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SOCIAL DIFFICULTIES ASSOCIATED WITH SELF-REPORTED DEPRESSIVE SYMPTOMATOLOGY IN CHILDHOOD: THE UNIQUE ROLE OF VICTIMIZATION

by

Amy E. Parrish

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

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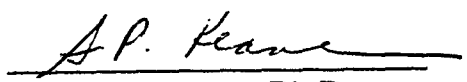

Susan P. Keane, Ph.D.

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.

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PARRISH, AMY E., Ph. D. Social Difficulties Associated with Self-Reported Depressive Symptomatology in Childhood: The Unique Role of Victimization. (1995)
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The current study investigated the unique contributions of victimization, aggressiveness, and social preference to the prediction of depressive symptoms in fourth and fifth grade children. It was predicted that victimization would be significantly related to depressive symptoms, but that aggressiveness and social preference would not be related to depressive symptoms. Additionally, two self-perception variables - children's perceived social status and their outcome expectations - were proposed to mediate the relationship between peer victimization and depressive symptoms. Forty-seven children (63.8% white, 55.3% girls) comprised the sample.

Multiple regression analyses indicated that peer ratings of victimization were uniquely and positively related to depressive symptoms; aggressiveness and social preference were not related to depressive symptoms as measured by the Children's Depression Inventory. Victimization scores approached significance in the prediction of perceived social status (as measured by the Harter Perceived Competence Scale) and outcome expectancy (as measured by the Outcome Expectancy Questionnaire). A multiple regression mediation analysis indicated that perceived social status mediated the relationship between victimization and depressive symptoms. Findings were discussed with regard to the social information-processing model proposed by Crick and Dodge (1994).

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TABLE OF CONTENTS

CHAPTER ONE
INTRODUCTION

Researchers and theorists have long appreciated the importance of peer relations in child development. It is within the context of experiences with peers that children develop many of the basic skills that are necessary for successful social interaction (Garvey, 1987; Hartup, 1983; Piaget, 1932). A child's self-concept is in part shaped by experiences with peers, and healthy peer relations foster a child's sense of social support and security (Bemporad, 1982; Berndt, 1982; Bukowski & Hoza, 1989). Given the importance of peer relations, it follows that poor social competence may place a child at risk for the development of emotional and psychological difficulties. In fact, many researchers have demonstrated a positive relationship between poor social competence and childhood psychopathology (see Parker & Asher, 1987, for a review). The overwhelming majority of research in this area has focused on externalizing difficulties experienced by socially rejected children. Relatively fewer studies have investigated the relationship between poor social competence and internalizing difficulties. Recently, however, some research attention has turned to the possible role of social maladjustment in childhood depression. While it is apparent that some children experiencing peer difficulties are at risk for self-reported depressive symptomatology in childhood, the results of these studies are equivocal with regard to which characteristics of socially maladjusted children are indicative of such risk.

The current study will attempt to elucidate what types of social difficulties are associated with increased risk for depressive symptoms.

The relationship between peer rejection and depressive symptoms

Several researchers have examined the possibility that socially rejected children may be at risk for depressive symptoms, with the assumption that social rejection leads to feelings of loneliness and negative self-perceptions, and thus depressive symptoms. Vosk, Forehand, Parker, and Rickard (1982) found unpopular children to be more depressed and maladjusted than their popular peers. Tesiny and Lefkowitz's (1982) study of 4th and 5th grade boys found a significant negative relationship between popularity and depressive symptoms. Socially rejected children have been reported to be more lonely and more socially dissatisfied than children in any of the other sociometric groups (Asher and Wheeler, 1985). These children may also experience patterns of negative self-perception often associated with depression, such as the perception that others dislike them, low expectations for success in social situations, low perceived social competence, and low self-efficacy (see Hymel & Franke, 1985).

While some rejected children may experience internalizing difficulties, others may not. Many of the previously cited studies were qualified by the large degree of variability within the unpopular or rejected group of children relative to their more popular peers (Asher & Wheeler, 1985; Vosk et al., 1982). This suggests a lack of homogeneity in socially rejected children, that has recently been confirmed. Various subgroups of rejected children have been identified based on behavioral differences (Coie, 1985; Dodge & Frame, 1982; French, 1988; French, 1990; Rubin,

LeMare, & Lollis, 1990; Williams & Asher, 1987). For example, some rejected children are highly aggressive, while some are not at all aggressive. Other rejected children are both aggressive and victimized (Perry, Kusel, & Perry, 1988).

Additionally, Boivin and Begin (1989) have identified two groups of rejected children who differ with regard to their self-perceptions. About half the rejected sample, that they called Cluster B, experience negative self-perceptions on each of the domains of competence measured by the Harter Perceived Competence Scale. These children also report low self-esteem and tend to underestimate their actual competence, a pattern that the authors report may indicate internalizing difficulties. The second group, Cluster A children, have positive self-perceptions that are similar to average and popular children. These findings suggest that some unpopular children may misperceive their social competence. By overestimating their social competence, this subgroup of rejected children may protect themselves from experiencing the painful reality of being disliked by their peers. In so doing, they may be at reduced risk for depressive symptoms compared to their rejected peers who experience negative self-perceptions. Boivin and Begin note that these self-perception differences may correspond to the previously mentioned behavioral differences between rejected children. They call for further research to clarify the relationship between the behavioral characteristics (i.e., aggression and victimization) and self-perceptions of rejected children.

The finding that negative self-perceptions may discriminate between different groups of socially rejected children is especially important in

light of the recent study by Panak and Garber (1992) that found that self-perceived rejection, not actual peer rejection, predicts self-reported depressive symptomatology. According to these authors, perceived rejection, even after controlling for initial levels of depressive symptoms, significantly predicted depressive symptoms one year later in a sample of 4th and 5th grade children. While actual peer rejection initially predicted later depressive symptoms, when self-perceived rejection was added to the overall regression model, the relationship between actual peer rejection and self-reported depressive symptomatology became nonsignificant. Similarly, Barden, Garber, Leiman, Ford, and Masters (1985) found that imagined peer rejection is as powerful as actual rejection in producing sad affect in children. Azar (1989), also, found that depressed and nondepressed adolescents do not differ with regard to their rejected status, but do differ on whether or not they perceive themselves as receiving social support from peers.

Thus, the most probable reason for the lack of concordance among studies attempting to demonstrate a direct positive relationship between peer rejection and self-reported depressive symptomatology is that socially rejected children are a heterogeneous group. It is probable that characteristics of a subgroup of socially rejected children place them at increased risk for depressive symptoms, while other children experiencing peer rejection exhibit characteristics that may place them at risk for externalizing difficulties. Moreover, the behavioral characteristics most frequently studied - aggression and victimization - are not limited to socially rejected children. Therefore, it may be more beneficial to focus

on these behavioral characteristics rather than sociometric classification when attempting to identify children who may be at increased risk for depressive symptoms.

The relationship between aggression and depressive symptoms

Several researchers have proposed a positive relationship between aggression and depressive symptoms. One basis for this hypothesis is the assumption that aggressive behavior may be a manifestation of emotional/cognitive attributes, such as low self-esteem and feelings of helplessness, that are often associated with depressive symptoms. A second line of inquiry suggests that aggressive behavior leads to peer rejection, and it is this rejection that leads to depressive symptoms. Attempts to demonstrate a positive relationship between aggression and depressive symptoms have produced mixed results. Cole and Carpentieri (1990) and Puig-Antich (1982) have found that depressive symptoms and conduct disorder are correlated. Early work by Garber, Panak, and their colleagues (Garber, Quiggle, Panak, & Dodge, 1991; Panak, Garber, & Quiggle, 1989) found a moderate correlation between aggression and depressive symptoms. More recently, however, Panak and Garber (1992) report a concurrent, rather than a predictive relationship among increases in aggression and depressive symptoms. Moreover, Rubin and Mills (1988) found that aggressive behavior in Grades 2, 4 and 5 was neither concurrently nor predictively related to self-reported depressive symptomatology in Grade 5.

Much of what we know about aggressive children comes from the study of the aggressive/rejected subgroup of socially rejected children.

These children appear to be similar to Boivin and Begin's (1989) Cluster A children with regard to their self-perceptions. Patterson, Kupersmidt, and Griesler (1990) found that aggressive/rejected children significantly overestimated their social and behavioral competence when compared with objective measures. Aggressive/rejected children's reports of companionship and self-concept did not differ from those of average or popular children. Additionally, aggressive/rejected children do not differ from average children in their reports of loneliness and interpersonal concerns (Parkhurst and Asher, 1992). Such perceptions may protect these children from insults to their self-esteem in the short term, but in the long run, their motivation to change may be undermined. Because they perceive that they are liked by their peers and that they are behaviorally competent, they may not see any reason to change.

In addition to perceiving that they are liked by their peers, aggressive/rejected children may benefit from the perception that they are able to get what they want from their environment. Aggressive/rejected children are often able to get what they want through the use of aggression (Coie, 1987). They are more focused on these short-term instrumental consequences, that they often overestimate, and are less concerned with the long-term relational consequences of their aggression (Crick and Ladd, 1990).

These reports do not appear to be attributable to mere defensiveness on the part of aggressive/rejected children. Coie, Belding, and Underwood (1988) propose that peers submit to aggressive/rejected children much more quickly because they have learned that the aggressive/rejected

children are going to stick with their aggressiveness until they get what they want. Moreover, peers have learned not to express explicitly their dislike of aggressive/rejected children. Given these findings, it is very possible that aggressive/rejected children truly do not appreciate the degree to which they are disliked by their peers. Therefore, they do not feel as isolated or lonely as nonaggressive/rejected children. Moreover, aggressive/rejected children may actually have more friends than nonaggressive/rejected children. This is supported by Cairns, Cairns, Neckerman, Gest, and Gariepy's (1987) work that demonstrates that aggressive children tend to be part of a social network of aggressive friends, and Williams and Asher's (1987) report that aggressive children are not as extremely disliked as nonaggressive/rejected children. Taken together, these findings provide a basis for why aggressive/rejected boys may be at reduced risk for depressive symptoms. They focus on short-term instrumental goals and are generally successful in their aggressive attempts to attain those goals, they have friends, and perceive themselves as being liked by their peers.

Not all aggressive children are rejected. A subgroup of children classified as "controversial" are disliked by many peers and popular with many others (Coie, Dodge, & Coppetelli, 1982). These children are as preferred by their peers as average and neglected children but have higher rates of aggression (Parkhurst & Asher, 1992). In fact, the aggression scores of controversial children have been found to be significantly higher than any other group (Perry et al., 1988). This, along with the previously discussed failure to demonstrate a direct relationship between peer

rejection and depressive symptoms, obviates the argument of some theorists that peer rejection mediates the relationship between aggression and self-reported depressive symptomatology.

Again, some aggressive children may experience other characteristics more associated with depressive symptoms. Failure to measure these characteristics and to control for their effects may confound the results of such studies. In fact, there is a subgroup of aggressive children who are frequent victims of aggression (Parkhurst & Asher, 1992; Perry, Williard, & Perry, 1990; Olweus, 1978). It may be that results indicating a positive relationship between aggression and depressive symptoms are due to the unmeasured effects of peer victimization and the coincident emotional/cognitive features experienced by this subgroup of aggressive children.

The relationship between victimization and depressive symptoms

A third line of inquiry has investigated the role of victimization on the part of the child, with the assumption that children who are victims of peer aggression experience concomitant emotional and cognitive attributes that place them at risk for depressive symptoms. Research in this area has consistently demonstrated a relationship between victimization and internalizing difficulties. Victimized children are more depressed, socially anxious, and avoidant than nonvictimized children (Crick & Grotpeter, 1993; Olweus, 1978; Parkhurst & Asher, 1992; Perry et al., 1988). They are more lonely and report greater degrees of dissatisfaction with their peer relationships than other children (Parkhurst & Asher, 1992; Williams

& Asher, 1987). Victimized children are frequently rejected by their peers (Crick & Grotpeter, 1993). These children are highly concerned about being attacked or scorned by others (Parkhurst & Asher, 1987). Victimized children are similar to the socially withdrawn children studied by Rubin and his colleagues. Such children report high degrees of depressive symptoms and loneliness, negative feelings of self-worth, and perceptions that they are disliked by their peers (Rubin, Hymel, & Mills, 1989; Rubin, LeMare, & Lollis, 1990; Rubin & Mills, 1988). They are less effective in their social interactions and perceive themselves to be less efficacious than other children (Rubin & Krasnor, 1986; Rubin et al., 1990).

The paucity of research on gender differences in victimized children

Most of the studies cited throughout the introduction have exclusively used boys for their samples. It is only recently that researchers have begun to investigate the possibility that gender differences may exist with regard to the types of psychopathology associated with specific peer difficulties. Much of the work that has looked at gender differences has focused on the differences between peer rejected boys and girls (Dodge & Feldman, 1990; French, 1990). Recently, Crick and Grotpeter (1993) identified a form of aggression, relational aggression, that is more prevalent in girls than boys. To date, however, there has been a lack of research on gender differences of victimized children and their risk for depressive symptoms. This void would seem to be important given the fact that as children enter adolescence, rates of depression increase for girls relative to boys.

Research is needed that investigates the possibility that gender differences exist between victimized children and their risk for depression.

Statement of Purpose

To summarize, previous research attempting to demonstrate that peer rejection and/or aggressiveness are related to self-reported depressive symptomatology in childhood have been equivocal, while victimization appears to be more consistently related to self-reported depressive symptomatology in childhood. Given the high number of victimized children who are socially rejected, and the finding that some aggressive children are also victimized, it is highly possible that previous studies associating depressive symptoms with aggressiveness and social rejection were in fact confounded by the uncontrolled effect of victimization in their samples. As several theorists have stated, the type and degree of psychopathology experienced by children with poor social competence may depend on their behavioral characteristics (Perry et al., 1988; Rubin et al., 1990). Therefore, aggressive children who are not victimized may be at increased risk for externalizing disorders, while victimized children may be at risk for internalizing disorders, such as depressive symptoms. Research that helps to clarify which types of behavioral characteristics are associated with different forms of pathology has treatment implications. Asher (1985) notes that the best peer relation interventions have only a 50% effectiveness rate. It may be that treatment will be more effective if clinicians match intervention strategies to specific social difficulties.

The current study attempted to expand on earlier work by investigating the unique contributions of victimization, aggressiveness, and social preference to the prediction of depressive symptoms in fourth and fifth grade children. Additionally, two self-perception variables - children's expectations for success in social situations and their perceived social status - were proposed to mediate this relationship. The model is illustrated in Figure 1.

Insert Figure 1 about here

It was predicted that victimized children, regardless of whether or not they were aggressive and whether or not they were rejected by their peers, would experience negative self-perceptions (i.e., decreased expectations for success and low perceived social status) and higher levels of self-reported depressive symptoms than children who were not victimized. Specifically, the current study proposed the following hypotheses and research questions.

Hypothesis 1: When victimization, aggression and social preference were included in the overall model, there would be a significant positive relationship between victimization and depressive symptoms, but aggressiveness and social preference would not be related to depressive symptoms.

Hypothesis 2: When victimization, aggression, and social preference were included in the regression equations, there would be significant negative relationships between victimization and:

a. perceived social status, and

b. outcome expectancy,

but aggressiveness and social preference would not be related to either of these two variables.

Hypothesis 3: Depressive symptoms would be negatively related to:

a. perceived social status, and

b. outcome expectancy,

Hypothesis 4: Outcome expectancy and perceived social status would mediate the relationship between victimization and depressive symptoms.

Some children are both victimized and aggressive. These children, described by Perry, Willard, and Perry (1990) as "ineffectual aggressors", are often the most extremely disliked children in the peer group (Parker & Asher, 1987). Some theorists speculate that these children may be especially vulnerable for psychological difficulties (Cole & Carpentieri, 1990; Ledingham & Schwartzman, 1984), although to date no studies have indicated that they are at greater risk for depressive symptoms than children who are victimized only. Therefore, an additional objective of the present study was to investigate the interaction of aggression and victimization in the prediction of depressive symptoms. To this end, the following research questions were proposed:

Research Question 1: Was there a significant interactive effect of victimization and aggressiveness on depressive symptoms?

Research Question 2: Was there a significant interactive effect of victimization and aggressiveness on:

a. perceived social status, and

b. outcome expectancy?

A final purpose of the current study was to investigate if the relationships between victimization, aggression, social preference and depressive symptoms held for both boys and girls. Much of the previous work on which the current study is based failed to report gender differences. Other studies have concerned themselves exclusively with boys. Kupersmidt and Patterson (1991) report that peer-reported fighting is predictive of depressive symptoms in girls. Given the paucity of research examining gender differences in aggression, victimization, and social preference, however, it was difficult to predict whether victimization and aggression would relate to depressive symptoms in girls in a manner similar to boys. Therefore, no hypotheses were made regarding the possible role gender may play in the relationship between the independent, mediating, and dependent variables. Gender was included in the analysis of the overall model. If gender differences were found, separate models would be developed for boys and girls.

CHAPTER TWO
METHOD

Subjects

Three hundred seventy-three children in the fourth and fifth grades of three Greensboro City schools participated in sociometric screening. Parents received a letter advising them of the sociometric screening process, with the option of refusing the participation of their child. All children (N=373) who participated in sociometric screening were contacted for the second phase of the study that involved completing self-report measures. Of these, 63 (17%) children completed and returned the self-report measures; this return rate is comparable to that obtained by other researchers using this methodology (Ward, 1993). Fourteen subjects' data were eliminated due to failure to complete all measures, yielding a sample of 47. Written informed consent was obtained from a parent/guardian prior to participation in this second phase of the study.

Materials

For the sociometric screening phase of the study, subjects completed a group-administered sociometric survey that asked them to nominate grademates for the following items:

1. Name three children you like most.
2. Name three children you like least.
3. Name three children that start fights and pick on people.
4. Name three children that get picked on and teased.

A list of grademates (and their ID numbers) were distributed and subjects were asked to write the ID numbers for the children they selected. The number of times nominated for a category represented a raw score for each child. Raw scores were standardized by grade for each school. For each child, the standardized score for item 2 (Liked least-LL) was subtracted from the standardized score for item 1 (Liked most-LM) to compute a standardized Social Preference score (zLM-zLL). Thus, each subject received standardized scores for Social Preference, Aggression and Victimization.

The Children's Depression Inventory (CDI) was used as a measure of depressive symptoms (Kovacs, 1985, see Appendix E). The CDI is a 27-item scale that probes the thoughts, feelings, and behaviors associated with depression in children. For each item, subjects are asked choose which of three statements describes how they have felt in the past two weeks. The three alternatives are scored on a scale of 0-2, where 0 indicates absence of symptoms, 1 indicates mild symptoms, and 2 indicates definite symptoms. The scale is suitable for children ages 7-17 and has adequate psychometric properties. Smucker, Craighead, Craighead, and Green (1986) report 3-week test-retest reliability of .77 for fifth grade boys, 1 year test-retest reliability of .41-.69, and internal consistency of .83-.89 for children in grades 3-6. The scale discriminates between depressed and nonclinical populations (Hodges, 1990; Smith, Mitchell, McCauley, & Calderon, 1990) and distinguishes depressed children from children experiencing other types of psychopathology (Carlson & Cantwell, 1980; Romano & Nelson, 1988). For the purposes of the current study, the CDI was modified by not

including items reflecting dissatisfaction with peer relations in the calculation of the CDI score. These items were not included in the total CDI score in order to eliminate spurious correlations between perceived social competence measures and the CDI. Cronbach's alpha for such a modified CDI has been reported to be 0.84 (Panak & Garber, 1992).

The measure for perceived social status was the Social Acceptance subscale of the Harter Perceived Competence Scale (Harter, 1985, see Appendix F), a 6-item scale designed to measure children's perceptions of how liked they are and how many friends they have. The subscale has an internal consistency of .77 in 3rd to 5th grade children (Harter, 1985) with adequate convergent and discriminant validity (Blechman, Tinsley, Carella, & McEnroe, 1985). Each item is rated on a four-point Likert scale. Items are summed for a total perceived social status score, with higher scores signifying higher levels of perceived status.

Outcome expectancy was measured by the Outcome Expectancy Questionnaire - Children (Revised) (Ollendick & Schmidt, 1987, see Appendix G). This 10-item questionnaire was designed to "measure the belief that if one performed the required behaviors to produce a certain outcome, the outcome would, in fact, be realized." Children indicate the probability of achieving the desired outcome on a 5-point scale (1="definitely not", 5="definitely so"). Ollendick & Schmidt (1987) report that this scale is related to behavioral measures of social interaction and demonstrates good internal consistency (alpha coefficient of .85) and reliability (3-month test-retest reliability of .78).

Procedure

Sociometric screening was conducted in a group format in each classroom. The procedure took about thirty minutes per classroom. Prior to administration, subjects were informed that they could refuse to participate, that they could terminate testing at any time, and that their responses would be kept confidential. During administration and at the conclusion of the procedure, subjects were be reminded not to discuss their responses with their peers. Sociometric testing has no deleterious effects on subjects (Bell-Dolan, Foster, & Sikora, 1989).

Three hundred seventy-three subjects who participated in sociometric screening were contacted by mail and asked to participate in the second phase of the study. The three self-report measures (counterbalanced), a cover letter (Appendix A), parental permission forms, informed consent forms for children (Appendix B), and detailed instructions for completing the measures (Appendix C) were included in the mailings. Children who participated in this phase of the study were entered into a drawing for three cash prizes of $50, $30 and $20 (Appendix D). Parents of children who did not respond to the initial mailing were contacted by phone to encourage participation.

CHAPTER THREE
RESULTS

The study reported here was designed to determine the unique contributions of peer ratings of victimization, aggression, and social preference to the prediction of depressive symptoms in children. In addition, the study was designed to examine the relationships between these variables and children's self-perceptions of social status and outcome expectancy. In this chapter the results of the study are reported. The first section of the chapter contains a description of the sample. The remainder of the chapter has been organized under headings corresponding to the hypotheses and research questions investigated in the study.

Description of the sample

Complete data were obtained on 47 children, and all analyses were carried out on this group. Table 1 presents frequency distributions on the categorical demographic variables of gender, race, and grade in school. The data in the table indicate that the sample contained somewhat more females (55.3%) than males (44.7%). The majority of children (63.8%) were white. There were more fourth graders (65.9%) than fifth graders (34.1%).

Table 2 presents descriptive statistics on the interval scale variables of the study. The data in the table indicate that the children generally

reported rather low rates of depressive symptomatology on the Children's Depression Inventory (mean = 3.8), well below the mean modified CDI score of 5.9 reported by Panak and Garber (1992) for a normative sample of third, fourth, and fifth grade public school children. Additionally, only one child in the sample had a score of 20 or higher on the CDI, the generally recommended cut-off score for identifying clinical depression in a non-referred sample (Kovacs, 1985). The mean self-perceived social status score of 19.5 was slightly above the average (18.0) for a non-referred sample (Harter, 1982). Similarly, mean outcome expectancy (36.5) was above the average of 29.9 reported by Ollendick and Schmidt (1987) for a non-referred sample. Scores on the peer ratings indicate that the children included in this study were slightly more socially preferred and slightly less victimized by peers than their classmates.

Correlations between measures

Table 3 illustrates the zero-order correlations between the various measures, as well as their associated p values. As can be seen in this table, the measure of victimization was the only peer-reported measure that was significantly correlated with any self-report measures; in fact, victimization was significantly correlated with all of the self-report measures. Peer-reported social preference was the only peer-reported measure that was significantly related to any measure (victimization, r=-0.36, p=.01)

Depressive symptoms and social preference, victimization, and aggression

The first research hypothesis stated that when social preference, victimization, and aggressiveness were all included in a regression equation predicting depressive symptoms, victimization would uniquely account for a significant proportion of the variability in depressive symptoms, but social preference and aggressiveness would not. Table 4 presents the results of F-tests for the significance of each predictor. The data in Table 3 indicate that victimization significantly and uniquely predicted self-reported depressive symptoms, F (2, 44)=4.18, $p<.05$. Social preference and aggressiveness were not related to self-reported depressive symptoms. These findings are consistent with the research hypothesis.

Perceived social status and social preference, victimization, and aggression

Hypothesis 2a stated that when social preference, victimization and aggressiveness were included in a regression equation to predict perceived social status, victimization would uniquely account for a significant proportion of the variability in perceived social status, but social preference and aggressiveness would not. Table 5 presents the results of F-test for the significance of each predictor. The data in Table 5 indicate that none of the three predictors were related significantly to perceived social status, although the relationship between victimization and depressive symptoms approached significance, F (2,44)=3.02, $p=.09$. Thus, the findings obtained with respect to victimization were weaker than expected, but the findings obtained with respect to social preference and aggressiveness were as expected.

Outcome expectancy and social preference, victimization, and aggression

Hypothesis 2b stated that when social preference, aggressiveness, and victimization were all included in a regression equation to predict outcome expectancy, victimization would uniquely account for a significant proportion of the variability in outcome expectancy, but social preference and aggressiveness would not. Table 6 presents the results of F-test for the significance of each predictor. The data in Table 6 indicate that none of the three predictors contributed significantly to the prediction of outcome expectancy, although the relationship between victimization and depressive symptoms approached significance, $F(2,44)=3.59$, $p=.06$. Thus, the findings obtained with respect to victimization were weaker than expected, but the findings obtained with respect to aggressiveness and social preference are as expected.

Depressive symptoms, perceived social status, and outcome expectancy

Hypothesis 3 stated that depressive symptoms would be related negatively to both perceived social status and outcome expectancy. In order to test this hypothesis, the correlation between depressive symptoms and each of the predictors was calculated (see Table 3). The correlation between depressive symptoms and perceived social status was significant, $r=-.61$, $p<.0001$. However, the relationship between depressive symptoms and outcome expectancy only approached significance, $r=-.26$, $p=.07$. Thus, Hypothesis 3 was confirmed for the relationship between depressive

symptoms and perceived social status, but the relationship between depressive symptoms and outcome expectancy was weaker than expected.

Perceived social status and outcome expectancy as mediators

Hypothesis 4 stated that perceived social status and outcome expectancy mediate the relationship between victimization and depressive symptoms. With respect to outcome expectancy, this hypothesis was rendered irrelevant by the fact that no significant relationship was found between outcome expectancy and depressive symptoms. Additionally, other mediational models were tested using the other proposed independent variables (i.e., aggression and social preference); none of these were significant and are therefore not reported here. However, as reported earlier, victimization, perceived social status, and depressive symptoms were significantly related to each other. The hypothesis that perceived social status mediated the relationship between victimization and depressive symptoms was tested using the multiple regression mediation model described by Baron and Kenny (1986).

According to Baron and Kenny, three conditions must hold in order to establish mediation. First, the independent variable (victimization) must affect the hypothesized mediator variable (perceived social status). Second, the independent variable must affect the dependent variable (depressive symptoms). Third, the hypothesized mediator must affect the dependent variable. As reported earlier in Table 3, peer-reported victimization was significantly correlated with self-reported perceived social status (r=-0.29, p=.05) and self-reported depressive symptoms (r=0.35, p=.01).

Additionally, perceived social status was significantly related to depressive symptoms (r=-0.61, p=0001). Figure 2 illustrates the simple correlations between these three variables.

Insert Figure 2 about here

It is important to note that while the multiple regression mediation model described by Baron and Kenny (1986) makes the assumption that the proposed independent variable (in this case, victimization) causes the mediator (perceived social status), and that the mediator causes the proposed dependent variable (depressive symptoms), the current study makes no assumptions regarding causality. There are other causal alternatives for these relationships, including the possibility that these relationships are bi-directional. Given this caveat, a multiple regression analysis was used to determine whether the relationship between victimization and depressive symptoms remained significant after partialling the effects of perceived social status. According to Baron and Kenny, mediation is confirmed if the strength of the relationship between victimization and depressive symptoms is significantly reduced or drops to nonsignificance when perceived social status is entered in the model. Table 7 indicates that when depressive symptoms were regressed on victimization

and perceived social status, the relationship between victimization and depressive symptoms became nonsignificant (t (44) = 1.56, $p < .13$), while the relationship between perceived social status and depressive symptoms held, t (44) = -4.62, $p<.0001$). Thus, the hypothesis that perceived social status mediated the relationship between victimization and depressive symptoms was confirmed. The mediating role of perceived social status is illustrated in Figure 3.

Insert Figure 3 about here

Interactive effect of victimization and aggression on depressive symptoms

Research question #1 asked whether victimization and aggressiveness had a significant interactive effect on depressive symptoms. This research question was answered by means of multiple regression analyses. An interaction term was calculated as the product of each subject's victimization and aggressiveness score. Scores for depressive symptoms were regressed on victimization, aggressiveness, and the product term in two steps. The main effects were introduced first at Step 1, followed by the interaction term at Step 2. The interaction would be judged significant if it's introduction at Step 2 resulted in a significant increase in R^2. Regressing depressive symptoms on victimization and aggression resulted in a nonsignificant relationship, $F(2,44) = 3.07$, $p=.06$. The introduction

of the interaction term was also nonsignificant (F (2,44) = 2.00, p=.13), with no increase in R^2 (Step 1 and 2 R^2 = .12).

Interactive effect of victimization and aggression on perceived social status

Research Question 2a asked whether victimization and aggressiveness had a significant interactive effect on perceived social status. This research question was answered by means of multiple regression analyses as described in the previous section. Regressing perceived social status on victimization and aggression resulted in a nonsignificant relationship, F (2,44) = 2.07, p=.14). The introduction of the interaction term was also nonsignificant (F (2,44) =1.65, p=.19), with a negligible increase in R^2 (Step 1 R^2 = .09, Step 2 R^2 = .10).

Interactive effect of victimization and aggression on outcome expectancy

Research Question 2b asked whether victimization and aggressiveness had a significant interactive effect on outcome expectancy. Regressing outcome expectancy on victimization and aggression resulted in a nonsignificant relationship, F (2,44) = 2.33, p=.11). The introduction of the interaction term was also nonsignificant (F (2,44) = 1.94, p=.14), with a negligible increase in R^2 (Step 1 R^2 = .10, Step 2 R^2 = .12).

Gender and depressive symptoms

A final purpose of the current study was to investigate if the relationships between victimization, aggression, social preference, and depressive symptoms held for both boys and girls. Gender was included in

an analysis of the overall model. Gender did not contribute significantly to the prediction of depressive symptoms, F (4, 42) = 0.03, p=.85). Therefore, separate models for boys and girls were not developed.

CHAPTER FOUR
DISCUSSION

Early studies demonstrating relationships between peer rejection and depressive symptoms, and aggression and depressive symptoms, have given way to a more sophisticated understanding of the interrelationships between children's social adjustment and their psychological well-being. By examining the unique role of peer victimization and its linkage to self-perceptions and depressive symptoms, the current study is consistent with the recent trend in the field of developmental psychopathology that seeks greater specificity in determining what types of social difficulties are associated with what types of psychopathology.

The relationship between peer rejection, aggression, and depressive symptoms

As more and more researchers are becoming aware of the heterogeneity of socially rejected and aggressive children, the identification of the ways in which these children differ has led to the hypothesis that aggressive and/or socially rejected children are not particularly at risk for internalizing disorders. The current findings support this position, as social preference and aggression were not related to depressive symptoms when the effects of victimization were controlled for. Moreover, these data are consistent with Panak and Garber's work that found that perceived

social rejection, not actual social rejection, predicted depressive symptoms over time.

The lack of findings regarding the interaction between aggression and victimization may be due to the limitations of the methodology. Previous research on aggressive/victimized children has focused on the small subgroup of children who both exhibit high rates of aggressive behavior and experience high rates of bullying by their peers. No children in the current study fell into this category. It is possible that such children are qualitatively different from their peers in a way that does not lend itself to regression analysis. Further study is needed in this area.

The relationship between victimization and depressive symptoms

The current study contributes to the growing body of literature that suggests that victimized children are at risk for internalizing difficulties. It extends our understanding of the relationships between social difficulties and internalizing disorders by demonstrating the unique effect victimization plays in this arena. This demonstration suggests that previous work that reported associations between peer rejection and depressive symptoms, and aggression and depressive symptoms, was confounded by the failure to account for the role of victimization. Moreover, it suggests that self-perceptions, i.e., perceived social status, intervene in the manner in which peer relations affect the experience of depressive symptoms.

However, this study does not purport to depict a causal model in which peer victimization leads to negative self-perceptions resulting in depressive symptomatology. Rather, these findings can best be considered, along with previous research, as confirmation that combinations of

negative social experiences and cognitive vulnerability may contribute to and perpetuate depressive symptoms in children. The social information-processing model of children's social adjustment proposed by Crick and Dodge (1994) provides a heuristic for understanding the possible relationships between these concepts. According to Crick and Dodge, children come to their social environment with a database comprised of biological capabilities and predispositions and memories of past experiences. Cues in the social environment are received as input. The processing of these cues affects behavioral responding, including the experience of depressive symptoms. This processing of social information is proposed to occur in six steps: 1) encoding of cues, 2) interpretation and mental representation of cues, 3) clarification of goals, 4) response access or construction, 5) response decision, and 6) behavioral enactment. This model is nonlinear, with each step in processing feeding back to other steps, such that processing occurring at one step affects all other steps. This nonlinearity implies that not only does social information-processing affect behavior, but behavior affects the processing of social information.

For the purposes of this study, Crick and Dodge's model allows the reader to consider the ways in which victimization, perceived social status, and depressive symptoms impact on each other. In so doing, the search for causality becomes secondary. For example, children with histories of victimization by peers may enter social situations with memories of past physical, verbal, and/or emotional abuse by other children. The salience of such memories is most probably dependent on many factors, such as the degree and duration of victimization, and the specific situation. For some

of these children, previous victimization may have led to the development of a perception of social incompetence. Such perceptions impact the encoding and interpretation of cues that are hypothesized to occur at Steps 1 and 2. If the social situation is interpreted as a threatening one, the goal selected in Step 3 may be to avoid humiliation and pain, leading (in Steps 4 and 5) to avoidant and/or submissive behavior and a greater sense of social incompetence. Over time, a pattern of such experiences, behaviors, and cognitions may lead to a negative self-schema (Dodge, 1993; Hammen, 1990) and a depressogenic attributional style in which negative events are attributed to internal, global, and stable causes (Abramson, Metalsky, & Alloy, 1989; Dodge, 1993; Panak and Garber, 1992).

The same model accounts for the possibility that depressive symptoms may contribute to negative self-perceptions and peer victimization. Depressed children have been shown to access responses to problems that are irrelevant (Mullins, Siegal, & Hodges, 1985), nonassertive (Quiggle, Garber, Panak, & Dodge, 1992), unsuccessful (Richard & Dodge, 1982), and often involve appealing for adult intervention. Such processing in Steps 4 and 5 may lead peers to perceive depressed children as easy to push around, resulting in peer victimization and self-perceptions of social incompetence.

The clinical implications of this model, and the findings of the current study, are significant. First, it is obvious that interventions which target only socially rejected and/or aggressive children in an attempt to prevent and/or mitigate depressive symptoms are misguided. It makes intuitive sense and the data support the hypothesis that the type and degree

of psychopathology experienced by children with poor social competence depend on their behavioral characteristics. These findings confirm previous research that indicates that aggressive children are not particularly at risk for internalizing difficulties. Instead, such children are more likely at risk for externalizing difficulties, such as conduct disorder (Dodge, 1993). Second, this study suggests that simply ameliorating the conditions of peer victimization is not sufficient to impact the depressive symptoms of a victimized child. Social skills training, or the decision to move a victimized child to another classroom, should be accompanied by efforts to improve the child's self-perceptions. Moreover, Dodge and Crick's model indicates that difficulties in social information-processing may occur at any stage of processing and in various forms, suggesting that specific interventions should address the specific processing difficulties.

The current study is limited by several factors. First, questionnaires were completed by children in their homes. Although instructions to parents explicitly stated that parents were not to complete the questionnaires, there is no way to know to what degree parents participated in the administration of the measures. Similarly, it is possible that the responses of child participants were influenced by concerns that their parents would review their answers. Second, the relatively small sample size may have limited the ability to find statistical differences between variables. This may have been particularly true with regard to the multiple regression analyses in which the self-reported self-perception measures (outcome expectancy and perceived status) were regressed on the three peer-reported measures (victimization,

aggression, and social preference). In those analyses, the unique relationship between victimization and the self-perception measures approached significance. It is very possible that a sample of 47 is too small to demonstrate statistically significant differences in such a model; a larger sample size may have provided the statistical power necessary to demonstrate a significant relationship between these variables. Similarly, the better than average scores obtained by subjects on most of the peer- and self-report measures, as well as the relative restriction of range of these scores, suggests that the current study may be limited in its ability to find statistical differences between the variables of interest.

Finally, future research is needed to further elucidate the relationship between peer victimization, negative self-perceptions, and self-reported depressive symptomatology. Specifically, more longitudinal studies are needed to provide a better understanding of the effects of peer victimization on child development and human functioning throughout the life-span. A limitation of the current study was its lack of developmental perspective. Additionally, a replication of the current study using a larger sample and including a greater number of children who exhibit evidence of severe social difficulties may provide more information regarding the interactive effects of aggressive behavior and peer victimization. Finally, studies that attempt to determine the types of social information-processing difficulties experienced by victimized children will lead to a greater understanding of the interdependence of social competence and psychological health.

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Appendix A
Letter to parents

Dear parents,

My name is Amy Parrish. I am a UNC-G graduate student in psychology. I am currently conducting research concerning how children feel about themselves and about each other. Your child participated in this information-gathering process earlier in the school year. Fourth and fifth graders at your child's school will be invited to participate in this second information-gathering process. Participation in this study is voluntary, and all information gathered is strictly confidential. The information will be entered into the computer along with a code number, not your child's name, and all raw data will be destroyed. Further, your child has the right to decline to answer any or all of the questions for any reason and will suffer no negative effects as a result.

These few short questionnaires should take your child only 30 minutes to complete and, when this information is combined with other fourth and fifth graders' responses here in Greensboro, it will yield valuable information about children and their feelings about themselves and others. However, I am offering a further incentive to you and your child. When I receive your child's completed questionnaires, I will enter you into a prize drawing. First prize is $50.00, second prize is $30.00, and third prize is $20.00. The drawing will be held this summer, so please do not delay in helping your child to fill out the questionnaires and mailing them in. Full instructions for you and your child are included in this packet. Due to the sensitive and personal nature of some of the questions, we recommend that you keep an eye on your child during and after testing to note their reaction.

Please read the parental consent form also included and sign it so that your child will be able to participate. Please have your child sign the consent form below yours and enclose them with the completed questionnaires and the drawing entry form. A stamped return envelope is provided for you to mail the completed questionnaires, the parental permission, the informed consent from your child, and the drawing entry form to me at UNC-G. If you have any questions about this study or would like to find out the results, please feel free to contact my colleague, Wendy Brow, at Eberhardt Building (334-5013).
Thank you very much.

Sincerely,

Amy E. Parrish

Appendix B

Informed consent

Parental permission

I understand the content and purpose of the questionnaires to be filled out by my child concerning relationships between children at his/her school and feelings about himself/herself. I am providing this consent voluntarily. I hereby permit the information to be used in statistical analyses and in written form under the stipulation that my child's name is never used. I relinquish all claim to the provided information.

NAME OF PARENT: _____

DATE: _____

Student Consent Form

I understand that the questions I will be answering are about relationships between children at my school and feelings I have about myself. I am providing this consent voluntarily. I know that my name will not be used. I also know I will in no way suffer if I choose not to answer any or all of the questions for any reason.

NAME OF CHILD: _____

DATE: _____

Appendix C

INSTRUCTIONS FOR YOU AND YOUR CHILD

PARENT - please read these instructions aloud to your child.

1. Allow 30 minutes to complete all of these short questionnaires at the same time.
2. Find a quiet room where you can be alone to answer these questions without interruption or distraction.
3. Read the instructions VERY CAREFULLY.
4. Do not discuss your answers with your friends -- they are your own private thoughts.
5. If you have any questions, please do not hesitate to contact my colleague, Wendy Brow, at UNC-G 334-5013.

DO NOT FILL OUT THIS QUESTIONNAIRE FOR YOUR CHILD

Appendix D

Drawing entry form

****

FIRST PRIZE $50.00
SECOND PRIZE $30.00
THIRD PRIZE $20.00

****

Parent's name: _____

Child's name: _____

Phone number or address where I can be notified of my prize:

Appendix E

Children's Depression Inventory

Circle the sentence that best describes your feelings and ideas in the PAST TWO WEEKS

1. I am sad once in a while.
   I am sad many times.
   I am sad all the time.

2. Nothing will ever work out for me.
   I am not sure if things will work out for me.
   Things will work out for me O.K.

3. I do most things O.K.
   I do many things wrong.
   I do everything wrong.

4. I have fun in many things.
   I have fun in some things.
   Nothing is fun at all.

5. I am bad all the time.
   I am bad many times.
   I am bad once in a while.

6. I think about bad things happening to me once in a while.
   I worry that bad things will happen to me.
   I am sure that terrible things will happen to me.

7. I hate myself.
   I do not like myself.
   I like myself.

8. All bad things are my fault.
   Many bad things are my fault.
   Bad things are not usually my fault.

9. I do not think about killing myself.
   I think about killing myself, but I would not do it.
   I want to kill myself.

10. I feel like crying every day.
    I feel like crying many days.
    I feel like crying once in a while.

(CDI continued)

11. Things bother me all the time.
Things bother me many times.
Things bother me once in a while.

12. I like being with people.
I do not like being with people many times.
I do not want to be with people at all.

13. I cannot make up my mind about things.
It is hard to make up my mind about things.
I make up my mind about things easily.

14. I look O.K.
There are some bad things about my looks.
I look ugly.

15. I have to push myself all the time to do my schoolwork.
I have to push myself many times to do my school work.
Doing schoolwork is not a big problem.

16. I have trouble sleeping every night.
I have trouble sleeping many nights.
I sleep pretty well.

17. I am tired once in a while.
I am tired many days.
I am tired all the time.

18. Most days I do not feel like eating.
Many days I do not feel like eating.
I eat pretty well.

19. I do not worry about aches and pains.
I worry about aches and pains many times.
I worry about aches and pains all the time.

20. I do not feel alone.
I feel alone many times.
I feel alone all the time.

21. I never have fun at school.
I have fun at school only once in a while.
I have fun at school many times.

22. I have plenty of friends.
I have some friends but I wish I had more.
I do not have any friends.

(CDI continued)

23. My schoolwork is alright.
    My schoolwork is not as good as before.
    I do very badly in subjects I used to be good in.

24. I can never be as good as other kids.
    I can be as good as other kids if I want to
    I am just as good as other kids.

25. Nobody really loves me.
    I am not sure if anybody loves me.
    I am sure that somebody loves me.

26. I usually do what I am told.
    I do not do what I am told most times.
    I never do what I am told.

27. I get along with people.
    I get into fights many times.
    I get into fights all the time.

Appendix F

Social Acceptance Scale

Choose which sentence best describes you and then pick one of the two boxes that go with the sentence (either on the left or on the right) and put a check in that box.

MARK ONLY ONE OF THE FOUR BOXES FOR EACH QUESTION.

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
1.	☐	☐	Some kids find it *hard* to make friends	BUT	Other kids find it's pretty *easy* to make friends.	☐	☐
2.	☐	☐	Some kids have *alot* of friends	BUT	Other kids *don't* have very many friends.	☐	☐
3.	☐	☐	Some kids would like to have alot more friends	BUT	Other kids have as many friends as they want.	☐	☐
4.	☐	☐	Some kids are always doing things with *alot* of kids	BUT	Other kids usually do things by *themselves.*	☐	☐
5.	☐	☐	Some kids wish that more people their age liked them.	BUT	Other kids feel that most people their age *do* like them.	☐	☐
6.	☐	☐	Some kids are popular with others their age	BUT	Other kids are *not* very popular.	☐	☐

Appendix G

Outcome Expectancy Questionnaire - Children (R)

Directions: Listed below are a number of situations which you might find yourself in with other boys and girls. Read each situation first and then indicate whether the other child would do what you expected him or her to do. There are no right or wrong answers.

1. If you went up to someone your age whom you didn't know and said "Hi," will that child start to talk with you?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

2. If someone your age asks you to do something but you don't want to do it and so you say "no," will that child stop asking you and leave you alone?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

3. If you went up to a group of children your age who were playing a game and you asked if you could play with them, will they say "sure" and let you play with them?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

4. If you tell someone your age they did a good job, will they accept your compliment and say "thanks"?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

5. If you tell someone your age to stop doing something you don't like and to change what they are doing, will they stop doing it and do what you ask?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

(Outcome Expectancy Questionnaire - continued)

6. If someone your age tells you that you did a good job, do you believe them and feel good about what they said?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

7. If someone your age is playing with a toy that you would like to play with and you ask them for it, will they give it to you?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

8. If you ask someone your age to play with you, will they?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

9. If you ask someone your age to work with you on a class project, will they?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

10. If you ask someone your age to be your friend, will they?

1	2	3	4	5
Definitely not	Probably not	Maybe	Probably so	Definitely so

Table 1. Gender, race, and grade in school.

Variable	Value	N	%
Gender	Male	21	44.7
	Female	26	55.3
Race	Black	17	36.2
	White	30	63.8
Grade	Fourth	31	65.9
	Fifth	16	34.1

(N=47)

Table 2. Descriptive statistics on interval scale variables.

Variable	Minimum	Maximum	Mean	SD
Beck Depression Inventory	0	20	3.8	4.2
Perceived Social Status	11	24	19.5	3.7
Outcome Expectancy	26	46	36.1	4.5
Peer Ratings:				
Social Preference	-2.16	2.07	0.32	0.96
Aggression	-0.62	4.58	-0.03	1.09
Victimization	-0.83	1.41	-0.26	0.55

Table 3. Correlations and associated p-values between variables.

	Victimization	Aggression	Social Preference	Perceived Status	Outcome Expectancy
Depressive Symptoms	0.35 (0.01)	-0.03 (0.82)	-0.18 (0.21)	-0.61 (0.00)	-0.26 (0.07)
Outcome Expectancy	-0.30 (0.04))	-0.03 (0.84)	0.14 (0.33)	0.59 (0.00)	
Perceived Status	-0.29 (0.05)	-0.02 (0.89)	0.15 (0.31)		
Social Preference	-0.36 (0.01)	-0.28 (0.06)			
Aggression	-0.11 (0.44)				

Table 4. Significance of effects of social preference, aggressiveness, and victimization on depressive symptoms.

Predictor	SS	F	p
Social Preference	3.46	0.21	.65
Aggressiveness	0.25	0.02	.90
Victimization	68.40	4.18	.04

Table 5. Significance of effects of social preference, aggressiveness, and victimization on perceived social status.

Predictor	SS	F	p
Social Preference	0.68	0.05	.82
Aggressiveness	0.93	0.07	.79
Victimization	40.17	3.02	.09

(No significant effects)

Table 6 . Significance of effects of social preference, aggressiveness, and victimization on outcome expectancy.

Predictor	SS	F	p
Social Preference	0.21	0.01	.92
Aggressiveness	2.95	0.15	.70
Victimization	69.55	3.59	.06

(No significant effects)

Table 7. Multiple regression mediation analysis of the unique effects of victimization and perceived status on depressive symptoms.

Whole Model

Source	DF	Sum of Squares	Mean Square	F Ratio	R^2
Model	2	329.88	164.94	15.24****	0.41
Error	44	476.07	10.82		
Total	46	805.95			

**** = $p < .0001$

Effect Test

Term	Estimate	Standard Error	t Ratio	Prob > t
Victimization	1.43	0.92	1.56	0.1251
Perceived Status	-0.63	0.14	-4.62	0.0000

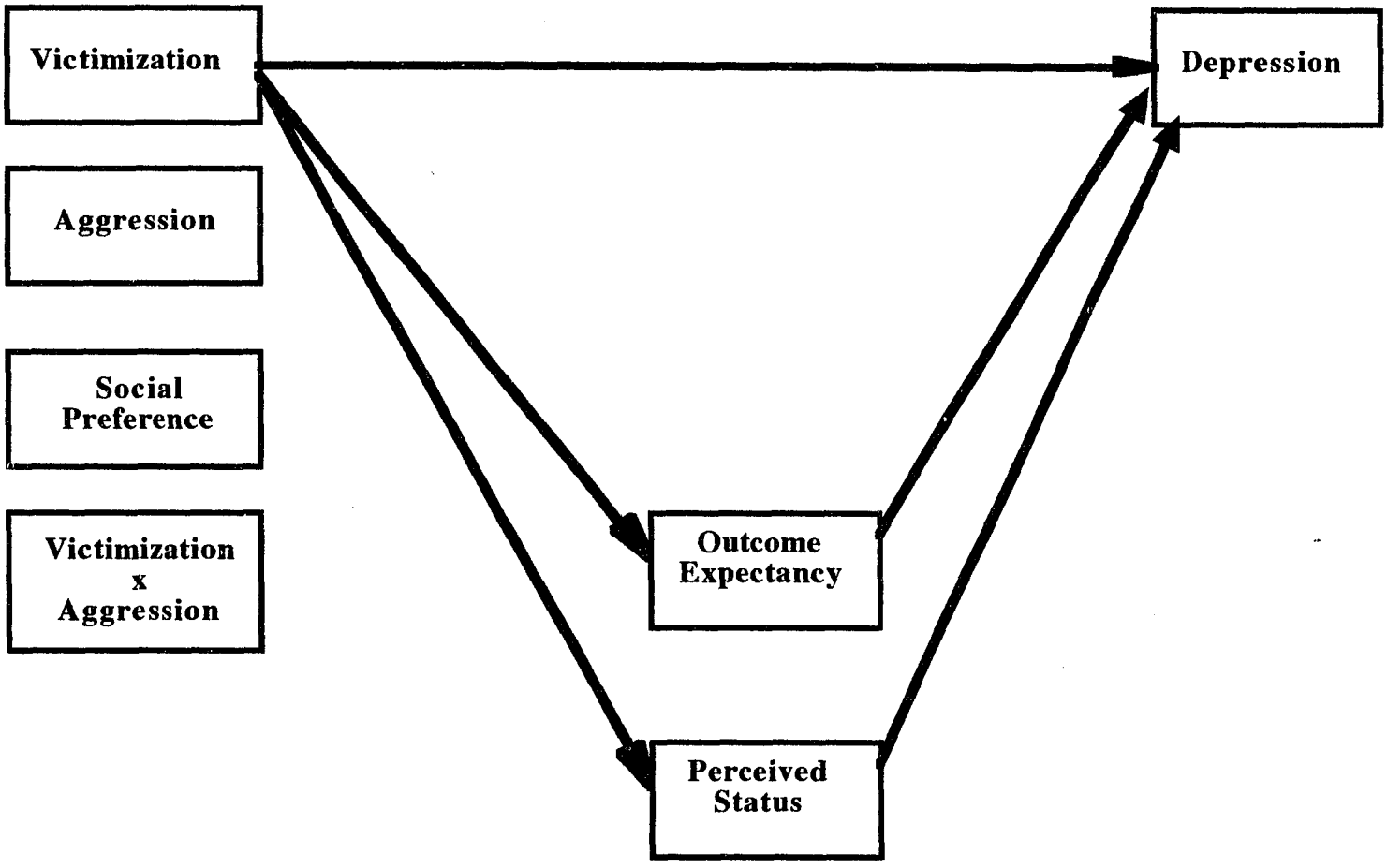

Figure 1. Outcome expectancy and perceived status mediate the relationship between victimization and depressive symptoms.

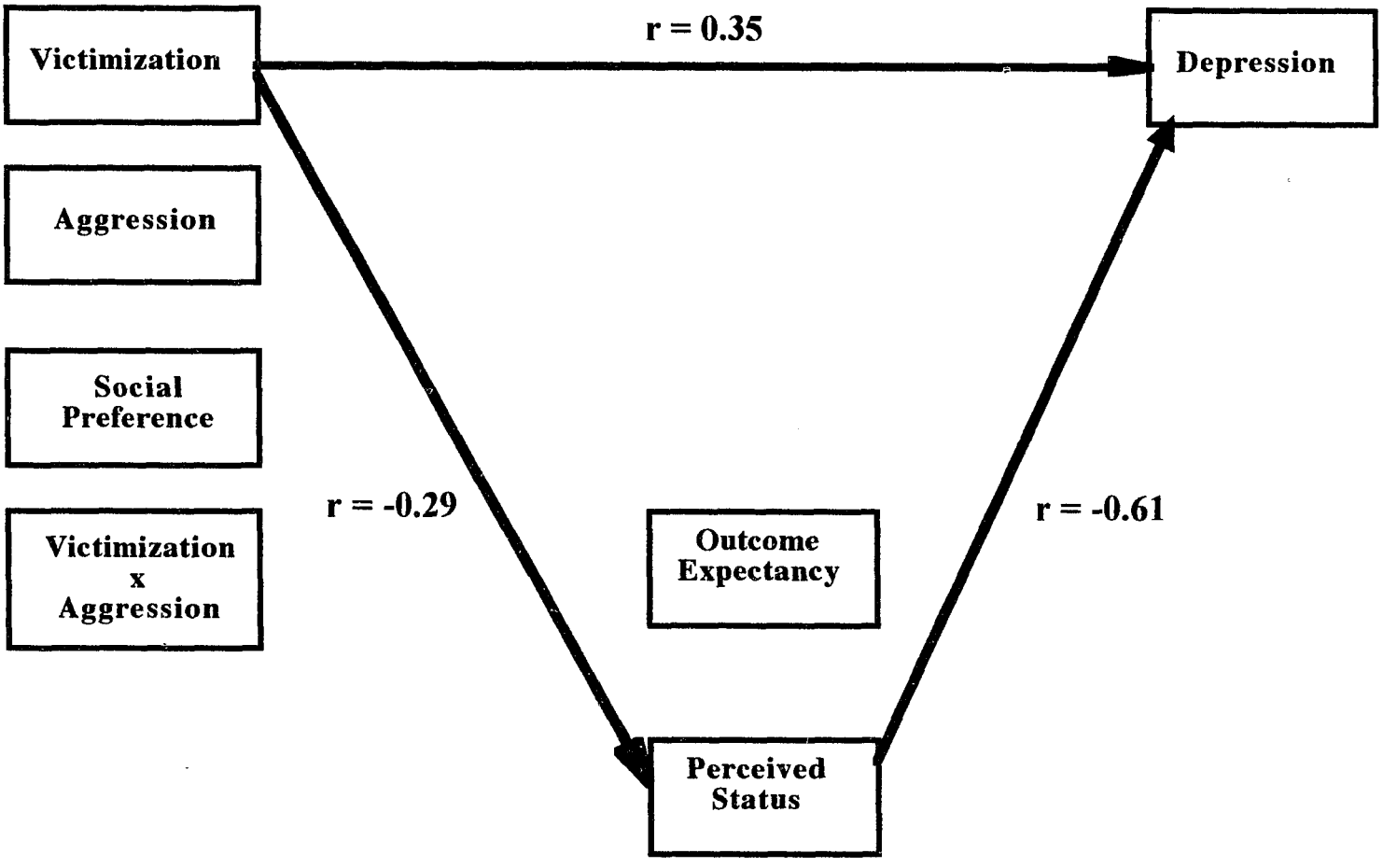

Figure 2. Zero-order correlations between victimization, perceived social status, and depressive symptoms

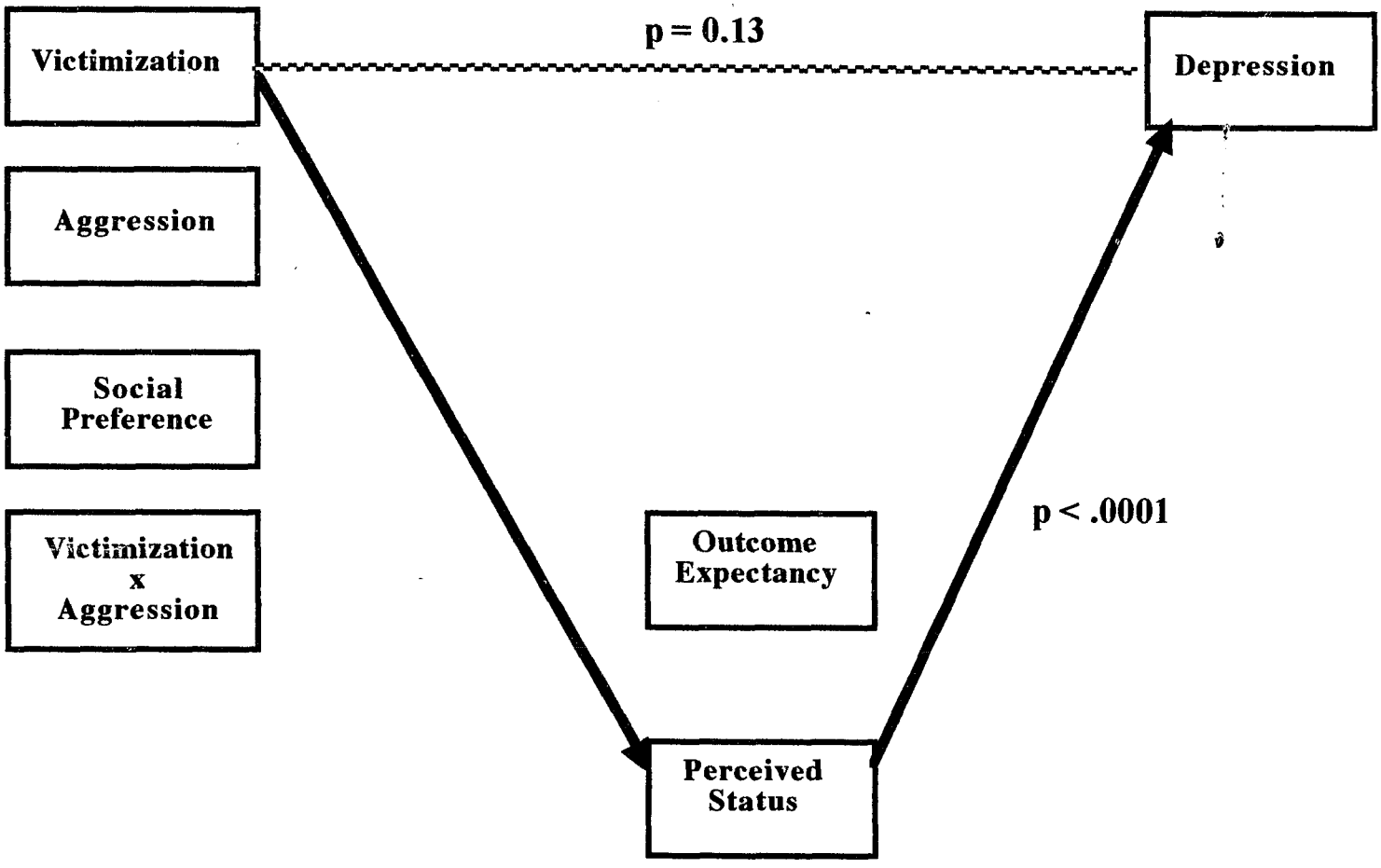

Figure 3. Perceived social status mediates the relationship between victimization and depressive symptoms.