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Cognitive Skills as Predictor of Attitudes Toward Political Conflict: A Study of Polish Politicians

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The relationship between cognitive development and attitudes toward a current political conflict was examined in a sample of 46 Polish politicians. This relationship was examined in a control group in a neutral condition and in an experimental group after participants were presented with a hostile attack on their position on the conflict. Politicians with less advanced cognitive skills tended to use competitive attitudes in both conditions. In contrast, those who possessed more advanced skills tended to use cooperative attitudes in the neutral situation; after the emotional attack, they tended to avoid further involvement in the conflict and sought to exit it. The key difference in participants' cognitive functioning was their ability to differentiate perspectives and to transcend their own point of view in the conflict.

Political debate between representatives of diverse constituencies with incompatible interests is an essential feature of democratic societies. An integrative agreement (see Pruitt & Carnevale, 1982) through which diverse interests and goals may be at least partly reconciled is the most constructive outcome of such debate. Agreements of this sort may provide new ways of managing conflicting interests and realizing core social values. However, open debate may also give rise to quickly escalating political conflicts. Incompatible interests are likely to produce conflict when parties are unwilling to make concessions or seek out compromises, and choose to pursue their own goals at the expense of their opponents' interests. In these situations, the underlying conflict often remains unresolved even if one side yields, and frustrated aspirations may lead to renewed conflict in the future.

In some situations, incompatible interests and mutually exclusive goals push parties to compete and rely on coercive tactics. More often than not, however, different individuals see the same incompatibility differently, as either a *total* or a

partial incompatibility. Respectively, this may lead them to adopt different outlooks and strategies in dealing with the conflict. Confrontation, coercion, and devoted defense of one's own goals are more likely when the incompatibility is perceived as total—that is, a zero-sum conflict where only one party can win. When parties perceive the conflict in this manner, they exclude any possibility of cooperation and prepare to compete openly or yield and fight secretly. On the other hand, negotiation, mutual concessions, and cooperation in building an agreement are more probable when the conflict is seen as a mixed-motive situation and the parties' respective goals are seen as only partially incompatible. In this case, opponents recognize that a coordination of interests may benefit both parties more than a one-sided victory would. Such an interpretation is more likely when representatives of both sides try to understand their opponent's goals and see them not only from one's own perspective, but from the other's as well.

Thus, the same conflict situation may often be understood differently, and these different understandings may make certain approaches to conflict more likely than others. What, then, determines how people will understand a conflict? In this regard, there is a large body of research dealing with perceptions of intergroup conflict, mainly in the framework of social identity theory (e.g., Tajfel & Turner, 1986) and cognitive approaches to categorization and stereotyping (e.g., Fiske, 1998; Hilton & von Hippel, 1996). Work in these areas posits universal categorization mechanisms that lead people to favor their own group, as well as numerous biases, heuristics, and "shortcuts" that contribute to and reinforce a simplified, black-and-white perception of groups and the conflicts in which they are involved. Against this background, cooperation and agreement appear to be unusual outcomes, dependent on the attainment of often-lengthy lists of preconditions (Deutsch, 1973; Rothbart, 1993; for a review, see Pruitt, Rubin, & Kim, 1994; Stephan & Stephan, 1996).

However, much of this work does not account for the possibility of individual differences in cognitive functioning. The majority of the studies in this area deal with a relatively uniform group of subjects—college students (Sears, 1987). Members of this group are not likely to vary considerably with regard to their cognitive skills or their ability to apply them in conflict situations, at least relative to the population as a whole. In this vein, several developmental studies indicate that the pace of cognitive development is rather similar among members of the same cohort until early adulthood; later in life, individual differences and the dispersion of achieved stages of cognitive development grow larger (Kramer, 1990; Labouvie-Vief, 1990; Looft, 1972). Thus, many students may function at the same level of cognitive development and display similar levels of cognitive competence, leading them to think and act similarly in intergroup conflicts.

Integrative Complexity

Despite this lack of attention from cognitive researchers, individual differences in the cognitive construal of political situations and their consequences for people's choices in the midst of conflict have been examined in studies on the "integrative complexity" of political reasoning (see Tetlock, 1989). Integrative complexity is a formal characteristic of the knowledge structures people use to make sense of the world, which takes into account both their *differentiation* and *integration*. Differentiation refers to the degree to which individuals are able to simultaneously analyze many independent dimensions or aspects of a situation, whereas integration refers to the degree to which individuals perceive conceptual connections among these dimensions.

Archival research on real political conflicts suggests that individual differences in integrative complexity may have strong effects on the course taken by a given conflict. For example, studies suggest that war is a more likely outcome in international conflicts when participants understand the conflict in question in simple terms (i.e., with a low degree of integrative complexity). On the other hand, when participants see the conflict in more complex terms (i.e., with a high degree of integrative complexity), peaceful solutions are more likely (Raphael, 1982; Suedfeld & Tetlock, 1977; Suedfeld, Tetlock, & Ramirez, 1977; for a review, see Wallbaum, 1993). This pattern emerges because leaders with high levels of integrative complexity understand others' perspective in conflicts and tend to be "dovish" (i.e., ready to search for an agreement), whereas those low in integrative complexity see only their own side in conflicts and tend to be "hawkish" (i.e., more competitive; see Wallace, Suedfeld, & Thachuk, 1993). Research on integrative complexity also suggests that participants' understandings of conflict situations become more stereotypical and simplified under emotional stress. This simplification may lead to a preference for competition and aggression (Guttieri, Wallace, & Suedfeld, 1995; Suedfeld & Tetlock, 1977).

Naturally, these findings raise questions about where individual differences in integrative complexity come from in the first place. Why are some individuals able to form complex understandings of situations, while others understand them in simple terms? Individual differences in integrative complexity in a given situation arise from both cognitive and non-cognitive factors, including (1) individual predispositions, such as cognitive ability; (2) situational influences, such as time pressure; and (3) the influence of internal states, such as fatigue and stress (Schroeder, Driver, & Streufert, 1967; Streufert & Streufert, 1978; Tetlock, 1989). However, in studies conducted within this framework, these factors have not been easy to distinguish. Because these studies relied largely on archival data, they were only able to measure final performances, which are shaped by both the cognitive and non-cognitive factors listed above. Data on subjects' underlying cognitive abilities—as opposed to factors enhancing or impeding the full use of these abilities—were not available. Therefore, it is difficult to analyze the interplay of

cognitive and non-cognitive factors in the development of integrative complexity, or their relative contribution to the final complexity of a given judgment.

Developmental theories may allow us to overcome this problem (Rosenberg, 1988). These theories imply that people need to be able to perform certain cognitive operations in order to produce judgments at a given level of integrative complexity. Whereas integrative complexity refers to formal characteristics of the organization of knowledge in a given situation, developmental theory describes the cognitive operations and abilities necessary for the attainment of such organization. The set of cognitive abilities that allow individuals to differentiate and integrate diverse perspectives provides a *potential* for complex thinking, which may or may not be completely used in a given situation (e.g., Piaget, 1960). This distinction between potential and final performance paves the way for a detailed examination of the factors determining whether an individual's potential for complex thought is realized.

The Development of Cognitive Skills

Substantial evidence suggests that differences in cognitive skills—and associated differences in the understanding of surrounding realities—lead to different behaviors. The development of these skills can, in turn, be thought of as a process of increasing abstraction, in which the mental operations people are able to perform become less confounded with the concrete aspects of objects. Piaget (1960) described this in terms of the development of "decentration" as a cognitive ability; Selman (1980) further developed this idea and supplemented it with a description of development of the ability to coordinate perspectives. Decentration is the ability to concentrate on more than one aspect of an object or relationship between objects, whereas coordination refers to an ability to relate these differentiated aspects to each other. In the political sphere, decentration consists of an ability to transcend one's own perspective and understand other possible points of view, whereas coordination can be thought of as an ability to integrate different perspectives into a coherent and comprehensive understanding of a given political situation (Reykowski, 1996a; Selman, 1976, 1980). Respectively, they can also be thought of as capacities for the attainment of the two aforementioned aspects of integrative complexity (i.e., differentiation and integration).

Both the ability to decenter and the ability to coordinate perspectives can be achieved in the domain of physical relations by early adolescence (Piaget, 1960; Piaget & Inhelder, 1968). However, the rate at which cognitive development occurs may vary from domain to domain (Brainerd, 1978). More precisely, it may be delayed in domains that are abstract and distant from immediate, daily experience. For example, it takes a relatively long time to develop the skills of decentration and coordination in the domains of interpersonal relations (Selman, 1976, 1980) and morality (Kohlberg, 1984), and an even longer amount of time to develop them in the domain of politics (Rosenberg, 1988, 1992, 1994). As such, even adults may

differ in terms of the range of cognitive skills they are able to use in more abstract domains. In fact, some individuals never develop the highest levels of understanding posited by theories of cognitive development (Kohlberg, 1984; Niemczyński, 1994; Reykowski, 1996a; Rosenberg, 1988). Thus, politicians may also differ with regard to the cognitive operations they are able to perform while interpreting political conflicts. These differences may influence their understandings of and attitudes toward these conflicts.

The Development of Political Reasoning

Rooted in the Piagetian tradition described above, Rosenberg's (1988) approach to the development of political reasoning provides both a useful framework for making sense of developmental changes in understandings of political reality and a method for assessing these changes. The developmental sequence outlined by Rosenberg (1988) describes the process through which decentration and perspective coordination are attained in the domain of politics. More precisely, Rosenberg described a developmental sequence of three full and two transitional levels in the development of political thinking (see the Appendix). They are defined by qualitatively different ways of understanding various aspects of reality and the relationships among them. People at different levels of development differ in terms of (1) the degree to which they can achieve abstract understandings of the world; (2) their ability to transcend one perspective in the understanding of political reality (decentration) and their ability to integrate information resulting from different points of view (coordination); and (3) the degree to which they attribute generality and absoluteness to norms, rules, and values.

People who function at the least advanced levels—the sequential and advanced sequential levels, in Rosenberg's terms—think in concrete terms and are not able to generalize beyond the here and now. As such, they are tied to the external, tangible aspects of observed reality. They have no defined perspective on political issues, and they differentiate between and evaluate political groups on the basis of concrete indicators, such as the characteristics of their leaders or associations between the incumbent party and economic conditions immediately affecting them. They do not understand what unites or divides political groups in abstract, ideological terms, but they can become attached to groups they associate with improvements in their material welfare. In the domain of politics, they are incapable of both decentration and perspective coordination.

People who function at the next highest level—the linear level—are also incapable of decentration and coordination. However, they are able to make simple generalizations and abstractions. They can derive rules that define simple categories and causal hypotheses useful for understanding politics. Nevertheless, they are not able to go beyond these simple, unidimensional generalizations. Their beliefs about causality involve only single causes and outcomes, and they tend to establish and rely on only a single principle when attempting to make sense of, evaluate, and

organize knowledge about a given situation. Evaluations are entirely defined by a single rule or norm, which is treated as immutable and absolute. Linear thinkers differentiate between opposed groups and see them as cohesive, hierarchically structured units, with common goals and shared points of view. However, they are not able to transcend the perspective of their own group and use it as a point of reference while interpreting others' viewpoints. This mode of thought results in an egocentric interpretation of conflict situations and simplistic, black-and-white understandings and evaluations of the surrounding world.

Perception becomes more complex at the advanced linear level. Here, individuals are able to comprehend and evaluate situations according to more than one rule or principle. They are usually able to arrive at several different ways of interpreting it, and can identify multiple (rather than single) relationships between its elements. They are able to understand that an event may have a number of interrelated causes, as well as multiple consequences. Cognitive functioning at the transitional, advanced linear level is characterized by the ability to decenter and appreciate points of view other than one's own. As such, perceivers functioning at this level become more aware of the arbitrariness of every opinion and standpoint, and tend to adopt a somewhat relativistic outlook.

Sometimes people at the advanced linear level succeed in integrating opposed points of view, but this is typically difficult for them. Only individuals functioning at the most advanced level of cognitive development—the systematic level—are able to achieve both decentration and coordination in the realm of politics. Their understanding of political reality is both abstract and complex. They see each political event as resulting from a system of interrelated factors and examine it both on a general level (i.e., in terms of how well it exemplifies broader political principles or classes of political events) and on a particular level (i.e., in terms of the complex configuration of causes that led to its occurrence). They accept the relativity of particular perspectives and try to make judgments that integrate multiple points of view into a comprehensive understanding of a problem. Moreover, they reflect on the sources of their own opinions and perspectives. They see social norms as the result of communication and agreement between individuals, and they choose those norms that are best capable of ensuring social integration and harmony within a given system (i.e., an individual, a state, a community, etc.).

These five modes of political thinking are thus characterized by different types of cognitive skills, which result in distinct understandings of reality. In particular, they may lead to different interpretations of conflict situations. In this regard, the capacity for decentration and perspective coordination may be especially important. People who possess these two skills are more likely to appreciate differing perspectives on a given conflict and integrate them into a more complex understanding of it, thereby facilitating the search for solutions capable of integrating initially incompatible goals. In contrast, people who function at a less advanced level may not be able to transcend their own perspective or coordinate it with other viewpoints, leading to one-sided, black-and-white perceptions of a conflict. Thus,

during political conflicts, people at higher levels of cognitive complexity should more frequently seek cooperation and agreement, while people at lower levels of cognitive development should compete more often.

This is not to say that higher complexity or a cooperative approach in conflict are always better or more desirable. Neither is this to say that higher cognitive functioning is necessarily associated with cooperativeness and less advanced cognitive development with competition. There are situations in which morally questionable standpoints may be supported with a complex argument.[1] Also, there are situations in which cooperation may not be the most adequate strategy to deal with certain types of opponents (e.g., Great Britain's policy of appeasement vis-à-vis Nazi Germany before the onset of the Second World War). Here, a simpler claim is made—that people at higher levels of cognitive development are better able to adapt their behavior to situational requirements. In situations such as direct attack, stubborn competitiveness on the part of opponents, or some type of bargaining where the objective is simply to win what there is to win, complex thinkers may turn out to be cunning competitors.[2] However, when political debates are amenable to an integrative resolution of both parties' goals—one that will benefit the two parties and society as a whole—reaching such a resolution requires cooperation and cognitive performances that may be relatively easy for people with advanced cognitive skills but too demanding for those who lack them.

Of course, the fact that one possesses advanced cognitive skills does not necessarily mean that one will take full advantage of them in making sense of social situations. Various moderating factors may influence the extent to which individuals are able to make use of their skills. Some of these factors may impair the ability to think in complex terms. Often participants in political conflicts become subject to emotionally laden attacks on themselves, their party, and the positions they take in the conflict. Under circumstances such as these, emotional involvement in the conflict may arise and increase reliance on categorical impressions of other groups when making judgments (for reviews, see Fiske, 1998; Wilder & Simon, 1996). Under emotional attack, the focus of the interaction between parties may shift from more practical and tangible issues to the emotionally laden sphere of values and ideologies (Bar-Tal, 1998; Reykowski, 1996b) and opposed group identities (Tajfel & Turner, 1986); this in turn may increase ego-involvement in the conflict. In such conditions, the ability to think in complex terms may become impaired.

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[1] For example, Tetlock, Armor, and Peterson (1994) showed that in pre–Civil War America some politicians who permitted or tolerated slavery were more cognitively complex in their arguments than those opposed to slavery.

[2] On the other hand, in some situations, attitudes toward conflict may be regulated by a group norm of benevolence and cooperation. In such cases, people with less advanced cognitive skills who are more susceptible to social influence may follow the norm, at least in declaration. Even if not competitive, simple thinkers do not contribute much to integrative agreement because they are not able to see the other's perspective, much less integrate it with one's own.

Overview of the Study

This study examines the relationship between cognitive development and the attitudes people adopt in actual conflict situations. This relationship is examined in two conditions: (1) a situation where the conflict is discussed in a neutral fashion, as a phenomenon and problem; and (2) a situation where participants are faced with a direct, emotionally laden attack on their party's position in the conflict. In the neutral condition, the skills provided by an individual's level of cognitive development are likely to be used fully and adequately. In contrast, in the attack condition, the full use of these skills may be hindered. In particular, two questions will be addressed. First, do people with more advanced cognitive skills approach conflicts in a more cooperative manner than people who lack such skills? Second, do people with more advanced cognitive skills become less cooperative when faced with an emotional attack?

Two hypotheses were explored. The first hypothesis is that people at different levels of cognitive development also differ with regard to their attitudes toward political conflict. Those at lower levels of development are more likely to see a given conflict as a zero-sum situation, leading them to compete, seek confrontation, and attempt to impose or at least rigidly defend their goals. In contrast, those at higher levels of development—who should be capable of more complex operations—are more likely to perceive conflicts as mixed-motive situations and to use cooperative, conciliatory attitudes. In other words, this hypothesis suggests that the main thrust of the social categorization and social cognition literatures should be qualified. That is, the assumption that the presence of an outgroup is sufficient to provoke competitive responses on the part of the ingroup (Tajfel & Turner, 1986, p. 13) may be more typical of individuals at lower levels of cognitive development.

The second hypothesis is that competitive, coercive attitudes are more likely when individuals are faced with a situation involving an attack on their party and its positions in the conflict. This hypothesis suggests that individuals at the same level of development may use their cognitive skills in different ways: Individuals subject to an emotional attack on their party and its positions may be less able to use the full range of skills afforded by their level of development. Thus, in the context of political cognition, this hypothesis takes up one of the main problems of cognitive-developmental psychology—the question of whether, and under what conditions, available cognitive skills are fully put to use in the process of making sense of surrounding reality (Piaget, 1960; Rosenberg, 1988).

The present study examines political thought in a sample of Polish politicians in the context of an actual political conflict in Poland. Although this choice of settings and samples naturally raises generalizability issues, it increases the ecological validity of the study, because the goal was to investigate the attitudes of politicians involved in an actual political conflict. Although many studies on individual functioning in intergroup conflicts offer high internal validity, their findings—obtained in laboratory settings, mainly using college students and other

non-politicians—may be somewhat difficult to generalize to real-life settings (see Sears, 1987).

The participating politicians were referred to a real-life political conflict under the assumptions that the relationship among cognitive skills, aroused emotions, and attitudes toward conflict may be different than in other types of conflicts, and that the real-life context is more complex and engaging than any situation created in a laboratory. Nonetheless, although the ecological validity of this study is probably greater than that afforded by laboratory studies, it is most likely smaller than that provided by archival studies of actual strategies political actors have used in various conflicts (see Suedfeld & Tetlock, 1977; Suedfeld, Tetlock, & Streufert, 1992). However, for the purposes of the study, it was necessary to interview the politicians directly in order to assess their level of cognitive development and their attitudes toward the conflict. In this regard, the present approach has certain advantages vis-à-vis the archival method. Namely, unlike the aforementioned archival studies, it allowed us to obtain measures of the participants' abilities (i.e., their actual, underlying potential for complex cognitive operations) as well as their attitudes toward conflict (1) when they were able to use this potential to a relatively high degree, and (2) in a situation where an emotional attack impaired the full use of their abilities. This made it easier to examine the gap between potential and performance highlighted earlier.

Another reason for conducting the study among politicians was that politicians and political experts differ from non-experts. In this vein, a great deal of research suggests that political experts are more cognitively sophisticated than non-experts (Fiske, Lau, & Smith, 1990; Lau & Erber, 1985; Sidanius & Lau, 1989), and that political elites may even be more sophisticated than expert members of the mass public (see Converse, 1964; Jennings, 1992). As such, in cognitive terms, the politicians examined in the present study may differ in important ways from other populations in which the relationship between cognitive functioning and attitudes toward intergroup conflict has been studied. This, in turn, may result in different attitudes and behaviors in the midst of political conflict.

Method

Sample

The participants were 46 mid- to high-level Polish politicians, of whom 39 were male. Twenty-five participants were current members of the Parliament and 21 were party functionaries. Seven main political parties were represented: the Confederation of Independent Poland, Democratic Left Alliance, Electoral Action "Solidarity," Movement for Poland's Defense, Polish Peasant Party, Union of Liberty, and Union of Labor. Hence, the sample constituted a comprehensive cross-section of incumbent and opposition groups in Poland's 1993–1997 govern-

ment. The politicians ranged in age from 23 to 69. Thirty-two participants had a college education; 14 had only a high school education.

Parliament members who had high (but not the highest) positions within their parties, and who played active roles on Parliament commissions without being "front-page" leaders at the time of the research, were sought out, as were party functionaries who represented the boards of party managers but were not the main figures in them. It was assumed that such individuals would be those most likely to participate in the generation of political decisions and to identify with and shape their parties' positions in the conflict, without being overly restricted in their ability to express themselves by a need to represent the party to the public. Of the 48 politicians who were asked to participate in the study, two refused to participate from the outset, and two others withdrew during its second stage.

The study was designed around an actual political conflict that took place in Poland in the fall of 1997. This conflict concerned ratification of the "concordat," an agreement with the Vatican that guaranteed privileges to the Roman Catholic Church in Poland. The agreement was signed by the Polish government in the summer of 1993 when the Parliament was suspended by the President who announced new elections for September 1993. Half of the participants represented parties opposing the ratification of the concordat; the other half represented parties favoring ratification.

Members of the post-communist Democratic Left Alliance and the leftist Union of Labor objected to its ratification, arguing that the agreement was invalid and contrary to the current Polish Constitution. They also argued that it would violate the principle of a secular state, extend an already sizable body of privileges enjoyed by the Catholic Church in Poland, and contribute to an increase in discrimination against non-Catholics.

The members of the rightist Confederation of Independent Poland, the Movement for Poland's Defense, Polish Peasant Party, and the newly constituted Electoral Action "Solidarity" favored the ratification, seeing it as a gesture of reverence for the Polish Pope and a sign that the country had returned to traditional Christian values after years of discrimination and forced secularization by the communist regime. They argued that the concordat was important for the majority of Poles who were Catholics, and regarded the fact that the concordat had not been signed after 7 years of Polish independence as shameful. Taking a slightly different tack, members of the Union of Liberty favored the ratification of the concordat because of the symbolic importance of the Catholic Church in Polish society. They also argued that the agreement would help regulate the relationship between the state and the Church, which had become unclear and had led to many disagreements.

Design

A two-step quasi-experiment was conducted to compare the relationship between the politicians' levels of cognitive development and their attitudes toward

the conflict under neutral and emotionally laden attack conditions. During the first step, politicians representing parties to the conflict over the concordat were interviewed to assess their level of cognitive development in the domain of politics. On the basis of this assessment, they were divided into two groups: one consisting of simple thinkers (i.e., those at less advanced levels of cognitive development) and another consisting of complex thinkers (i.e., those at more advanced levels of cognitive development). During the second step, half of each group was randomly assigned to the attack condition and the other half was assigned to the control group.

Participants who had received the emotional-attack manipulation, as well as those in the control group, were then asked a standardized set of 10 open-ended questions concerning their attitudes toward their opponents, the conflict, and their preferred strategies for dealing with it. On the basis of their responses, participants were coded as having expressed competitive, cooperative, or avoidance-oriented attitudes toward the conflict over the ratification of the concordat.

In the emotional-attack condition, an excerpt of a mock newspaper article was presented to each participant before the attitude questions were asked. The excerpt contained a hostile attack on the participant's party and its standpoint on the issue of ratification of the concordat. All participants in this group were presented with almost identical statements. Only the names of the attacked parties were changed; all other offending elements remained the same. For example, members of the left-leaning Democratic Left Alliance read the following in the attack condition:

> Propaganda, breaking promises, arrogant disrespect for members of Polish society—this is the attitude which the Social Democratic Alliance employs but hides behind a dishonest, benevolent smile. Several months before the parliamentary election, the so-called left, as usual, tries to frighten the constituency of the supposed dictatorship of the clergy and the limitations of liberties. What they really want is to keep the power. In breaking the moral spine of the nation they employ the same means which proved effective during 50 years of communist rule in Poland.

In contrast, members of the Union of Liberty received the following attack:

> Propaganda, breaking promises, arrogant disrespect for members of Polish society—this is the attitude which the Union of Liberty employs but hides behind a dishonest, benevolent smile. Several months before the parliamentary election, so-called liberals bought by the clergy contracted Catholics to try and frighten the constituency with God's wrath or the parish-priest's wrath. What they really want is to gain power. In order to gain power they are willing to sell Poland to the Vatican and to reduce our nation to a religious state with customs from an ignorant age.

Participants from all parties were told that the excerpt had been printed in a popular newspaper. The original fragment was indeed taken out of a newspaper article.

Participants' statements were analyzed to see whether they felt attacked; this was the case, as indicated by various excerpts from all the interviews.

In the neutral condition, participants merely answered questions about the conflict without receiving this presentation. They were referred to the conflict and then asked to answer the aforementioned questions. After the second stage of the study, participants in both groups were debriefed about the purpose of the project.

Assessment of Cognitive Development

During the first stage of the study (March–May 1997), participants' cognitive competence in the domain of politics was assessed using a modified Polish version of Rosenberg's (1988, 1992) Political Thinking Interview. Interviewees were presented with a short description of the problem of "decommunization," a topic that has been widely discussed in Poland for the past 10 years. Decommunization refers to the process of removing from the political scene all people who were in power during the communist period. Participants were asked whether decommunization should take place in Poland. Afterward, they were asked to justify their point of view. Interviewees were also confronted with three opposing arguments of increasing complexity and abstraction. In this way, they were encouraged to provide arguments at the highest level of cognitive sophistication they were capable of. Participants' responses were tape-recorded, transcribed, and coded. The transcripts were analyzed 3 months after the interviews were conducted.

Two independent scorers analyzed the transcripts. One of the scorers was the author of the present study, who was trained in Rosenberg's method of content analysis by its developer. The second scorer was a research assistant trained in Poland by the author. The participants' identities were unknown to the scorers, as the content of interviews had been previously coded. Participants' levels of cognitive development were assessed by documenting the kind of cognitive operations they were able to perform in dealing with the problem of decommunization. The participants' statements were assigned to one of five levels in the development of political thinking described by Rosenberg (1988, 1992, 1996; see the Appendix).

There was an 84.21% rate of agreement between the assessments provided by the two scorers. The median category (the linear level) was used to divide participants into two groups: simple and complex thinkers. Participants functioning on the linear level of development of political thinking were classified as simple thinkers: They generally developed abstract understandings of intergroup relations, but they were not able to transcend their own perspective on political issues (i.e., they were not able to decenter). Participants functioning on the levels more advanced than the linear were classified as complex thinkers. They were able to exercise at least the competency of decentration.

Attitudes Toward Political Conflict

During the second stage of the study (September 1997), participants' attitudes toward the conflict over the concordat were assessed. Forty participants took part in this stage of the study. Three participants who were classified as functioning on the advanced sequential level in the development of political thinking (the lowest level of any of the participants) were excluded from the study. Functioning on this level is characterized by a lack of abstract understanding of political issues and an inability to recognize other perspectives or conflict. Because cognitive functioning at this level may differ significantly from functioning at the other levels, this level was excluded from further analysis. Two other participants (one representing the linear level and one representing the advanced linear level) chose not to participate in the second stage. Moreover, one interview of a person at the advanced linear level contained too little interpretable material and was also excluded from the analysis.

Half of the simple thinkers and half of the complex thinkers were randomly assigned to the attack-treatment group. The remaining participants formed a control group; they completed the dependent measures in an emotionally neutral context. In both conditions, participants were asked an identical set of 10 open-ended questions about the conflict. The questions concerned participants' (1) perception of the conflict's origins ("In your opinion what is the disagreement over the concordat all about?", "Why has this disagreement emerged in a Polish political arena?"), (2) knowledge of arguments for and against the concordat[3] ("What are your party's most important arguments in discussions about the concordat?", "What are the most important arguments of your opponents?"), (3) beliefs about the characteristics of the engaged parties ("In your opinion, why do the parties in this disagreement represent these particular standpoints?"), (4) perceptions of the direction the conflict would take in the future ("In your opinion, what is the most likely resolution of this conflict?"), (5) opinions on the possibility and nature of a compromise ("In your opinion, is a compromise possible in this disagreement?", "What would such a compromise look like? / Why not?"), and (6) preferred strategies for dealing with their opponents ("In your opinion, what would be the best action your party can undertake in this situation?", "Should your party undertake any actions toward its opponents?"). The questions were always presented in the same order. As noted earlier, participants' responses were tape-recorded, transcribed, and coded.

Three months after the interviewing was completed, these responses were analyzed by the same two individuals who did the scoring during the first phase. The participants' identities were unknown to the scorers, as the interviews had been

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[3] This aspect was analyzed in order to examine whether a participant was expressing an educated opinion (based on cognition) or was simply following the party line (based on political party identification, which is mainly emotional) with respect to the conflict.

previously coded. The scorers reached 100% agreement in classifying participants' statements about the conflict as characteristic of one of the three aforementioned attitudes toward political conflict (i.e., competition, cooperation, and avoidance).

The scorers coded the answers as reflecting a *competitive* attitude when the following elements were present in participants' responses: (1) The participants tended to blame their adversaries for causing the conflict, or understood the conflict as an inevitable part of policymaking where each party wants to win over others; (2) they knew that the party they represented was for or against the concordat, but they did not know the particular arguments their party and its opponents used to support their positions; (3) they held a negative image of the adversary; (4) they saw the adoption of their own party's policies as the solution to the conflict; (5) they understood "compromise" as imposing their own party's will; and (6) they wanted to change their opponents' positions or outvote them (rather than negotiating with them over a final course of action).

Participants' statements were interpreted as expressing a *cooperative* attitude when the following characteristics were present: (1) The participants did not blame any party for causing the conflict, and/or searched its origins by engaging in sociohistorical or geopolitical analyses; (2) they knew the arguments of the parties in the conflict and were able to report more than two of them; (3) they held a positive or neutral image of the adversary; (4) they looked for the solution to conflict in cooperation or compromise; (5) they understood "compromise" as an agreement involving mutual concessions; and (6) they actually intended to cooperate or compromise.

Participants' statements were classified as displaying *avoidance* when (1) the participants saw conflict as an inevitable part of policymaking, in which groups fight to win over others; (2) they possessed some knowledge about the parties' arguments for or against the concordat, but were not able to report more than two of them; (3) they held a neutral or negative image of the adversary; (4) they looked for "third party" solutions (e.g., Parliament voting, the upcoming election, or a referendum) to the conflict; (5) they did not see the possibility of a compromise, or even communication, with the adversary; and (6) they wanted to end the conflict, but also wanted it to be resolved by a third party external to it.

Within each of the attitudes described above, several types could be differentiated. Two types of cooperative attitude emerged. The first type was characterized by a desire to achieve an agreement even at the cost of one's own interests. This type of cooperative attitude may also be referred to as "yielding" (Pruitt et al., 1994; Stephan & Stephan, 1996) or "accommodation" (Kilmann & Thomas, 1977). The second type of cooperative attitude is characterized by an effort to both find a conciliatory solution and achieve one's most important goals. Assertive cooperation of this sort is also referred to as "rigid flexibility" (Pruitt et al., 1994) or "collaboration" (Kilmann & Thomas, 1977). It assumes a possibility of open and cooperative communication with the opponent, but also aims at the attainment of certain goals, which can be modified only slightly.

Two distinct types of competitive attitude were distinguished along a *passive-active* dimension. The first type involves a devoted defense of one's goals, without any possibility of modification, along with the assumption that one's opponent will finally have to give in (see Abric, 1982). The second type of competitive attitude is characterized by a preference for coercive behavior, confrontation, and the imposition of one's own will over the opponent.

Finally, three types of avoidant attitudes were apparent. In all three cases, the possibility of any communication with the opponent—whether benevolent or coercive—was rejected. However, within each type, it was rejected for different reasons (see Pruitt et al., 1994; Stephan & Stephan, 1996). In this study, the first type of avoidant attitude was characterized by the conviction that a decision rendered by a third party not involved in the conflict would simply be the most effective and objective way of ending it. In the case of the second type, the decision to search for a third-party solution results from disappointment with earlier interactions with opponents and a subsequent negative evaluation of their attitudes and traits. In the third type, participants portray their own party as the one seeking compromise, and they blame their opponents for causing and maintaining the conflict. Despite an expressed intent to cooperate, they do not see cooperation as a practical possibility in the absence of a third-party solution, given their opponents' actions and attitudes.

Results

Numbers of responses falling into each of the three categories (competitive, avoidant, and cooperative) were compared for simple and complex thinkers, and across the control and attack conditions. The response distributions for simple and complex thinkers were then compared separately in the neutral and attack conditions. The statistical significance of differences in the distribution of responses was assessed with χ^2 and Fisher exact probability tests.

The results in Table 1 reveal a significant difference between simple and complex thinkers with respect to the attitudes they express, collapsing across the two experimental conditions ($p < .01$). People who are able to use more advanced cognitive operations while making sense of conflict situations are less likely to compete than those whose skills are less advanced. Instead, they tend to adopt non-competitive attitudes (i.e., cooperative and avoidant ones). On average, complex thinkers tend to be neutral in their evaluations of other parties, they tend not to blame any particular party for the conflict, and they disapprove of forcing their own position on others. They also indicate a preference for communication and compromise as strategies of conflict resolution. In contrast, the majority of the simple, linear thinkers adopt a competitive attitude across conditions. They hold negative images of their adversaries and blame them for causing and prolonging the conflict. They prefer strategies oriented toward direct confrontation, and they seek to force their will on their adversaries. Thus, these results suggest that

Table 1. Distribution of Attitudes Toward Political Conflict Among Politicians of Different Cognitive Skills Across Conditions

	Less advanced cognitive skills (linear level)	More advanced cognitive skills (advanced linear and systematic levels)
Competitive attitudes	14	3
Avoidant attitudes	4	8
Cooperative attitudes	2	9

Note. Entries are numbers of participants per cell.
$\chi^2(\text{df} = 2) = 12, 905; p < .01.$

approaches to conflict do indeed vary according to one's level of cognitive development.

The results in Table 2 show the distribution of responses in each of the two experimental conditions in which participants answered the questions about the conflict over the ratification of the concordat. The cooperative attitudes are used almost exclusively in the neutral conditions, whereas the competitive and avoidant attitudes dominate in the attack conditions. The competitive attitude is almost as frequent in the neutral conditions as after the emotional attack. Thus, cooperation is less likely in the attack condition, but the neutral condition alone is not sufficient for the cooperative attitudes to dominate. Only an analysis that takes into account the influence of both factors—cognitive development and the conditions in which the questions about the conflict were answered—allows for a better understanding of the relationships involved.

The second hypothesis raised the question of whether the relationship between response type and level of cognitive development significantly differs across the neutral and attack conditions. The results in Tables 3 and 4 indicate that cognitive development and the conditions do indeed interact to predict the distribution of responses across the three categories. As the entries in Table 3 indicate, in the neutral condition, the distributions of responses for simple and complex thinkers differ significantly ($p < .05$). A majority of simple thinkers adopt competitive attitudes, whereas a majority of complex thinkers adopt cooperative attitudes.

Table 4 reveals a significant difference between the attitudes of simple and complex thinkers in the attack condition as well ($p < .025$). Politicians at lower

Table 2. Distribution of Attitudes Toward Political Conflict in Neutral Condition and After Emotional Attack

	Neutral condition	Emotional attack
Competitive attitudes	7	10
Avoidant attitudes	4	8
Cooperative attitudes	9	2

Note. Entries are numbers of participants per cell.
$\chi^2(\text{df} = 2) = 6, 318; p < .05.$

Table 3. Distribution of Attitudes Toward Political Conflict in Neutral Condition

	Less advanced cognitive skills (linear level)	More advanced cognitive skills (advanced linear and systematic levels)
Competitive attitudes	6	1
Avoidant attitudes	2	2
Cooperative attitudes	2	7

Note. Entries are numbers of participants per cell.
χ^2(df = 2) = 6, 349; $p < .05$.

levels of cognitive development tend to adopt competitive attitudes in the face of an attack, suggesting that they are prone to competition regardless of the way in which the conflict is emotionally framed. There is no significant difference between the distributions of the attitudes they used in both conditions ($p > .05$). Politicians at higher levels of development differ from simple thinkers in both conditions. However, under the attack condition, participants' attitudes could only be examined in terms of a difference between competitive and non-competitive (i.e., cooperative *or* avoidant) responses, because the number of participants was small (which, in some cells, produced expected frequencies lower than 1). As we have seen, complex thinkers adopt cooperative attitudes in neutral conditions. When faced with an emotional attack on their positions, they still avoid competition. However, they also appear to avoid cooperation. Instead, they tend to avoid dealing with the conflict, rather than competing, when faced with an emotional attack.[4] As one of the participants commented after being presented with the attack, "I am not going to deal with it. This is written with venom." Participants like this one were against the idea that their party should take any further action to solve the conflict cooperatively.

Table 4. Distribution of Attitudes Toward Political Conflict After the Emotional Attack

	Less advanced cognitive skills (linear level)	More advanced cognitive skills (advanced linear and systematic levels)
Competitive attitudes	8	2
Avoidant attitudes	2	6
Cooperative attitudes	0	2

Note. Entries are numbers of participants per cell. Cooperative and avoidant attitudes were treated as a single non-competitive category; the distribution of non-competitive attitudes was compared with the distribution of the competitive orientation by means of the Fisher exact probability test: $p < .025$. The Fisher test is used to evaluate results obtained in small samples where expected values are smaller than 2 (Hays, 1991; Siegel, 1956).

[4] On the basis of a Fisher exact probability test on joined categories of the competitive and non-competitive attitudes, it is impossible to state with confidence that complex thinkers tend to avoid conflict rather than cooperate when faced with emotional attack on their positions. This, however, seems to be a tendency, and it likely would be more clearly revealed in a larger group of participants.

The findings indicate that an emotional attack changes participants' cognitive functioning in the conflict, but does not completely cancel out differences in functioning stemming from variations in cognitive development. However, the results imply that the role of cognitive development in the adoption of certain attitudes toward political conflict is modified by characteristics of the conflict situation.

Discussion

Two hypotheses were examined in this study. The first hypothesis suggested that higher levels of cognitive development would result in the adoption of more cooperative attitudes toward political conflict. The second hypothesis qualified this prediction by suggesting that the relationship between cognitive development and attitudes toward conflict would vary according to the conflict condition. More precisely, this hypothesis argued that the exposure to an attack on one's party and its positions would attenuate the relationship between cognitive development and cooperative attitudes.

The findings confirmed both hypotheses. Individuals functioning at higher levels of cognitive development were more likely to pursue cooperative solutions to the political conflicts they faced, but only under neutral conditions. When attacked, they moved away from a cooperative approach toward a more avoidant one. In contrast, individuals functioning at low levels of cognitive development tended to be more competitive and confrontational, regardless of whether their party and its positions had been attacked.

Complex Thinking Under Emotional Attack

The results presented here suggest that the relationship between advanced cognitive skills and the tendency to cooperate in political conflict is limited to situations where conflicts are discussed in a relatively neutral manner. When faced with an emotional attack on their party and its positions, complex thinkers become less cooperative. Instead, they tend to exit the conflict, avoid direct contact with their opponents, and lean toward third-party solutions. How do we make sense of this finding?

The adoption of avoidant attitudes by complex thinkers when attacked suggests that they may not have been using their full range of cognitive abilities. Adoption of an avoidant attitude may be interpreted as a shift away from a cooperative approach—which, as we have seen, requires skilled operations involving decentration and perspective coordination—in the direction of a less complex competitive one. This interpretation is consistent with findings suggesting that attacks on the ingroup create a stressful situation, suggesting a need for self-defense and heightened involvement in a conflict (Deutsch, 1973; Guttieri et al., 1995; Sherif, 1958; Tajfel & Turner, 1986).

However, the tendency to avoid conflict when one's position is attacked may also be seen as evidence of advanced cognitive operations. More precisely, avoidance may represent a "rational" tendency to exit the situation under conditions in which the ability to render an adequate, reasonable judgment is hindered. One of the skills complex thinkers possess is the ability to reflect on their own judgments and the origins of the perspectives they take (Rosenberg, 1988, 1992). As such, they may be able to monitor the role played by emotional attack and its possible consequences such as emotional involvement, stress, etc., in their thinking. Individuals who become aware of the potentially disruptive effects on their thinking may simply avoid taking positions when their ability to analyze the problem objectively is hindered, as some research on attitudes and behavior suggests (Edwards, 1990; Granberg & Brown, 1989; Guttieri et al., 1995; Wallace & Suedfeld, 1988). Additional research will be needed before a definitive judgment about the rationality of the avoidance approach can be rendered.

This study indicates that politicians with advanced cognitive abilities approach conflict differently under neutral and attack conditions, whereas politicians capable only of simple operations tend to compete, regardless of the circumstances. Together, these two findings may provide clues as to why real-life political conflicts often tend to escalate uncontrollably. Real-life conflicts of interest—particularly in their public aspects—tend to make negative feelings highly salient (see Sherif, 1958). These are, of course, precisely the situations in which those who possess cognitive skills necessary for cooperation opt to exit the conflict, leaving behind only those who tend to compete. This may also be a reason why negotiations held behind closed doors often look so different. This is where complex thinkers can fully exercise their cooperative skills and balance out their more competitive counterparts.

Implications for the Social-Cognitive Approach to Group Functioning

The results of this study suggest that people functioning at the linear level of cognitive development (Rosenberg, 1988, 1992) are more likely than participants functioning at more advanced levels to prefer competitive, coercive tactics in political conflicts. Individuals operating at the linear level are not capable of cognitive decentration. As a result, they tend to adopt a one-sided, egocentric perspective in their efforts to make sense of reality. This perspective may be seen as an important obstacle to the resolution of political conflicts. When it is adopted, the parties' goals are likely to be seen as completely and irretrievably incompatible, thereby increasing the likelihood that coercive tactics will be preferred.

Interestingly, this way of looking at intergroup situations is similar to that described as the default mode of perception in social psychological studies of cognition and action in intergroup situations (Allport, 1954; Fiske, 1998; Ross & Ward, 1995; Rothbart, 1993; Sherif, 1958; Stephan & Stephan, 1996; Tajfel & Turner, 1986). The fact that individuals at higher levels of cognitive development

are less likely to display this pattern suggests that these studies may have over-estimated the degree to which ingroup biases and rigidly categorical forms of perception are "universal" (see also Kruglanski & Freund, 1983; Shah, Kruglanski, & Thompson, 1998). Rather, they may be primarily typical of individuals functioning at lower levels of cognitive development. The results of the present study suggest that the traditional social identity and social-cognitive approaches to intergroup perception may benefit from a consideration of how individuals at different levels of cognitive development are more or less likely to display rigidly categorical modes of perception. As we have seen, the possession of advanced cognitive skills may significantly alter one's approach to intergroup situations.

More precisely, it is clear that the more multifaceted mode of thinking about intergroup situations—made possible by the capacity for decentration and perspective coordination associated with higher levels of cognitive development—increases the likelihood of cooperation. Complex thinking leads to an understanding of conflict situations that is mentioned only seldom in social psychology (Deutsch, 1973, 1994): The situation becomes seen as a problem that can be solved. Opponents' goals and arguments are recognized and discussed from a relatively disengaged "third perspective," and the parties concentrate not on their differences and divisions, but on their similarities and common goals. As such, a capacity for more advanced, multidimensional modes of thought would seem to be a prerequisite for effective and rational political debate, as well as the achievement of consensually acceptable solutions to public disputes (Habermas, 1979, 1984).

Political Implications

The results of this study also have implications for the impact of cognitive functioning on the effectiveness of democratic institutions. Theoretical analyses of deliberative democracy (see Habermas, 1979, 1984; Lipset, 1960) tend to highlight the importance of constructive forms of communication and cooperative efforts to resolve conflict. Democratic forms of decision-making assume that participants are able to entertain opposing points of view, withhold immediate judgment until all pertinent perspectives have been addressed, and find arrangements that can satisfy constituencies with disparate interests and preferences. Thus, adequate and effective participation in such settings requires cognitive and motivational predispositions that encourage cooperation and modes of communication capable of fostering a rational consensus. Among these are an acceptance of the possibility that people of opposing views might be right, and a willingness to admit that these perspectives may enrich and broaden one's own. In other words, democratic participation would seem to place a premium on a capacity for decentration—that is, the ability to reach beyond one's own perspective—and an ability to coordinate perspectives during the process of collective problem-solving. The absence of these abilities, as well as the presence of factors impairing their full use, may make it difficult for a given

political community to take full advantage of the benefits provided by democratic institutions.

Most of the participants in the present study did not possess a level of cognitive ability likely to foster constructive conflict resolution. More precisely, more than half of the participants were incapable of decentration (i.e., out of 46 participants 22 functioned on a linear level and 2 on an even lower advanced sequential level). Others were able to transcend their own point of view, but were not able to integrate it with other perspectives (i.e., the 16 participants functioning on an advanced linear level). All in all, only six participants possessed both critical cognitive abilities.[5]

Consistent with this distribution of abilities, the politicians rarely adopted a cooperative approach toward their opponents (i.e., in only 11 cases out of 40). Other analyses confirm that Polish politicians rarely transcend their own perspective during debates. They limit themselves to a presentation of their own viewpoints and arguments that support them, and the most common strategy they use to resolve conflict is voting and acceptance of the will of the majority (Polkowska, 1993). These results suggest that the cognitive preconditions for adequate participation in democratic discourse may be quite difficult to achieve, perhaps most of all in developing democracies. In this regard, an important contribution of the present study may be the strategies it suggests for increasing the likelihood of constructive participation in political debates.

At the most basic level, the findings described above suggest that the parties to a conflict would be better off (1) if they chose representatives functioning at higher levels of development in their political thinking, and (2) if they made a concerted effort to avoid emotional provocation during the negotiation process. As noted above, this is rarely possible in real-life conflict. However, it is possible to stimulate the development of more advanced forms of political thought and to encourage individuals to make full use of their cognitive potential (Deutsch, 1982, 1994; Fisher, 1994; Horowitz & Boardman, 1994; Rouhana, 1995).

For example, Rosenberg (1988) suggested that the experience of functioning within the democratic organization and attempts to use principles of effective communication in democratic settings may stimulate the development of more advanced modes of political thinking. This suggestion is consistent with developmental studies indicating that cognitive development in adulthood depends more on experience and practice than in earlier stages (Kohlberg, 1984; Kramer, 1990; Sinnott, 1989). There are reasons to think that the development of more advanced cognitive skills—such as the ability to transcend an egocentric perspective in social situations or the ability to coordinate various perspectives—may be quickened by procedures that provide individuals with the possibility of exposure to, and training and practice in, complex reasoning. These procedures include exposure to political dilemmas, practice in understanding and rephrasing opposing arguments, perceiv-

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[5] Parliament members display significantly higher cognitive functioning than party members (Golec, 2001).

ing one's own standpoints from the perspective of the opponent, and searching for integrative perspectives.

In this vein, moral reasoning workshops that provide participants with practice in resolving moral dilemmas have proven to be effective in stimulating cognitive development in this domain (see Boyd, 1980). Moreover, a number of conflict-resolution programs—such as the Israeli-Palestinian Continuing Problem-Solving Workshops described by Rouhana and Kelman (1994) and Rouhana (1995)—have been organized around techniques that encourage the further development of cognitive skills. As the authors report, participants armed with these advanced skills may develop new insights and more profound understandings of the conflicts they are involved in. Interventions like these may prove to be particularly important in the case of individuals functioning on transitional developmental levels. Developmental studies suggest that these individuals initially mimic complex reasoning when exposed to discourse containing more advanced operations, but eventually become able to produce complex argumentation on their own (Chilton, 1988).

The present results also imply that situational factors may influence the extent to which cognitive potential is used by individuals in a given situation. Thus, another way of increasing the likelihood of constructive political debate is to use strategies that encourage individuals to make full use of the abilities they do possess. In this regard, research suggests that being held accountable for the quality of one's cognitive performances and the final outcomes they lead to may enhance the likelihood of complex thinking (Tetlock, 1992; see also Kruglanski & Webster, 1996). Similarly, research by Kruglanski and his colleagues (Kruglanski & Webster, 1996) suggests that situational factors that reduce the need to reach "cognitive closure"—that is, a subjective sense of judgmental finality—may encourage more extensive information processing and greater consideration of alternative interpretations of a given problem or situation, which may foster the sort of thinking that facilitates cooperation. These include situations in which judgmental failure may be costly to an individual, settings in which the issue at hand is interesting and enjoyable to an individual (or at least more enjoyable than those that are to be analyzed next), situations where greater judgmental accuracy is needed, contexts in which complex thinking is emotionally or personally gratifying, and the absence of time pressure. Conditions such as these may thus further complex information processing, provided that individuals possess the requisite cognitive skills.

In conclusion, the results of the present study suggest that in order to predict behavior in political conflicts, we need to consider at least two factors simultaneously: cognitive abilities, and situational factors that impair or enhance the use of these abilities. Politicians appear to possess measurably different levels of cognitive development, which are associated with different attitudes toward political conflict. Generally speaking, an inability to transcend one's own point of view increases the likelihood of competition in conflict. However, politicians who are able to exercise this and more advanced cognitive skills when dealing with conflicts tend to be less competitive, even under attack conditions.

APPENDIX: Cognitive Skills on Different Levels of Development

(for a detailed description of the method, see Rosenberg, 1988, 1992)

Sequential Level

The interviews were classified as representing this level if participants' statements revealed an ability to:
- Observe, notice, remember, and recall concrete objects, events, etc.;
- Organize observed and/or remembered events in a sequence based on loose, subjective associations;
- Categorize, group concrete objects, events, etc.;
- Evaluate objects, events, etc., based on concrete experience, motivated by avoiding pain and punishment.

Advanced Sequential Level

The interviews were classified as representing this level if participants' statements revealed all the above mentioned operations and others allowing for more abstract reasoning, such as:
- Form simple relationships between concrete objects, events within a reported sequence;
- Fractionate, analyze concrete objects, events, etc.

Linear Level

The interviews were classified as representing this level if participants' statements revealed all the above mentioned operations and others allowing for more abstract reasoning, such as:
- Generalize relations between concrete objects, events, etc.;
- Relate objects and events to each other, abstract rules, laws, and properties from relations between concrete objects, events, etc.;
- Recognize existence of different points of view, recognize conflict and its sources;
- Evaluate objects, events, etc., based on authority and social norms, conventions, and standards understood as stable, absolute, and externally given.

Advanced Linear Level

The interviews were classified as representing this level if participants' statements revealed all the above mentioned operations and others allowing for more abstract and complex reasoning, such as:
- Construct relationships between abstracted rules, laws, and properties;

- Decentrate—see more than one-at-a-time aspect of objects, events, etc., consider simultaneously more than one possible point of view on a problem;
- Evaluate objects, events, etc., based on recognition of relativity of social norms, based on individual choice according to preferences, without way of determining what is better or worse; recognition of difference between moral (should be) and practical (is); no attempts to integrate.

Systematic Level

The interviews were classified as representing this level if participants' statements revealed all the above-mentioned operations and others allowing for more abstract and complex reasoning, such as:

- Generate hypotheses about novel objects, events, and relations by juxtaposition of the abstract rules, laws, and properties;
- Reflect on process of generating judgments about objects, events, and relations;
- Construct general model of system of abstract rules, laws, properties, and relations; use it as a frame of reference in analyzing and interpreting objects, events, relations, etc.;
- Coordinate points of view, define relations between different aspects of objects, events, etc., and between different perspectives on a problem, seeing some aspects in context of others;
- Evaluate objects, events, etc., based on recognition of relativity of social norms, according to given frame of reference that provides ways of choosing between better and worse; awareness of relativity and context of this choice; recognition of difference between moral (should be) and practical (is); attempts to integrate.

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