Resistance to Temptation of Aldolescents:
Situational Reinforcements and Stages of Moral Reasoning

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SUMMARY: *The article is devoted to the problem of relation between moral cognition and moral behaviour. It is based on Piaget's assumption about structural parallelism between moral reasoning development and human acts. The main question is to what extent stages of moral reasoning development (estimated on Kohlberg's scale) explain resistance to cheating temptation. The hypothetical model of causing relations between different elements of resistance to cheat was constructed. It includes a sequence of those causes which were stressed in cognitive-developmental and social learning theories of morality. This model was a source of thesises in an empirical investigation conducted by the author. Empirical situation of cheating temptation was created. Behavior of 96 adolescents (aged 11-15) in two groups represented preconventional and conventional level of moral development (preselected in Kohlberg's measure and homogeneous in sex) was observed by one-way-mirror in the cathegories of latency, frequency and duration of deviance. As hypothesized, neither maturity of moral reasoning (according to cognitive-developmental theory) nor situational activating reinforcement (according to social learning theory) have direct influence on moral behaviour.*

Introduction

In the frame of cognitive-developmental theory we assume that moral cognition plays a central role in moral functioning, providing unity to the many processes that compose it. As it is pointed out in this theory, moral action and moral cognition belong to the same logical structure (Piaget 1932, Kohlberg 1981). From this perspective, the study of relations between moral cognition and moral behavior is primary importance, and we can expect immediate relation between a moral reasoning and a conduct of a person.

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Unfortunately, cognitive-developmental theory ignore this problem in an empirical research, concentrating efforts in describing a development of moral reasoning structures. However, the majority of the studies reviewed by Blasi (1980) or Kohlberg and Candee (1984) has indicated the sufficient evidence about positive correlation between development of moral reasoning structures and behavior in situation of temptation. From the other hand, in the frame of the theory of social learning, we can gather a considerable amount of evidence about the influence of situational variables on resistance to temptation in behavior (La Voie 1974, Ebbesen et al. 1975, Aronfreed 1976, Waterman 1988). Moreover, it has been indicated that not only resistance to temptation, but also level of moral judgment is modified by observational learning and imitation (Bandura, McDonalds 1963, Bandura 1969).

It seems, that changes in moral behavior are function of developmental transformations in structures of moral reasoning in the sense of cognitive-developmental theory, and in the same time are function of external stimulation according to social learning theory of morality.

Looking for synthesis between these two different approaches, the hypothetical model of causing relations between different elements of resistance to temptation was constructed in our research. It includes two linear and crossing sequences of causes; sequence of those causes which were stressed in the model of behavior in cognitive developmental theory (*developmental stage of moral reasoning → moral judgment → behavior*), and stressed in the model of behavior in social learning theories of morality (*structure of situation → cognitive transformation of situation → behavior*). In our research we asked about strength and direction of correlation between elements distinguished in our hypothetical model of resistance to temptation mechanism (see Fig. 1).

Subjects

The sample consisted of 96 adolescents from elementary school no. 6 in Bydgoszcz between ages of 11 to 15 (x=12.8) The subject were preselected by Kohlberg's measure and randomly assigned into two homogeneous in sex 48-person groups represented two different levels of moral reasoning development; preconventional and conventional. In last step, each of 48-person group were randomly assigned into four 12-person experimental groups with equal number of males and females. The informed consent of the subject's parents and teachers was obtained prior to the experimental session.

Procedure

The level of moral reasoning development was defined in the frame of Pigetian-Kohlbergian approach. Adolescents were asked to answer standard questions related to different moral issues after presentation of the hypothetical

moral dilemma (of Heinz) and after exposition to real situation of cheating temptation. The data gathered in this way were estimated by judges in the frame of two different systems of criterion. They qualified persons for one of the stage on Kohlberg's developmental scale in two different cathegories: a) general stages of moral reasoning in Heinz hypothetical dilemma (coefficient of concordance is 0.89), b) developmental stages of judgments about "crib" in real situation of temptation experienced by adolescents in time of mathematical school test when they behavior was rated simultaneously (coefficient of concordance is 0.82). Direction of judgments about "cribe" in real situation was estimated on the basis of one question: "Ought the cribe be done?".

The adolescents selected for the experiment were contacted with the experimenter in school and brought by him in small groups of 6 person to the experimental classroom in University buildings. They were asked to resolved the school test of mathematic skills. The task of test were comparatively the same as that realized in school program but complicated and undissolable for individuals in this age.

The adolescents were given the following instruction common for everybody: "The tasks of test are very difficult. Try to resolve the tasks of test as quick as possible but do not turn back because on the blackboard behind you I've written solution of the test's tasks. You have 15 min. to resolve this test".

Preselected subjects distributed into four groups on each of moral reasoning levels (e.g. pre- and conventional) were given additional four different instruction focusing cognition on diverse aspects in experimental situation of cheat temptation: (1) concrete consequence of deviation punishing a cheat, (2) concrete consequences of deviation rewarding a cheat. Those four instructions include combination of two criteries: direction of reinforcements and their cognitive complexity.

In experimental manipulation different conditions of temptation were created. When subjects (pupils) started to work, the experimenter (teacher) sat down on the chair at the corner of classroom and after 1 min. he began reading some papers not paying any special attention to what pupils did. In 9 min. he went out from the classroom and came back after 1 min. with other person. In last 5 min. they both were engaged in silent conversation.

Four other experimenters in observational room observed subjects behavior by one-way-mirror and rated immediately their behavior in three cathegories of forbidden behavior: (1) cribing from the neighbours, (2) talking with the neighbours, (3) turning back to the blackboard.

After P. S. Fry (1975), the following measures were used to analyze the subject's resistance to temptation (as a deviance or conformity to the prohibited by teacher responses): *latency* (time of first deviation), *frequency* (number of times the subject appeared deviation), *duration* (total time spent on the prohibited responses).

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During 15-minutes test for observing latency, frequency and duration, the subject's behavior was rated in terms of predetermined response cathegories for 60 of 15-seconds intervals. Judges had previous experiences as observers in this kind of studies.

Results

The most important results of used statistical data analysis, strictly connected with problems which was taken in this preparation, are presented in Fig. 1 and Fig. 2. Results of Kendall correlational analysis for hypothetical model of resistance to temptation are presented in Fig. 1.
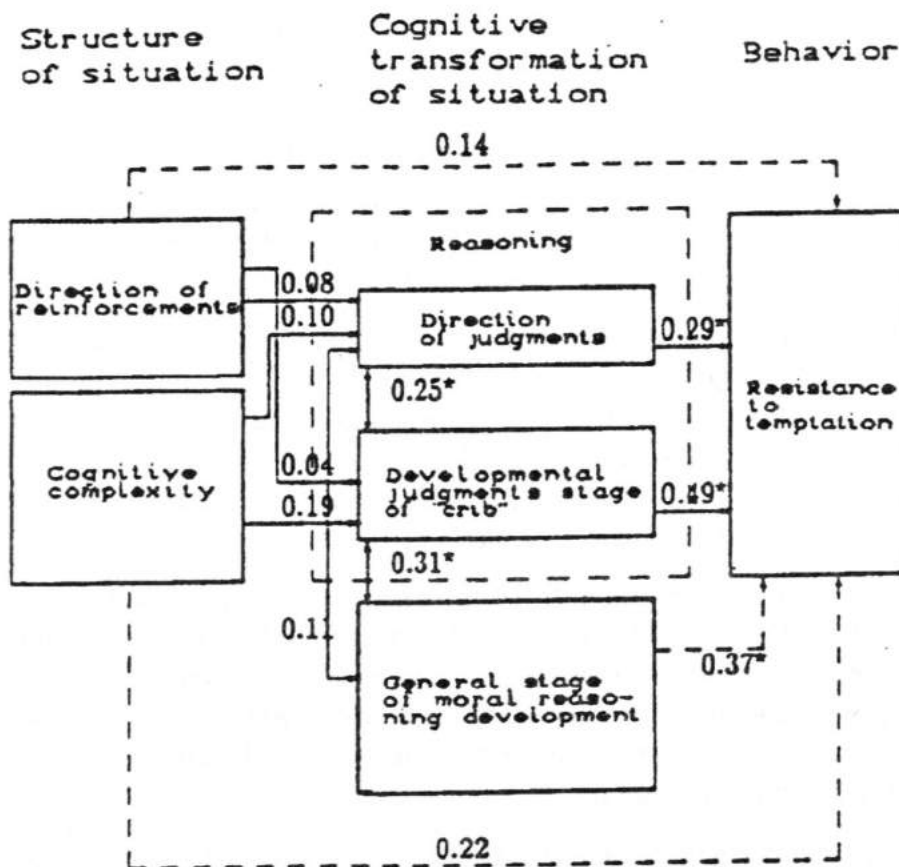

Figure 1. Results of correlational analysis for proposed model of resistance to temptation (coefficients with asterisks are significant)

It was appeared that correlational coefficients between situational factors and resistance to temptation and between situational factors and their cognitive transformation are not significant. It seems, that social learning theory of morality have limited application in explaining the resistance to temptation mechanism. The

effects of correlational analysis indicates the main role of judgments and their level of development in overt behavior in real situation of temptation. These data support the cognitive-developmental theory of morality.

But most complex, multivariable tabelaric analysis of partial coefficients of these correlation (see Mayntz et al. 1985) provides to other kind of conclusions which are viewed in Fig. 2.
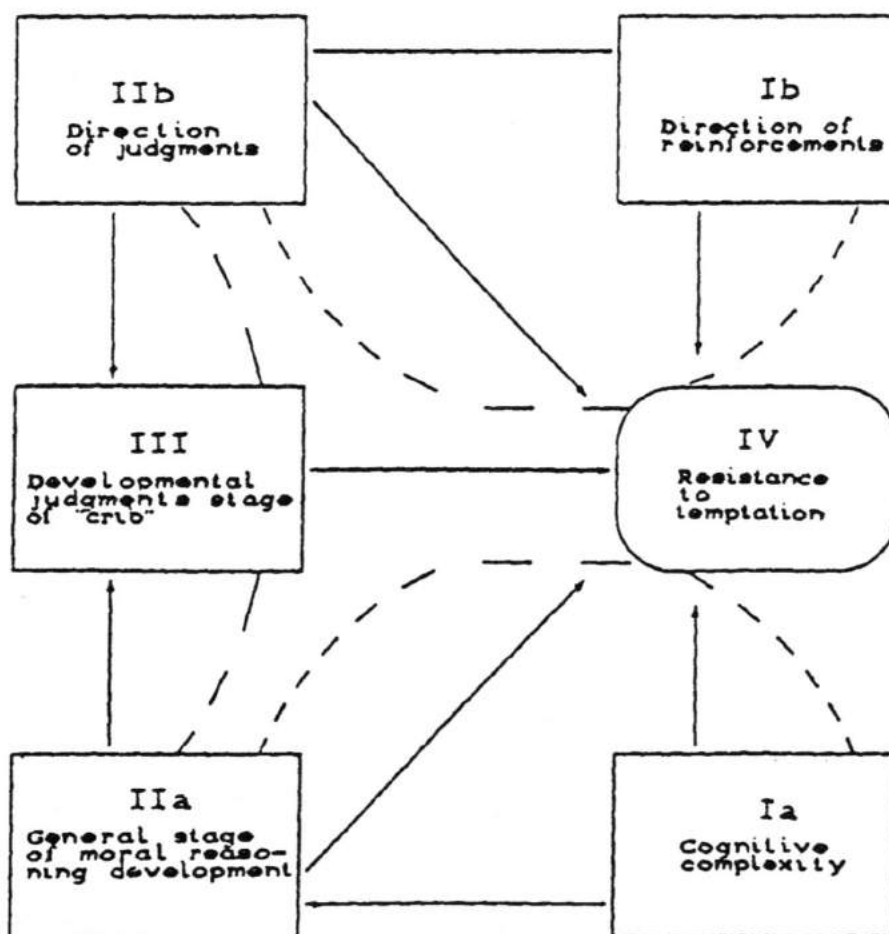

Figure 2. Model of casual relations between elements of resistance to temptation mechanism in modification (as result of multivariable tabelaric analysis of partial coefficient of correlation. Broken lines unite factors in co-influence on the other one).

The results of causal analysis of relation between elements distinguished in discussed model of resistance to temptation indicates three different systems of co-influence. Two of them show the role of situational activating reinforcement in influence of judgments (their level and direction) to behavior in situation of resistance to temptation.

The principles of different theories can be used to explain these three system of activity. Interaction between direction of reinforcement (IB), direction of

judgments (IIB), and resistance to temptation (IV) we can explain in terms of social learning theory. Interaction between cognitive complexity of reinforcements (IA), stage of moral reasoning (IIA), and resistance to temptation (IV) can be discussed in terms of the cognitive-developmental theory of morality.

The most interesting is the third system of co-influence e.g. of judgments direction (IIB) and stage of moral reasoning (IIA) to the stage of moral judgments made by person in real-experienced situation (III) which is - what is viewed in Fig. 1 - a one-direct cause of the resistance to temptation (IV). The partial coefficients analysis indicated that correlation between stage of moral judgments in real-experienced situation (III) and resistance to temptation (IV) is growing up together with growing coefficients between direction of judgments (IIB) and direction of reinforcement (IB), and also between stage of moral reasoning (IIA) and cognitive complexity of reinforcements (IA). These two systems of correlations strengthen the influence of IIB and IIA factors on the II factors e.g. development stage of judgment in real-experienced by person situation of temptation to "crib".

Conclusions

The results of data analysis show that the relation between stages of moral judgments development and behavior in real situation grow together with: (1) *maturity* of moral reasoning structures in the sense of Kohlberg's theory, (2) *familiarity* of moral judgments content with the content of measured behavior, (3) *adequacy* between level of moral reasoning structures and cognitive complexity of situation, (4) *accordance* between direction of situational reinforcements and direction of moral judgments made in this real-experienced situation.

As hypothesized, neither maturity of moral reasoning *(according to cognitive-developmental theory)* nor situational activating reinforcements *(according to social learning theory)* have direct influence on behavior. It seems, that they start to work through the more complicated interactions between themselves and effects which they had created e.g. direction and developmental level of moral judgments made by a person in specific real-experienced situation.

Described above sequences of causes arising the resistance to temptation manifest the mechanism which we can not explain in the frame of one known theory. It seems, there is the need of theory describing mechanism of moral behavior, more general then the social learning or cognitive-developmental theory of morality. From the other hand, the synthesis of these theories is possible.

Looking for synthesis of these two theories some limitations of their assumptions could be respectively exceed; (1) of social learning theory assumption about structural parallelism between situation and cognition, and (2) of cognitive-developmental assumptions about structural parallelism between cognition and action. Firstly, extension of assumptions about cognition seems to be needed in the

frame of learning theory. It is evident, that cognitive transformation of situation structure is not simple copy of it. Human cognition give us not only orientation in environments but also provide to comprehension of situation on a specific to individual level of cognitive development. Moreover, extension of assumptions about action is needed in the frame of cognitive-developmental theory. Considering the role of situational variability in cognitive transformations and in behavioral changes we must describe most concrete criteries of operationalization of individual *constructive activity*, and find answer for the question what kind of experiences is *optimum* for cognitive structures development.

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