Journal of Youth and Adolescence, Vol. 24, No. 6, 1995

Cognitive Factors Contributing to Adolescent Depression

Wayne A. Hammond[1] and David M. Romney[2]

Received October 12, 1993; accepted June 30, 1994

The purpose of this study was to investigate cognitive processes, which have been found in depressed adults, that may contribute to depression in adolescents. To this end, a modified version of Kelly's Role Construct Repertory Test was administered to 15 clinically depressed adolescents, 15 somewhat depressed adolescents, and 15 nondepressed adolescents, whose ages ranged from 13 to 16 years with the majority (75%) being female. Compared to the other groups, the clinically depressed group demonstrated lower self-esteem, greater pessimism about the future, more frequent polarized construing, increased interpersonal isolation, and a more external locus of control. Results are discussed in relation to findings from previous studies and recommendations are made for future research.

INTRODUCTION

In the general population, prevalence rates for depression (including dysthymia) in adolescents have been found to range from 2% to 5% using *Diagnostic Statistical Manual* (3rd edition; DSM-III) criteria (Kashani *et al.*, 1987; Kovacs, 1989; Matson, 1989). However, using the Beck Depression Inventory, other researchers have found that approximately one-third of their nonclinical adolescent population are considered to be mildly to se-

This study is based upon Wayne Hammond's master's thesis, which was supervised by David Romney.

[1]Doctoral student in clinical psychology, Department of Educational Psychology, University of Calgary, Calgary, Canada. Received MSc. from University of Calgary. Doctoral thesis will investigate substance abuse among the native Indians.

[2]Professor, Department of Educational Psychology, University of Calgary, 2500 University Drive N.W., Calgary T2N 1N4, Canada. Received Ph.D. in Clinical Psychology from the Institute of Psychiatry (The Maudsley Hospital) in London, England. Research interests include identity formation in adolescents. To whom reprint requests should be addressed.

0047-2891/95/1200-0667$07.50/0

verely depressed (e.g., Ehrenberg *et al.*, 1990; Rutter, 1986). In clinical populations, estimates have been reported to be anywhere from 2% to 60% (Angold, 1988; Carlson and Cantwell, 1979). The discrepancies in prevalence rates are probably due in part to the different measures used, the difficulty in administering similar measures to preadults of different ages, and the different diagnostic criteria that are employed (Kazdin, 1988).

According to Kendall *et al.* (1989), a number of cognitive factors are likely to promote depressive symptomatology in adolescents. Siegel and Griffin (1984), for instance, found a strong positive correlation between depressive symptoms and external locus of control. Second, low self-esteem is likely to be associated with clinical depression; depressed preadults tend to ascribe negative attitudes to themselves and evaluate their performance as evidence of personal inadequacy and social ineptitude (Beck, 1967, 1976; Carlson and Kashani, 1988; Rutter, 1986). Consequently, they are often critical of themselves and predict that they will fail in both achievement and interpersonal contexts.

Third, cognitive distortion has been highlighted as an important construct in behavioral and cognitive views of adolescent depression. Kovacs and Beck (1977) relate that depressed individuals often anticipate outcomes of events to be extremely negative (exaggerated), assume that a negative outcome will occur in other situations (overgeneralization), or take responsibility for negative events (personalizing).

Fourth, helplessness has been noted in studies where a depressed adolescent attributes undesirable events to internal, stable, and global causes. Systematic errors in thinking of individuals result in a misinterpretation of events and a tendency to thoughts of helplessness that lead to depression (Brightman, 1990; Siegel and Griffin, 1984; Teasdale and Dent, 1987; Weisz *et al.*, 1987).

Fifth, hopelessness or negative expectations about the future are considered important factors, especially in light of the fact that hopelessness has been demonstrated to correlate with suicidal behavior in adolescents (Kashani *et al.*, 1989; Rotheram-Borus and Trautman, 1988; Topol and Reznikoff, 1982).

Sixth, loneliness or perceived isolation from others by a depressed individual has been considered relevant to depression. Asher and Wheeler (1985) report that feelings of loneliness are related to peer rejection. A number of studies report that family adversity, parental discord, and friendship difficulties all exert direct provoking effects on the risk for depression (Goodyer, 1992; Mitchell and Rosenthal, 1992; Topol and Reznikoff, 1982). Grossman *et al.* (1992) report that some important protective factors for adolescent resilience are family cohesion, level of positive communication

with parents, and existence of a significant relationship with a nonparent adult, such as a teacher, and with a peer.

Finally, Hodges and Siegel (1985) point out that studies of life events or factors in the environment that induce stress are considered to be relevant in the study of adolescent depression. For many adolescents, events such as a recent move, loss of a friend, separation of parents, or onset of a serious illness can influence their affective symptoms and daily functioning. Studies of adolescents have shown relations between life stressors and changes in life events and depression (Goodyer, 1992; Luther, 1991).

A number of researchers have assessed the personal construct systems of depressed individuals in an attempt to explore the theory of depression proposed by Kelly (e.g., Landfield, 1976; Neimeyer *et al.*, 1983; Rowe, 1978; Space and Cromwell, 1980). With its focus on personal meaning and the appraisal of experience, the personal construct theory developed by Kelly (1955) offers a unique method of investigating the cognitive processes that may typify depressed adolescents. The repertory grid technique provides a way to assess the organization of cognitive structure along dimensions generated and used by subjects rather than imposed upon them. Previous construct studies of adult depression have highlighted such cognitive features of depression as anticipatory failure, negative self-construing, polarized construing, and interpersonal isolation (Neimeyer, 1983). The purpose of the present study was to determine if cognitive features characterizing depressed adults could also be found among depressed adolescents, paying particular attention to any discrepancies and anomalies that may exist.

METHODS

Sample

The participants in this study were 45 English-speaking adolescent volunteers: 15 clinically depressed subjects, 15 somewhat depressed subjects, and 15 nondepressed subjects. All subjects were between 13 and 16 years of age.

The clinically depressed group consisted of 12 female and 3 male subjects. Subjects obtained a score of 21 or higher on the Beck Depression Inventory (BDI), and most importantly, had an official diagnosis of major depression (nonpsychotic). Diagnoses were made by the psychiatrist in charge of the case using DSM-III (revised) criteria (American Psychiatric Association, 1987). (To ensure conformity, these diagnoses were confirmed independently by the first author.)

The somewhat depressed group consisted of 13 female and 2 male subjects. Subjects had never been in psychiatric treatment, and were not suspected of being developmentally disabled. A range 10 to 19 on the BDI was used to select subjects in this group (i.e., those experiencing mild to moderate symptoms of depression).

The nondepressed group consisted of 8 female and 7 male subjects. Subjects were eligible for inclusion in this group if they had never been in psychiatric treatment and were not suspected of being developmentally disabled. A score range from 0 to 9 on the BDI was used for including subjects in this group since scores less than 10 are not considered to be pathognomonic of depression.

Instruments

Beck Depression Inventory

The BDI (Beck *et al.,* 1961) is a clinically derived self-report measure that consists of 21 items relating to affective, cognitive, motivational, and physiological symptoms of depression. Each item consists of four statements reflecting increasing depressive symptomatology. Statements are ranked from 0 to 3, with 0 being the least serious and 3 representing the most serious. In terms of readability, Teri (1982) classified the BDI as requiring a fifth-grade reading level, making it readily comprehensible to an average adolescent age 13–16. It has been validated as a reliable self-report measure of depression in both clinical and nonclinical samples of adolescents (Baron and Perron, 1986; Beck *et al.,* 1988; Ehrenberg *et al.,* 1990; Strober *et al.,* 1981; Strober and Werry, 1986).

The more recent version of the BDI (Beck *et al.,* 1979) in which the subjects are asked to check responses that best describe the way they have been feeling during the "past week, including today" was used as the measure of depression. The range of possible summated scores extends from 0 to 63. Scores of 0 to 9 are generally considered normal, 10 to 19 mild to moderate mood disturbance, 20 to 29 moderate to severe and 30 to 63 severe (Beck, 1970).

Kelly's Repertory Grid Technique (RepGrid)

For this study, the repertory grid was designed to elicit a list of names of individuals in the subject's life who fulfilled a list of roles provided by the researcher. The role titles chosen were based on an example of a Role Construct Repertory Test (Kelly, 1955, p. 270). Support for choosing the

specific role titles was also found in a number of research studies that reported a high correlation between adolescent vulnerability or stability and various relationships (Grossman *et al.,* 1992; Lempers and Clark-Lempers, 1992; Petersen *et al.,* 1991; Urberg, 1991). To the list of names provided by the subject would be added three variations of self elements: self (as you are now), ideal self (as you would like to be), and perceived self (as others see you).

Procedure

The clinically depressed subjects for this study were drawn from the outpatient units of three different general hospitals, whereas the somewhat depressed or nondepressed subjects were recruited either from a residential agency caring for troubled adolescents or from a junior high school. The researchers scheduled a meeting with each subject separately to explain the study before a request for voluntary participation was made. If the subject agreed to participate and signed the consent form, the adolescent's legal guardian was then contacted in order to obtain verbal permission and written consent.

Both the BDI and RepGrid were administered on an individual basis. With respect to the latter, each subject was asked to provide elements in the form of names for each of the 11 following role titles: (1) closest parent, (2) a relative (aunt or uncle), (3) a male friend, (4) a female friend, (5) a person you dislike, (6) a person you feel has rejected you, (7) a brother or sister (or cousin), (8) a successful person, (9) a teacher, (10) a threatening person, (11) a person in control. To the list of names provided by the subjects were added three variations of self elements: (12) actual self (as you are now), (13) ideal self (as you would like to be in the future), and (14) perceived self (as others see you). Taking the names (including the three variations of self) in triads, the researcher asked the subject to indicate in which way two of them were alike, and different from a third. Using the triadic method, 12 constructs were elicited from the subject who providing both an emergent and a contrasting pole (e.g., kind and mean). In addition, three extra constructs (hopeful/hopeless; in control/out of control; happy/sad) were provided by the experimenter because a number of researchers have reported that pessimism, locus of control, and sad affect are highly correlated with adolescent depression (Hodges and Siegel, 1985; Luther, 1991; Rotheram-Borus and Trautman, 1988; Weisz *et al.,* 1987).

Subjects were then asked to rate all 14 elements in turn on a 7-point bipolar scale representing each of the 15 constructs, with a score of 1 signifying the emergent pole and 7 signifying the contrasting pole. This pro-

cedure was carried out for each construct until the 14 × 15 grid was completed. Finally, subjects were asked to indicate which pole of each construct was more positive, thereby permitting analysis of the subject's own valence attribution for each construct.

Clinical observations during the testing did not reveal any noticeable differences between the normal and the somewhat depressed groups in terms of comprehension and attention span. Both groups were engaged appropriately for testing purposes and tended on average to complete the test in 50 minutes. On the other hand, the clinically depressed subjects often needed to be encouraged to complete the task at hand and displayed overt symptoms of depression. At time it was necessary to repeat the directions about the triadic eliciting task to some of the subjects when they displayed signs of becoming tired or impatient. Although some subjects in the clinically depressed group were able to finish the test within an hour, most of them took longer.

Overall, the subjects from the three groups reported that they found the testing procedure an enjoyable and enlightening experience insofar as subjects felt that they had learned something about themselves. None of the subjects manifested hearing or vision deficits or speech impediments.

RESULTS

Age and Sex

The mean ages of the three groups were not significantly different, $F(2,42) = .31, p = .74$. For the clinically depressed (CD) group, $M = 14.46$, $SD = 1.06$; for the somewhat depressed (SD) group, $M = 14.20$, $SD = 1.15$; and for the nondepressed group (ND), $M = 14.20$, $SD = 1.01$. With regard to sex differences, a number of studies have reported that adolescent females score higher on depression inventories than their male counterparts (Baron and Perron, 1986; Connelly *et al.*, 1993; Ehrenberg *et al.*, 1990). However, we were unable to analyze gender differences among the three groups because male subjects were extremely underrepresented in the SD and CD groups. Yet it is interesting to note that females predominate in the CD and SD groups, which may reflect the existence of gender differences in adolescent depression in the general population.

Depression

As expected, there were significant differences among the three groups in their degree of depression, $F(2,42) = 110.59, p < .0001$. The mean scores

(and standard deviations) for each group were CD = 36.07 (8.45), SD = 15.73 (3.94), and ND = 6.27 (2.74). A Newman–Keuls post hoc analysis indicated that all pairwise group comparisons were significant ($p < .05$).

Self-Esteem

Self-esteem was investigated by examining the average rating of "self" and "perceived self" on each grid for all subjects in the three groups. A rating in the 1–3 range was considered to be an indication of positive construing of self and a rating in the 5–7 range to be the opposite. A rating of 4 was viewed as neutral. The results indicated that there were significant differences among the three groups on the elements of self, $F(2,42) = 109.45$, $p < .0001$, and perceived self, $F(2,42) = 17.87$, $p < .0001$. Newman–Keuls post hoc analyses were therefore completed for these two analyses of variance (ANOVAs) and all pairwise group comparisons were found to be significant ($p < .05$).

Self-esteem was also investigated by calculating the mean distance between self and ideal self for the three groups. These mean distances differed significantly, $F(2,42) = 121.27$, $p < .0001$, longer distances indicating lower self-esteem. Post hoc analysis indicated that the mean distance for the CD group was significantly greater than for both the SD or ND groups and that the mean distance for the SD group was significantly greater than for the ND group.

Interpersonal Isolation

The degree to which subjects viewed themselves as different from others was determined by calculating the mean distance between the element self and all other elements (excluding the ideal self). The results indicated that there were significant differences among the groups on 10 of the 14 elements: "closest parent," $F(2,42) = 29.58$, $p < .0001$; "relative," $F(2,42) = 39.97$, $p < .0001$; "male friend," $F(2,42) = 39.97$, $p < .0001$; "female friend," $F(2,42) = 41.96$, $p < .0001$; "brother or sister," $F(2,42) = 26.77$, $p < .0001$; "successful person," $F(2,42) = 64.00$, $p < .0001$; "teacher," $F(2,42) = 85.39$, $p < .0001$; "threatening person," $F(2,42) = 5.49$, $p < .0078$; "person in control," $F(2,42) = 87.96$, $p < .0001$; and "perceived self," $F(2,42) = 4.73$, $p < .014$.

Post hoc analyses revealed that on the elements of relative, male friend, and threatening person, the ND and SD groups were not significantly different from each other ($p > .05$) and yet both were significantly different from the CD group. However, the reverse was noted for the vari-

able of perceived self where the groups CD and SD were not significantly different from each other and yet both were significantly different ($p < .05$) from the ND group. On the six remaining elements, all three groups differed significantly from one another ($p < .05$).

Pessimism About the Future

Pessimism was investigated by examining the average rating of the element of ideal self on each grid for each group of subjects. A rating in the 1–3 range was considered to be a indication of a positive construing and a rating in the 5–7 range to be the opposite. A rating of 4 was viewed as neutral. The results revealed no significant differences among the three groups ($p > .05$).

Pessimism was also investigated by examining the average rating of the element self on the construct "hopeful/hopeless." Once again, a rating in the 1–3 range was considered to be positive and a rating in the 5–7 range to be negative, with a rating of 4 as neutral. The differences among the groups were highly significant, $F(2,42) = 105.00$, $p < .0001$. Post hoc analysis revealed that all three groups differed from one another ($p < .05$), with the CD group scoring at the extreme end of the negative range, the SD group in the neutral range, and the ND group in the positive range.

Polarized Construing

Polarized construing was determined by the degree of excessive use of rating scale points at the poles of the construct scale. Totals were calculated for where each of the possible 14 elements for each group were rated on construct scales in the two categories of extreme = 1–2 and 6–7, and neutral = 3–5. Excessive use of the extreme category at the expense of the neutral category was viewed as polarized construing. A two-way ANOVA was carried out on the mean ratings with a between-group factor (CD, SD, and ND) and a within-subject factor (extreme vs. neutral). There was a significant group by category interaction, $F(2,42) = 8.12$, $p < .001$, as well as a significant group effect, $F(2,42) = 3.64$, $p < .035$, and a significant category effect, $F(2,42) = 110.97$, $p < .0001$.

Since a significant interaction was found, simple effects were tested for and the results showed a significant group difference for the category extreme, $F(2,42) = 8.48$, $p < .0008$, and a significant group difference for the category neutral, $F(2,42) = 7.04$, $p < .002$ (see Fig. 1).

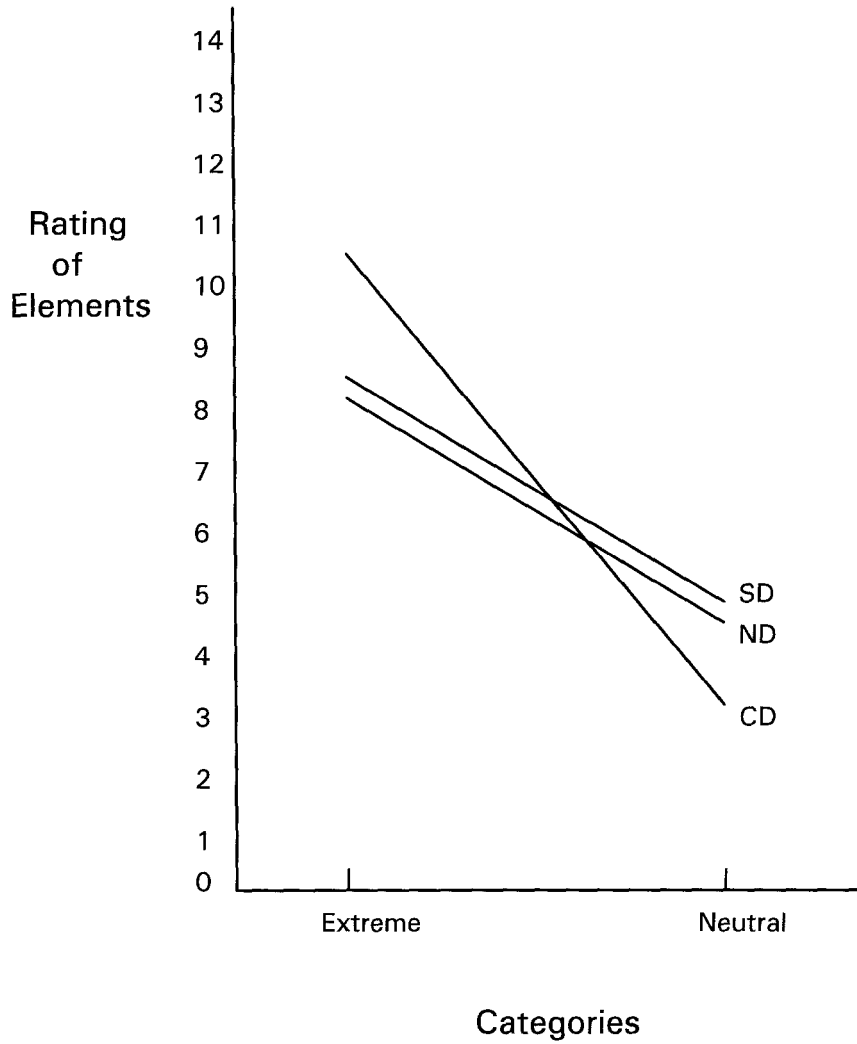

Fig. 1. Disordinal interaction between group (CD, SD, ND) and category (extreme, neutral) on polarized construing. Key: CD: clinically depressed; SD: somewhat depressed; ND: not depressed. Note: The dependent measure is the average frequency of extreme (1-2, 6-7) and neutral (3-5) ratings.

Locus of Control

The distance between the elements self and "a person in control" was used as a measure of locus of control. The greater the distance between

the two elements, the greater the degree of external control. The results indicated that there were significant differences among the three groups, $F(2,42) = 87.97, p < .0001$; the CD group had a significantly greater mean distance than the SD group ($p < .05$), which in turn had a greater mean distance than the ND group ($p < .05$).

DISCUSSION

Adolescent vs. Adult Depression

The findings from this study using the RepGrid indicate that, in general, the cognitive features of depression in adolescents parallel those in adults. Clinically (i.e., severely) depressed adolescents experience low self-esteem, perceive themselves as socially isolated, tend to think in black and white, are pessimistic about the future, and believe they lack control over life events. Moderately depressed adolescents manifest similar cognitive features but to a lesser extent. These findings and their interpretation are discussed in more detail below.

Self-Esteem

In agreement with several cognitive studies on depression in adolescents (e.g., Carlson and Kashani, 1988; Ehrenberg *et al.,* 1991; McCauley *et al.,* 1988) and repertory grid studies on depression in adults (e.g., Ashworth *et al.,* 1982; Space and Cromwell, 1980), there is strong evidence from this study to support a direct relationship between negative self-construing and degree of adolescent depression. Space and Cromwell (1980) report in their study that the depressed subjects demonstrated a "mixed self-valence"—that is, they tended to construe themselves positively on some construct dimensions and negatively on others. They proposed that inconsistent self-construing could explain why depressed individuals are susceptible to rapid mood shifts in response to relatively minor environmental changes. In the current study, the idea that depressed individuals tend to view themselves inconsistently was not supported by the findings since the ratings from the CD group for the element of self were consistently negative. However, the SD group revealed a rating of self that spanned both positive and neutral ranges. This could be interpreted as a type of mixed self-valence.

For a possible explanation of the current results, we turn to Kuiper and Derry (1981). They suggested that the normal individual functions with a consistent and predominantly positive levels of depression, his self-

schema begins to lose some of its positive, self-referent information. As the process continues and the person becomes moderately depressed, his self-construing grows more erratic. Eventually, more extreme depression results in the person developing a stable and constantly negative self-schema. This final stage is consistent with Beck's (1976) depiction of depressed individuals as showing a perceptual bias so that they focus on negative events while minimizing the significance of positive ones.

Assuming Kuiper and Derry are correct, the ratings in the positive and neutral ranges by the MD subjects may indicate the start of a process in which both positive and negative self-referent information will be assimilated into their thought patterns; the CD subjects, on the other hand, demonstrate a stable self-schema by invariably rating self in the negative ranges of the constructs.

Interpersonal Isolation

With respect to interpersonal isolation, cognitive theorists (Beck, 1967; Kuiper and Derry, 1981) argue that depressed individuals ascribe negative attributes to themselves and evaluate their performance as evidence of personal inadequacy and social ineptitude, especially in comparison to others around them. As a result, this pervasive negative self-view leads to an overwhelming sense that they are unique in their inadequacy and different from others. A number of construct theorists (Ashworth *et al.,* 1982; Rowe, 1978; Space and Cromwell, 1981) have examined the interpersonal dimensions of depressed adults by calculating distance between self and other elements and their results lend support to this cognitive viewpoint. In general, the conclusions of their studies affirmed that depressed individuals perceive themselves as different or distant from other persons. The current findings of the degree to which depressed adolescents view themselves as different from others are consistent with findings on depressed adults. The CD group, as predicted had significantly greater differences than the other two groups on eight out of 11 self–other comparisons, indicating that they construed themselves as unlike other people. But the data collected on the two self–other comparisons with "disliked person" and "rejecting person" revealed that no significant differences existed between the three groups. Possibly the self–other calculated distances were not significantly different because all the subjects were asked to choose names for the two role titles based on a negative criteria (i.e., a person they dislike and a person who has rejected them). As a result, all the subjects may have tended to distance themselves because they chose people they would not likely feel comfortable with.

Pessimism About the Future

From a personal construct viewpoint, Kelly (1955) maintained that a predominant characteristic of depression is a negative view of the future. In extreme cases, this negative can take the form of severe hopelessness, the conviction that the future offers no chance for real satisfaction. As a result, depression entails an impairment in the individual's ability to project (positively) into the future. Neimeyer and his colleagues (1983) performed a study that examined several dimensions of self-construing in a group of depressed subjects. The subjects were administered the SCL-90 depression scale along with a modified form of the repertory test that required the subjects to rate themselves in various situations (e.g., "Me one year in the future") on a set of 10 personal construct scales coded for valence (positive vs. negative). Results of the study concluded that negative construing of self in the future was a significant predictor of symptomatic distress (as gauged by the SCL-90).

In the present study, the degree of pessimism about the future was investigated by calculating the average rating of the element of ideal self on each grid. The element of ideal self was considered to be an appropriate indicator of the subjects' construing of themselves in the future since it was presented in that context. It was explained to each subject that the element of ideal self stood for "what you would really like to be like in the future." However, although it was predicted that the CD group would be inclined to rate the element of ideal self in the negative range of each grid, the results of the statistical analysis revealed that there were no significant differences among the three groups. This may have been due in part of a misunderstanding of the intended meaning of the element of ideal self by the subjects. In addition, developmental differences may have played a role. Erikson (1968) suggests that adolescents are undergoing a change in their social role from that of a child to that of an adult. Often there is an identity crisis characterized by extreme mental turmoil and a search for a particular identity. He also relates that during this period adolescents are often very idealistic and tend to invent new roles that they test out. Unlike adults, the cognitive processes and identity formation that adolescents are experiencing may in some way protect them from not being able to see themselves in a different way in the future.

The degree of pessimism was also examined by calculating the average rating of the element "self" on the construct of hopeful/helpless. Results from the data analysis supported the hypothesis that the CD group would report higher scores of hopelessness than the SD, who would in turn be less hopeful than the ND group. This finding supports a number of ado-

lescent depression studies that report a high correlation between hopelessness and depression (Carlson and Kashani, 1988; Ehrenberg *et al.,* 1991; Johnson and McCutheon, 1981; Kashani *et al.,* 1989; McCauley *et al.,* 1988) as well as risk of suicide (Mitchell and Rosenthal, 1992; Rotheram-Borus and Trautman, 1988; Topol and Reznikoff, 1982).

Polarized Construing

Beck *et al.* (1979) contend that "dichotomous thinking," the tendency to interpret events in an extreme fashion, is a typical correlate of depression. One of the distinctive features of personal construct theory is its emphasis on the bipolarity of a person's cognitive processes (Kelly, 1955). In light of this, construct theorists have investigated the relationship between polarized construing and depression. For example, Neimeyer *et al.* (1983) reported in their study that those subjects who were more symptomatic tended to construe themselves in more extreme terms. Neuringer (1961) found a similar cognitive process in suicidal individuals. Dichotomous thinking was investigated by calculating the extreme ratings of concepts (e.g., myself, God) on 7-point semantic differential scales (e.g., good vs. bad). He reported that the suicide group did display higher scores of dichotomous judgment than the normals.

In support of these studies, the current investigation found that the polarized construing was significantly correlated with depression. As predicted, the CD group had significantly higher frequency of scores in the extreme category and lower frequency of scores in the neutral category than did both the other groups. However, the SD and ND groups were actually very similar in how the subjects scored in both categories. This may have been due to the subjects' lack of pathology.

Kelly (1955) theorized that depression was a gradual constriction of one's awareness in an attempt to minimize the disruptive implications of threatening events. Cognitive theorists (Levitt *et al.,* 1983) complement Kelly in proposing the depressed individuals have negative schemata that are characterized by dichotomous thinking. But in order for the negative schemata to develop and be maintained, the depressed individual must experience perceived situations that engender negative self-concepts. As this process becomes more prominent, the downward spiral toward depression occurs. If this is the case, then possibly the SD group has not progressed in their depressive state to the point where they are so constricted in their thinking that they reflect a quality of polarized construing.

Locus of Control

As for the relationship between locus of control and adolescent depression, a number of studies have reported a high correlation (Lester, 1989; Siegel and Griffin, 1984; Topol and Reznikoff, 1982). Therefore, it was not surprising that the current study was able to find significant differences among the three groups. The CD group had the highest level of external control and the ND group had the strongest sense of internal control, with the SD group occupying an intermediate position with respect to locus of control.

FUTURE RESEARCH

Because only a modicum of research has used the repertory grid technique to investigate adolescent depression, it is important to replicate this study on a larger number of subjects. Moreover, an attempt should be made to balance the sexes so as to be able to investigate possible sex differences. In addition, a longitudinal study should be undertaken to determine whether the cognitive features found among depressed adolescents are stable over time.

Future studies also need to examine what cognitive features found among depressed adolescents are symptom linked or vulnerability linked (Neimeyer, 1983)—that is, which combination of cognitive features predispose an adolescence to become vulnerable and to what degree do the symptoms need to be experienced in order to allow for the onset of a depressive episode? Exploring which cognitive features are vulnerability linked might lay the groundwork for a preventative approach to treating depressed adolescents and for a conceptualization of the depressive or suicidal personality.

Another avenue that future research might explore is the multitiered diagnostic system proposed by Carlson and Garber (1986). The first tier comprises core clinical signs and symptoms of depression that are consistent across all ages. The second tier comprises symptoms that occur rarely in the various age groups but, if they occurred, would be considered signs of depression. The third tier comprises symptoms that are found to be linked with given age ranges. This multitiered model challenges the notion that a particular number of symptoms is required for the diagnosis of depression, since these may change with age, and is consistent with Kelly's (1955) concept of constructs being arranged in a hierarchical fashion (i.e., core versus peripheral constructs).

ACKNOWLEDGMENTS

We are grateful to the staff at Woods Homes, the Young Adults Program at the Foothills Hospital, and the Crisis Units at the Holy Cross and Rockyview Hospitals, as well as to Mr. Pedersen, the Vice Principal of Balmoral Junior High School, for allowing us access to subjects in their institutions. We would also like to thank Dr. Mildred Shaw for her useful advice in conducting this research.

REFERENCES

American Psychiatric Association. (1987). *Diagnostic and Statistical Manual of Mental Disorders—Revised.* Washington, DC.

Angold, A. (1988). Childhood and adolescent depression: Research in clinical populations. *Brit. J. Psychiat.* 153: 476-492.

Asher, S. R., and Wheeler, V. A. (1985). Children's loneliness: A comparison of rejected and neglected peer status. *J. Consult. Clin. Psychol.* 53: 500-505.

Ashworth, C. M., Blackburn, I. M., and McPerson, F. M. (1982). The performance of depressed and manic patients on some repertory grid measures: A cross-sectional study. *J. Med. Psychol.* 55: 247-255.

Baron, P., and Perron, L. M. (1986). Sex differences in the Beck Depression Inventory scores of adolescents. *J. Youth Adolesc.* 15: 165-171.

Beck, A. T. (1967). *Depression: Clinical, Experimental, and Theoretical Aspects.* Harper & Row, New York.

Beck, A. T. (1970). *Depression: Causes and Treatment.* University of Pennsylvania Press, Philadelphia.

Beck, A. T. (1976). *Cognitive Therapy and the Emotional Disorders.* International Universities Press, New York.

Beck, A. T., Rush, A. J., Shaw, B. F., and Emery, G. (1979). *Cognitive Therapy of Depression: A Treatment Manual.* Guilford, New York.

Beck, A. T., Steer, R. A., and Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clin Psychol. Rev.* 8: 77-100.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J. E., and Erbaugh, J. (1961). An inventory for measuring depression. *Arch. Gen. Psychiat.* 4: 561-571.

Brightman, B. K. (1990). Adolescent depression and susceptibility to helplessness. *J. Youth Adolesc.* 19: 441-449.

Carlson, G. A., and Cantwell, D. P. (1979). A survey of depressive symptoms in a child and adolescent psychiatric population. *J. Am. Acad. Child Psychiat.* 18: 19-25.

Carlson, G. A., and Garber, J. (1986). Developmental issues in the classification of depression in children. In Rutter, M., Izard, C. E., and Read, P. B. (eds.), *Depression in Young People.* New York: Guilford.

Carlson, G. A., and Kashani, J. H. (1988). Phenomenology of major depression from childhood through adulthood: Analysis of three studies. *Am. J. Psychiat.* 145: 1222-1225.

Connelly, B., Johnston, D., Brown, D. R., Mackay, S., and Blackstock, E. G. (1993). The prevalence of depression in a high school population. *Adolescence.* 28: 149-158.

Ehrenberg, M., Cox, D. N., and Koopman, R. F. (1990). The prevalence of depression in high school students. *Adolescence.* 25: 905-912.

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

Goodyer, I. M. (1992). Depression in childhood and adolescence in Paykel, E. S. (ed.), *Handbook of Affective Disorders.* Guilford, New York.

Grossman, F. K., Beinashowitz, J., Anderson, L., Sakurai, M., Finnin, L., and Flaherty, M. (1992). Risk and resilience in young adolescents. *J. Youth Adolesc.* 21: 529-550.

Hodges, K. K., and Siegel, L. J. (1985). Depression in children and adolescents. In Beckham, E. E., and Leber, W. R. (eds.), *Handbook of Depression: Treatment, Assessment, and Research.* Dorsey, Homewood, IL.

Johnson, J. H., and McCutcheon, S. (1981). Correlates of adolescent pessimism: A study of the Beck Hopelessness Scale. *J. Youth Adolesc.* 10: 169-172.

Kashani, J. H., Carlson, G. A., Beck, N. C., Hoeper, E. W., Corcoran, C. M., McAllister, J. A., Fallahi, C., Rosenberg, T. K., and Reid, J. C. (1987). Depression, depressive symptoms, and depressed mood among a community sample of adolescents. *Am. J. Psychiat.* 144: 931-934.

Kashani, J. H., Reid, J. C., and Rosenberg, T. K. (1989). Levels of hopelessness in children and adolescents: A developmental perspective. *J. Consult. Clin. Psychol.* 57: 496-499.

Kazdin, A. E. (1988). Childhood depression. In Mash, E. J., and Terdal, L. G. (eds.), *Behavioral Assessment of Childhood Disorders.* Guilford, New York.

Kelly, G. A. (1955). *The Psychology of Personal Constructs* (Vols. 1 and 2). Norton, New York.

Kendall, D. P., Catwell, D. P., and Kazdin, A. E. (1989). Depression in children and adolescents: Assessment issues and recommendations. *Cog. Ther. Res.* 13: 109-146.

Kovacs, M. (1989). Affective disorders in children and adolescents. *Am. Psychol.* 44: 209-215.

Kovacs, M., and Beck, A. T. (1977). An empirical-clinical approach toward a definition of childhood depression. In Schulterbrandt, J. G., and Raskin, A. (eds.), *Depression in Childhood: Diagnosis, Treatment, and Conceptual Models.* Raven, New York.

Kuiper, N. A., and Derry, P. A. (1981). The self as a cognitive prototype: An application to person perception and depression. In Cantor, N., and Kihlstrom, J. E. (eds.), *Personality, Cognition, and Social Interaction.* Erlbaum, Hillsdale, NJ.

Landfield, A. W. (1976). A personal construct approach to suicidal behavior. In Slater, P. (ed.), *Explorations of Intrapersonal Space.* Wiley, New York.

Lempers, J. D., and Clark-Lempers, D. S. (1992). Young, middle, and late adolescents: Comparisons of the functional importance of five significant relationships. *J. Youth Adolesc.* 21: 53-96.

Lester, D. (1989). Locus of control, depression and suicidal ideation. *Percept. Motor Skills.* 69: 1102-1104.

Levitt, E. E., Lubin, B., and Brooks, J. M. (1983). *Depression: Concepts, Controversies, and Some New Facts.* Erlbaum. Hillsdale, NJ.

Luther, S. S. (1991). Vulnerability and resilience: A study of high-risk adolescents. *Child Develop.* 62: 600-616.

Matson, J. L. (1989). *Treating Depression in Children and Adolescents.* Pergamon, New York.

McCauley, E., Burke, P., Mitchell, J. R., and Moss, S. (1988). Cognitive attributes of depression in children and adolescents. *J. Consult. Clin. Psychol.* 56: 903-908.

Mitchell, M. G., and Rosenthal, D. M. (1992). Suicidal adolescents: Family dynamics and the effects of lethality and hopelessness. *J. Youth Adolesc.* 21: 23-33.

Neimeyer, R. A. (1983). Toward a personal construct conceptualization of depression and suicide. *Death Educ.* 7: 127-173.

Neimeyer, R. A., Klein, M. H., Gurman, A. S., and Greist, J. H. (1983). Cognitive structure and depressive symptomatology. *Brit. J. Cog. Psychother.* 1: 65-73.

Neuringer, C. (1961). Dichotomous evaluation in suicidal individuals. *J. Consult Psychol.* 25: 445-449.

Petersen, A. C., Sarigiani, P. A., and Kennedy, R. E. (1991). Adolescent depression: Why more girls? *J. Youth Adolesc.* 20: 247-271.

Rotheram-Borus, M. J., and Trautman, P. D. (1988). *Hopelessness, Depression, and Suicidal Intent Among Adolescent Suicide Attempters.* Report available from the American Academy of Child and adolescent Psychiatry, Box 60, 722 West 168th St., New York, NY 10032.

Rowe, D. (1978). *The Experience of Depression.* Wiley, New York.

Rutter, M. (1986). Depressive feelings, cognitions, and disorders: A research postscript. In Rutter, M., Izard, C. E., and Read, P. B. (eds.), *Depression in Young People: Developmental and Clinical Perspectives.* Guilford, New York.

Siegel, L. T., and Griffin, N. J. (1984). Correlates of depressive symptoms in adolescents. *J. Youth Adolesc.* 13: 475-487.

Space, L. G., and Cromwell, R. L. (1989). Personal constructs among depressed patients. *J. Nerv. Mental Dis.* 168: 150-158.

Strober, M., Green, J., and Carlson, G. A. (1981). Utility of the Beck Depression Inventory with psychiatrically hospitalized adolescents. *J. Consult. Clin. Psychol.* 49: 482-484.

Strober, M., and Werry, J. S. (1986). The assessment of depression in children and adolescents. In Sartorius, N., and Ban, T. A. (eds.), *Assessment of Depression.* Springer-Verlag, New York.

Teasdale, J., and Dent, J. (1987). Cognitive vulnerability to depression: An investigation of two hypotheses. *Brit. J. Clin. Psychol.* 26: 113-126.

Teri, L. (1982). The use of the Beck Depression Inventory with adolescents. *J. Abnorm. Child Psychol.* 10: 277-284.

Topol, P., and Reznikoff, M. (1982). Perceived peer and family relationships, hopelessness and locus of control as factors in adolescent suicide attempts. *Suicide Life-Threaten. Behav.* 12: 141-151.

Urberg, K. A. (1992). Locus of peer influence: Social crowd and best friend. *J. Youth Adolesc.* 21: 439-450.

Weisz, J. R., Weisz, B., Wasserman, A. A., and Rintoul, B. (1987). Control-related beliefs and depression among clinic-referred children and adolescents. *J. Abnorm. Psychol.* 96: 58-63.