Order Number 9314588

An integrative approach to the study of social competence in adolescence

Lenhart, Lisa Ann, Ph.D.

The University of North Carolina at Greensboro, 1992

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

AN INTEGRATIVE APPROACH TO THE STUDY OF SOCIAL COMPETENCE IN ADOLESCENCE

by

Lisa A. Lenhart

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina-Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
1992

Approved by

Dissertation Advisor

APPROVAL PAGE

This Dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Dissertation Advisor _____

David L. Rabiner, Ph.D.

Committee Members _____

_____

_____

_____

November 23, 1992

Date of Acceptance by Committee

November 6, 1992

Date of Final Oral Examination

LENHART, LISA A., Ph.D. An Integrative Approach to the Study of Social Competence in Adolescence. (1992) Directed by Dr. David L. Rabiner. 115 pp.

The purpose of this research project was 1.) to examine the relationship between social cognitive problem solving skills and social competence (assessed through self-report, teacher report, and ratings of competence in behavioral interactions), 2.) to evaluate the utility of combining constructs from social cognitive theories and psychodynamic theories for understanding cognitive problem solving skills, and 3.) to examine the joint influence of cognitive problem solving skills and the psychodynamic constructs on behavioral competence.

Eighty-four adolescents between the ages of 14 and 19 were evaluated in this project. Social cognitive problem solving was assessed through responses generated to sixteen hypothetical situations involving a conflict between two same-sex peers. Behavioral competence was evaluated through the Achenbach Youth Self-Report Form, teacher ratings of Prosocial, Aggressive, and Socially Isolated behaviors, and videotaped interactions with a same-sex peer.

A regression analysis indicated that cognitive problem solving skills are significantly related to self-reported behavioral difficulties, to teacher ratings of aggression, and to ratings of competence in the behavioral interactions. In the second analysis, the Object Representation level was found to be a significant predictor of cognitive problem

solving skills. Finally, it was determined that cognitive problem solving skills mediate the expression of the object representation level on behavioral competence assessed through videotaped interactions; this was not found to be true for the teacher ratings.

Overall, the results of this study indicate that integrating constructs from psychodynamic theory and from social cognitive theory can allow for better understanding of social competence in adolescents. A model whereby object representation level affects cognitive problem solving skills, which in turn affects behavioral competence was formulated.

ACKNOWLEDGEMENTS

I would like to thank the people whose support, cooperation, and encouragement were essential to the successful completion of this research project. I am first and foremost indebted to my research advisor, Dr. David Rabiner, for his unending support, patience, and advice throughout this project and my educational career. I would also like to thank my committee members, Tony DeCasper, Earnest Lumsden, Jonathon Tudge, and Jackie White, for their help in formulating the idea for this project and constructive advice at crucial times. My appreciation is extended to Shelley Chambers and Rachel Dearing for their assistance with coding, without which the completion of this project would have been impossible. Greensboro Day School and Weldon High School are offered thanks for their assistance in obtaining the participants for this research, and the staff at the Halifax County Mental Health Center are appreciated for their cooperation with this study and for allowing the use of their office space and equipment. Finally, Sigma Xi offered financial support for this study, which is greatly appreciated.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

Although many studies have been designed to examine the role of social behavior and social competence in young children, there have been few studies on the social behavior of adolescents or the relationship between social competence and social cognition during this important developmental period. This appears to reflect the focus on identity issues and individuation from the family during this developmental period, which grew out of the theoretical ideas of Erikson (1968). Given this gap in the literature, the purpose of the present study is to expand understanding of social behavior, social cognition, and social competence in adolescence.

A second area of relative neglect in the literature involves an examination of the relationship between psychodynamic constructs or internal mechanisms proposed by this theory and social behavior. In order to fully examine social behavior in adolescence, it was felt that inclusion of the psychodynamic constructs would offer a more complete analysis of the factors that contribute to social competence. Two constructs, notably defense mechanisms and object representations, are considered to be important contributors to social competence through their influence on

the interpretation of others and situations. Thus, the overall goal of this study was to examine the relationship between internal processes, social cognition, and social competence in adolescence.

In order to understand the current view of social behavior, the progression of research on social factors will first be reviewed, followed by an outline of the major theories postulated to describe and/or explain social phenomenon. An examination of the various internal processes that may affect social behavior, as well as the research that examines this relationship, will then be conducted. This review will aim to identify potential areas of neglect within the literature on social behavior and the interaction between social behavior and adjustment.

Increasing Interest in Social Phenomena

Examination of the historical sequence of research in psychology reveals a gradually increasing focus on social behavior and social competence. Freud emphasized the importance of internal, unconscious conflicts, which placed attention on the individual rather than on social factors. Reformulations of Freud's original theory by Sullivan and Adler, who stressed social and cultural influences on behavior, led to greater attention being placed on social behavior. Another impetus for the focus on interpersonal or social factors was the dramatic increase in psychopathology following World War II (Wine, 1981), which clearly

emphasized the impact that enviromental factors can have on overall functioning. With these changes, further hypotheses were formulated, including the idea that early social difficulties can affect later functioning (Cowen, Pederson, Babigan, Izzo, and Trost, 1973) and that early experiences guide later behavior by affecting interpretation of subsequent experiences (Mahler, Pine, and Bergmann, 1975). Thus, greater emphasis has gradually been placed on social behavior and interpersonal relationships.

Although much research has examined social competence, a universally agreed upon definition of social competence has not yet been formulated. This has resulted in the use of many different, and often not directly comparable, definitions and measurement tools. The definitions of social competence range from being exclusively cognitive to exclusively behavioral, with many variations in between. One impediment to the development of a definition of competence is the difficultly in determining the constituents of competence, which is a complex phenomenon with subtle elements occasionally having great importance. Furthermore, it is difficult to delineate competent behaviors, given that a particular behavior may be considered competent in one situation but not in another.

Waters and Sroufe (1983) differentiate between definitions of competence that focus on molecular aspects of competence (i.e. particular skills or behaviors) and those

that utilize a molar view of competence as an integrative or organizational construct that reflects the ability to generate flexible responses to social demands. It is suggested that molecular definitions are more frequently used in research because they are easier to operationize and examine, but that this may involve forfeiting a developmental and adaptational perspective of competence (in terms of adaptation to environmental demands). Particular skills used to define competence tend to be situation, age, and task specific, which may not reflect ongoing social adaptation. In summary, the basic distinction between molecular and molar definitions of competence refers to whether or not a construct that unifies the specific skills related to social competence was proposed.

Waters and Sroufe (1983) suggested that the measurement of competence may best be achieved by formulating broad or general definitions of competence and then delineating the specific skills or behaviors involved in this general scheme. Examining behavior in the laboratory should alternate with naturalistic studies to ensure that the empirical definitions coincide with reality. In addition, they hypothesized that affect, cognition, and behavior will be coordinated in actual interactions, and thus all areas should be included in the evaluative process. Finally, it was suggested that both typical and optimal performance should be assessed to understand the actual adaptive

capacity of the individual. To date, the goal set up by Waters and Sroufe (1983) for adequately studying social competence as a molar, developmental construct has not been fully realized.

Molecular Views of Social Competence

The study of social competence began with the recognition that socially incompetent behaviors are associated with negative outcomes at a later point in time. One of the first studies that examined this relationship was carried out by Zigler and Phillips (1961), who found a relationship between social competence and treatment outcome, with socially competent schizophrenics more likely to benefit from treatment efforts than less competent schizophrenics. This led to the idea that competence may have an etiological role in the development of mental illness, which generated research examining the possiblity of a causal connection between competence in childhood and later adjustment. Parker and Asher (1987) reviewed this literature and found evidence for increased incidence of pathology in adults who had been identified as having peer difficulties in childhood. Thus, there is evidence that children who are not socially competent are at greater risk for developing psychopathology later in life.

Goldfried and d'Zurilla (1969) offered one of the first organized descriptions of social competence, and an objective means of measuring this concept. Competence was

defined as the effectiveness of an individual's responses in a variety of problematic situations. These authors suggested that it is important to examine an individual's behavior in problematic or difficult situations, as competent responses to these types of situations should be predictive of competent behavior in less problematic situations. Competent behavior in "easy" situations, in contrast, may not predict behavior in more difficult situations.

Social competence was defined by Goldfried and D'Zurilla (1969) in terms of social problem solving skills, assessed through observations of the individual in social situations. The skills delineated by these authors included problem definition, alternative solution generation, response selection, and verification of the chosen solution's effectiveness. Their conceptualization of competence includes both cognitive and behavioral components, although their research de-emphasized the cognitive aspects, as they focused on behavioral ratings rather than assessment of the cognitive features. Their evaluation of social competence would be considered a molecular approach, given the focus on particular skills and lack of emphasis on an integrative construct. They introduced the procedure of using hypothetical problem situations to examine competence, which constituted a major methodological advance for researchers interested in social

behavior. They determined that responses to hypothetical situations reflect behavior outside the laboratory, and concluded that it was not necessary to observe interactions between people in order to study interpersonal behavior.

Spivak, Platt and Shure (1976) introduced the concept of Interpersonal Cognitive Problem-Solving Skills (ICPS), which refers to skills that are necessary for adequate social adjustment or competence and which are based on the cognitive ability to resolve interpersonal conflicts. This approach differs from the previous one in the strong emphasis on the cognitive, rather than behavioral, components of social competence. The problem-solving skills postulated to be important for adjustment include sensitivity to interpersonal problems, alternative solution generation, means-end thinking, consequential thinking, and reflection on the motivation (of self and other) for behavior. Means-end thinking refers to the ability to recognize the process involved in achieving a desired goal, while consequential thinking refers to the ability to reflect on potential consequences of solutions (for self and other) before acting in order to avoid unfavorable outcomes. The skills delineated are primarily cognitive in nature and extend beyond the actual behavior exhibited. It was suggested that ICPS skills may not be exhibited in situations for one of two reasons: either the individual has never learned the appropriate skills or the situation causes

affective arousal such that the normal cognitive processes are interrupted. Their overall theory reflects understanding of the ongoing nature of interpersonal relations and thus incorporates an adaptational view of competence, which implies understanding that behavior will be adapted to meet environmental demands.

Research by Spivack, Shure, and colleagues (Platt and Spivack, 1975; Shure, 1982; Shure and Spivack, 1978) has shown that there is a relationship between interpersonal problem solving ability and self-concept, psychiatric difficulties, and interpersonal functioning. Skill deficits were found to be related to maladjustment in several studies (Shure, 1982; Platt, Spivack, Altman, Altman, and Peizer, 1974; Spivack, Platt, and Shure, 1976). Spivack, Platt, and Shure (1976) have also found support for the hypothesis of a causal connection between problem-solving ability and interpersonal adjustment.

The overall research protocol completed by these authors reflects a move towards the examination of social competence as a molar construct. Spivack and Shure studied the relationship between current social skills and concurrent or future adaptation; they also examined behavior in the laboratory and naturalistic settings. However, their focus was on examining specific skills with less emphasis on determining the relationship or interaction between these component parts. Finally, the delineation of perspective

taking skills as important for adequate ICPS suggests that Spivack, Platt, and Shure (1976) consider competence to involve the integration of interpersonal views, but this was not a focus of their research.

Dodge, Pettit, McClaskey, and Brown (1986) delineated a social information processing model designed to describe social behavior and social competence in terms of the processing of social information. This model consists of five sequential steps: encoding of relevant social cues, interpretation or mental representation of these cues, accessing alternative solutions, evaluation and selection of an appropriate solution, and the enactment of that response. Their goal was to explain social behavior by examining how social information is processed; their research protocol involved isolating the various steps involved in the information processing scheme and holding all the other steps constant.

Dodge and colleagues examined the relationship between social problem solving ability or components of social behavior and sociometric status, as conceptualized and defined by Coie, Dodge, and Coppotelli (1982). Groups of average, popular, rejected-aggressive (French, 1988), and rejected-nonaggressive children were identified and evaluated in terms of their information processing style. Their research has offered support for the existence of a relationship between social competence or adjustment and

problem-solving skills (Dodge and Newman, 1981; Dodge and Frame, 1982; Dodge, Schlundt, Schocken, and Delugach, 1983; Dodge, Coie, and Brakke, 1982). The focus of this research was on understanding particular skills and how these skills contribute to social behavior, using the information processing model as an organizational structure for social competence.

One social cognitive skill that is relevant in all the above theories is solution generation, which involves deciding on an appropriate course of action or accessing different solutions to the problem; this skill is felt to be important as the outcome of the situation will depend on the solution chosen. Rubin and Krasnor (1986) suggest that there are two means of accessing solutions to social problems: solution generation can occur in a conscious, deliberate manner or can occur in a more automatic, spontaneous manner. This distinction was also made by Cooney and Selman (1978), who labelled these different approaches to solution access "reflective reasoning" and "reasoning in action" respectively. Cooney and Selman (1978) further suggested that the solutions generated in the reflective mode would represent the individual's highest level of cognitive development and the best strategy available to that individual. The non-reflective accessing of solutions occurs when the individual responds without conscious reflection on the problem. Automatic responding

would result in the most salient solutions being produced, and would be more likely to reflect the behavior observed in actual encounters with other individuals (Rubin and Krasnor, 1986). It has been suggested that research utilizing hypothetical problem situations gathers information about the individual's reflective responding but does not examine the automatic responding that is proposed to operate in actual interactions. Consistent with this position, Rabiner, Lenhart, and Lochman (1990) found a higher incidence of more appropriate or adaptive solutions when children responded after reflection rather than automatically.

Examination of the above research indicates that there is increasing awareness of the complexity of social competence. The concept of social competence has evolved from a molecular view of competence as consisting of certain behaviors to the view that cognitive and emotional factors can play a role in the expression of skills or behaviors. Although there have been several attempts to expand the view of competence to include more organizational and integrative properties, the research has tended to focus on particular elements of social competence; there have been few attempts to integrate the behavioral and cognitive elements and fewer attempts to examine other potential mediating factors in the development or expression of social competence.

Molar View of Social Competence

In an attempt to delineate an organizational construct for social competence, Renshaw and Asher (1982) suggested that the goals being pursued in interpersonal situations should be included in a social problem solving model. Their research supports the claim that less competent children may have the skills necessary to resolve conflicts, but are pursuing maladaptive goals, which then interferes with the ability to successfully interact with others. Further support for the importance of this construct comes from the work of Ford (1982) and Krasnor (1984), who determined that socially competent individuals rated interpersonal goals as more important than nonsocial goals. Renshaw and Asher (1982), however, found that unpopular children were able to recognize appropriate goals when the procedure involved a multiple choice format, but were less capable of formulating these goals on their own.

Overall, it appears that both competent and less competent individuals consider social goals to be important, but that competent children may be better able to integrate various goals and coordinate these goals in a satisfactory manner. This hypothesis is based on the assumption that interpersonal situations are complex, and that a variety of factors need to be considered in the resolution of problems that arise. Dodge, Asher, and Parkhurst (1988) suggested that faulty goal selection can disrupt the social

information processing sequence at any of the stages. Maladaptive information processing can result from an inattention to cues relevant to all goals in a situation, from a distortion in the interpretation of the situation which affects the goals chosen as relevant, from a failure to access solutions that allow for the coordination of all goals, or from a failure to consider the consequences of solutions in terms of all identified goals.

Dodge, Asher, and Parkhurst (1988) also suggested potential reasons for a deficit in goal coordination. First, they reiterated the reasons for deficits offered by Spivack, Platt, and Shure (1976), which were a lack of the knowledge or skills necessary for adaptive resolution and the suggestion that problem solving could be disrupted by aversive emotional states. Emotional arousal may affect the relative importance of various goals or may make it more difficult to simultaneously consider multiple perspectives or goals, given a disruption in cognitive capacity. A third potential reason for difficulty coordinating goals was proposed to be an inflexible or rigid approach to resolving conflicts. The research on the formulation and pursuit of goals has recently begun and appears to be promising in terms of delineating an organizational element of social competence.

A second approach that involves an organizational component to the relative exclusion of skills or behaviors

has been proposed by Selman (1980). He described social competence in terms of interpersonal negotiation strategies, with the basic component of social problem solving being awareness of the perspective of others and the capacity for coordinating the perspectives of self and other. This approach focuses on understanding the relationship between social perspectives, with the individual's conceptualization of this relationship forming the internal structure or foundation upon which interpersonal relations are organized. He postulated a sequence of hierarchical stages in perspective taking, with the later stages built upon and reorganizing elements of the earlier stages. This model is proposed to integrate structural views of the development of social competence, which focus on the underlying structures and stages of behavioral development, with a functional approach to social competence, which focuses on the behaviors exhibited in social interactions; this integration is accomplished by considering the hierarchical development of functional components of problem solving. The functional components included in this analysis are problem definition, the chosen action, justification and enactment of this choice, and the complexity of emotions involved (Selman, Beardslee, Hickey-Schultz, Krupa, and Podorefsky, 1986).

The stages proposed to describe the development of interpersonal competence are based on the individual's view of self and other during interactions, and the ability to

integrate these perspectives. At level 0, there is no differentiation between the perspectives of self and other and an egocentric concept of relations with others. Level 1 is characterized by a beginning differentiation of self and other, but an inability to integrate the needs of each in a coherent fashion; the strategies relied on at this stage consist of commands or accommodations, whereby an attempt is made to satisfy the needs of the self or the other but not both in conjunction. Level 2 refers to the stage at which the individual is capable of reflecting on the needs of self and other, with an attempt to resolve conflicts in a reciprocal manner. Level 3 involves a more complex view of relations, with the strategies used reflecting an attempt to collaborate and simultaneously satisfy the needs of both individuals in the interaction; at this stage, the individual is aware of the fact that the person with whom he is interacting is capable of reflecting on his perspective in a manner similar to his own reflective ability.

Selman, Beardslee, Hickey-Schultz, Krupa, and Podorefsky (1986) developed an interview, which consists of eight hypothetical situations, to assess interpersonal negotiation strategies according to the four levels delineated above. Using this interview, it was determined that there is a developmental progression in perspective taking ability and a relationship between interpersonal understanding and adjustment (Selman, 1980). Limited

evidence for a causal relationship between persepctive taking and interpersonal problem solving was found by Marsh, Serafica, and Barenboim (1980).

In addition to perspective taking, it was postulated that an individual's interpersonal action orientation is an important component of social competence (Brion-Meisels and Selman, 1984; Selman and Demorest, 1984). Interpersonal orientation refers to the type of action taken in conflict resolution and to whom this action is directed. Self-transforming actions are those that involve changing aspects of the self in order to resolve the dilemma, while other-transforming actions involve changing the other for conflict resolution; these have been referred to as accomodative and assimilative, respectively. The third action orientation that can occur is collaborative, which reflects an attempt to mutually alter both individuals for a more adequate and agreeable solution.

The ability to coordinate social perspectives and the type of action taken in a solution has been hypothesized to be related to the context of the problematic situation (Waters and Sroufe, 1983); thus behavior should be sampled from different contexts to obtain an adequate representation of social competence. Selman's (1980) research supports this hypothesis as adolescents exhibit different integrative capabilities when interacting with peers than with adults. Furthermore, interpersonal skills in more difficult

situations can be used to predict interpersonal skills in easier situations, but the converse may not be true. Conflictual situations may arouse negative affect, may be anxiety producing, or may be self-relevant, all of which potentially interfere with the interpersonal skills exhibited and thus the competence level. Research utilizing cooperative and competitive situations has shown that older individuals are more capable of altering their behavior to fit the demands of these different contexts, as well as adapting their behavior to the particular goals identified (Schmidt, Ollendick, and Stanowicz, 1988).

The description of social competence outlined by Selman and colleagues would be classified as a molar approach according to the criteria depicted earlier. These researchers have attempted to integrate molecular aspects of social problem solving, which involves the delineation of the specific behaviors that occur in interactive contexts, with the molar organizational approach that involves the integration of the perspectives of self and other. An enumeration of the stages involved in the development of the collaborative capacity was also accomplished. Unfortunately, the research devoted to the study of social competence did not undertake to fully understand the molecular elements that were described in their model; thus, the integration of the molecular and molar models was

achieved at a theoretical level but was not actualized empirically.

A final area of neglect in the research on social competence involves an examination of the relationship between social cognition and social behavior or competence during adolescence. Ford (1982) designed a study to examine the association of social cognition and social competence in adolescents, and found a positive relationship between the maturity of social cognition and competence; however, he did not assess competence in actual behavior but utilized self-reported competence. Schultz and Selman (1989) attempted to examine the relationship between social cognition and social behavior in adolescents, and also found a significant positive relationship between these variables; however, they utilized self-reported behavior rather than assessing actual behavior, which may not reflect true behavior given the possibility for editing or revising. Actual problem solving ability was assessed through the self-report of each adolescent's behavior in situations similar to those used in his Interpersonal Negotiations Strategy Interview, which was used to assess cognitive problem solving. Thus, the study of social competence in adolescence needs to focus on the interaction of social cognition and social behavior, as well as the elements that affect both cognitive processes and actual behavior.

In reviewing the research on social competence, it should be noted that the role of cultural factors has not been addressed. Ogbu (1990) has suggested that there are different norms for appropriate behavior in different cultural groups and that these differences will be maintained by members of these groups as a means of preserving cultural identity. It has been suggested that behavioral ratings in school settings will be affected by the expectations that researchers have for different cultural groups (Spencer, Kim, and Marshall, 1987). Slaughter-Defoe, Nakagawa, Takanishi, and Johnson (1990) have further noted that research is limited by a reliance on societal stereotypes and that future research needs to account for differences in cultural values. These authors raise concerns related to the study of social competence and the need to develop coding systems that will be sensitive to different cultural norms for competent behavior. Research is needed to provide guidelines for competent behaviors in different cultural groups.

Developmental and Internal Processes

As mentioned at the outset, this project was designed to evaluate social behavior in an integrative manner, which involved studying the relationship between internal processes, social cognition, and overt social behavior. The review up to this point has focused on the study of social competence and the changing views of this construct.

However, it is now necessary to examine the internal or intrapsychic processes and how these processes may influence the expression of behavior. The internal processes hypothesized to be involved in the expression of social behavior reflect the structures proposed by psychodynamic theoreticians to develop from early experiences and to influence behavior following their inception. This represents an attempt to more fully integrate social competence theories with psychodynamic theories, from which the constructs depicting internal processes have been derived.

The first internal process to be considered is defense mechanisms, which was introduced by Freud in his psychoanalytic theory. Freud devised a view of man as operating primarily with unconscious motivations for behavior, suggesting that people are often not aware of the reasons for their behavior. The degree of awareness will fluctuate with the level of repression that is necessary to maintain psychic equilibrium between innate drives and social constraints; greater use of repression indicates a greater need to deny certain drives. Less mature defenses involve greater repression of drives, while mature defenses allow for at least partial recognition of these drives or needs. The more advanced the level of defenses operating, the more adjusted the individual is hypothesized to be. Defense mechanisms may also operate by excluding from

awareness certain cues that are disruptive to psychic equilibrium. Psychoanalytic theory postulates that an individual's behavior in social situations will be determined by factors outside of awareness. Social competence may be a function of the level of awareness of reasons for behavior and of environmental cues, as well as the actual skills involved in the process of interacting with others.

Valliant (1971) proposed a scheme that organizes the defense mechanisms into a hierarchy of adaptive capacity. Adaptative capacity refers to the degree of regression to primitive behaviors that may be required in resolving a conflict. Thus, the individual who utilizes maladaptive defenses may be less competent in social situations, resulting from the regressive behavior that will be exhibited. At the first and most maladaptive level, Valliant places the defenses that alter reality, which include delusional projection (attributing internal hostile wishes onto others, such that others are viewed as hostile and persecutory), denial, and distortion. The second level is referred to as the immature defenses, and includes the defenses of projection (less severe than described above), schizoid fantasy, hypochondriasis, acting out, and passive-aggression. The third level contains what Valliant considers to be the neurotic defenses of intellectualization, repression, displacement, reaction

formation, and dissociation; all of these are thought to alter internal needs or feelings. Finally, the mature defenses in this scheme are altruism, humor, suppression, anticipation (delay of gratification), and sublimation.

The second internal mechanism proposed to mediate the expression of behavior in social interactions is the object representation. The object representation, a concept derived from object relations theory, is an internal structure hypothesized to guide behavior in interpersonal situations through the establishment of expectations for how other people will respond to the self. The basic assumptions of object relations theory are that the early mother-infant relationship underlies the development of the sense of self and other and that disruptions in this relationship will result in a deficient object representation with subsequent interpersonal difficulties; related assumptions of object relations theory are that the child internalizes the object (mother) during the development of the self, and that this internalized view of the other affects the child's approach to the world and interpersonal interactions (Greenberg and Mitchell, 1983). The internal view of self and other will become activated in ongoing interactions and will influence behavior, as well as the interpretation of others. This view of development coincides well with the developmental view proposed by attachment theory (Bowlby, 1988), which also considers the

mother-infant relationship to be the basis for all subsequent relationships.

In a simplified description, if the parents are neglectful, the child may develop a view of the world as unavailable and will develop an expectation for lack of need fulfillment; if the parents are hostile, the child may develop a representation of the world as threatening and will expect harm from others. These representations will then guide the manner in which others are approached. Appropriate parenting should lead to a representation of others as relatively safe, with an understanding of diversity both within and between people. A more mature object representation would thus involve a view of people as multi-faceted, and this individual would approach interactions in a more flexible and unconstricted manner.

Although object relations theory had remained relatively unexamined empirically until recently, preliminary studies have supported the principles postulated by this theory (Westen, Klepser, Ruffins, Silverman, et al, 1991). Blatt, Chevron, Quinlan, and Wein (1981) have developed a procedure for evaluating object representation level; this procedure involves obtaining descriptions of the mother and father, which are then coded according to conceptual level. They found that the conceptual level of these descriptions is independent of the length of description and intelligence. Studies have shown that the

conceptual level derived from this measure is associated with parental nurturance, peer ratings of competence, capacity for emotional investment in relationships, and understanding of social causality (Avery and Ryan, 1988; Westen, Klepser, Ruffins, Silverman, Lifton, and Boekamp, 1991). Furthermore, the conceptual level of object representations was found to increase following treatment and this increase was related to independent ratings of improvement (Blatt, Wiseman, Prince-Gibson, and Gatt, 1991). These studies offer construct validation for the Object Representation Inventory, and suggest that the construct derived from object relations theory can be examined empirically.

Further support for object relations theory can be obtained from studies that examine the attachment relationship between mother and infant, as this relationship is proposed to reflect the internalization process in object relations theory (Lieberman and Pawl, 1989). There have been many studies designed to examine how the attachment relationship between mother and infant affects later interpersonal behavior; there is much evidence that the early attachment relationship is important for later functioning and interpersonal adjustment (Matas, Arend, and Sroufe, 1978; Waters, 1978; Lieberman, 1977; Kroger, 1989; Dozier, 1989; Jenkins and Fisher, 1989).

Integrating Theoretical Perspectives

Westen (1991) has recently argued for the need to examine the relationship between object relations theory and social cognitive theory, in order to more fully understand social behavior. To date, only one study has attempted to examine this relationship. Schultz and Selman (1989) found that lower levels of defense mechanisms and lower levels of object representation were associated with a deficit in the ability to integrate different perspectives. They also found that adolescents who were capable of reasoning at a higher developmental level but acted at a lower level tended to have lower levels of both object representation and defense mechamisms. This study was reported to reflect an integration of developmental and psychoanalytic views of personality and to reflect the mediation of social behavior by psychodynamic processes.

As Schultz and Selman (1989) have discussed the integration of social cognitive theories with psychodynamic theory in terms of a mediational model, further examination of mediation is in order. These authors have suggested that the psychodynamic constructs of object representation and defense mechanism level mediate the expression of behavior in social situations; they postulated that when behavior is at a lower developmental level than cognitive capacity, the psychodynamic constructs are mediating the expression of behavior. Baron and Kenny (1986) have discussed the

distinction between mediator and moderator variables, and introduced a statistical procedure to determine these effects. A moderator variable affects the direction or strength of the relation between a predictor variable and a criterion variable. Their specific defintion of a mediating variable is "the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest" (p. 1173). To test for mediation, they indicate the need to conduct three regression equations: 1. regressing the mediator on the independent variable, 2. regressing the dependent variable on the independent variable, and 3. regressing the dependent variable on both the independent variable and the mediator variable. A variable is said to be a mediator if the effect of the independent variable is smaller after the inclusion of the mediator variable in the model; a decrease in effect size can be determined through an examination of the weighting or the significance value of the independent variable. For the purpose of this study, interest was in determining if problem solving skills mediate the relationship between the internal processes and actual behavior. Actual behavior was assessed through teacher ratings and through videotaped interactions. This is somewhat different than Schultz and Selman (1989), who felt that the internal mechanisms were the mediating variable.

Statement of Purpose

As is suggested in the preceeding review, there has been little effort to examine the social problem solving skills of adolescents, despite the fact that peer relations are extremely important at this age (Furman and Buhrmester, 1992). Further, no studies have examined the relationship between social cognition, internal processes, and actual social behavior. This study was an attempt to examine these three variables and to extend the study of social competence to include both molar and molecular components of competence, in order to understand more fully the social behavior of adolescents. A second purpose of this project was to examine the manner in which psychodynamic theory can contribute to the existing social competence theories and thus allow a fuller understanding of interpersonal behavior.

Hypotheses

Based on the above research review, the following primary hypotheses were offered for this research project.

1.) It was hypothesized that adolescent's cognitive problem solving skills would be signifiantly related to their social competence (obtained from self-report, teacher report, and behavioral interactions). The ability to generate mature solutions to hypothetical conflict situations was proposed to be related to higher ratings of social competence on these other measures.

2.) It was hypothesized that the psychodynamic constructs of object representation level and defense mechanism level would be significantly related to cognitive problem solving skills. It was hypothesized that higher levels of these variables would be associated with more mature problem solving skills.

3.) With regard to the joint influence of internal processes and problem solving skills on behavior, it was hypothesized that adolescents cognitive problem solving skills would mediate the relationship between their representation of others and their behavior. Thus, the way that adolescents think about social problems was hypothesized to affect the relationship between the internal constructs and behavior.

CHAPTER II

METHOD

Participants

Twenty-eight (28) participants for this study were obtained through the cooperation of the Psychology Department at the University of North Carolina at Greensboro; students in an Introductory Psychology class were asked to participate in exchange for partial fulfillment of a course requirement.

In addition, fifty-six (56) participants were obtained through the cooperation of Greensboro Day School and Weldon High School. Greensboro Day School is a private high school, populated by primarily middle to upper middle socioeconomic class white adolescents. Weldon High School is a county high school in a rural community, populated primarily by lower to middle socioeconomic class black students. Participants obtained through the high schools were required to have both parental and participant voluntary consent. Furthermore, high school students were offered five dollars for their participation. All participants were informed that they would be videotaped during a portion of this research project prior to obtaining written consent.

Table 1

Demographic Characteristics

UNC-G Participants

	Male	Female
White	16	8
Black	0	4

Greensboro Day School Participants

	Male	Female
White	8	10
Black	0	2

Weldon High School Participants

	Male	Female
White	4	8
Black	8	16

Overall Breakdown

	Male	Female
White	28	26
Black	8	22

A total of eighty-four participants were obtained in this manner. This sample consisted of thirty-four (34) males and fifty (50) females, and fifty-four (54) white and thirty (30) black participants. A breakdown of participants according to race, sex, and school is presented in Table 1. This Table indicates that the majority of black students were obtained from the Weldon school system; this suggests that race and socioeconomic status were confounded. Examination of the overall breakdown indicates that black males were underrepresented in this sample. The age range was 14 to 20 years old, with a mean age of 16.6. As can be noted, the sample is representative of a broad range in age, which allows for an examination of interpersonal problem solving skills across adolescence.

Materials

In order to examine the relationship between internal variables, social problem solving skills, and social competence, several measurement devices were used in this study. A Problem Solving Measure was devised to assess cognitive social problem solving. The other measures included: the Defense Mechanism Inventory, Object Representation Inventory, and the Achenbach Youth Self-Report form. A description of each of these assessment tools follows.

Problem Solving Measure

The social problem solving measure was devised for the purposes of this study, based on the format utilized by Rabiner, Lenhart, and Lochman (1990). This measure consisted of two alternate forms, each containing eight short vignettes in which a conflict with a same-sex peer was depicted. These stories varied on two dimensions, first whether the conflict occurs in a competitive or cooperative situation and second whether the conflict occurs with a familiar or non-familiar peer. Providing these different contexts was to assess problem solving skills in several types of conflictual situations that may be problematic for adolescents.

The content of the stories was obtained by first generating twenty-four (24) different conflictual situations varying on the dimensions outlined above. This set of stories was given to twenty high school students with the instructions to rate each story on how important or meaningful this situation would be for them if they were to experience it. Ratings were made on a Likert scale ranging from 1 to 5, with 1 labelled "not at all important" and 5 labelled "very important". Vignettes that received a mean rating of at least 3 ("somewhat important") were included for use in the study. Eighteen stories met this criteria, and the two stories with the lowest mean values were excluded. This procedure resulted in the sixteen stories

used in this study. The stories were categorized on the defined dimensions and were paired into relatively equivalent vignettes to be used on the alternate forms, such that each form contained a story with a similar counterpart on the other form. Thus, each form of the social problem solving measure contains eight stories, varying on the two dimensions (See Appendix A). An example of a competitive story follows:

> Basketball tryouts have started today and you met a person who wants the same position as you do. While you are practicing, you hear him making fun of a shot you missed. You want to be friends with him since you will both be on the team, but you don't want him to make fun of you.

An example of a cooperative story is as follows:

> You and your friend Chuck are painting a neighbor's garage for money. You have noticed that he keeps missing spots on the wall. You don't want him to think you are insulting him but you want to do a good job.

Construct validation of this measure was obtained in a pilot study with older adolescents. Students in Introductory Psychology classes at the University of North Carolina-Greensboro were adminstered the social problem solving measure, the Achenbach Youth Self-Report and the Social Competence Nomination Form. Twenty-three students participated in this pilot study, and were evaluated individually in the psychology department. The results of the analyses indicate that the problem solving measure

differentiated adolescents who feel competent in social situations and those who feel less competent ($F(1,20)=3.85$; $p=.038$), as well as adolescents who report more behavioral problems from those who report few problems ($F(1,20)=5.03$; $p=.017$). The overall results of this study offered adequate validation for the problem solving measure.

Achenbach Youth Self-Report Form

The next measure used was the Achenbach Youth Self-Report Form (Achenbach and Edelbrock, 1987; See Appendix B), which is designed to elicit adolescents (11 to 18 years old) view of their competencies, feelings, and problems in a variety of situations; this measure was included to determine if there is a relationship between adolescent's self-reported behavior problems and social competence. Average test-retest reliability was reported to be .89 over a one-week interval and .67 over an eight month interval (Achenbach and Edelbrock, 1987). This instrument was tested for validity through a comparison of 715 clinic referred adolescents with 779 non-clinic referred adolescents; these groups differed significantly in their endorsement of problem behavior items ($p<.01$). Completion of this instrument takes approximately ten minutes. A Total Behavior Problem score was obtained according to the instructions in the manual, with higher scores indicating greater problems. This form was utilized as an assessment of the adolescents' level of self-rated competence.

Vocabulary Subtest of the Wechsler Intelligence Scales

As intelligence may affect social problem solving ability, along with several other constructs assessed in this study, the vocabulary subtest of the Wechsler Intelligence Scale for Children-Revised or the Wechsler Adult Intelligence Scale, depending on the age of the adolescent, was administered to all adolescents in high school (See Appendix C); due to procedural error, the vocabulary scores were not obtained for older adolescents in the Introductory Psychology classes. The vocabulary subtest has the highest correlation (r=.85) with the overall WISC-R score (Wechsler, 1974), and thus is considered to be an adequate measure of intelligence. An estimate of intelligence was obtained in order to determine the relationship between this variable and social problem solving skills. Conflicting results have been obtained, with some studies revealing no relationship between intelligence and problem-solving skills (Spivack, Platt, and Shure, 1976; Lampron, 1983) and other studies identifying a moderate correlation between these processes (Shantz, 1983).

Defense Mechanism Inventory

The Defense Mechanism Inventory (DMI) was included in this study in order to determine the influence of defensive style on social problem solving. This instrument was initially devised by Gleser and Ihilevich (1969) to determine the type of defenses most commonly used by

participants in research. The original assessment device consisted of ten stories depicting a dilemma, with each story followed by a question about actual behavior, fantasy behavior, thoughts, and feelings. Five multiple choice answers, designed to correspond to the different defensive styles postulated by the authors, were listed after each question. The defensive styles assessed include turning against others, projection, intellectualization, turning against self, and reversal; each multiple choice answer coincided with one of these styles. A total score for defense style is obtained by adding together the points for each category of defense mechanism across stories, with the category receiving the most points indicating the individual's defense style. Average test-retest reliability was reported to be .89, which indicates that this test measures a stable construct (Gleser and Ihilevich, 1969). These authors offered construct validation for this instrument through correlations with the various subscales on the Minnesota Multiphasic Personality Inventory and Haan's Defense Scales, with significant correlations occurring between associated scales (correlation range=.25 to .48; Gleser and Ihilevich, 1969).

Schultz and Selman (1988) revised the DMI such that the multiple choice answers corresponded to the developmental level of defense mechanisms postulated by Valliant (1971). The different levels are psychotic defenses, immature

defenses, neurotic defenses, and mature defenses. The multiple choice responses were changed to reflect these levels of defense, resulting in a choice between four alternatives, rather than five. A weighted sum was utilized for the scoring system, with each defensive type receiving a different score. They found the internal consistency of the revised measure to be .62.

The DMI was altered for use in this study in order to avoid biasing the responses through the presentation of responses in a multiple choice format (Millich and Dodge, 1984). This bias may occur because individuals are often able to recognize the appropriate response to a particular situation, even though they may not be able to generate that response on their own. Furthermore, a social desirability bias may occur if the alternatives are evaluated for the most socially appropriate response rather than the most probable response. In the present study, the stories were administered without multiple choice alternatives (See Appendix D). The participant was asked to respond to the same four questions in an open-ended format; completion of this instrument took approximately 15 minutes. The responses offered to these dilemmas were then categorized according to level of defense, based on the responses from the revised form of the DMI. Validation for this approach was obtained from a pilot study which utilized the DMI in an open-ended format. A weighted sum was obtained by assigning each

defense a score based on its maturity level, with a total score being derived by summing the scores across stories and questions; the range of scores on this measure was 42 to 69, with an internal consistency score in this sample being .54.

Object Representation Inventory

The next variable measured in this study was the level of object representation, which was included in order to assess the association between internal representations and social behavior. This construct was measured through the procedure outlined by Blatt, Chevron, Quinlan, and Wein (1981). The format described in this manual is to provide the individual with blank pieces of paper and the instructions "Describe your mother" and "Describe your father"; it was noted that other descriptions could be utilized, including self descriptions. Five minutes are allowed for each description. Each of these descriptions can then be evaluated on a variety of qualitative dimensions; however, for the present study, only the conceptual level of the representation, defined in terms of the diversity and quality of the description, was evaluated. Blatt et al (1981) indicate that the descriptions of mother and father are used to obtain levels of object representation, as parents are typically the significant people in a child's life and have an important role in the development of object representations. A child's parents are the first individuals to become internalized as

"objects", and as such will affect the internalization and interpretation of all others with whom the child interacts.

The five levels of representation are based on a hierarchical approach to developmental levels. The lowest level, labelled the Sensorimotor-Preoperational, reflects a personal, subjective focus in which the person is described in terms of their ability to satisfy or frustrate the self. The second level, known as the Concrete- Perceptual, refers to a description of the person in concrete, physical attributes with little depth to this view. The third and fourth levels, or External Iconic and Internal Iconic, reflect descriptions that are basically one-sided and unidimensional in which there is no recognition of complexity or diversity in terms of internal or external traits. The fifth level, referred to as a Conceptual Representation, involves a description that integrates internal and external characteristics, that includes a view of the person on a variety of dimensions, and involves an integration of diverse elements. The coding scheme described in the Blatt et al (1981) manual was used to obtain the representation level of self and other; see Appendix O for more detailed information regarding the coding system. Although there are only five anchor points for this coding scheme, the descriptions can be coded as falling between two of these anchor points, thus creating a nine point scale.

For the purposes of this study, descriptions of mother, father, and self were obtained. The scores from the descriptions of mother and father (Pearson correlation coefficient=.38; p=.0001) were combined and averaged to reflect the level of object representation; the accepted procedure is to combine the descriptions of mother and father to obtain a measure of Object Representation Level, and this format was followed in this study. The conceptual levels obtained in this study ranged from 2 to 9.

Teacher Checklist

As all other data obtained in this study was based on the self-report of the participants, it was considered important to obtain an objective measure of behavior outside the research situation; this would offer validation for the adolescents' self- report, as well as allow for an assessment of the adolescents' social competence in a naturalistic setting. For this reason, each adolescent in high school was asked to provide the name of a teacher who "knows you best". This teacher was then asked to complete a short rating form on this adolescent and was offered one dollar for complying with this request. This checklist consists of the prosocial, aggressive, and socially isolated subscales of the Teacher Checklist (Terry, Coie, and Underwood, 1989; see Appendix E). A total of 21 items were presented, with a rating scale from one to seven; the teacher was asked to rate the adolescent on each item, with

higher scores reflecting that the adolescent exhibits the behavior in question. A total score was obtained for each subscale (Prosocial, Aggressive, and Social Isolation) by summing the scores for all items on that subscale. The possible range of scores for the scales was from 7 to 49. The range of scores obtained for the Prosocial scale was 9 to 34, for the Aggressive scale the range of scores was 8 to 39, and for the Social Isolation scale the range of scores was 8 to 38.

Behavioral Measures

Each adolescent was asked to participate in a series of interactions with a peer while being videotaped. This series of interactions was designed to evaluate actual interpersonal problem solving in cooperative, familiarizing, competitive, and negotiative situations.

The cooperative situation involved having the adolescents work together on a puzzle. Prior to the videotaped interaction, each adolescent was offered instructions and presented with a picture of the puzzle that would be used in the videotaped portion. At this time, the task was presented as a memory test and each adolescent was instructed that they would not have a picture of the puzzle to look at while completing the puzzle. Two separate, but similar, puzzles were used for this task and the two adolescents were shown different pictures; the pieces for both puzzles were present during this videotaped

interaction. The adolescents were then faced with the conflict that they were actually attempting to complete different puzzles, while believing they were working on the same puzzle. This task was designed to evaluate conflict resolution in a cooperative situation.

The familiarizing task involved having two unfamiliar peers become acquainted. The instructions for this task were simply "Take a few minutes to get to know each other." The purpose of this task was to evaluate interpersonal behavior in a more naturalistic situation, which involves the problem of becoming acquainted with a peer. As one of the first steps in the development of a relationship with peers involves becoming acquainted, this task assessed the adolescents general approach to resolving the dilemma of how to get to know a peer.

The competitive situation involved having two adolescents engage in a game for which there was a monetary incentive. The task consisted of gathering different color beads out of a bowl with many color beads. The adolescents were told that the person who gathered the most beads of certain colors would win one dollar and that they would be gathering different color beads out of this bowl. In fact, they were instructed to gather the same color beads, thus creating a conflict in a competitive situation.

The negotiative task occurred after determination of the winner in the competitive task. This involved having

the adolescents decide whether the winner should keep the dollar since he/she won or if the two players should split the dollar since they both played the game. This task was designed to evaluate interpersonal problem solving in a task involving negotiation.

Procedure

Every student in the ninth through twelfth grades at Greensboro Day School and Weldon High School was given a form to obtain parental consent for contact (See Appendix F). The parents who returned the form were contacted by phone to discuss the study in more detail. A brief description of the study was offered and any questions were answered. If the parents expressed interest in their child participating in the study, the adolescent was also offered a brief description of the study over the phone to determine if he/she was also interested. If agreement was obtained from both the adolescent and the parent, an appointment was made for participation in the study.

Eight hundred (800) consent forms were sent to the schools; eighty nine (89) were returned to the schools, with the parents expressing an interest in participating in the study. Of the eighty nine (89) consent forms received, seventy-two (72) agreed to participate after the initial phone contact. Of the seventy-two (72) who agreed to participate, fifty-six (56) completed the research study. Given the low response rate (approximately 10 percent return

rate), the results of this study depict only a select sample of adolescents who are willing to participate in a research project; the generalizability may be affected by this selection factor.

Adolescents were also recruited for this study at the Univesity of North Carolina-Greensboro. Students in introductory psychology classes were offered an opportunity to participate in this study for partial fulfillment of their course requirements; twenty-eight (28) participants were obtained in this manner.

Each participant from the Introductory Psychology classes and from Greeboro Day School was asked to come to the Psychology Department at the University of North Carolina- Greensboro to participate in this study, while each participant from Weldon High School was asked to come to the Halifax County Mental Health Center; all participants were asked to arrange for a friend to arrive at the laboratory at the same time. Two dyads or friendship pairs were scheduled at overlapping times in order to allow for videotaping with familiar and unfamiliar peers. Upon arrival, a general description of the requirements of the study was reviewed with each participant (See Appendix G). Following this review, each participant was asked to sign a consent form indicating that his/her participation was voluntary and that it was understood that withdrawal of such consent was permitted at any time.

After obtaining written consent, each participant was asked to begin one of the requirements of the study. Presentation of the various aspects of the study were counterbalanced, such that some participants completed the questionnaires first, some completed the Social Problem Solving Measure first, and some completed the videotaped segments first. Presentation of the questionnaires was also counterbalanced, such that the forms were not presented in the same order to all participants. Upon presentation of the questionnaires, the instructions for each form were reviewed with the adolescent and any questions were answered. The adolescent was then asked to complete these forms in a room adjacent to the examiner's room.

The Social Problem Solving Measure was administered by the examiner to each adolescent individually. The procedure involved presenting hypothetical stories under two conditions: one that required the adolescent to respond as rapidly as possible and the second that required the adolescent to wait for twenty seconds while contemplating a solution. The purpose of the differing conditions was to evaluate social problem solving in both automatic and reflective modes of responding. Presentation of the two forms was counterbalanced between conditions, such that each form was presented equally often in the two conditions. The first condition was considered the "immediate" condition, as the individual was required to respond immediately to the

problem situation. This condition always preceded the "delay" condition in order to avoid biasing responses in the immediate condition. In the delay condition, responses to the dilemmas were offered after deliberation or reflection; if this condition preceeded the immediate condition, certain solutions to the problem situations may be more salient, given that the adolescent had already had the opportunity to reflect upon similar conflictual interactions.

Each participant was read the instructions for the immediate condition, which instructed him/her to offer a solution for the conflict as quickly as possible (see Appendix H). The series of vignettes was read and the adolescent was asked to indicate how he/she would solve the dilemma. During the immediate condition the adolescent was offered feedback on response latency following each solution to reinforce the need for rapid responding. Following presentation of all vignettes in the immediate condition, the instructions for the delay condition were read, which informed the adolescent that he/she was required to wait for twenty seconds and contemplate different solutions before responding to the situation (See Appendix I). The second form was then administered to the adolescent.

Each dyad was asked to be videotaped during a series of tasks designed to reflect cooperative, familiarizing, competitive, and negotiative situations, as discussed above. Presentation of these situations was counterbalanced across

participants. Instructions for the cooperative interaction (See Appendix J) were read to each individual separately, before beginning the task; two participants were brought together for this task and instructed to work together and complete as much of the puzzle as possible. The experimenter left the room at this point, began the videotape, and allowed five minutes for completing the task.

Instructions for the familiarizing interaction (See Appendix K) were read to a dyad of unfamiliar peers, which instructed them to "get to know each other". This task was designed to evaluate how adolescents resolve the problem of becoming familiar with a peer, which reflects a more naturalistic situation. The adolescents were videotaped for three minutes during this interaction.

The competitive task was introduced to two adolescents present in the room (See Appendix L). The experimenter videotaped the participants for two minutes during this task. At the end of the two minutes, the experimenter returned to the room and asked the adolescents to count the number of beads they had gathered during the interval, with the videocamera left on. Finally, the experimenter determined the winner and read the directions for the negotiative task (See Appendix M), which involved having the adolescents decide how the money should be awarded. The dyad was videotaped during portion as well.

The order of the above tasks was alternated, such that some of the adolescents engaged in the cooperative task first, some of the adolescents engaged in the competitive task first, and some of the adolescents engaged in the get acquainted task first. Furthermore, the type of interactant was counterbalanced, such that half of the participants engaged in the cooperative task with a familiar peer and half with an unfamiliar peer, and half of the participants engaged in the competitive task with a familiar peer and half with an unfamiliar peer.

In order to obtain an assessment of behavioral functioning outside the laboratory setting, each high school student was asked to provide the name of a teacher "who knows you best". This teacher was then contacted and requested to complete a Teacher Rating Form on this adolescent; the teachers were offered one dollar for their cooperation with this request. Of the fifty-six (56) teacher rating forms sent out, thirty-five (35) were completed and returned; two forms were returned but not completed, with the teacher indicating no knowledge of the adolescent. This rating form provides objective information on the adolescent's level of prosocial, aggressive, and withdrawn behaviors.

Following completion of all tasks, the adolescent was asked if he/she had any questions. After answering any

questions, the adolescent was thanked for his/her time and was given a copy of the debriefing form (See Appendix N).

CHAPTER III

RESULTS

Response Coding and Interrater Reliability

Social Problem Solving Measure

Participants' responses to the hypothetical problem situations were coded into one of three mutually exclusive content categories by two assistants blind to the scores on the other measures. The categories, which were partially derived from a coding scheme devised by Lochman, Lampron, and Rabiner (1989), included: conflict resolution, non-confrontative, and conflict escalating. Conflict resolution solutions are defined as strategies in which a verbal statement is made by the adolescent which is not aggressive (i.e., I would tell him that he needed to get to work so we could finish on time) or another constructive solution is proposed (i.e., I would ask all the band members to get together to decide how the music should be played). Non-confrontative solutions are defined as those in which the adolescent withdraws from, escapes, or avoids the problem situation (i.e., I wouldn't do anything). Conflict escalating solutions are defined as those in which the adolescent proposes an aggressive (verbal or physical) solution or one that would be likely to escalate the conflict (i.e., I would tell him he was stupid; I would make

fun of him back). To assess the reliability of this coding procedure, one-third of all responses were coded by both raters and were evaluated with the Kappa statistic. The mean Kappa coefficient for solution types was .881, with a range from .845 to .905. This indicates acceptable reliability. One rater was designated as primary and this rater's code was used consistently in cases of discrepancy.

For scoring purposes, the Conflict Resolution strategies were assigned a score of 3, the Non-confrontative strategies were assigned a score of 1, and the Conflict Escalating strategies were assigned a score of -1. This assignment of scores was based on the hypothesis that the Conflict Resolution strategies contribute most to social competence, Non-confrontative strategies contribute less, and Conflict Escalating strategies detract from social competence. A total score was obtained by summing the scores from each of the responses to the conflictual situations; the use of a two point difference in the weighting of strategies was to reduce the likelihood that the same total score would be obtained from different combinations of strategies generated.

Each of the stories utilized in this study depicts a conflict in which the adolescent does not like something that the peer is doing, but also wants to maintain a positive relationship. Perspective integration refers to whether the adolescent's solution reflects a focus on only

one of the participants in the interaction or if both perspectives were integrated. All solutions to the hypothetical stories were also coded for perspective integration, based on the coding scheme suggested by Rabiner and Gordon (in press). Preliminary analyses indicated that the Perspective Integration Score correlated .91 (p=.0001) with the Resolution score, and thus this variable was not analyzed further.

The responses offered on the Problem Solving Measure were analyzed for the degree of internal consistency across stories and conditions, using Cronbach Coefficient Alpha. The Alpha coefficient for solution type was .546. Thus, there is some variability in responses across situations, suggesting that these adolescents' problem solving ability varies across situations.

Defense Mechanism Inventory

Responses to the Defense Mechanism Inventory were coded into one of four mutually exclusive categories: psychotic, immature, neurotic, or mature, based on the multiple choice answers provided for this measure by Schultz and Selman (1989). The psychotic defenses included delusional projection (attributing internal hostile wishes to others), denial (denying what really happened), and distortion (altering reality), and were assigned a score of 0. The immature defenses included projection (less severe than that described above), hypochandriasis (responding to conflict by

becoming ill), passive-aggressive behavior (covertly acting in a manner to anger another), and acting out (verbal or physical aggression); these defenses were assigned a score of 1. The neurotic defenses included repression (denying feelings or thoughts), displacement (focusing anger on a more convenient target), and reaction formation (acting the opposite of the way one really feels); these defenses were assigned a score of 2. The mature defenses were altruism (helping others), humor (laugh at misfortune), and sublimation (rechannel energy into constructive activity); these defenses were assigned a score of 3. The score for this measure was obtained by summing the scores for each response across situations; thus, adolescents who scored higher according to this method were operating at a higher defense mechanism level. Reliability was assessed by having both raters code one third of all responses, and the kappa statistic was utilized to evaluate the correspondence between the two raters. The mean Kappa coefficient was .885, with a range from .84 to .91, suggesting adequate reliability.

Object Representation Inventory

Responses to each of the descriptions offered on the Object Representation measure were evaluated according to the coding scheme of Blatt, Chevron, Quinlan, and Wein (1981); see Appendix O for a description of this scoring system. The scoring involves determining the level of

complexity, integration, and diversity in the descriptions offered; the levels are arranged in a hierarchical manner on a scale from one to nine, and each description is assigned a score based on this scheme. The descriptions of mother and father were combined, in terms of conceptual level, to obtain a measure of the internal representation of others. Although a self description had been obtained and would have been analyzed separately, Blatt (personal communication) indicated that the coding system for the object representation level was not generalizable to self-descriptions; he also indicated that he was in the process of developing a coding system to be used for self descriptions. For this reason, the self representation was not included in any analyses. Reliability was estimated by having two independent raters code one third of the descriptions, with a Pearson Correlation coefficient being calculated for this score, as the coding system utilizes a Likert scale; the correlation coefficient obtained was .79, indicating acceptble aggreement. Blatt et al (1981) report a Pearson correlation coefficient reliability estimate of .85 for conceptual level scoring, which is comparable to that found here. The Kappa coefficient was also estimated for this coding system to evaluate the correspondence between raters, with the Kappa coefficient being .62; the lower Kappa reflects the fact that this is a continuous rather than categorical scoring system and one point

differences are considered discrepancies, despite the theoretical congruence implied by these scores.

Videotaped Interactions

Interest was in evaluating the relationship between problem solving skills and competent behavior. A coding system was developed to assess the general level of competence exhibited in each of the behavioral interactions; the use of a molar coding scheme was felt to offer an adequate representation of social competence and to encompass the molecular behaviors that may be exhibited in the interactions. Behavior in the videotaped interactions was thus coded for general competence level (See Appendix P) using a one to seven Likert scale, with one reflecting the least competent behavior and seven the most competent. Competence was defined as the ability to engage in the tasks in a manner that would allow for positive interactions, including verbal interactions, expressing opinions and ideas, and attempts to resolve the conflicts in a collaborative manner. One third of all videotaped interactions were coded by both raters to obtain an estimate of reliability. A Pearson correlation coefficient of .76 was obtained, indicating acceptable reliability. A Kappa coefficient of .56 was obtained, and again reflects the fact that this is a continuous variable. Discrepancies were resolved as above.

Data Analysis

The preliminary analysis, which focuses on the influence of intelligence on social problem solving, will be discussed first. The results of the responses to the social problem solving measure, in terms of conflict resolution skills, will then be presented; this set of analyses will be designed to examine the relationship between cognitive problem solving skills and the various ratings of competence (i.e., behavioral ratings, teacher ratings, and self-rated competence). The next set of analyses will focus on the relationship between the psychodynamic constructs and cognitive problem solving skills. In the final set of analyses, the relationship between the internal processes, social problem solving ability and actual behavior will be examined.

Analysis of the effect of Intelligence on Problem Solving

Only those participants for whom an estimate of intelligence was obtained were utilized in this analysis, in order to determine if intelligence is related to social problem solving skills. Analysis of the data with intelligence as a factor involved utilizing a Multiple Regression; the predictor variables were Object Representation Level, Achenbach Total Behavior Score, Defense Mechanism Level, Gender, Race, Age, and WISC-R score, while the criterion variable was the Resolution score. The results of this analysis indicate that

intelligence was a marginally significant predictor for resolution type ($F(1,47)=2.76$; $p=.10$). The pattern of results for the other variables, in terms of their significance level was highly similar with and without intelligence in the model. Given the relative lack of influence of intelligence on social problem solving skills, and the fact that an estimate of intelligence was not available for all participants in the study, intelligence was not included in subsequent analyses.

Relationship between Social Problem Solving and Competence

The first question concerns the relationship between cognitive social problem solving skills (as assessed with the Problem Solving Measure) and social competence (which was evaluated through the Achenbach Youth Self-Report Form, teacher ratings, and behavioral ratings of competence). As noted above, a total score was obtained for the type of solutions offered on the Problem Solving Measure by assigning a score of 3 to Conflict Resolution strategies, a score of 1 for Non-Confrontational strategies, and a score of -1 to Conflict Escalating strategies and summing the score for each solution on the Problem Solving Measure. Analyses of these data indicate that assumptions of normal distribution, and homoscedasticity were met for the derived total score.

A Multiple Regression was utilized to evaluate the relationship between cognitive problem solving and

Table 2

Multiple Regression of Achenbach Total Score

Overall F(4,79)=4.70; p=.0013

Source	
Resolution Score	F(1,79)=8.94; p=.004
Gender	F(1,79)=4.15; p=.05
Race	F(1,79)=11.84; p=.001
Age	F(1,79)=0.58; p=.45
R-Squared Value	.31

self-rated behavioral competence. In this analysis, the predictor variables were the Resolution Score, Gender, Race, and Age. The results of this analysis are presented in Table 2. Examination of the total score and the weighting indicates that adolescents who report fewer behavioral problems are able to generate more competent solutions on the Problem Solving Measure. Race and Gender were also significant predictors of self-rated competence, with females and white adolescents tending to report more behavior problems than males or black adolescents. The R-squared value for this model was .31, indicating that a moderate degree of variance in self-rated behavioral competence is accounted for by these predictor variables.

The second assessment of social competence was obtained through teacher ratings of Prosocial, Aggressive, and Socially Isolated behaviors. A Multiple Regression was performed to examine the relationship between these ratings and cognitive problem solving skills. The predictor variables were again the Resolution Score, Gender, Race, and Age; the criterion variables were the three ratings of behavior obtained from teachers.

The results of these analyses are presented in Table 3. As can be noted, none of the variables were significant predictors of teacher ratings of Prosocial behaviors. For the Aggressive ratings, the Resolution Score was significantly related to teacher ratings of aggression

Table 3

Multiple Regression of Teacher Ratings

	Prosocial	Aggressive	Socially Isolated
Overall F(4,34)	1.81; p=.15	4.48; p=.006	2.19; p=.09
Source			
RES Score	1.91; p=.17	5.55; p=.025	3.22; p=.08
Gender	2.22; p=.15	8.80; p=.006	2.17; p=.15
Race	0.63; p=.43	0.07; p=.792	0.18; p=.67
Age	0.37; p=.55	4.65; p=.039	1.17; p=.29
R-Squared Value	.19	.37	.23

with more competent cognitive problem solving skills associated with a lower rating on the aggression scale; this suggests that adolescents who are able to generate more effective solutions on the problem solving measure are less likely to exhibit aggressive behaviors in the classroom. Gender and Age were also significant predictors of ratings of aggression, with females and older adolescents receiving lower ratings of aggression. In terms of Social Isolation, the Resolution Score is a marginally significant predictor of ratings on this scale, suggesting that greater competence on the Problem Solving Measure is associated with lower ratings of social isolation. Examination of the R-squared values indicates that the greatest amount of variance is accounted for on teacher ratings of aggression.

The final measure of social competence was obtained through the behavioral interactions. The adolescents degree of competence was coded in each of the four situations. A Competence score was obtained by calculating the average level of competence exhibited across interactions (i.e., summing the four ratings and dividing by four); this score was used in the analysis of actual behavior. Averaging across situations and interactants was done in order to factor out the influence of the adolescent's behavior on each other in the different situations; as both adolescents in each interaction were being rated on competence, this average score was felt to reduce the influence of the other

Table 4

Multiple Regression of Behavioral Ratings of Competence

Overall F(4,75)=7.04; p=.0001

Source	
Resolution Score	F(1,75)=18.14; p=.0001
Gender	F(1,75)=0.21; p=.65
Race	F(1,75)=2.61; p=.11
Age	F(1,75)=1.60; p=.21

R-Squared Value .27

interactant on the competence level obtained. Internal consistency on the competence ratings across situations was found to be .66, indicating at least moderate consistency in the level of competence exhibited in these interactions. Four participants were not included in the following analyses, as equipment malfunction rendered their data unanalyzable.

A Multiple Regression was utilized to examine these data, with the predictor variables being the Resolution Score, Gender, Race, and Age; the criterion variable was the average level of competence exhibited in the interactions. Results of this analysis are presented in Table 4. Examination of this table reveals the the Resolution Score is a highly significant predictor of ratings of competence in the behavioral interactions. This analysis indicates that the ability to generate more competent solutions on a cognitive social problem solving task is highly predictive of greater competence in social interactions. None of the other variables were significantly related to the ratings of behavioral competence. The R-squared value for this model was .27, indicating that a moderate amount of the variance in ratings of behavioral competence is accounted for by the variables in this model.

Psychodynamic Constructs and Social Problem Solving

The second basic question was related to the utility of the psychodynamic constructs of Object Representation and

Table 5

Multiple Regression of Resolution Type

Overall F(5,78)=2.28; p=.05

Source	F Value	Pr > F
Object Representation Level	7.17	.01
Defense Mechanism Level	0.01	.92
Gender	1.60	.21
Race	6.45	.01
Age	3.98	.06
R-Squared Value	.215	

Defense Mechanisms in understanding cognitive social problem solving skills. In order to examine this question, the Resolution score from the Problem Solving Measure was analyzed with a Multiple Regression; the predictor variables included the Object Representation Level, Defense Mechanism Level, Gender, Race, and Age. Preliminary analyses indicated that there were no differences in social problem solving skills between the immediate and delay condition ($F(1,75)=0.18$; $p=.67$); therefore, this variable was not included in subsequent analyses. The results from the analyses on Resolution type are presented in Table 5. The Object Representation Level was significantly related to social problem solving; examination of the total score indicates that adolescents who score higher on this measure tend to generate more Conflict Resolution strategies, as well as fewer Conflict Escalating and Non-Confrontative solutions. Race was found to be a significant predictor in this model, with black adolescents generating less effective solutions. Finally, age was found to be a marginally significant predictor; interestingly, it was found that younger adolescents produced more competent solutions. The R-squared value for this model is .215, suggesting that a moderate degree of the variance in problem solving skills is accounted for by these predictor variables.

In the analysis on Resolution Type, neither the Defense Mechanism Score nor Gender were significant predictors of

social problem solving. This indicates that adolescents who utilize less mature defenses are not necesarily less capable of generating solutions to conflictual situations. Likewise, gender was not related to the ability to generate appropriate solutions to interpersonal conflicts.

Examination of the Mediational Model

The final question is related to the mediational model, and the joint influence of cognitive social problem solving skills and the psychodynamic constructs enumerated above on social competence. The procedure outlined by Baron and Kenny (1986) was followed to determine whether cognitive problem solving mediates the influence of the Object Representation Level on teacher ratings and on the ratings of competence in the behavioral interactions. In following the series of equations suggested by Baron and Kenny (1986), the first regression to complete is regressing the mediator variable (problem solving skills or Resolution score) on the independent variables (Object Representation Level and Defense Mechanism Level); as reported above, these results indicate that Object Representation Level was a significant predictor of problem solving ability. As the Defense Mechanism Level was not a significant predictor, this variable will not be included in subsequent analyses. The second model to test involves regressing the dependent variable (teacher ratings) on the independent variable (Object Representation Level). These results are presented

Table 6

Regression Analysis for Prediction of Teacher Ratings

	Prosocial	Aggressive	Social Isolation
Overall F(4,30)	2.46; p=.05	2.25; p=.07	0.79; p=.59
Source			
OBJREP	6.64; p=.02	0.56; p=.46	0.00; p=.99
Gender	0.28; p=.60	4.39; p=.05	1.07; p=.31
Race	1.83; p=.19	0.16; p=.69	0.70; p=.41
Age	0.16; p=.69	0.95; p=.34	0.36; p=.55
R-Squared Value	.34	.325	.14

Table 7

Regression Analysis for Prediction of Teacher Ratings with Problem Solving Ability in the Model

	Prosocial	Aggressive	Social Isolation
Overall F(5,29)	2.27; p=.05	3.18; p=.01	1.18; p=.34
Source			
OBJREP	4.83; p=.04	0.01; p=.92	0.23; p=.64
RES	1.09; p=.31	6.19; p=.02	3.20; p=.08
Gender	0.56; p=.46	7.66; p=.01	2.07; p=.16
Race	1.07; p=.31	0.05; p=.82	0.14; p=.71
Age	0.03; p=.86	2.46; p=.13	0.98; p=.33
R-Squared Value	.37	.45	.23

in Table 6. Examination of this table indicates that the Object Representation level was significantly predictive of teacher ratings of prosocial behavior; the higher the adolescent's representation level of others, the higher ratings of prosocial behavior they received. This suggests that there is a relationship between the internal process of object representation and adaptive behavior outside the laboratory. In this set of analyses, the only other significant relationship was between gender and ratings of aggressive behaviors, with males receiving significantly more ratings of aggression.

The final analysis in the procedure outlined by Baron and Kenny (1986) is to regress the dependent variable (teacher ratings) on both the independent variable (Object Representation Level) and the moderator (Resolution Score). This set of analyses are presented in Table 7. Investigation of this Table reveals that the Object Representation Level continues to be a significant predictor of teacher ratings of Prosocial behavior, although at a slightly lower level. The Resolution Score was a significant predictor of teacher ratings of Aggression, and was a marginally significant predictor of Social Isolation; the more competent the solutions offered on the Problem Solving measure, the lower were the ratings of aggression and social isolation. This finding suggests that the ability to resolve hypothetical interpersonal conflicts is related to behavior exhibited at

school. The weighting and significance level of the Object Representation level were essentially unchanged with the addition of problem solving skills into the model, suggesting that these skills do not mediate the expression of the internal process on behavior in the classroom.

The mediational model was also evaluated with respect to the ratings of competence in the behavioral interactions. Again, the procedure outlined by Baron and Kenny (1986) was followed to determine if cognitive problem solving skills do mediate the expression of the internal process on behavioral competence. Although intelligence was not controlled for in this analysis, the correlation between intelligence and ratings of behavioral competence ($r=.11$; $p=.42$) suggests that this is not a significant variable. The results of the first step (regressing the mediator on the independent variable) were discussed previously, with Object Representation found to be a significant predictor of problem solving ability. The results of the second step, regressing the average competence level on the independent variable (Object Representation Level), are presented in Table 8. The results of this analysis indicate that the Object Representation level is a significant predictor of behavioral competence in the videotaped interactions, with higher representation levels associated with higher ratings of competence. The third step, regressing the dependent variable (competence ratings) on both the independent

Table 8

Regression Analysis of Videotaped Interactions

Overall F(4,75)=2.10; p=.07

Source	
OBJREP	F(1,75)=4.64; p=.04
Gender	F(1,75)=0.02; p=.89
Race	F(1,75)=3.45; p=.07
Age	F(1,75)=0.12; p=.73

Table 9

Regression Analysis of Videotaped Interactions with Problem Solving Ability in Model

Overall F(5,74)=4.74; p=.0004

Source	
OBJREP	F(1,74)=0.65; p=.42
RES	F(1,74)=15.83; p=.0002
Gender	F(1,74)=0.17; p=.68
Race	F(1,74)=2.53; p=.12
Age	F(1,74)=1.09; p=.30

variable (Object Representation Level) and the mediator variable (Resolution Score), is presented in Table 9. Of note is the significant decrease in predictive ability of Object Representation when problem solving ability is added to the model. This suggests that problem solving skills affect the influence of the representation level of others on behavior. This pattern suggests that the prediction of social competence is rather complex, with the internal processes affecting competent cognitive social problem solving, which in turn affects behavioral competence. The R-squared value for this model was .28, which indicates that a moderate degree of variance in ratings of behavioral competence is accounted for by the variables in this model.

As both the teacher ratings and the behavioral interactions were proposed to reflect social competence, the relationship between these two variables will be briefly discussed. The correlation between Prosocial ratings and the competence score was .52 (p=.001), the correlation between Aggressive ratings and the competence score was -.50 (p=.001), and the correlation between Social Isolation ratings and the competence score was -.33 (p=.0558). Thus, these variables are related in the manner predicted, with a positive correlation between behavioral competence and prosocial behaviors and negative correlations between both aggression and withdrawal and behavioral competence.

CHAPTER IV

Discussion

The study discussed in this paper was designed to evaluate social competence in adolescents, through an examination of cognitive problem solving skills, internal processes, and behavioral functioning. The goal was to study social competence as a molar construct by including an assessment of cognitive skills related to resolving interpersonal conflicts, the internal structures proposed to be related to interpersonal functioning, and actual behavior. It was proposed that social competence may by more readily understood through an integration of social cognitive theory and psychodynamic theory. The internal processes evaluated were the object representation level and defense mechanism level, which are derived from psychodynamic literature. The social cognitive theories contributed the concept of problem solving skills and a method for evaluating these skills.

Social competence was evaluated through the use of hypothetical vignettes describing conflicts between same-sex peers, through self-report of behavioral difficulties, through teacher ratings, and through actual behavior exhibited in videotaped interactions with same-sex peers. Competence on the hypothetical vignettes was defined as the

ability to generate constructive and verbally assertive solutions to the conflicts presented. Competence in the behavioral sequences was defined as the ability to engage in the tasks in a manner that allowed for positive interactions with the peers, including verbal interactions and attempts to resolve the conflicts in a collaborative way.

The first question examined in this project was related to the relationship between adolescent's cognitive problem solving skills and their social competence. Social competence was evaluated in three ways: first through self-reported behavioral problems, second through teacher ratings, and third through behavioral interactions with a peer. The results of these analyses indicate that cognitive problem solving skills are significantly related to self-rated competence, teacher ratings of aggression, and the competence exhibited in the videotaped interactions. Cognitive problem solving skills were marginally related to teacher ratings of social isolation. Gender was a significant predictor of teacher ratings of aggression, with males receiving higher teacher ratings on this scale; gender and race were significant predictors of self-rated competence, with whites and females reporting a greater number of problems.

These findings suggest that the more problems an adolescent acknowledges, the less competent are the conflict resolution strategies generated; adolescents who experience

problems with externalizing (i.e., fighting, acting out) and internalizing (i.e., crying, anxiety, obsessions) have not developed effective strategies for resolving interpersonal conflicts. The fact that adolescents' self-report corresponds to the degree of competence noted on the hypothetical problem situations suggests that adolescents are aware of their difficulties and that the behaviors assessed by the Achenbach are related to social competence. The deficient problem solving skills these adolescents exhibit may be a consequence of the greater number of problems they are experiencing; conversely, deficient problem solving skills may lead to the development of the problems assessed by the Achenbach. Given that peer relations become more important during adolescence, deficient social problem solving skills may affect overall functioning to a greater extent during this developmental period. As this research focused only on adolescents, the developmental sequence of problematic behaviors and cognitive problem solving skills cannot be determined. Longitudinal research should be devised to evaluate the sequence in the development of difficulties in adolescence.

Furthermore, these analyses indicate that the more competent the cognitive problem solving skills an adolescent exhibited, the higher were the ratings of competence in the behavioral interactions. In terms of teacher ratings, the ability to generate verbally assertive strategies was

associated with fewer ratings of aggression. Overall, there is a relationship between cognitive problem solving skills and behavioral competence. These results offer external validation for the use of hypothetical problem situations in the study of social competence. Although obtaining observations of actual behavior offers greater information and allows for a fuller evaluation of an individual's functioning level, the use of hypothetical problem situations to assess social cognition is often easier and more cost effective. The results support the use of a problem solving measure to obtain an estimate of an individual's social functioning.

The second question examined concerned the utility of incorporating psychodynamic constructs to allow for fuller understanding of social cognitive problem solving. The results of the analyses for the hypothetical vignettes indicate that adolescents who have a mature representation of others tend to generate more effective solutions to the hypothetical conflicts. Higher conceptual level of the representation of others reflects a more complex view of others, with a greater understanding of diversity in people and an ability to integrate these various elements into a coherent whole. The ability to consider different aspects of one's parents and to integrate diverse characteristics suggests that adolescents with a higher object representation level are more adept at reflecting on these

characteristics. This reflective process may be applied to other people, and thus these adolescents may be more sensitive to characteristics in others. Thus, adolescents with higher Object Representation Level should be better able to recognize the needs of the other person in different situations, given this greater sensitivity. The fact that these adolescents are able to generate more effective solutions may reflect their ability to contemplate various aspects of situations and to integrate these different elements; a second component to effective solution generation may be greater sensitivity to others, as adolescents would be less likely to generate conflict escalating strategies (which could potentially harm anther person) when they can empathize with that person.

The results of this study support the need for an integration of the construct of object representation from psychodynamic theory and cognitive problem solving skills from social-cognitive theories in order to understand social competence; this offers support for Westen's (1992) proposal that integrating theoretical perspectives is necessary to understand social cognition. The focus of this research was on adolescents, but it appears that a fuller understanding of competence in general would be accomplished through this integration of theories. Psychodynamic theory can offer greater understanding of the internal mechanisms that affect problem solving skills. These mechanisms can influence

attention to situational cues and expectations in situations (which can affect goal setting). Cue attention, expectations, and the goal being pursued may then affect solution generation and therefore the outcome of interpersonal interactions. The outcome of interpersonal interactions will then reinforce the initial processes guiding behavior, and therefore affect future interactions. This entire process appears to be best understood by combining the constructs felt to be important to both theories.

Psychodynamic theories can also contribute hypotheses regarding how the skills postulated to be of importance in social cognitive theories develop. For example, one of the skills proposed to be of importance for social cognitive theory is the ability to integrate the needs of self and other in social interactions. Psychodynamic theory would propose that children learn this skill through the experience of having their own needs recognized and empathically understood. Object relations theorists indicate that the relationship between a child and the mother affects the manner in which other people will be interpreted; the interpretation of the other individual in an interaction will affect the interpretation of the conflict at hand, which will then affect the solution chosen. Furthermore, if a child has never experienced a satisfying relationship with a significant other, it will be

more difficult for this child to interpret others as acting benevolent, which will reduce the likelihood of considering solutions that consider the other person's needs as important. Thus, the repertoire of solutions available to an individual may be related to the internal representation of others. Future research should be conducted in this area to determine the validity of these hypotheses.

The Object Representation Inventory was proposed to reflect the internal schema developed through the early relationships between a child and his/her parents. However, it may be that this measure is simply a reflection of the current relationship between the adolescent and his/her parents, rather than reflecting the earlier relationships proposed by object relations theorists to be important. The conservative interpretation of these data, therefore, would be that the internal view of one's parents is related to social competence. This relationship may or may not be related to the postulates made by object relations theorists.

Race was also found to be related to problem solving skills and ratings of behavioral competence. Race, however, is confounded with socioeconomic status, as most of the black adolescents were from a rural population, of primarily low socioeconomic status. Thus, the deficient problem solving skills noted in black adolescents may be a function of their economic status, and the disadvantages associated

with this status. Another potential explanation may be related to cultural differences, as black adolescents may have been raised with different expectations for social behavior and different means of resolving conflicts than white adolescents. For the videotaped interactions, it appeared that the lower ratings were due to fewer verbalizations made overall; thus, black or lower SES adolescents may feel less comfortable being videotaped, which could decrease the number of verbalizations made. Ogbu (1990) suggests that minority groups have different views of socially appropriate behaviors, and it is possible that the coding system developed for this project may not have been sensitive to socially competent behaviors in black adolescents, which may have reduced the degree of competence noted on the cognitive problem solving task and in the behavioral interactions. Again, future research is needed to disentangle these factors.

The Defense Mechanism Inventory was found to be insignificant in terms of predicting social problem solving skills; this suggests that this psychodynamic process is not related to conflict resolution. Another possibility, however, is that this measure is not a true measure of the defenses utilized in actual situations; further validity studies may be needed for this instrument, as it appears to assess behaviors rather than defenses. The lack of differences in solution generation between males and females

suggests that the process of cognitive problem solving is similar for both sexes.

The second question examined in this study was related to an examination of the predictors of competent cognitive problem solving skills. As noted above, the significant predictors are the Object Representation Level and Race. Overall, the results of the hypothetical conflict situations indicate that the psychodynamic construct of object representation can allow for a fuller understanding of social competence in adolescence than if social cognitive theories in isolation are used. Social cognitive theories suggest that the primary variable involved in social competence is the way individuals think about situations and how these cognitions affect behavior in interpersonal interactions. The results of this study indicate that a significant variable in the ability to think about and resolve conflicts is the level of object representation; exclusion of the psychodynamic variable leaves the social cognitive model lacking in explanatory power.

The third question to be addressed relates to a mediational model, specifically whether the object representation level is associated to behavioral competence and if so whether social cognition affects the influence of this internal mechanism on behavior. In terms of the actual behavior observed on the videotapes, the sequence of regression equations proposed by Baron and Kenny (1986) was

utilized in order to determine if problem solving ability affects the influence of object representation level on behavioral competence. It was found that the representation of others is a significant predictor of problem solving ability and is significantly related to competence ratings in behavioral interactions; this latter influence is reduced significantly when a measure of problem solving ability is included in the model, which fulfills the criteria for considering cognitive problem solving to function as a mediating variable in the relationship between the Object Representation Level and competent behavior. A model of social behavior can be developed, in which the Object Representation Level affects social problem solving ability or social cognition, which then affects social behavior. What this model implies is that the object representation level will affect problem solving skills, which will then affect the competence exhibited in interpersonal situations. Greater competence may reflect greater sensitivity to others, the ability to integrate different elements more effectively, and a more positive interpretation of other people in general.

Object representation level is proposed to affect interpersonal skills by influencing the interpretation and expectations of other individuals in social interactions. In this model, if an adolescent has a lower representation level coupled with more mature conflict resolution skills,

the resolution skills can at least partially compensate for the effect of the internal image and overcome the lower competence that would be expected in behavioral interactions. Furthermore, if an individual has a higher conceptual view of other people but has never learned appropriate skills for resolving conflicts, the lack of competent problem solving skills may reduce the behavioral competence that would be expected given the higher representation level of others. This pattern offers more support for the need to integrate social cognitive and psychodynamic theories, as both perspectives contribute to an understanding of social competence in adolescence.

The hypothesis that problem solving skills operates as a mediating variable was not offered support in the series of analyses designed to examine the relationship between object representation level, problem solving skills, and teacher ratings. Although there were fewer participants in this series of analyses, the object representation level was found to be related to teacher ratings of prosocial behaviors; the same pattern of results was observed with problem solving skills included in the model, which suggests that cognitive problem solving skills do not affect the influence of the internal view of others on behavior in the classroom. The resolution score was found to be predictive of aggressive ratings and marginally related to ratings of

social isolation, indicating that problem solving skills are related to functioning outside the laboratory.

To summarize the results of the third question, cognitive problem solving skills were found to function as a mediator between object representation level and behavioral competence but not as a mediator between this same internal process and teacher ratings. The reason for this difference may reflect the possibility that the object representation level is expressed differently in a classroom setting than in a one-on-one situation such as that depicted in this study. Additional research comparing the relationship between object representation level and classroom adjustment, as well as a more substantial sample, may help to clarify this issue.

Ancillary findings, which involved an examination of the role of intelligence on social problem solving, will now be discussed. Intelligence has received mixed results in terms of its relationship to cognitive problem solving skills. It is hypothesized that that the relationship between intelligence and problem solving may depend on the definition of social problem solving skills that a particular researcher utilizes. Given the discrepancies noted in research findings, it is advisable to obtain estimates of intelligence in order to ensure that all potentially relevant variables are assessed.

Baron and Kenny (1986) discussed a more complex model that combines mediating and moderating variables in the prediction of dependent variables. An interesting hypothesis would be that intelligence operates as a moderator and cognitive problem solving skills function as a mediator, with the object representation level representing the independent variable and behavioral competence the dependent variable. In this model, the level of intelligence would affect the relationship between cognitive problem solving and this psychodynamic construct. In order to test this hypothesis, estimates of these variables would need to be obtained on a large sample of participants; the procedure outlined by these authors involves evaluating interaction terms, and would require a larger sample than that obtained in this study.

Socioeconomic status has been proposed to be a significant predictor of social problem solving skills. Although this variable was not directly assessed in this study, participants were obtained from a private high school populated by primarily upper socioeconomic students and a public rural high school populated by primarily lower socioeconomic students. Unfortunately, race is confounded with this variable, as the majority of white participants were students at the private school and the majority of black participants attended the public school. Future research should include an assessment of socioeconomic

status in order to more clearly delineate the role of various factors in the development of socially competent behavior.

One limitation of this study is the fact that the various predictor variables were not controlled for. All data was obtained from adolescents who were willing to participate in a research study, without an attempt to control the different variables. In order to investigate cultural differences in social competence, obtaining a random sample of adolescents from different cultural and socioeconomic backgrounds is needed; this procedure may allow for better understanding of cultural influences on social behavior. As noted previously the adolescents who chose to participate in this study constituted only a small minority of adolescents who were initially contacted; thus, the results may not be representative of all adolescents. A more representative sample is needed before any conclusions can be made.

To recap the findings of this study, it was found that cognitive problem solving skills are related to self-rated competence, teacher ratings of competence, and ratings of behavioral competence. Furthermore, the psychodynamic construct of Object Representation level is significantly related to cognitive social problem solving. A mediational model (whereby cognitive problem solving skills mediate the expression of object representation level) was found to be

operative in terms of behavioral ratings of competence. It appears that this internal mechanism affects social problem solving skills, which then have an effect on behavioral competence. Understanding social competence in adolescence appears to be facilitated through an integration of constructs from social cognitive theories and constructs from psychodynamic theories.

What remains to be determined is how to intervene with an adolescent who is exhibiting socially incompetent behaviors and is therefore experiencing peer rejection or authority disapproval. The results of this study indicate that the internal representation of other people underlies social competence. It is unclear if the focus in treatment should be on altering the internal view of other people or if the focus should be on developing more effective problem solving skills when interpersonal difficulties are noted in adolescence. Future research should be designed to evaluate treatment effectiveness when these different areas are targeted in adolescents with social competence difficulties. Given that social difficulties at one stage can affect overall functioning at a later time, it is important to fully understand the best manner of intervening when social deficits are observed in order to offset the development of greater problems.

BIBLIOGRAPHY

Achenbach, T.M. and Edelbrock, C. (1987). Manual for the Youth Self-Report and Profile. Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T.M., McConaughy, S.H., and Howell, C.T. (1987). Child/Adolescent Behavioral and Emotional Problems: Implications of Cross-Informant Correlations for Situational Specificity. Psychological Bulletin, 101, 213-232.

Avery, R.R., and Ryan, R.M. (1988). Object Relations and Ego Development: Comparison and Correlates in Middle Childhood. Journal of Personality, 56, 547-569.

Baron, R.M., and Kenny, D.A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. Journal of Personality and Social Psychology, 51, 1173-1182.

Blatt, S.J., Chevron, E.C., Quinlan, D.M., and Wein, S. (1981). The Assessment of Qualitative and Structural Dimensions of Object Represenations. Unpublished manual, Yale University.

Blatt, S.J., Wiseman, H., Prince-Gibson, E., and Gatt, C. (1991). Object Representations and Change in Clinical Functioning. Psychotherapy, 28, 273-283.

Bowbly, J. (1988). A Secure Base: Parent-Child Attachment and Healthy Human Development. New York: Basic Books.

Brion-Meisels, S. and Selman, R.L. (1984). Early Adolescent Development of New Interpersonal Strategies: Understanding and Intervention. School Psychology Review, 13, 278-291.

Coie, J.D., Dodge, K.A., and Coppotelli, H. (1982). Dimensions and types of status: A cross-age perspective. Developmental Psychology, 18, 557-580.

Cooney, E., and Selman, R. (1978). Children's use of social conceptions: Towards a dynamic model of social cognition. In W. Damon (Ed.), Social Cognition. San Francisco: Josey Bass.

Cowen, E.L., Pederson, A., Babigan, H., Izzo, L.D., and Trost, M.A. (1973). Long-term follow-up of early detected vulnerable children. Journal of Consulting and Clinical Psychology, 41, 438-446.

Dodge, K.A., Asher, S.R., and Parkhurst, J.T. (1988). Social Life as a Goal Coordination Task. In C. Ames and R. Ames (Eds.), Research on Motivation in Education. New York: Academic Press.

Dodge, K.A., Pettit, G.S., McClaskey, C.L., and Brown, M.M. (1986). Social Competence in Children. Monographs of the Society for Research in Child Development, 51.

Dozier, M. (1989). Working Models of Attachment for Individuals with Serious Psychiatric Disorders. Paper presented at the Biennial Meeting of the Society for Research in Child Development; Kansas City, Missouri; April, 1989.

Erikson, E.H. (1968). Identity, Youth, and Crisis. New York: Norton.

Ford, M.E. (1982). Social Cognition and Social Competence in Adolescence. Developmental Psychology, 18, 323-340.

French, D.C. (1988). Heterogeneity of Peer-rejected Boys: Aggressive and Nonaggressive Subtypes. Child Development, 59, 976-985.

French, D.C., Brownell, C.A., Graziano, W.G., and Hartup, W.W. (1977). Effects of Cooperative, Competitive, and Individualistic Sets on Performance in Children's Groups. Journal of Experimental Child Psychology, 24, 1-10.

Furman, W., and Buhrmester, D. (1992). Age and Sex Differences in Perceptions of Networks of Personal Relationships. Child Development, 63, 103-115.

Gleser, G.C., and Ihilevich, D. (1969). An Objective Instrument for Measuring Defense Mechanisms. Journal of Consulting and Clinical Psychology, 33, 51-60.

Greenberg, J.R., and Mitchell, A. (1983). Object Relations in Psychoanalytic Theory. Cambridge, Mass.: Harvard University Press.

Jenkins, V.Y., and Fisher, D.A. (1989). Patterns of Adolescent Attachment and Coping. Presented at the Biennial Meeting of the Society for Research in Child Development; Kansas City, Missouri; April, 1989.

Kroger, J. (1989). Ego Structuralization in Late Adolescence as seen through Early Memories and Ego Identity Status. Paper presented at the Biennial Meeting of the Society for Research in Child Development; Kansas City, Missouri; April, 1989.

Lieberman, A.F. (1977). Preschoolers' Competence with a Peer: Relations with Attachment and Peer Experience. Child Development, 48, 1277-1287.

Lochman, J.E., Lampron, L.B., and Rabiner, D.L. (in press). Format differences and salience effects in the social problem-solving assessment of aggressive and non-aggressive boys. Journal of Clinical Child Psychology.

Mahler, M., Pine, F., and Bergmann, A. (1975). Psychological Birth of the Human Infant. New York: Basic Books.

Marsh, D.T., Serafica, F.C., and Barenboim, C. (1980). Effect of Perspective-taking Training on Interpersonal Problem Solving. Child Development, 51, 140-145.

Matas, L., Arend, R.A., and Sroufe, L.A. (1978). Continuity of Adaptation in the Second Year: The Relationship between Quality of Attachment and Later Competence. Child Development, 49, 547-556.

Ogbu, J. (1990). Minority Education in Comparative Perspective. Journal of Negro Education, 59, 45-57.

Parker, J.G., and Asher, S.R. (1987). Peer Relations and Later Personal Adjustment: Are Low-Accepted Children at Risk? Psychological Bulletin, 102, 357-389.

Platt, J.L., Spivack, G., Altman, N., Altman, D., and Peizer, S.B. (1984). Adolescent Problem-Solving Thinking. Journal of Consulting and Clinical Psychology, 42, 787-793.

Rabiner, D.L., Lenhart, L., and Lochman, J. (1990). Automatic vs. Reflective Social Problem Solving in Relation to Children's Sociometric Status. Developmental Psychology, 71, 535-543.

Renshaw, P.D., and Asher, S.R. (1982). Social Competence and Peer Status: The Distinction between Goals and Strategies. In K. Rubin and H. Ross (Eds.), Peer Relationships and Social Skills in Childhood. New York: Springer-Verlag.

Rubin, K.H., and Krasnor, L.R. (1986). Social-cognitive and social behavioral perspectives on problem solving. In M. Perlmuter (Ed.) Cognitive perspectives on children's social and behavior development: The Minnesota Symposia on Child Psychology, 18, 1-68.

Schultz, L.H., and Selman, R.L. (1988) Directions for Using the Revised Defense Mechanism Inventory. Cambridge, MA: Harvard Graduate School of Education.

Schultz, L.H., and Selman, R.L. (1989). Bridging the gap between interpersonal thought and action in early adolescence: The role of psychodynamic processes. Development and Psychopathology, 1, 133-155.

Selman, R.L. (1980). The Growth of Interpersonal Understanding. New York: Academic Press.

Selman, R.L., Beardslee, W., Hickey-Schultz, L., Krupa, M., and Podorefsky, D. (1986). Assessing Adolescent Interpersonal Negotiation Strategies: Toward the Integration of Structural and Functional Models. Developmental Psychology, 22, 450-459.

Selman, R.L., and Demorest, A.P. (1984). Observing Troubled Children's Interpersonal Negotiation Strategies: Implications of and for a Developmental Model. Child Development, 55, 288-304.

Shure, M.B. (1982). Interpersonal Problem Solving: A Cog in the Wheel of Social Cognition. In F.C. Serafica (Ed.), Social Cognitive Development in Context. New York: The Guilford Press.

Shure, M.B. (1985). Interpersonal problem-solving: A cognitive approach to behavior. In R.A. Hinde, A.N. Perret-Clermont, and J. Stevenson-Hinde (Eds.) Social Relationships and Cognitive Development. New York: Clarendon Press.

Slaughter-Defoe, D.T., Nakagawa, K., Takanishi, R., and Johnson, D. (1990). Towark Cultural/Ecological Perspectives on Schooling and Achievement in African- and Asian-American Children. Child Development, 61, 363-383.

Spencer, M.B., Kim, S., and Marshall, S. (1987). Double Stratification and Psychological Risk: Adaptational Processes and School Achievement of Black Children. Journal of Negro Education, 56, 77-87.

Spivack, G., Platt, J.J., and Shure, M.B. (1976). The Problem-Solving Approach to Adjustment. San Francisco: Jossey-Bass.

Terry, R., Coie, J.E., and Underwood, M. (1989). Teacher Rating Instrument for Assessing Children's Social Behavior. Unpublished Manual, Duke University.

Valliant, G.E. (1976). Natural History of Male Psychological Health. Archives of General Psychiatry, 33, 535-545.

Waters, E., and Sroufe, L.A. (1983). Social Competence as a Developmental Construct. Developmental Review, 3, 79-97.

Wechsler, D. (1974). Manual for the Wechsler Intelligence Scale for Children-Revised. San Antonio, Texas: Harcourt Brace Jovanovich, Inc.

Westen, D. (1991). Social Cognition and Object Relations. Psychological Bulletin, 109, 429-455.

Westen, D., Klepser, J., Ruffins, S., Silverman, M., Lifton, N., and Boekamp, J. (1991). Object Relations in Childhood and Adolescence: The Development of Working Representations. Journal of Consulting and Clinical Psychology, 59, 400-409.

Zigler, E., and Phillips, L. (1961). Social Competence and Outcome in Psychiatric Disorder. Journal of Abnormal and Social Psychology, 63, 264-271.

Appendix A

Name: Age: I or D

1.) You and your friend Don are working an a project for your chemistry class. He has not been following the directions closely and making mistakes. This is making it hard to finish on time.

2.) You have been wanting to go out with this girl for a few months and have talked to your friend Steve about this. You and he are at a dance and Steve tells you that he wants to go out with her and he wants to know if you mind if he asks her out. You want to stay friends with him, but you don't want him to go out with her.

3.) In gym class, you are playing basketball with a new person, Alex, on your team. Alex keeps trying to make shots that are impossible. He seems like the kind of person you want to be friends with and you don't want to insult him, but you also want to win the game.

4.) You decided to join the chess team this year and are at the first meeting. You are playing a game with John, a person you want to get to know. After you finish the game, you think you hear him tell someone you cheated.

5.) You and your friend Jeff are planning a party for the coming weekend. He wants to invite some people that you really don't want to come.

6.) You are participating in the school spelling bee this year and have met Terry while doing this. He seems like a nice guy and you want to get to know him, but you hear him laugh when you misspell a word.

7.) You and some guys from school are getting together a rock band. One of the guys, Ed, you have just met keeps trying to steal the show and impress the rest of the members. You would like to get along with him, but don't want him to keep it up.

8.) You and your friend Tom are both running for class president. You want to remain friends, but he has been seeming to ignore you lately.

Name_____ Age_____ I or D

1.) You are working on an art project for the upcoming contest and Tim, a new student who is good at art and who you want to get to know better, comes over and says that he does not like your project.

2.) You and your friend Mark are studying for an algebra test this week. He keeps clowning around and this is making it hard to study. You don't want to get him mad, but you want to study for the test.

3.) You and your friend Bob are trying to join a club that all the cool guys belong to. You have noticed Bob acting like a jerk lately and don't know whether to keep being friendly with him or ignore him to increase your chances of being accepted.

4.) You and Tony have been assigned to work together on a project for your science class. You don't know him very well but would like to become friends. The idea that Tony has suggested does not sound very good to you.

5.) Basketball tryouts have started today and you met a person who wants the same position as you do. While you are practicing, you think you hear him making fun of a shot you missed. You want to be friends with him since you will both be on the team, but you don't want him to make fun of you.

6.) You and your friend Chuck are painting a neighbor's garage for money. You have noticed that he keeps missing spots on the wall. You don't want him to think that you are insulting him, but you want to do a good job.

7.) You and your friend Jason have joined the school band this year. You are both trying to be chosen for the solo part in the upcoming concert. Jason has seemed to not want to do anything with you anymore, but you still want to be friends.

8.) You and a group of students from school are helping to plant trees in the neighborhood. William is a nice person you want to be friends with, but he keeps playing around instead of working. You don't want to upset him but you know you would finish faster if he would help too.

PLEASE NOTE

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

Achenback Youth Self-Report Form
96-98

WISC-R Vocabulary
99

Defense Mechanism Inventory
100-103

Teacher Checklist
104-105

University Microfilms International

Appendix F

The parents of every student in your child's class are being asked if they would be willing to allow their child to participate in a study being conducted by a doctoral student at the University of North Carolina-Greensboro. The purpose of the study is to examine social interactions among adolescents and how teenagers solve different problems that may come up. The first part of the study would involve your child answering questions about how he/she feels about him/herself, how he/she views you as parents, and the types of things he/she does, as well as how he/she would react to certain situations. After this, your child would be asked to offer a solution to various problem situations that may occur between teenagers. Finally, your child would be videotaped while interacting with two different teenagers (one friend and one unfamiliar peer) during four five-minute tasks. Your child would be asked to participate in this study with a friend from his/her school for this purpose.

All of the information obtained during this study would remain confidential, which means that neither you nor your child's name will be used on the materials and that no one will know how your child responded. Your participation in this study would be voluntary and there will be no negative consequences for you if you choose not to participate. Also, if you decide that you want to stop participating in this study, even after you have started the study, you can withdraw your consent again without any negative consequences. If you choose to allow your child to participate, he/she would receive five (5) dollars for his/her time. If you feel that your child might like to participate, please sign your name and print your child's name on the form below. Also include a phone number where you can be reached. Signing this form simply means that you agree to be contacted to discuss this study more fully- it does not mean that you agree to participate in the study.
If you have any questions, please feel free to contact Lisa Lenhart at 334-5013/537-6174. If you complete this form, please return it to your child's homeroom teacher at school.

Thank you.

_____ _____

Parent's signature Phone number

Child's Name and Age _____

Appendix G

This study is designed to examine social problem solving in adolescents. Participating in this study involves being read a series of stories in which there is some type of interpersonal conflict or problem and deciding how that problem should be solved. There are no right or wrong ways to solve these problems, but rather I am interested in how different people would solve these problems. You will also be asked to describe how capable you would feel in certain roles or performing particular tasks, as well as describe yourself, your behaviors, and your parents. Finally, you will be videotaped during four short interactions with your friend and with someone you don't know. All information obtained in this study will remain confidential.

If you choose to participate, you will recieve one research credit (or five dollars, depending on participant type) for your input in this study. If you would like to participate, I need you to sign this consent form that indicates you have voluntarily offered your consent to participate. If you choose not to be a member of this research project, there will be no negative consequences. If you sign the consent form now, but later decide that you do not want to continue in the study, you can withdraw your consent at that time or at any time, without penalty.

Appendix H

Instructions for Immediate Condition

I will read you a series of stories in which there is some type of problem that needs to be solved. These are situations that can come up in real life, and I want you to tell me how you think the problem should be solved. There are no right or wrong answers- I just want you to tell me how you think the problem in the story should be solved. For this first part, I want you to try to answer as fast as you can; just try to say the first thing that pops into your head. These stories are pretty short so listen carefully and be ready to answer when you understand what the problem is. I am going to keep track of how fast you answer with this stop watch, so really try to answer quickly. I would like you to answer in less than a second, which sounds harder than it is- just answer as quick as you can. Do you have any questions?

Appendix I

Instructions for the delay condition

I am now going to read you some more stories in which there is some type of problem that needs to be solved. However, this time I want you to wait for 20 seconds before telling me how you think the problem should be solved. During this 20 seconds, I want you to try to think of different ways that the problem could be solved and then tell me which way you think the problem should be solved when I tell you the time is up. Remember, there are no right or wrong ways to solve the problems and I just want you to tell me how you think the problem should be solved. Try to think of as many different ways that this problem could be solved during this time as you can. I would like for you to tell me how you would solve this problem after thinking of different ways that people could resolve the conflict.

Appendix J

Instructions for the cooperative task, read individually

> I am going to show you a picture of a puzzle and I want you to study it carefully. One of the tasks I am going to have you do while being videotaped is to put together a puzzle with another person. The task is going to be made difficult in several ways and I just want the two of you to do the best you can on this. First, you will not have a picture of the puzzle to look at while you are working together; this means that I want you to really study the picture now before you begin the puzzle task. Second, I have removed all the edge pieces so that the part you have to work on is the middle. Finally, I have added some extra pieces so that not all the pieces will be needed for the puzzle. What I want you to do now is to study this picture for a couple minutes and remember to concentrate on the middle part.

Instructions read to both participants for cooperative task

> I want the two of you to work together and try to put together as much of this puzzle as you can. Remember the picture I showed you and work from your memory. Also remember that the end pieces are missing and there are extra pieces that you will not need for this puzzle. I will give you five minutes to work together and I just want you to put together as much as you can. Do you have any questions?

Appendix K

Instructions for Naturalistic task

> I want the two of you to take approximately three minutes to get to know each other.

Appendix L

Instructions for the competitive task

The two of you will now be asked to participate in a game, in which only one of you can win. The winner of this game will be given one dollar, so it is important to try your best. The purpose of the game is to gather as many beads of certain colors as you can during a five minute interval. I will show each of you a card with the colors that you need to collect. Each of you will be asked to collect three different colors of beads, but the colors you are to try to gather will be different so that you will both be trying to get different colors. This bucket is full of many beads of different colors, some of which neither of you will be trying to collect. You need to get as many of the correct color beads as you can. Make sure you only get the colors that are listed on your card. These are the colors you will be collecting (experimenter shows each adolescent a card). Remember, you will each be trying to collect different colors and you should not be getting the same color beads; make sure that you are only getting your color beads. I will be videotaping you during this task as well. I will come back in two minutes and we will count how many beads each of you has gathered.

Appendix M

Instructions for the negotiative task

I would like you to take one minute at this time and decide whether the person who won this game should receive the dollar for winning or if you should split the dollar and each receive fifty cents because you both played the game.

Appendix N

Debriefing Form

The project you have just participated in was designed to gather information about how different people solve problems or conflicts that come up in interpersonal situations. The stories that you were read all involved a conflict between two peers and your responses to these situations will help us to understand more about peer relationships. Your interactions with the other adolescents which were videotaped will help us to see how people your age resolve conflicts when they actually occur and if people resolve conflicts when interacting with someone in a way that is similar to the way report solving conflicts on questionnaires. The questionnaires you filled out will help us to determine if there are any differences in the way people feel about themselves and the things they do or how confident they feel and how they solve the different social problems. This will help us to understand more about the relationship between the way people feel about themselves and how they interact with other people. Thank you very much for your help with this project.

If you have any questions at a later date, feel free to contact me, Lisa Lenhart, at any time at the psychology department (334-5013)/Mental Health Center (537-6174). A reminder will be made that psychological services are available at the Psychology Clinic, through any private practictioner, and at the Mental Health Center. You may contact any of these institutions if you feel a need for therapy.

Appendix P

Coding of Behavior for General Competence

Coding Scheme for Cooperative Task Score

1 Use of physical or verbal aggression; criticizes peer; solitary and individualistic approach

2 Solitary and individualistic approach; no verbal interactions with peer

3 Primarily solitary and individualistic approach; assumes dominant attitude and dictates activity without requesting input from peer

4 Primarily solitary and individualistic approach; assumes passive attitude and offers little input; some attempts to cooperate

5 Able to cooperate with peer and work together but with no identification of the conflict; able to cooperate with peer

6 Identifies conflict and resolves this, but some difficulty reaching resolution; able to cooperate with peer

7 Fully cooperative approach; identification of conflict and easily reaching of resolution; able to offer opinions and suggestions in a constructive manner; engages in verbal discourse

Coding Scheme for Get Acquainted Task

1 Does not engage in defined task; verbal or physical aggression; makes deragotory remarks about the other person

2 Does not engage in assigned task; withdrawn from other or does not engage in verbal interaction; irrelevant conversation

3 Focuses on the self to the exclusion of the other; makes only self-relevant statements and does not request any information about the peer

4 Focus on the other to the exclusion of the self; asks questions regarding the other person, but makes no self-relevant comments

5 Primary focus is on the self but is able to request information about the peer; attends well to the other interactant

6 Primary focus in on the other interactant but is able to offer some information about the self; attends well to peer

7 Offers information about the self easily and requests information about the peer; attends well to conversation and responds to verbalizations made

Coding Scheme for Competitive Task

1 Use of physical or verbal aggression, includig name callng or critical comments

2 Excessive force used to gather the beads including pushing the peer out of the way

3 Assumes dominant attitude and monopolizes access to the bead container (hovers over it or pulls it towards self)

4 Relies on experimenter to resolve conflict

5 Does not become actively involved in the competition; assumes a passive attitude and allows the peer to win the game

6 Actively engaged in task but maintains some distance from peer during interaction (no verbal interaction, no friendly gesture

7 Approaches competitive situation in a friendly manner; actively engages in the task without becoming dominant or passive in the attempt to win the game

Coding Scheme for Negotiative Task

1 Use of physical or verbal aggression, including name calling or critical comments

2 Adopts a dominant attitude and does not acknowledge the peer's opinions; utilizes coercion to influence decision

3 Adopts an immature and "whining" attitude in decision making; begs or pleads with peer to obtain desired end

4 Makes decision without requesting peer's input

5 Does not offer input or opinions regarding the decision; accepts the peer's decision with no comment

6 Some discussion prior to decision but limited verbal interaction

7 Arrives at decision through mutual consent and discussion; able to offer opinions and ideas in a cooperative manner; allows peer the opportunity to offer ideas and listens to their opinions