects which are neither exclusive nor predominant in children's reasoning. (Keller, 1990; Keller, Eckensberger, & v. Rosen, 1989).

In the following we purport to present a system that defines cognitive organizational and content aspects of socio-moral reasoning independently. This allows us to empirically pursue the two major questions in our study: First, whether persons at different developmental levels make use of different content categories; and second, whether the thematic context of reasoning provides an additional source of variation for content.

2. Sample and Method

In a longitudinal study, reasoning about moral obligations and interpersonal responsibilities was assessed in 97 subjects (45 female, 52 male) successively at the ages 9, 12, 15 years.

The conflict that was presented to the subjects was based upon Selman's (1980) friendship dilemma in which the protagonist promised to meet the best friend at a certain time. At this very time the protagonist later receives an attractive invitation from a third child who has recently moved into the neighborhood. Various psychological details complicate the situation: for example, that it is the friends' usual meeting day; that the friend wants to talk about something important; and that he or she does not like the new child.

In a comprehensive interview the perspectives of the persons involved in the dilemma were reconstructed (see Table 1). The present analysis focusses on the two contexts of practical and moral reasoning about the option to visit the friend as promised.

3. Scoring

Structure and content aspects of arguments were scored independently and separately for the contexts of practical and moral reasoning (Brink, Keller, & Rosenfeld, 1991; Keller & Edelstein, 1990; Keller & Wood, 1989) (see Table 2). In general, reliability coefficients varied between 80% and 90%.

1. The definition of developmental levels draws on the literature in the cognitive developmental tradition (e.g., Damon, 1977; Colby & Kohlberg, 1987; Gibbs & Widaman, 1982; Selman, 1980; Youniss, 1980). Arguments in any given context were scored for best performance, varying from level 0 to level 3 with transitional levels (e.g., 0/1, 1/2, 2/3). Longitudinal analysis demonstrated the sequential nature of the levels (Keller & Wood, 1989; Keller & Edelstein, 1990).

2. The scoring of content categories draws on other systems presented in the literature, e.g. Blasi, 1984; Eisenberg, 1982; Shantz, 1983; Turiel, 1983. For the present analysis, an originally more refined category system (Brink, Keller, & Rosenfeld, 1991) was collapsed into 9 categories (see Table 3). Each reason mentioned in an argument was scored independently, but each category was only scored once. Thus, theoretically, each content category can be defined at each developmental level. Two examples of level specific definition of the content categories are given in Table 4.

4. Results

In the following section, practical and moral reasons given for the dilemma option to go to the friend are analyzed (Table 5). Subjects of all three age groups were collapsed and grouped according to three developmental levels reasoning below level 2, at level 2 and above level 2. Due to the age span from 9 to 15 years, level 2 was the most frequently obtained level. Because subjects at the higher level use more than one content category, the percentages of statements in each category were computed relative to the number of subjects scoring at each developmental level. This allows to compare the use of the categories at each developmental level, as well as across developmental levels.

The distributions demonstrate that the frequency of self-oriented reasons decreases with higher developmental levels. Also, the two self-oriented categories are more salient in the context of practical reasoning compared to moral reasoning. The frequency of reasons referring to the friend's situation, to friendship and to promise increases with higher levels and seems to vary across the two contexts. Among the categories referring to consequences, only consequences for the relationship are mentioned frequently, especially in the context of practical reasoning.

The interaction of developmental level, content and context of reasoning wa; pursued in the last analysis. For this analysis, reasons were collapsed into three types (see Table 6 and Keller & Edelstein, 1991) comparable to distinctions made by Gilligan (1980) and Smetana, Killen, & Turiel (1991), including:

(a) moral reasons referring to the obligation to keep the promise; (b) interpersonal reasons referring to responsibilities in friendship; and (c) reasons referring to both formal moral and interpersonal aspects.

A hierarchichal log linear analysis was performed (SPSS, 1990) including context (practical vs. moral reasoning), developmental level (below, at, above level 2), and type of reason (moral, interpersonal, both). In addition, either measurement point (ages 9, 12 or 15 years) or gender were included as a fourth factor. In both models the three way interaction of context, developmental level and content proved to be the best fitting model as none of the more parsimonious models yielded a statistically significant fit. Thus, the three way interaction was accepted as the best explanation for the data (see figure 1). Within this model various contrasts were computed in order to determine the interaction effects (see Table 7). In summary, the results can be described in the following way:

1. A significant two-way interaction of context and content can be explained such that the category friendship compared to both, promise and friendship and promise is used more frequently in the context of practical reasoning compared to moral reasoning.

2. A significant two-way interaction of developmental level and content can be explained such that friendship in comparison to promise is used more frequently both at the lowest and the highest levels. Promise compared to friendship is predominant at level 2. Reasons referring to both friendsip and promise are overrepresented at the highest level.

3. The only significant contrasts in the three-way interaction are the following: (a) Compared to both other categories, promise is overrepresented in the context of moral reasoning at level 2 compared to level 1. (b) Compared to friendship, promise is overrepresented at level 1 in comparison with level 3 in the context of moral reasoning.

5. Discussion

Our study started from the standpoint that in Kohlberg's theory, structure and content aspects of moral reasoning are not independent of each other. We developed a system that tries to avoid this potential confound by distinguishing a "value-free" cognitive organization of arguments from varying content. Yet, we want to emphasize that compared to Kohlberg's system, our system is far less comprehensive and presently refers only to information about two contexts of reasoning in one dilemma Despite these restrictions, the data demonstrate the empirical interaction of developmental level, content and topic. The analyses evidence that already at the lowest level, subjects have available to them reasons that refer to moral obligations and interpersonal responsibilities, both in practical and in moral reasoning. Because lower levels are more often used by younger subjects, this result supports the notions in the literature that children have a genuine interpersonal and moral understanding (Damon, 1977; Turiel, 1983; Youniss, 1980). Also, subjects make context-specific use of reasons. Thus, friendship reasons seem to be more salient in practical reasoning, while promise is used more frequently in moral reasoning. Reasons appear to vary with the issue. With higher developmental levels, both moral and interpersonal facts of the conflict are increasingly taken into account while the use of self-related reasons in general decreases. In summary, the results demonstrate a complex interaction of developmental level, context and content of reasoning.

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Table 1

Issues of Socio-Moral Reasoning in the Friendship Dilemma

Definition of situation

Action choice

<u>Practical reasoning</u>

Reasons for choice

Why does protagonist decide this way?

Reasons for alternative

Would protagonist also like to decide the other way? Why?

Consequences of choice (protagonist-others)

Balancing strategies

<u>Moral reasoning</u>

Moral evaluation of choice

Was this the right decision? Why? Why not?

Table 2

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┌─────────────────────────┐
│      Data Analysis      │
└─────────────────────────┘
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┌──────────────────┐          ┌──────────────────┐
│    Structural    │          │     Content      │
│  Developmental   │          │     Analysis     │
│    Analysis      │          │                  │
└──────────────────┘          └──────────────────┘
         │                             │
         ▼                             ▼
┌──────────────────────┐      ┌──────────────────────┐
│ Developmental Levels │      │  Content Categories  │
│ of Cognitive         │      │   of Reasons in      │
│ Organization         │      │   Action Dilemma     │
│ of Moral and         │      │                      │
│ Friendship Concepts  │      │                      │
└──────────────────────┘      └──────────────────────┘
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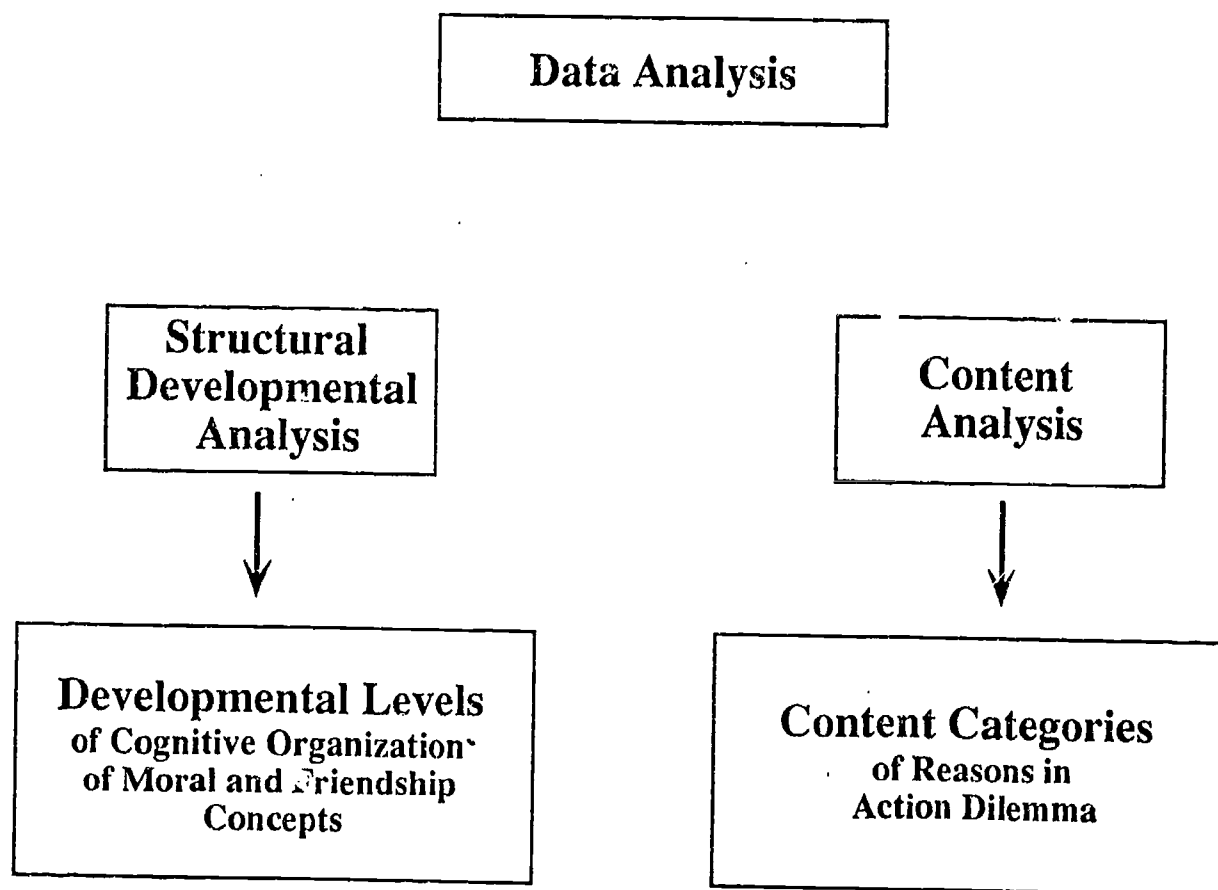
**Situation-specific Reasoning
about Friendship Dilemma**

- Reasons for
  Practical Choice

- Moral Evaluation
  of Choice

Table 3

Content Categories

Self concerns

Objects

Relations

Relationship concerns

Empathy

Friendship

Moral concerns

Promise

Friendship obligations

Consequences

Self

Other

Relationship

Table 4

Content Categories: Level-specific Examples

	Friendship	**Promise**
Level 1	being friends playing always/well liking each other	having promised not wanting to break promise bad to break promise
Level 2	being best friends knowing each other long always meeting this day wanting to maintain friendship	not wanting to betray promise/ to be a traitor/promisebreaker having firmly promised
Level 3	having a close relationship understanding each other better trusting each other	standing by one's word wanting to be a trustworthy and reliable person

Table 5

Relative Frequencies (%) of Content Categories by Developmental Levels

	Developmental Level		
	< 2	2	>2
Practical Reasoning (Choice "Friend")			
Self's interest			
object	34	20	18
relations	34	25	17
Other's concerns	-	14	51
Friendship	22	45	64
Promise	41	61	59
Friendship obligation	-	18	23
Consequences			
self	3	5	8
other	6	15	16
relationship	22	29	41
N	32	153	103
Moral Reasoning (Choice "Friend")			
Self's interest			
objects	-	2	8
relations	17	6	15
Other's concerns	-	4	30
Friendship	17	18	60
Promise	28	80	65
Friendship obligations	6	18	36
Consequences			
self	6	1	10
other	17	7	15
relationship	39	11	23
N	18	143	95

Table 6

Types of Reasons in Friendship Dilemma

Formal moral: (Promise)	having promised bad to betray promise not be promise-breaker having obliged oneself
Interpersonal: (Friendship)	wanting to be with friend always meeting friend at this time having known friend so long/well trusting friend/not destroying trust wanting to talk about problems
Formal moral and interpersonal:	reasons from categories 2 and 3

Table 7a   Z-values for parameter estimates of the interaction of content and context (Contrast: Simple)

Content category	Context C1 - **C2**
F - **P**	2,45 *
F - **F P**	2,30 *
FP - **P**	0,13

Bold letters indicate reference category.
* p < 0.05

Table 7b: Z-values for parameter estimates of the interaction of content and developmental level (Contrast: Simple)

Content category	Developmental level		
	L2 - **L1**	**L2** - L3	L3 - **L1**
P - **F**	3,97 *	5,27 *	-0,81
P - **F P**	-1,37	6,85 *	-5,35 *
FP - **F**	5,16 *	1,16	5,74 *

Bold letters indicate reference category.
* p < 0.05

Table 7c: Z-values for parameter estimates of the interaction of content, developmental level   and context (Contrast: Simple)

Content category	Developmental level/ C2 - C1		
	L2 - **L1**	**L2** - L3	L3 - **L1**
P - **F**	3,03 *	0,42	-2,16 *
P - **F P**	2,50 *	0,88	-0,03
FP - **F**	-0,25	-0,53	0,03

Bold letters indicate reference category.
* p < 0.05

Figure 1

Type of Content by Developmental Level and Context