DEPRESSIVE ATTRIBUTIONAL STYLE AND DEPRESSION FOLLOWING CHILDBIRTH

by

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Abstract

The reformulated learned helplessness model posits that individuals who make internal, stable and global attributions for undesired outcomes are more likely than others to become depressed when faced with important life events that are perceived as uncontrollable. Seligman, Abramson, Semmel and von Baeyer (1979) found significant correlations between attributional style and concurrent measures of depression in a sample of college undergraduates. The purpose of the present study was to address two questions arising from the Seligman et al. study within the context of the event of childbirth. The first question was whether the relationship between depressive attributional style and concurrent depression found in college undergraduates could be extended to women anticipating the birth of their first child. The second question was whether depressive attributional style would have predictive utility with this group, that is, whether women's prenatal attributional style would be predictive of depression in the first week postpartum. The results provide neglible support for the notion of depressive attributional style as defined by the reformulated learned helplessness hypothesis. Although this study was not designed to test hypotheses based upon any other model of depression, the findings were consistent with Beck's (1967) formulation. Several alternative explanations for the discrepancy between the present findings and those reported by Seligman et al. are discussed.

Notably, 17% of this relatively homogeneous sample of primiparous women reported depression of clinical severity during the first week postpartum.

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According to the learned helplessness hypothesis, individuals experience motivational, cognitive, and affective deficits when they come to expect that outcome is independent of response. The original model was based upon laboratory experiments, first with animal and later with human subjects. Helplessness, or the expectation of noncontingency, was induced by exposing subjects to uncontrollable events. In human subjects, inescapable noise (eg. Hiroto, 1974) or unsolvable problems (eg. Miller & Seligman, 1975) have been the most common experimental manipulations. Seligman and his colleagues (Miller, Rosellini, & Seligman, 1977; Seligman, 1975) have argued that the symptoms of laboratory induced helplessness parallel those of human depression, and that the learned helplessness model can account for some forms of nonpsychotic depression.

Studies with human subjects have changed in focus from an early interest in extending the findings of animal studies to a more recent emphasis upon theory building (Abramson, Seligman, & Teasdale, 1978). As these studies progressed, numerous inadequacies of the original model became apparent.(for critiques, see Costello, 1978; Depue & Monroe, 1978). Abramson et al. (1978) developed a reformulation of the learned helplessness hypothesis in order to account for features of depression that the original model could not adequately explain: the paradox of helplessness and self-blame often observed in depression, the question of reduced self-esteem, and the problem of the generality and chronicity of helplessness deficits.

Briefly, the reformulated model holds that when faced with uncontrollable events, individuals make attributions about the cause of uncontrollability. The model specifies three relevant attributional dimensions: internal-external, stable-unstable, and global-specific. Attributions are internal to the extent that causes are attributed to the individual rather than to other people or circumstances. Attributions

are stable to the extent that causal factors are expected to be long-lived or recurrent rather than short-lived or intermittent. Attributions are global to the extent that causes are believed to affect a broad range of situations rather than a limited set of circumstances. An individual who responds to failure on a mathematics test by saying "I'll always be a failure in everything I do" exhibits rather extreme internal, stable, and global attributions for the failure. On the other hand, an individual who responds to a similar situation by saying "Some of the questions in this week's test were extraordinarily difficult" exhibits external, unstable, and specific attributions.

The reformulated learned helplessness model holds that individuals who make internal attributions for perceived noncontingency are likely to suffer deficits of self-esteem, and to blame themselves for events they believe they cannot control. It is also hypothesized that stable attributions will tend to extend the duration of deficits over time, and that global attributions are likely to result in the generalization of deficits to a variety of situations. Thus, the hypothesized depressive attributional style, consisting of internal, stable, and global attributions for undesired outcomes, is posited to lead to an expectation of future noncontingency and thus to symptoms of helplessness. According to the model, individuals with this type of attributional style are more likely to become depressed when faced with important life events that are perceived as uncontrollable. Abramson et al. (1978) further suggest that the model has preventative implications in that it may be possible to identify people who are depression-prone prior to the actual onset of depression by assessing their attributional style.

In a subsequent publication, Seligman, Abramson, Semmel, and von Baeyer (1979) addressed themselves more specifically to the notion of a depressive

attributional style. An attributional style questionnaire (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, Note 1) was developed to assess each of the three relevant attributional dimensions. The questionnaire yields scores for each dimension as well as a composite attributional score. The authors found that for hypothetical negative outcomes, internal, stable, global, and composite scores each correlated significantly with measures of depression in a group of college undergraduates. Seligman et al. (1979) concluded that their findings supported both the notion of a depressive attributional style and the reformulated learned helplessness model of depression. They did point out that the "model predicts that the insidious attributional style for bad outcomes does not by itself result in depression" (Seligman et al., 1979, p. 246), but that depression ensues when these types of attributions are made for important life events. Although not made explicit by the authors, the assumption seems to be that the more strongly an individual exhibits this attributional style for hypothetical situations, the more likely the individual is to make similar attributions for important life events, and thus the more likely to become depressed following such events.

A number of questions arise from the Seligman et al. (1979) study. The most obvious, as pointed out by the authors, is whether the results generalize to other populations. A second question is to what extent attributional style, as assessed by the Peterson et al. (Note 1) scale, has predictive value in identifying depression-prone individuals prior to the onset of depression. As Seligman et al. (1979) have noted, their study supports the hypothesis that depression and attributional style are related, at least in college undergraduates, but does not inform us as to the direction of the relationship. It may be interesting to examine whether individuals identified as depression-prone according to their attributional

style are indeed more likely than others to become depressed following an important life event. A major difficulty for the researcher, of course, is the general unpredictability of both the occurrence of such events and the onset of depression.

Childbirth is one important life event that is reasonably predictable some months in advance. Furthermore, it would appear that many women do become depressed in the postpartum period. Unfortunately, it is difficult, if not impossible, to accurately assess just how many women do suffer from depression following childbirth on the basis of the current literature. There does appear to be general agreement that postpartum depressive psychosis is quite rare, with most estimates falling below a rate of 1 in 500 births (eg., Grundy & Roberts, 1975; Herzog & Detre, 1976; Pitt, 1975; Pugh, Jerath, Schmidt, & Reed, 1963; Reich & Winokur, 1970). Studies of nonpsychotic forms of postpartum depression, to which the learned helplessness hypothesis is more appropriately addressed, have yielded much more inconsistent findings. As a whole, this particular body of literature has been plagued with serious methodological and conceptual difficulties which contribute to the confusion. In a recent review, Atkinson and Rickel (Note 2) pointed out that a) definitional confusion, b) inadequate measurement, and c) the absence of an integrating theory on which to base hypotheses have limited the usefulness of much of the literature related to postpartum depression. The definitional confusion is evident in the varying nomenclature and diagnostic criteria that prevail in the literature. Such terms as puerperal depression (Dalton, 1971), postpartum adjustment (Blumberg, 1980; Paschall & Newton, 1976; Sheehan, 1981), mental handicap (Uddenberg & Nilsson, 1975), mental illness (Fondeur, Fixsen, Triebel, & White, 1957), emotional difficulties (Zajicek & Wolkind, 1978) and postpartum emotional disorder

(Braverman & Roux, 1978) have been used to describe a multitude of maladies, all of which include depression but most of which have been assessed by measures of unknown reliability. As might be expected, estimates of the incidence of postpartum depression derived from such studies vary widely. Reviews of the literature have cited incidence estimates ranging from as low as 3% (cited in Martin, 1977: Pitt, 1968) to as high as 65% (cited in Pitt, 1968) and 74% (cited in Reich & Winokur, 1970), although most estimates tend to fall between 10 and 30% (eg., Braverman & Roux, 1978; Hayworth, Little, Bonham Carter, Raptopoulous, Priest, & Sandler, 1980; Meares, Grimwade, & Wood, 1976; Paykel, Emms, Fletcher, & Rassaby, 1980; Pitt, 1968; Uddenburg & Englesson, 1978; Zajicek & Wolkind, 1978; Atkinson & Rickel, Note 2). The assorted definitions and measures used in most of these studies severely limit the comparability and conclusiveness of their findings.

A handful of studies report incidence rates that are based on standardized measures of depression, but because of methodological problems, these estimates also vary more widely than might be expected. Pitt (1968) has used a partially validated scale of his own design, for which he reported a test-retest correlation of .76 (n=40) and a correlation of .78 (n=40) with judgments guided by the Hamilton Rating Scale for Depression. Using this scale he found an incidence rate of 10.8%. However, since the scale has been used almost exclusively by Pitt, and since it is designed to assess anxiety and depression together, it is difficult to compare his finding to those of other researchers. Hayworth et al. (1980) found that approximately 22% of their sample scored above the cut-off for mild depression on the Zung Self-rating Depression Scale at 6 weeks postpartum. The Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), which has been described as the best of

current self-rating scales of depression (Rehm, 1976; Rizley, 1978), has been employed in four studies. Cut-offs for clinical depression vary; however, Beck (1967) has recommended a score of 13 or 14 on the BDI as an appropriate cut-off for clinical depression. Rees and Lutkins (1971) conducted the earliest BDI study, but their small sample size limits the generalizability of their findings. Bearing this in mind, of the 26 women assessed at 12 weeks postpartum, 26.9% scored 14 or higher on the BDI and 11.5% scored 17 or higher. Bradley (Note 3) employed the BDI as well as the Depression Adjective Check List (DACL), but did not report the proportion of subjects who met the criterion for clinical depression. Clarke and Williams (1979) employed the BDI to assess depression at 2 days, 6 weeks, and 6 months postpartum. For women who had had live births, the proportion scoring at or above 17 on the BDI was quite similar at each point of assessment, ranging from 3.3% to 5.1%. As the authors pointed out, however, "many of the women with high initial depression scores failed to return further questionnaires despite several attempts to contact them .... It thus seems likely that our estimates of depression are lower than the true prevalence" (Clarke & Williams, 1979, p. 917). A third study (Atkinson & Rickel, Note 2) reported that at 8 weeks postpartum, 26% of their sample (n=78) scored above the cut-off recommended by Beck (1967). Given the disparity in the findings of these studies, it seems critical that researchers take particular care in future studies to provide detailed descriptions of the characteristics of their sample. In only one of the studies reviewed (Atkinson & Rickel, Note 2) was the incidence of depression assessed by means of multiple criteria. It would seem that any well-designed study using multiple standardized measures of depression would provide a useful contribution to this body of literature. In any case, while reliable incidence rates remain to be established empirically, it

would appear that a sizeable minority of women is vulnerable to depression following childbirth.

Although onset of postpartum depression has been reported to occur at any time during the puerperium (eg., Vandenbergh, 1980), several observers have reported that a frequent time of onset is during the third or fourth day postpartum (eg., Dalton, 1971; Yalom, Lunde, Moos, & Hamburg, 1968). Systematic prospective studies of time of onset are generally lacking; however Bradly (Note 3) found that depression, as measured by DACL, tended to peak on the third day following childbirth. Since this point in time corresponds to a precipitous drop in hormone levels, notably estrogen and progesterone, several observers (eg., Dalton, 1971; Meares et al., 1976; Paykel et al., 1980; Vandenbergh, 1980) have attributed depression that occurs following childbirth to hormonal causes. Despite the temporal contiguity, there are several arguments that would suggest that the hormonal hypothesis is less than adequate as an explanation of postpartum depression. Reviewers (Gelder, 1978; Steiner, 1979) have reported that physiological evidence of a relationship between hormone levels and postpartum depression is inconsistent at best. Upon reviewing the available physiological evidence, Gelder (1978) characterized hypotheses of hormonal etiology of postpartum depression as "mere speculation" (p. 86), and suggested that the evidence that physiological changes are the causes of longer lived forms of postpartum depression is even weaker. These reviewers also pointed out that depression does not necessarily subside when hormone levels return to normal. In a multiple regression analysis, Paykel et al. (1980) found that early postpartum blues was a significant predictor of depression assessed at 6 weeks postpartum. Finally, the hormonal hypotheses do not explain why only a minority of women experience depression of clinical severity following childbirth when presumably all women experience a change

in hormones. It would appear, then, that despite the relatively frequent onset of depression in the first week postpartum, the hormonal hypothesis is insufficient to explain postpartum depression, and other hypotheses should be entertained.

Several authors (eg., Fondeur et al., 1957; Paykel et al., 1980; Pitt, 1975; Reich & Winokur, 1970) have noted that postpartum depression closely resembles depression occurring in other circumstances. Atkinson and Rickel (Note 2) have suggested that hypotheses derived from more general models of depression may be useful in guiding research related to depression following childbirth. The learned helplessness hypothesis is one such model that has been suggested as possibly applicable to postpartum depression (Hayworth et al., 1980). The notion of perceived control, which is central to the notion of learned helplessness (Abramson et al., 1978; Seligman, 1975), has been frequently noted as an important variable in terms of both the psychological and obstetrical outcome of pregnancy and childbirth (eg. Charles, Norr, Block, Meyering, & Meyers, 1978; Felton & Segelman, 1978; Hayworth et al., 1980; Seiden, 1976). The reformulated learned helplessness hypothesis (Abramson et al., 1978; Seligman, 1979) has the advantage of providing specific predictions regarding the identification of individuals who may be vulnerable to depression prior to its onset. According to this model, one would expect women who demonstrate the depressive attributional style of internal, stable, and global attributions for negative events to be especially vulnerable to depression following an important life event such as childbirth.

To conclude, application of the reformulated learned helplessness hypothesis to postpartum depression would seem to be appropriate from two points of view. First, studies of postpartum depression have suffered

from the absence of an integrating model of depression from which research hypotheses may be generated. The reformulated learned helplessness hypothesis provides such a model. Second, and more importantly, an examination of depression following childbirth may provide a unique opportunity to address questions arising from the Seligman et al. (1979) study, since childbirth is a relatively predictable event which does appear to be followed by depression in some cases. Not only do pregnant women represent a group for whom depression is a relevant issue, then, but it is also possible to examine the predictive utility of depressive attributional style for this group. It would be interesting to ascertain whether women identified prenatally as depression-prone, according to their attributional style, are more likely than others to show elevated depression scores following childbirth.

The purpose of the present study was to examine whether certain predictions of the reformulated learned helplessness model can be applied to individuals experiencing a particular life event, viz. childbirth. More specifically, the present study endeavoured to address two questions arising from the Seligman et al. (1979) study within the context of the event of childbirth. The first question is whether the relationship between depressive attributional style and concurrent depression found in college undergraduates can be extended to women anticipating the birth of their first child. The second question is whether depressive attributional style has predictive utility with this group, that is, whether women's prenatal attributional style is predictive of depression in the first week postpartum. To address these questions, data were collected at two points in time. The Attributional Style Questionnaire (Peterson et al., Note 1) and three measures of depression were administered concurrently during the third trimester of pregnancy, and the three

depression measures were administered again on the third day postpartum.

Method

Subjects

The subjects for this study were drawn from those recruited by Project Prepare. Project Prepare is a long-term investigation of the antecedents and consequences of parental adaptation during pregnancy and the postpartum period, and is funded by Health and Welfare Canada. The Project has collected data from over 300 unpaid volunteers since its inception in 1979. All subjects were recruited from prenatal classes conducted by the Vancouver Health Department or private organizations. To be eligible for recruitment by Project Prepare, subjects were required to be primiparous, no more than 26 weeks gravid, fluent in English, and residents of Vancouver, Burnaby, or Richmond. The target group for the present study consisted of those Project Prepare subjects whose delivery due date occurred between October 1, 1980 and February 4, 1981, inclusive. Eighty-eight (88) women met this criterion.

Of these 88 women, questionnaires were administered to 65. The other 23 women were excluded from the sample for various reasons: 3 had been hospitalized early due to medical complications, 4 had moved and could not be located, 4 had dropped out of Project Prepare due to language difficulties (n=1) or for personal reasons (n=3), and 12 had completed Project Prepare's third trimester package prior to the thirty-fifth week of pregnancy.

Of the 65 women who were successfully contacted, 4 subjects did not complete the Attributional Style Questionnaire, and were therefore not included in the analyses. Two of these women subsequently dropped from Project Prepare. For 11 of the remaining 61 subjects, postpartum measures were unavailable for various reasons, including medical complications

while in hospital ($n = 4$), packages apparently lost or delayed in the mail ($n = 3$), early discharge from hospital ($n = 1$), a lengthy delay in returning the hospital questionnaires ($n = 1$), and termination by Project Prepare because of either language difficulties ($n = 1$) or chronic failure to return questionnaire packages ($n = 1$). In sum, a total of 50 women completed both sets of questionnaires. Attributional measures and concurrent measures of prenatal depression were available for 61 subjects.

Demographic data were unavailable for one of the subjects who completed both sets of data. Those 11 subjects who did not submit hospital data were compared with those 49 who completed both sets of questionnaires and for whom demographic data were available. The two groups were not significantly different with respect to age, $t(58) = .0308$, $p > .05$, or education, $\chi^2(1) = .1360$, $p > .05$. The overall mean age was 28.5 years ($n = 60$). Of these 60 subjects, 11 had not proceeded beyond high school, 22 had one or two years of post-secondary education, 22 had graduated from university, and 5 had pursued post-graduate education.

The two groups did differ significantly with respect to income level, $\chi^2(1) = 4.5172$, $p < .05$. The majority of those subjects who completed both sets of data had family incomes that exceeded $30,000, while most subjects who did not submit hospital data had family earnings of $20,000 or less. Considering the complete sample ($n = 60$), family income exceeded $30,000 for the majority of subjects. Percentages and medians for income categories are summarized in Table 1.

The two subsamples also differed with respect to marital status, in that a greater proportion of women in the smaller subsample were without partners. This proportional difference was statistically significant ($p < .03$). Two women (18%) in the smaller subsample ($n = 11$) were single, whereas only one woman (2%) in the larger subsample ($n = 49$) was single.

Table 1

Percentages and Medians of Family Income Level for Subsamples and Full Sample

Income Level	Annual Income	Percentages within Subsamples		
		Hospital Data Submitted	No Hospital Data Submitted	Full Sample
4	$30,000	59	18	52
3	21,000 - 30,000	16	27	18
2	10,000 - 20,000	21	46	25
1	$10,000	4	9	5
Totals		100 (n=49)	100 (n=11)	100 (n=60)
Median Income Level		3.66	2.25	3.53

Considering only those women who were married or living with their partners, the two subsamples did not differ significantly with respect to the number of years married or living together, $t(55) = .6146$. The mean duration of cohabitation was 4.23 years ($n = 57$).

Measures

Four self-report measures were employed: an Attributional Style Questionnaire, and three measures of depression.

The Attributional Style Questionnaire (Peterson et al., Note 1) was used by Seligman et al. (1979) in their study of attributional style and concurrent depression. The questionnaire consists of 12 hypothetical situations, six describing positive outcomes and six describing negative outcomes. For each situation, subjects are asked to name a major cause and to rate the cause for degree of internality, stability, globality, and importance of the situation if it were to happen to them (see Appendix A for sample). For each type of outcome (positive or negative), four attributional scores can be calculated: internality, stability, globality, and a composite attributional score, which is the sum of the scores on the three attributional subscales. A measure of the importance of both negative and positive events can also be derived from the questionnaire although no psychometric information is available for these subscales. Thus a total of 10 subscales can be generated from the questionnaire.

Peterson et al. (Note 1) have reported reliability figures for the eight attributional subscales. Internal consistency was estimated by means of Cronbach's coefficient alpha. For the composite attributional scores, alpha coefficients of .75 for positive outcomes and .72 for negative outcomes were obtained. For the six attributional dimensions, coefficients were lower, ranging from .44 to .69, with a mean of .54.

Test-retest reliability was based on a 5-week interval with a sample of 100 subjects. Correlations ranged from .57 to .70, and all were statistically significant ($p > .001$). Peterson et al. note that discrimination among the individual dimensions was low, as reflected in the significantly positive correlations among the attributional dimensions for positive and negative outcomes, respectively. Although the questionnaire is being revised, the revision was not available at the time the present study was conducted.

In order to render the Attributional Style Questionnaire more appropriate to the present sample, the wording of two items was changed slightly. "Your spouse (boyfriend/girlfriend) has been treating you more lovingly" was changed to "Your spouse (partner) has been treating you more lovingly," in order to correspond to the wording used by Project Prepare. "You go out on a date and it goes badly" was changed to read "You go out for the evening and it goes badly."

The measures of self-reported depression used in this study include a) the Beck Depression Inventory (BDI) (Beck et al., 1961); b) the Depression Adjective Check List, forms B and E (DACL B and DACL E) (Lubin, 1965); and c) a depression scale developed by McLean and Hakstian (Note 4).

The BDI (Beck et al., 1961) is an easily administered, relatively well-validated measure of the number and severity of depressive symptoms, and has been used extensively in learned helplessness studies (e.g., Rizley, 1978; Seligman et al., 1979). The BDI correlates significantly with other measures of depression, including psychiatrists' ratings (e.g., Beck et al., 1961), the Hamilton Rating Scale (Williams, Barlow, & Agras, 1972), observational measures of depressive behaviour (Williams et al., 1972), the DACL (e.g., Lubin, 1967), and the MMPI D-scale and Zung's

rating scale (cited in Rehm, 1976). Estimates of internal consistency are high, with an odd-even item correlation of .86 (Beck et al., 1961). Rehm (1976) cites test-retest correlations of .75 and .74 for 1-month and 3-month intervals, respectively. For the purposes of the present study, the item on the BDI related to recent weight loss was omitted. The BDI is presented in Appendix B.

The DACL was developed as a measure of transient depressive mood, as part of "an investigation of mood changes during pregnancy and the postpartum period" (Lubin, 1965, p. 57). The DACL B and DACL E have been found to correlate highly with one another ($r = .89$) and with the MAACL Depression Scale ($r = .87$ and $r = .80$, respectively) (Lubin, 1967). All forms of the DACL correlate significantly with other measures of depression, including the MMPI D-scale, the BDI, Zung's Self-rating Depression Scale, and psychiatrists' ratings, for both normal and clinic samples (Lubin, 1976). As would be expected with a measure of transient mood, test-retest reliability is quite low, ranging from .19 to .24 (Lubin & Himmelstein, 1976). Estimates of internal consistency are all high, ranging from .84 to .93 (Lubin, 1967). The DACL B and DACL E are presented in Appendix C.

The McLean and Hakstian depression scale is a 4-item, behaviourally anchored questionnaire. It has been demonstrated to have a hit rate of approximately 95% in discriminating between depressed inpatients and normals in a double cross-validation study (McLean & Hakstian, Note 4). Reliability and validity figures are currently in preparation. The McLean-Hakstian Scale is presented in Appendix D.

Procedure

Subjects were recruited from prenatal classes by a community health nurse. Subsequently, an interview was conducted by a nurse in the subject's

home, at which time the general requirements of participation in the study were explained and consent forms were completed. Each subject was assigned a code number to ensure confidentiality.

During the thirty-third and thirty-fourth week of pregnancy, each subject was telephoned to arrange a time within the following weeks when it would be convenient for her to complete the prenatal measures. Prenatal measures included the Attributional Style Questionnaire, the BDI, the DACL B, and the McLean-Hakstian scale. These four questionnaires took approximately 50 minutes to complete.

The prenatal measures were delivered by the researcher to each subject at her home at the pre-arranged time. To approximate the procedure reported by Seligman et al. (1979), the researcher was not present when the measures were being completed. Subjects were told that the researcher would return in approximately 1 hour to collect the completed questionnaires. Subjects were instructed to place the completed questionnaires in an envelope provided by the researcher, and to seal the envelope before the researcher's return.

The three depression measures were administered again postpartum, but the DACL E was substituted for the DACL B. The postpartum measures were included with Project Prepare's hospital questionnaires, which were mailed to each subject during the final month of pregnancy. A covering letter explained when the questionnaires were to be completed. Subjects took this packet of questionnaires with them when they went to the hospital. Questionnaires for Project Prepare were completed during each day of the hospital stay. The questionnaires for the present study were each marked "DAY 3," and were completed on the third day postpartum. In order to minimize physiological variation, the questionnaires were administered on

the same day postpartum for each subject. Day 3 was chosen since it is a frequent time of onset for postpartum depression. The nursing researcher for Project Prepare monitored the completion of the hospital questionnaires on an intermittent basis to ensure that they were being completed on the appropriate day. The hospital questionnaires were returned by mail in postage prepaid envelopes.

Results

Two general research issues were addressed in the data analysis. The first involved the extent to which correlations in the present sample corresponded to those reported by the University of Pennsylvania group (Seligman et al., 1979; Peterson et al., Note 1). Intercorrelations among the six attributional dimensions were compared to those reported by Peterson et al. (Note 1), and correlations of attributional style with concurrent measures of depression were compared to those reported by Seligman et al. (1979). Both sets of comparisons were carried out using the full prenatal sample ($n = 61$).

The second general issue was to assess the utility of depressive attributional style in predicting early postpartum depression, using data from the women for whom both prenatal and postpartum data were available ($n = 50$). Six partial correlations, three step-wise multiple regression analyses, and a step-wise discriminant analysis were conducted. The partial correlations were conducted since linear dependencies would have been set up within the data matrices had the composite attributional scores been included in the other four analyses. The two composite attributional scores were correlated with each of the three postpartum depression measures, with prenatal depression partialled out in each case. Each multiple regression analysis used one of the postpartum measures of

depression as the criterion variable. In each case, the predictor variables included: a) the prenatal depression measure which corresponded to the criterion measure, and b) the six attributional dimension scores and the two importance scores from the Attributional Style Questionnaire (Peterson et al., Note 1). Predictor variables for the discriminant analysis included all three prenatal depression measures, as well as the six attributional dimension scores and two importance scores. For this analysis, women were classified as depressed if they met the cut-off for clinical depression on two of the three postpartum measures.

Degrees of freedom vary slightly from one analysis to another, since subjects with missing data for any analysis were excluded from that analysis.

Prenatal Analyses

The first group of analyses was conducted to compare correlations reported by Peterson et al. (Note 1) and Seligman et al. (1979) with those from the present sample. Peterson et al. reported intercorrelations among the six attributional dimensions ranging from .18 to .45 among the attributions for negative events ($p < .05$), from .36 to 62 among the attributions for positive events ($p < .05$), and from -.17 (n.s.) to .24 ($p < .05$) when correlating negative with positive attributional dimensions. The findings for the present sample, as summarized in Table 2, were very similar. Individual correlations ranged from .16 (n.s.) to .43 ($p < .001$) among the negative attributional dimensions, from .30 to .41 among the positive attributional dimensions ($p < .01$), and from -.22 ($p < .05$) to .15 (n.s.) when correlating negative with positive dimensions. For this cluster of significance tests, the cluster-wise error rate was set at $\alpha = .05$. Using the Bonferroni procedure (Larzelere & Mulaik, 1977) the

Table 2

Intercorrelations Among Attributional Dimensions

	Negative Outcomes			Positive Outcomes		
	Internality	Stability	Globality	Internality	Stability	Globality
Negative Outcomes						
Internality						
Stability	.16					
Globality	.43***	.23*				
Positive Outcomes						
Internality	-.15	-.22*	-.08			
Stability	-.23*	-.08	-.20	.31**		
Globality	-.01	.02	.15	.41***	.30**	

* $p<.05$

** $p<.01$

*** $p<.001$

critical significance level for each individual correlation was computed as .05/15 = .0033. Only two of the correlations (negative internality with negative globality and positive internality with positive globality) met this criterion for significance. The standard test (using the Fisher transformation) of the difference between independent correlations was calculated to compare the correlations from the present study with the findings of Peterson et al. Since none of the p values fell below the critical level of .0033, the hypothesis of no significant differences between the two samples cannot be rejected.

Seligman et al. (1979) reported significant correlations between attributional style for negative outcomes and concurrent measures of depression, ranging from .34 ($p < .001$) to .48 ($p < .00001$) for the BDI and from .16 ($p < .07$) to .24 ($p < .01$) for the Adjective Check List. For positive outcomes, correlations between attributions and depression were lower, ranging from -.09 (n.s.) to -.28 ($p < .002$). In the present sample, correlations between attribution and depression showed quite a different pattern for negative outcomes, ranging from -.10 to .10 for both measures of depression (all correlations nonsignificant). Correlations for positive outcome attributions were more similar to those reported by Seligman et al. and ranged from .14 (n.s.) to -.23 ($p = .040$). The latter correlation ($r = -.23$) was the only individual correlation in the present analysis to reach statistical significance. When cluster-wise error was taken into account by means of the Bonferroni procedure (Larzelere & Mulaik, 1977), however, none of the correlations in the present cluster met the critical level of $p < .0031$ ($\alpha = .05/16 = .0031$). The standard test (using the Fisher transformation) of the difference between independent correlations was calculated to compare the present correlations with those reported by

Seligman et al., and individual significance values are reported in Table 3. The cluster-wise error rate was set at $\alpha = .05$, and the critical significance level for each individual comparison was computed as $.05/16 = .0031$. Since none of the p values fell below this level, the hypothesis of no significant differences between the two samples cannot be rejected.

Postpartum Analyses

A total of 19 spot checks were conducted to ensure that the postpartum measures were being completed on the appropriate day. Only one of the 19 was found to be off schedule. This woman was among the 11 who failed to submit any hospital data. The other 18 were among the 50 subjects who completed both sets of questionnaires.

Several analyses were conducted to assess the predictive utility of depressive attributional style.

Partial Correlations. The partial correlations between prenatal composite attributional style and postpartum depression are summarized in Table 4. For each of the criterion variables, the corresponding prenatal depression measure has been partialled out. The partial correlations ranged from -.21 to .11, and none of them reached statistical significance.

Multiple Regression Analyses. The final step of each of the three step-wise multiple regression analyses is summarized in Table 5. For each of the three analyses, significance tests were carried out on the overall multiple correlation coefficient and on each of the beta weights. Given the relatively small sample size, an adjusted R^2 was calculated as a more conservative estimate of the variance accounted for by the regression equation. Adjusted R^2 is an R^2 statistic adjusted for shrinkage. The multiple regression analysis which used the DACL as criterion failed to

Table 3

Comparisons of Correlations of Attributional

Subscales with Concurrent Measures of Depression

Attributional Subscale	Beck Inventory			Adjective Check List		
	Seligman et al.[a] (1979) findings	Present[b] findings	Significance level of difference	Seligman et al.[c] (1979) findings	Present[d] findings	Significance level of difference
Negative Outcomes						
Internality	.41	.10	n.s.	.18	.00	n.s.
Stability	.34	-.03	$p < .04$	.18	-.10	n.s.
Globality	.35	.10	n.s.	.16	.01	n.s.
Composite	.48	.09	$p < .02$	.24	-.03	n.s.
Positive Outcomes						
Internality	-.22	.04	n.s.	-.05	.05	n.s.
Stability	-.28	-.09	n.s.	-.09	-.23	n.s.
Globality	-.04	.14	n.s.	-.04	-.01	n.s.
Composite	-.22	.05	n.s.	-.11	-.07	n.s.

Note: Significance levels refer to the significance of the difference between independent correlations.

[a] short form BDI [b] full BDI [c] MAACL D-scale [d] DACL B

Table 4

Partial Correlations Between Prenatal Composite Attributional Scores and Postpartum Depression, Controlling for Prenatal Depression

	Postpartum Criterion Variables		
Composite Attributional Scores	BDI[a]	DACL[b]	McL-H[c]
Negative Outcomes	-.06	.11	-.08
Positive Outcomes	-.21	-.01	-.10

Note: None of the partial correlations was statistically significant.

[a]Prenatal BDI (Beck Depression Inventory) partialled out, df=41.

[b]Prenatal DACL (Depression Adjective Check List) partialled out, df=47.

[c]Prenatal McL-H (McLean-Hakstian scale) partialled out, df=39.

Table 5

Sets of Beta Weights and Multiple Correlational Coefficients for Each Criterion Variable

Criterion Variable	Multiple R	Adjusted R^2	Beta Weights for Predictors							
			Prenatal[a] Depression Measure	Negative Outcome Attributions				Positive Outcome Attributions			
				Internal	Stable	Global	Importance	Internal	Stable	Global	Importance
DACL[b]	.44	.01	.11	.19	-.17	.06	.23	.05	.04	-.18	.14
BDI[c]	.64**	.27	.47***	.17	-.40***	-.06	.07	-.24	n.s.	-.09	.05
McL-H[d]	.69***	.32	.57***	.04	-.30*	-.21	.45*	.08	-.24	-.09	-.10

[a] In each case, the prenatal depression measure is that measure which corresponds to the criterion measure.

[b] DACL = Depression Adjective Check List

[c] BDI = Beck Depression Inventory

[d] McL-H = McLean - Hakstian

*$p < .05$

**$p < .02$

***$p < .01$

reach statistical significance ($R = .44$), suggesting that the present measures are poor predictors of this measure of transient depressive mood. An adjusted R^2 of .01 was obtained for this analysis.

Both of the other two analyses yielded significant multiple correlation coefficients, with $R = .64$ ($p < .02$), adjusted $R^2 = .27$, when using the Beck Inventory as criterion and $R = .69$ ($p < .01$), adjusted $R^2 = .32$, for the McLean-Hakstian scale. Examination of the beta weights shows a similar pattern for both analyses. In both cases, the prenatal depression measure was the best predictor, with $B = .47$ ($p < .01$) when using the BDI and $B = .57$ ($p < .01$) with the McLean-Hakstian scale. Attributional stability for negative outcomes was also a significant predictor in both analyses, with $B = -.40$ ($p < .01$) for the BDI as criterion and $B = -.30$ ($p < .05$) for the McLean-Hakstian scale. For the analysis carried out using the McLean-Hakstian as criterion, a third predictor variable, importance of negative outcomes, reached statistical significance ($B = .45$, $p < .05$). None of the other beta weights in any of the multiple regression analyses was found to differ significantly from zero.

Discriminant Analysis. A step-wise discriminant analysis was conducted to determine whether women classified as depressed during the first week postpartum could be differentiated from other women in the sample on the basis of prenatal depressive attributional style. All prenatal measures, with the exception of the composite attributional scores, were included among the possible discriminating variables. Women were classified as depressed or non-depressed according to the following criterion: A subject was required to score at or above the cut-off for clinical depression on two of the three postpartum measures in order to be classified as depressed. For the DACL, the cut-off was set at two standard

deviations above the means reported by Lubin (1967), that is, at a T-score of 70. Since Beck (1967, p. 203) suggests that a cut-off point at 13 or 14 on the Depression Inventory differentiates depressed from non-depressed patients, the cut-off for the present analysis was set at 14. McLean and Hakstian (Note 4) found that a score of 32 or higher effectively classified depressed patients; this was used as the cut-off in the present analysis. Any instances of missing data on a criterion variable were considered to fall below the cut-off for depression on that variable. Three subjects had missing data on at least one of the discriminating variables, and were thus eliminated from the analysis. In all, 47 women were classified according to the criterion described above. Eight (17%) were classified as depressed and 39 (83%) as non-depressed.

Three of the predictor variables made a significant contribution to the discriminant function. Using standardized coefficients, the discriminant function is

$$D = .8022\ X_1 + .7955\ X_2 - .4123\ X_3$$

where X_1 = prenatal BDI, X_2 = importance of negative events, and X_3 = attributional globality for positive events. The equation, tested for significance, yielded a significant F ratio, $F(3,42) = 3.82$, $p < .02$.

The discriminant function was used to classify the subjects into predicted depressed and non-depressed categories, as summarized in Table 6. The proportion of correct classifications, including both valid positives and valid negatives, is .723. Of those eight subjects who met the criterion for clinical depression, seven (87.5%) were classified correctly by discriminant function scores.

Table 6

Classification by Discriminant Function

	Predicted Group Membership		
Actual Group	Non-depressed	Depressed	Totals
Non-depressed	27 (.575)	12 (.255)	39 (.830)
Depressed	1 (.021)	7 (.149)	8 (.170)
Totals	28 (.596)	19 (.404)	47 (1.00)

Note: Figures in parentheses refer to the proportion of the total sample represented by each cell.

Discussion

In general terms, the purpose of the present study was to assess the extent to which certain predictions of the reformulated learned helplessness hypothesis (Abramson et al., 1978; Seligman et al., 1979) could be applied to women anticipating the birth of their first child. The results provide negligible support for the hypothesis, both in terms of concurrent correlations of attribution and depression and in terms of the predictive utility of attributional style with this group.

In the present sample, the magnitude of intercorrelations among attributional dimensions did not differ substantially from those reported by Peterson et al. (Note 1), and do not present any challenge to the hypothesis that Peterson et al.'s findings can be generalized to the present sample. The correlations obtained between attributional style and concurrent measures of depression, however, seem to offer a greater challenge to the generalizability of depressive attributional style to the present population. The finding that none of these 16 concurrent correlations was statistically significant suggests that depressive attributional style, as measured by the Attributional Style Questionnaire (Peterson et al., Note 1), has little, if any relationship to concurrent depression among well-educated women who are awaiting the birth of their first child.

The second general research issue in the present study was to examine the predictive utility of attributional style in identifying women who would be vulnerable to depression in the first week postpartum. Overall, the various attributional dimensions had little to contribute in predicting subsequent depression in this study. With the exception of the DACL, prenatal depression scores were the strongest predictors of depression

following childbirth. In the multiple regression analyses, stability for negative outcomes was the only attributional dimension to make a significant contribution to any of the three equations. Contrary to what would be predicted by the reformulated learned helplessness hypothesis, this variable was weighted negatively. Attributional globality for positive outcomes made a significant contribution to the discriminant function, and its negative weighting is in accordance with Abramson et al.'s (1978) formulation. Its role in the equation was relatively minor, however, given that each of the other two significant variables contributed approximately twice as much to the equation as did positive globality. In fact, a discriminant function using only prenatal BDI and importance of negative outcomes as predictors would still be statistically significant, $F(2,43) = 4.61$, $p < .02$, although the percentage of correct classifications would be reduced slightly. The present findings therefore provide negligible support for the predictive utility of depressive attributional style for this group of women.

Although this study was not designed to test hypotheses based upon any other model of depression, the findings are consistent with Beck's formulation (Beck, 1967; Beck, Rush, Shaw, & Emery, 1979). According to Beck, a depressed individual tends to take a negative view of self, the world, and the future, and generally to attend selectively to the negative. In the discriminant analysis, and in one of the multiple regression analyses, women's ratings of the importance of negative events emerged as a significant predictor of depression. The BDI was another effective predictor variable. It may be useful for future studies of postpartum depression to pursue a more formal attempt to determine whether Beck's model of depression may be helpful in identifying women who are vulnerable to depression following childbirth. The finding that the discriminant

function was able to identify correctly seven of the eight depressed women is promising, in that it lends support to the notion that postpartum depression may be predicted on the basis of prenatal depression and cognition.

This study did not specifically set out to establish incidence estimates of postpartum depression; however, it is notable that 17% of the women in this sample reported depression of clinical severity on at least two of the three measures of depression administered on the third day postpartum. It may be useful to compare the present findings with those of other studies. Since incidence estimates based on the DACL and the McLean-Hakstian Scale are unavailable, it seems most appropriate to compare the present BDI findings with those of other studies. In this sample, 19.1% scored at or above 14 and 8.5% scored at or above 17 on the BDI. Both percentages are higher than those reported in a study that used a cut-off score of 17 (Clarke & Williams, 1979), and lower than those reported in studies that used 14 as the cut-off (Rees & Lutkins, 1971; Atkinson & Rickel, Note 2). The present sample bears closest resemblance to Atkinson and Rickel's (Note 2) sample, in that both samples consisted of volunteers recruited from childbirth preparation classes. The present sample was somewhat higher with respect to age, education, and income, and exceeded the Canadian average on these variables (Statistics Canada, 1978, 1980). Caution should therefore be exercised in generalizing the present incidence to the general population of primiparous women. Given that subjects were all unpaid volunteers, they may also have been more highly motivated than might be expected in the general population. It is worthy of note that in this relatively homogeneous sample of middle class women, almost 20% experienced depression of clinical severity. However, the

extent to which early postpartum depression correlates with later postpartum depression remains to be determined.

What factors might account for the discrepancy between the present findings and those reported by Seligman et al. (1979)? Several alternative explanations may be explored. Four general categories will be considered, including factors related to a) the measurement of depression, b) systematic differences between the two samples, c) the general applicability of depressive attributional style as defined by the reformulated learned helplessness hypothesis, and d) experiment-wise error rates.

One potential source of disparity is that the present measures of depression were not precisely the same as those used in the original study; however, they are highly comparable. Whereas Seligman et al. (1979) employed the short form of the BDI and the depression scale of the MAACL (Multiple Affect Adjective Check List), the present study employed the full BDI and the DACL B. The full BDI correlates .96 with the short form (Beck & Beck, 1972), while the DACL B correlates .87 with the MAACL Depression Scale (Lubin, 1967). These figures are comparable with the estimates of internal consistency for these measures. Given the high correlations between the present measures and those employed by Seligman et al., it seems unlikely that this difference in the two studies could account for much of the discrepancy in the findings.

Another explanatory factor to consider is related, at least in part, to both measurement and sample issues. One of the systematic differences between the two samples is that all subjects in the present study are women, whereas this was not the case in the Seligman et al. (1979) study. The authors do not report the number of males and females in their sample of "145 undergraduate students in an introductory psychology course at the

University of Pennsylvania" (p. 143), nor do they report separate findings for men and women. It has been suggested (e.g., Blumenthal, 1975) that men and women may differ in the extent to which they are willing to endorse items indicating depression on self-report measures. If this were indeed the case, then correlations derived from mixed samples may be spuriously high. Suppose, for example, that a zero correlation exists between attributional style and BDI scores, but that normal women tend to score significantly higher on the BDI than do normal men. If a correlation coefficient were calculated from the scores of both men and women, attributional style and depression would erroneously appear to be related. A directly analogous problem would exist if there were significant differences between men and women with respect to attributional style. Several factors would suggest, however, that this potential problem can be ruled out. Weissman and Klerman (1977) have suggested that there is evidence that men and women do not differentially acknowledge depressive symptoms. Furthermore, Hammen and Padesky (1977) found no sex difference in BDI scores in a large sample of college students. This finding is particularly important in that Seligman et al.'s correlations of attribution and depression were highest for the BDI. In another sample of college students, Lubin (1965) found that men and women tended not to differ significantly with respect to their responses on the DACL. Peterson et al. (Note 1) found that there were no significant sex differences in terms of responses to the Attributional Style Questionnaire. Given these findings, it seems unlikely that Seligman et al.'s correlations were illusory or that the differences in gender in the two samples could account for the disparate findings.

Other systematic differences between the two samples may be more

critical. The present sample differs markedly from the typical sample of college undergraduates with respect to age, income, education, marital status, and occupation. Whether Seligman et al.'s findings generalize to a normal sample drawn from the general population remains an empirical question.

Another more central difference between the two samples is that the present sample of pregnant women represents a group for whom depression is a clinically relevant issue. It could perhaps be argued that postpartum depression has unique characteristics that differentiate it from other forms of non-psychotic depression, and that attributional patterns may therefore differ as well. In other words, the depressive attributional style that one might expect to find in a general clinical sample need not be expected in a sample of pregnant women. However, the argument that postpartum depression is distinct from other forms of depression is not in keeping with the available evidence related to postpartum depression (cf. Fondeur et al., 1957; Paykel et al., 1980; Pitt, 1975; Reich & Winokur, 1970; Atkinson & Rickel, Note 2). Furthermore, the depressive attributional style has not yet been demonstrated in a more general clinical population. In a recent study conducted with a clinical sample, Gong-Guy and Hammen (1980) found relatively minimal evidence to support the notion of depressive attributional style, although their findings did "offer some support for hypotheses of cognitive mediation between stressful life events and depression" (p. 666). The question remains as to whether Seligman et al.'s findings are relevant to any clinical population.

Evidence concerning the general applicability of depressive attributional style is the third issue to be considered. Although only a handful of researchers have addressed this issue, the findings to date are

fairly consistent in that they tend to provide little support for the hypothesized relationship between depression and attributional style. The strongest support was found in a study that correlated scores from Peterson et al.'s Attributional Style Questionnaire (Note 1) with BDI scores in a sample of college students (Blaney, Behar, & Head, 1980). Although most of the correlations were statistically significant, they were consistently lower than those reported by Seligman et al. (1979). Notably, the correlation between negative internality and the BDI did not reach statistical significance. Another study (Golin, Sweeney, & Shaeffer, 1981) analyzed the same measures in a cross-lagged panel correlational analysis. Concurrent correlations were not reported, but Golin et al. noted that they were small, and suggested that the relative contribution of attributions in the development of depression is yet to be established empirically. Two studies assessed depressive attributional style using actual life events (Hammen & Cochran, 1981; Harvey, 1981). Harvey (1981) found that the internality dimension was the only one to show the predicted relationship with depression. He concluded that his findings "more clearly support a negative self-attitude model of depression" (p. 20) such as Beck (1967) has outlined. Hammen and Cochran (1981) found that depressed and non-depressed students did not differ in their causal attributions, although they did differ in terms of other cognitions. In a more traditional helplessness study of experimenter-induced failure, Pasahow (1980) found that subjects' ratings of attributional globality did not effect the generalization of performance deficits to another task. Taken together, these studies of student samples suggest that, although cognitive factors may play a role in depression, there is little support to date for the notion of depressive attributional style as defined by the reformulated

learned helplessness hypothesis.

The final issue to be considered is the problem of cluster-wise error rates. As Larzelere and Mulaik (1977) have pointed out,

> When more than one correlation coefficient is tested for significance in a study, the probability of making at least one Type I error rises rapidly as the number of tests increases, and the probability of making a Type I error after a Type I error on a previous test is usually greater than the nominal significance level used in each test (p. 557).

Methods such as the Bonferroni procedure have been devised to take this problem into account; however, many studies do not control for this source of error. The Seligman et al. (1979) article represents one such study. Seligman et al. reported the correlations of eight attributional subscales with two measures of depression, and performed 16 individual significance tests on these correlations. Using a cluster-wise significance level of .05, the Bonferroni procedure would set the significance level for each individual test at .05/16 = .0031. Only the correlations between negative attributions and the BDI had p values falling below this level. Thus, with this exception, the null hypothesis cannot be rejected when cluster-wise error rates are taken into account. It would appear, then, that even Seligman et al.'s (1979) evidence regarding the relationship between depressive attributional style and concurrent depression is somewhat weak.

To conclude, the present study found that Seligman et al.'s (1979) findings could not be replicated in a prenatal sample of primiparous women, nor was prenatal attributional style predictive of depression following childbirth. The discrepant findings of the present study as compared with the Seligman et al. study cannot be adequately accounted for by factors related to measurement issues or to gender differences between the two samples. It would seem, then, that the notion of depressive attributional style is not generalizable to the population from which the present sample

was drawn.

Whether depressive attributional style is indeed applicable to any population remains an open question. The evidence to date is weak. While it would be premature to conclude that the reformulated learned helplessness hypothesis is invalid in its present form, one might speculate that other cognitive factors may play a more prominent role in the development of depression. The present findings were more in keeping with Beck's formulation (1967) than with Abramson et al.'s (1978). This was also the case in Harvey's (1981) study. Hammen and Cochran (1981) have suggested that an examination of the perceived consequences of events may be a productive area for research of depressive cognition. As Gong-Guy and Hammen (1980) have suggested, it would appear that several cognitive factors may contribute to depression, and that an adequate model of depression is likely to elude us for some time to come.

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Appendix A

Attributional Style Questionnaire

Code # _____

Date _____

DIRECTIONS

Please try to vividly imagine yourself in the situations that follow. If such a situation happened to you, what would you feel would have caused it? While events may have many causes, we want you to pick only one — the major cause if this event happened to you. Please write this cause in the blank provided after each event. Next we want you to answer some questions about the cause and a final question about the situation. To summarize, we want you to:

1) Read each situation and vividly imagine it happening to you.

2) Decide what you feel would be the major cause of the situation if it happened to you.

3) Write one cause in the blank provided.

4) Answer three questions about the cause.

5) Answer one question about the situation.

6) Go on to the next situation.

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

1) Write down the one major cause _____

2) Is the cause of your friend's compliment due to something about you or something about the other person circumstances? (Circle one number)

Totally due to the other person or circumstances	1	2	3	4	5	6	7	Totally due to me

3) In the future when you are with your friends, will this cause again be present? (Circle one number)

Will never again be present	1	2	3	4	5	6	7	Will always be present

4) Is the cause something that just affects interacting with friends or does it also influence other areas of your life? (Circle one number)

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

5) How important would this situation be if it happened to you? (Circle one number)

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

6) Write down one major cause _____

7) Is the cause of your unsuccessful job search due to something about you or something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

8) In the future when looking for a job, will this cause again be present? (Circle one number)

Will never again be present	1	2	3	4	5	6	7	Will always be present

9) Is the cause something that just influences looking for a job or does it also influence other areas of your life? (Circle one number)

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

10) How important would this situation be if it happened to you? (Circle one number)

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU BECOME VERY RICH.

11) Write down the one major cause _____

12) Is the cause of your becoming rich due to something about you or something about other people or circumstances?

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

13) In your financial future, will this cause again be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

14) Is the cause something that just affects obtaining money or does it also influence other areas of your life?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

15) How important would this situation be if it happened to you?

Not at all important	1	2	3	4	5	6	7	Extremely important

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP THEM.

16) Write down the one major cause _____

17) Is the cause of your not helping your friend due to something about you or something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

18) In the future when a friend comes to you with a problem, will this cause again be present? (Circle one number)

Will never again be present	1	2	3	4	5	6	7	Will always be present

19) Is the cause something that just affects what happens when a friend comes to you with a problem or does it also influence other areas of your life? (Circle one number)

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

20) How important would this situation be if it happened to you? (Circle one number)

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS NEGATIVELY.

21) Write down the one major cause _____

22) Is the cause of the audience reacting negatively due to something about you or something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

23) In the future when giving talks, will this cause atain be present? (Circle one number)

Will never again be present	1	2	3	4	5	6	7	Will always be present

24) Is this cause something that just influences giving talks or does it also influence other areas of your life? (Circle one number)

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

25) How important would this situation be if it happened to you? (Circle one number)

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU DO A PROJECT WHICH IS HIGHLY PRAISED.

26) Write down the one major cause _____

27) Is the cause of being praised due to something about you or something about other people or circumstances?

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

28) In the future when doing a project, will this cause again be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

29) Is this cause something that just affects doing projects or does it also influence other areas of your life?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

30) How important would this situation be if it happened to you?

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU MEET A FRIEND WHO ACTS HOSTILELY TOWARD YOU.

31) Write down the one major cause _____

32) Is the cause of your friend acting hostile due to something about you or something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

33) In the future when interacting with friends, will this cause again be present? (Circle one number)

Will never again be present	1	2	3	4	5	6	7	Will always be present

34) Is the cause something that just influences interacting with friends or does it also influence other areas of your life? (Circle one number)

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

35) How important would this situation be if it happened to you? (Circle one number)

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU CAN'T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

36) Write down the one major cause _____

37) Is the cause of your not getting the work done due to something about you or something about other people or circumstances?

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

38) In the future when doing the work that others expect, will this cause be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

39) Is the cause something that just affects doing work that others expect of you or does it also influence other areas of your life?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

40) How important would this situation be if it happened to you?

Not at all important	1	2	3	4	5	6	7	Extremely important

YOUR SPOUSE (PARTNER) HAS BEEN TREATING YOU MORE LOVINGLY.

41) Write down the one major cause _____

42) Is the cause of your spouse (partner) treating you more lovingly due to something about you or something about other people or circumstances? (Circle one number)

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

43) In future interactions with your spouse (partner), will this cause again be present? (Circle one number)

Will never again be present	1	2	3	4	5	6	7	Will always be present

44) Is this cause something that just affects how your spouse (partner) treats you or does it also influence other areas of your life? (Circle one number)

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

45) How important would this situation be if it happened to you? (circle one number)

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU APPLY FOR A POSITION THAT YOU WANT VERY BADLY (eg. IMPORTANT JOB, GRADUATE SCHOOL ADMISSION, etc.) AND YOU GET IT.

46) Write down one major cause _____

47) Is the cause of your getting the position due to something about you or something about other people or circumstances?

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

48) In the future when applying for a position, will this cause again be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

49) Is the cause something that just influences applying for a position or does it also influence other areas of your life?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

50) How important would this situation be if it happened to you?

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU GO OUT FOR THE EVENING AND IT GOES BADLY.

51) Write down one major cause. _____

52) Is the cause of the dinner going badly due to something about you or something about other people or circumstances? (Circle one number.)

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

53) In the future when going out for dinner will this cause again be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

54) Is the cause something that just influences going out for dinner or does it also influence other areas of your life?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

55) How important would this situation be if it happened to you?

Not at all important	1	2	3	4	5	6	7	Extremely important

YOU GET A RAISE IN YOUR SALARY.

56) Write down the one major cause. _____

57) Is the cause of your getting a raise due to something about you or something about other people or circumstances?

Totally due to other people or circumstances	1	2	3	4	5	6	7	Totally due to me

58) In the future on your job, will this cause again be present?

Will never again be present	1	2	3	4	5	6	7	Will always be present

59) Is this cause something that just affects getting a raise or does it also influence other areas of your life?

Influences just this particular situation	1	2	3	4	5	6	7	Influences all situations in my life

60) How important would this situation be if it happened to you?

Not at all important	1	2	3	4	5	6	7	Extremely important

Appendix B

Beck Depression Inventory

BECK INVENTORY

Code # _____ Date _____

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.

2 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.

3 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

4 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything any more.
3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10 0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.

12 0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all any more.

14 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.

15 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work ar all.

16 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18 0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all any more.

19 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains: or upset stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think about anything else.

20 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

Appendix C

Depression Adjective Check Lists

PHP32a-2/77

CHECK LIST

DACL FORM B

By Bernard Lubin

Name_____ Age_____ Sex_____

Date_____ Highest grade completed in school_____

DIRECTIONS: Below you will find words which describe different kinds of moods and feelings. Check the words which describe How You Feel Now - - Today. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly and check all of the words which describe how you feel today.

1. ☐	Downhearted	17. ☐	Clean
2. ☐	Lively	18. ☐	Dispirited
3. ☐	Unfeeling	19. ☐	Moody
4. ☐	Alone	20. ☐	Pleased
5. ☐	Unhappy	21. ☐	Dead
6. ☐	Alive	22. ☐	Sorrowful
7. ☐	Terrible	23. ☐	Bleak
8. ☐	Poor	24. ☐	Light
9. ☐	Forlorn	25. ☐	Morbid
10. ☐	Alert	26. ☐	Heavy-hearted
11. ☐	Exhausted	27. ☐	Easy-going
12. ☐	Heartsick	28. ☐	Gray
13. ☐	Bright	29. ☐	Melancholy
14. ☐	Glum	30. ☐	Hopeful
15. ☐	Desolate	31. ☐	Mashed
16. ☐	Composed	32. ☐	Unlucky

PHP32d-2/77

CHECK LIST

DACL FORM E

By Bernard Lubin

Name_____ Age_____ Sex_____

Date_____ Highest grade completed in school_____

DIRECTIONS: Below you will find words which describe different kinds of moods and feelings. Check the words which describe How You Feel Now - - Today. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly and check all of the words which describe how you feel today.

1. ☐	Unhappy	18. ☐	Well
2. ☐	Active	19. ☐	Apathetic
3. ☐	Blue	20. ☐	Chained
4. ☐	Downcast	21. ☐	Strong
5. ☐	Dispirited	22. ☐	Dejected
6. ☐	Composed	23. ☐	Awful
7. ☐	Distressed	24. ☐	Glum
8. ☐	Cheerless	25. ☐	Great
9. ☐	Lonely	26. ☐	Finished
10. ☐	Free	27. ☐	Hopeless
11. ☐	Lost	28. ☐	Lucky
12. ☐	Broken	29. ☐	Tortured
13. ☐	Good	30. ☐	Listless
14. ☐	Burdened	31. ☐	Safe
15. ☐	Forlorn	32. ☐	Wilted
16. ☐	Vigorous	33. ☐	Criticized
17. ☐	Peaceful	34. ☐	Fit

CITY OF VANCOUVER HEALTH DEPARTMENT

Appendix D

McLean - Hakstian Scale

Code No:

1. How relaxed have you been in the last 2 days compared to how you normally are?

(please circle appropriate no.)

10---9---8---7---6---5---4---3---2---1

Extremely tense — Calm & relaxed physically

2. How satisfied are you with your ability to perform household duties?

10---9---8---7---6---5---4---3---2---1

Very dissatisfied — Very satisfied

3. To what extent have you had difficulty starting and following through an ordinary job or task to completion during the last week compared to when you feel things have been going well?

10---9---8---7---6---5---4---3---2---1

Putting things off. Starting and not finishing for a long time, if at all — Start and finish jobs as well as most other people

4. How many times during the last 2 days have you been preoccupied by thoughts of hopelessness, helplessness, pessimism, intense worry, unhappiness, etc.

Please tick one of the boxes below:

1. not at all
2. rarely
3. frequently
4. most of the time
5. all of the time