The Attribution Theory of Hopelessness Depression: Conscious Causal Analysis or Unconscious Linguistic Bias?

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# THE ATTRIBUTION THEORY OF HOPELESSNESS DEPRESSION: CONSCIOUS CAUSAL ANALYSIS OR UNCONSCIOUS LINGUISTIC BIAS?

By

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#### ABSTRACT

Attribution theory holds that the affective reaction and mood that people develop in response to a situation is to a great degree dependent on what they perceive has caused the situation. Self-blame is a specific result of certain attributions and often leads to depression.

The main purpose of this study is to determine if a relationship exists between a specific, character-related linguistic bias and an increased risk for, and an elevated level of, depression. This is accomplished by comparing subjects' test results in a measure of linguistic bias with the Beck Depression Inventory score and with a measurement of attributional style. Further, by drawing on the philosophical basis of cognitive therapeutic practices, it is argued that self-blame is only related to depression if it is characterological in nature and that such characterological self-blame is implicit in the linguistic style of the individual.

Elevated usage of the verb "to be" in evaluating a negative life event was found to correlate with an above-average level of the somatic symptoms of depression. Subjects who preferred "to be" sentences also made more attributions of stability in regard to the hypothetical negative scenarios. Very little correlation was obtained between depression levels and depressogenic attributions.

It is argued that while the usage of specific words and the application of depressogenic attributions are confounded, the use of two separate questionnaires both related to a common vignette permits some separation. While linguistic bias does not explain the development of depression, it is at least as good a correlate as attributional style. Depressogenic biases in word usage may be the conscious expression of attributional style.

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#### INTRODUCTION

The original learned helplessness theory proposed that the cognitive, motivational and emotional deficits characteristic of helplessness and depression resulted from an expectation that future events would be noncontingent on personal behaviours and therefore beyond personal control (Seligman, 1975). The revision of this theory included an attributional component (Abramson, Seligman, & Teasdale, 1978). Depressed individuals were now hypothesized to apply a bias toward making relatively fewer internal, stable and global causal attributions for positive outcomes than nondepressed persons while at the same time displaying a propensity for attributing negative outcomes to internal, stable and global causation. This binary predisposition has come to be called the "depressive attributional style" (Seligman, Abramson, Semmel, & Von Baeyer, 1979).

This characteristic pattern of cognition in relation to negative life events, that is the combination of internal, global, and stable attributions, frequently manifests itself in the form of self-blame. The Hopelessness Theory of depression expands upon the earlier Helplessness Theory by specifying a sequence of events and attributional processes hypothesized to culminate in a series of depression-producing symptoms, the most necessary of which is lowered self-esteem coincident with self-blame (Abramson, Alloy, & Metalsky, 1988 a, b). According to this theory, the perception that the individual has no control over negative life events requires a self-awareness which, while not a necessary precursor to depression, is a sufficient cause of the depressive's self-deprecating attitude according to this theory.

In general cognitive theory is based on the assumption that the content of one's thoughts about an event is the direct cause of pathology; what one thinks defines the

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method of thinking it. Cognitive psychotherapy, while leaning toward a less academic interpretation of depression, concurs with many of the hopelessness theory's postulates. Depression is assumed to involve a disturbance in cognition: the depressed person thinks in idiosyncratic and negative ways about himself, his environment, and his future (Beck, 1967). Cognitive theory furthers the analysis of depression by questioning the relation between perceived lack of control and self-blame for negative outcomes that is proposed by the hopelessness theory. Clinical reports suggest that depressed patients express an extreme sense of personal responsibility for negative life experiences. At first glance, it might seem an exercise in logical gymnastics for one to simultaneously confess to an event being beyond personal control and yet insist on blaming one's self for that same event. However, this apparent contradiction is quite logical if the type of self-blame is specified.

Self-blame can plausibly be viewed as an adaptive, positive mechanism. In a study involving rape victims, Medea and Thompson (1974) concluded that self-blame enabled victims to maximize their perception of control following an obviously uncontrollable event. These findings were in accord with many other examinations of previously victimized, vulnerable subjects. The conclusion of these studies is that by blaming one's self for a negative life event, an individual is preferentially selecting that particular causal attribution which has a great likelihood of subjective modifiability and must therefore be under personal control. This notion of self-blame as a positive psychological mechanism that somehow serves to avoid the depression that (according to the hopelessness theory) frequently follows attributionally-related self-blame, suggests that self-blame is an adaptive, control-oriented strategy (Kelley, 1971).

In contrast to this view, the more prevalent conception of self- blame is as a correlate of depression. It is maladaptive and a symptom of psychological disturbances. Beck (1967) - along with many other clinicians - has concluded that self-blame is clearly related to harsh self-criticism and lowered evaluations of self-worth.

Paradoxes such as this (i.e.: self-blame as adaptive versus maladaptive) are not rare in science in general nor in psychology specifically. Janoff-Bulman (1979) has addressed this problem in a study enquiring into the varied post-traumatic responses of rape victims. If self-blame enhances an individual's sense of control, then it must logically focus on a controllable (and therefore unfixed) attribution about the individual - a particular behaviour. The other, self-deprecating and maladaptive, form of self-blame most likely would refer to an uncontrollable (and therefore unchangeable) internal factor, that is a personal characteristic. Therefore, the paradox disappears if it is recognized that there are two types of self- blame: behavioural and characterological.

The differences between these two types of self-blame may be easier to discern through an example of a negative life-event. If one has a disagreeable encounter with Mr. X at a party and assumes self-blame for the event, this self-blame can take either of the two forms (behavioural or characterological) and lead to very different affective outcomes. Behaviourally, one can accept responsibility for arguing and behaving rudely in that particular instance; this leaves the door open to improvements in those behaviours, less disagreeable future encounters with Mr. X, and other non-combative interactions with Mr. Y, Mr. Z, et cetera. Such an attribution would prove to be adaptive and psychologically constructive. If, however, the self-blaming took on a characterological form by assuming that one is a contemptible, unattractive cad, then the prospects for alternative encounters appear dim. If one's character is to blame, then no change in the timing or place of future instances, in the identity of one's associates, nor in one's behavioural responses can improve the internal character. This is the maladaptive selfblame that embodies a sense of lack of control and characterizes hopelessness and depression.

This distinction between characterological and behavioural attributions is similar in some respects to the scheme of achievement- related attribution (Weiner, Freize, Kukla, Reed, Rest, & Rosenbaum, 1971). An attribution of failure due to ability (i.e.: character) coincides with the belief that the situation is beyond personal control. However, failures due to effort (i.e.: behaviour) are accompanied by the belief that they can be avoided in the future if only the person exerts control by trying harder. In the characterological case, the person feels responsible for causing the problem, but unlike the behavioural case, avoids the responsibility for finding solutions. This ability : effort distinction, analogous to the character:behaviour dichotomy, corresponds to the degree of perceived personal control involved.

Research into the discrimination between these two types of self-blame has demonstrated that self-blame by depressives is clearly characterological in nature. Janoff-Bulman (1979) has shown a significant positive correlation between the degree of characterological self-blame evident in rape victims and the severity of post- assault depression. Another similar study confirmed a concomitant relationship between characterological self-blame and depression, but could not demonstrate any typical causal sequence (Peterson, Schwartz, & Seligman, 1981). In terms of the hopelessness theory, both studies concluded that, compared to non-depressed respondents, depressed subjects' attributions for bad events were more global and stable, the globality and stability depending on whether the attributions were characterological or behavioural.

Cognitive therapy addresses the issue of the types of self blame both directly and indirectly. Ellis (1961) espouses a routine of rational disputation of the content of "internalized sentences" of depressives - a direct approach. However, both he and later

cognitive therapists (Beck, 1976; Burns, 1980) also attack instances of self-blame indirectly by stressing the importance of the linguistic forms preferentially used by not only depressives but other psychopathological individuals. This emphasizes the grammatical structures and specific terms employed in the patient's subjective descriptions and evaluations of negative life events. Rather than directly addressing the "distorted cognitions" that lead to maladaptive attributions (which, incidentally, is the recommended therapeutic approach under the hopelessness theory), cognitive therapy stresses simple linguistic retraining such that characterological self-blame becomes very difficult under the revised vocabulary of the patient. In specifics, cognitive psychotherapy leans heavily on eliminating all forms of the verb "to be" from the depressive's repertoire, thereby minimizing the attributions of globality and stability.

Ellis' (1961) Rational Emotive Therapy (RET) is replete with examples of pathological versus healthy cognitions. A person who says to himself: "I am a worthless person for performing incompetently" has, by using the (dreaded) word "am", attributed blame to his character and is well on the self-deprecating road to depression. The self-blame contained in the "non-to be" version is behavioural: "I perform incompetently sometimes but that does not prevent me from performing more competently in other situations and certainly does not define me as a worthless person". This example shows that self- blame can be negative and depressing when it refers to one's character, but can be a positive incentive for self-improvement when based solely on behaviours. This does not completely preclude the formulation of characterological self-blame using non-to be verbs, but such statements are both awkward to compose and are very susceptible to rational disputation.

Cognitive therapy appears to concur with the stability, globality, and internality provisions of hopelessness theory, but departs from the general notion of internality as a

depression-mandating attribution. The particular type of internalizing that does lead to dysphoria is specifically characterological in nature. Beyond this, depressives exhibit no direct evidence of their propensity for character defamation. Rather than the conscious attributions as defined by hopelessness theory, the characterological attributions are included in the learned meanings which are implicit in usage of the verb "to be". In correcting distorted cognitions, rather than analyzing motives and evaluations (which may be more evident in the imagination of the theorist than the depressed patient), cognitive therapy emphasizes changes in those linguistic biases that mandate characterological self-blame (Wessler, 1988).

Although this indirect approach to psychotherapy is based on very little empirical evidence to support its claims, the semantic approach to therapy is important in the discussion of characterological versus behavioural attributions because of its demonstrated efficacy in relieving various psychopathological conditions, most notably depression (Blackburn, Bishop, Glen, Whalley, & Christie, 1981). In the parlance of Ellis & Harper (1975), the use of "is, are, am, etc." carries with it a number of unconscious assumptions:

"...when we make a statement like 'The rose is red', we strongly imply that (1) redness constitutes the 'natural' or usual colour of all roses; (2) this particular rose we keep talking about has total redness; (3) it will always remain completely red; (4) it has some intrinsic essence of redness; and (5) if it does not have redness, we could not possibly or legitimately call it a rose." (p. xiii)

While this statement summarizes the RET evaluation of the insidious influences of the verb "to be" on cognition, the theoretical and philosophical foundations of this series of implied assumptions are based on many historical analyses of semantics and linguistics.

"Science and Sanity" (Korzybski, 1942) is a weighty tome that attempts to relate linguisitic structures to the Aristotelian system of logic. Korzybski proceeds to explain what he means by Aristotelian logic and to point out its defects. He points out that not only is the system based on faulty assumptions, but it has distorted the meanings of otherwise innocent linguistic structures. Based on the three-part adage:

"All men are mortals.

Aristotle is a man.

Therefore, Aristotle is a mortal."

the writer points to misconceptions which are embodied in modern linguistics. He initially argues that no category ("mortals") can contain all instances of anything. By definition, a category is a short-hand device used to refer to all instances which belong in the category but the category itself is developed from observation of a subset of all its intended members; how can it contain members which have never been observed and may vary from the "category" description? Then he points out that "Aristotle" is many things; one of which might be "a man" (but even this definition is transient assuming he was once a boy and will inevitably become a corpse). Lastly, the attempt to define someone as "mortal" is erroneous because of the inherent deficiencies in (1) the category itself, and (2) the simplistic definition of the complex "Aristotle".

Korzybski wrote in the 1930's when, courtesy of new findings in theoretical physics and mathematics, one of the most prominent new theories postulated that no object can be observed and described simultaneously. The Eisenberg Uncertainty Principle held that by observing something, the object of observation was inevitably changed; in other words, it could never be stated properly that something "is". Korzybski's main claim is that this outmoded system of logic has set mankind on a never-ending search for identity and categorization. By using the "is" of identity and the "is" of predication, linguistic structures are cognitively contaminated with a sense of finality, time independence, and uncontrollability that is independent of any conscious intention. These implicit messages can be avoided (according to Korzybski) by implementing his "structural differential" (i.e.: adherance to the usage of behavioural, non-"to be" verbs). Science and Sanity includes predictions that psychopathological problems will increase in frequency until the verb "to be" and its conjugates are eliminated from linguistics.<sup>1</sup>

In spite of the recognition by some researchers that hopelessness theory has erred by overlooking the characterological:behavioural distinction (Janoff-Bulman, 1979), none have addressed the frequency of "to be" derivatives in depressives' cognitions within the laboratory. On the other hand, cognitive therapists appear quite satisfied with the awareness that elimination of the "is" words correlates with reduced levels of depression, apparently unconcerned with whether this linguistic bias is detectable in excess in the repertoire of depressed subjects.

Perhaps Korzybski was right when he claimed that when we use the "is" of identity, "we must somehow copy animals in our nervous processes. Through wrong evaluation we are using the lower centres too much and cannot 'think' properly. We are 'overemotional'; we get easily confused, worried, terrorized, or discouraged; or else we become absolutists, dogmatists." This predictive relationship between linguistic bias and pathology is empirically testable in relation to depression. and behavioural judgments on the one hand and the linguistic form of such judgments on the other. Do subjects who display form of such judgements on the other. Do subjects who display a preference for

<sup>1. (</sup>Note: The 1942 revision of the original 1933 version of Science and Sanity includes an updated version of the forward, in which Korzybski takes delight in demonstrating the validity of his original predictions by reference to intervening war-related events and the pseudo-pathological roles of the average German and Japanese citizen).

wording their perceptions in terms of the verb "to be" in general show any difference in their measured degree of depression from subjects who use this verb less? Further to this, the correlation between the level of "to be" usage and the profile of depressive symptoms exhibited within a particular subject will be determined. By permitting subjects to independently select between assessments of people and situations phrased in either "to be" sentences or action verb sentences and comparing this to measured depression levels, the possibility of a relationship between simple linguistic preference and depression will be examined.

Here then are the questions to be addressed:

- Does an elevated ratio of preference for forms of "to be" coincide with higher levels of depression or a different type of depression?
- 2. Does the demonstration of "to be" preference imply correlation with the hypothesized depressogenic attributions of globality, stability and internality?
- 3. How does the relationship between linguistic bias and depression compare to the relationship between attributional style and depression?

#### METHOD

#### Subjects

Subjects were 80 first year McMaster University students (42 men and 38 women) enrolled in an introductory psychology course. They were between 19 and 23 years of age.<sup>2</sup>

Students volunteered to participate in the experiment in order to obtain credit in their introductory psychology course.

#### Instruments

Several instruments were administered to respondents in addition to the Beck Depression Inventory (BDI), as was a facesheet that requested the subject's age and gender. One-half of the subjects received the BDI at the beginning of the experiment and the other half completed it as the last item in the experiment. An ANOVA performed on the BDI scores indicated no effects of sequence on the scores.

Beck Depression Inventory (BDI - Appendix A). The BDI (Beck, 1978) is composed of 21 items, each of which contains four statements weighted 0-3 in terms of intensity. Subjects are asked to choose the statement that best describes their feelings at present, and the sum of the 21 ratings yields a total depression score. The possible range of scores is 0-63 with higher scores indicating higher levels of depression.

The 1978 revision of the BDI is similar to the earlier version for which Beck (1967)

<sup>2.</sup> A preliminary study involving 86 students led to the design of this study. The BDI scores of the earlier experiment were used to calculate principle component scores only.

reported a Spearman-Brown corrected split-half reliability coefficient of 0.93 and a correlation of every item with the total score at significant levels of 0.01 or greater. Also, the scale is reported to show correlations of 0.65 and 0.67 with clinical judgements and 0.75 with MMPI depression scale scores (Martin et al; 1987).

Grammatical Bias Questionnaire (GBQ - Appendix B). Subjects were presented with four negative life-event vignettes. In general, such impersonal target stimuli are preferred to reporting personal experiences because they isolate general biases from specific feelings which may relate only to the experience selected by the subject. Subjects were asked to read the hypothetical negative life-event vignette and then select their personal responses.

Each vignette was followed by five pairs of evaluative statements which related only to the preceding vignette. One statement in each pair made an evaluation using the verb "to be" (e.g: Fred is a jerk) while the other made a similar evaluation using an action verb (e.g: Fred behaves like a jerk). In total, subjects selected five responses for each of the four vignettes.

Response biases were quantified by dividing the total number of "to be " selections by the total number possible (i.e: 4 vignettes x 5 selections = 20). The resulting "to be proportion" had a range from 0 to 1 and subjects were categorized as "high to be" or "low to be" based on their score relative to the sample mean.

Attributional Style Test (AST - Appendix C). In order to assess the pattern of attributions made by subjects, a semantic differential type questionnaire was designed similar to the Attributional Style Questionnaire (Peterson et al; 1981). In addition to the dimensions of globality, stability, and internality addressed by the original Attributional

Style Questionnaire, the AST included two additional items relating to future prospects (hopelessness) and an evaluation of importance.

The five attributions examined were related to each of the four (earlier encountered) hypothetical negative life-event vignettes. In order to quantify responses, corresponding Attributional Style dimensions were totalled for the four vignettes. The semantic differential scale ran from 0 to 7 and the total score on any dimension could therefore range from 0 to 28.

## Procedure

The instruments were presented to respondents in a research room containing ten chairs and desks around the perimeter. Sessions were conducted with groups of from five to nine subjects. In the beginning of the session, instructions that stressed the scientific aim of the investigation were presented and subjects were asked to complete the experiment as honestly as possible. Complete anonymity of the respondents was assured (the face sheet was identified by a serial number, and the subjects were asked to check that the same number appeared on the face sheets of all subsequent material). Respondents were assured that there was no way in which the serial number of their response package could be traced to their name.

Subjects were asked to fill in the two blank spaces on the face sheet indicating their age and gender. Respondents were advised that they could leave the session at any time without recrimination and if they were not comfortable with any part of the experiment they could leave the disturbing question(s) unanswered. None of the respondents took advantage of either of these options.

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#### RESULTS

#### General Characteristics of the BDI in the Sample

The BDI scores in this sample had a mean of 9.34 and a standard deviation of 5.86. The Standardized Item Alpha was .79. Compared to figures reported by other studies using student populations (Carver & Ganellan, 1985; Costello, 1982), the present sample appears to be mildly depressed. (Carver & Ganellan, 1985; Costello, 1982).

Testing occured during the first term of the academic year and, as mentioned earlier, this was the first year at university for all subjects. A combination of an unfamiliar environment, new academic requirements, and social adjustment requirements would reasonably be expected to detrimentally influence the students' emotional well-being vis-a-vis a normal, adult population.

#### Factor Analysis of the BDI

A principal components analysis of the 21 BDI items yielded six factors with eigenvalues greater than unity. The scree plot confirmed the suitability of a 6-factor solution. Thus, these six, which accounted for 51.6% of the variance, were Varimax rotated and factor scores were calculated using the regression approach.

In order to increase the sample size of BDI scores to be used in ascertaining principal components, an additional 86 subjects' BDI scores were used (Refer to footnote 1). To ensure that the different experimental treatment of these subjects had no effect on their BDI responses, and that they did represent only a sample expansion from the same population, an analysis of variance was performed on the factor scores comparing the additional 86 subjects with the 80 subjects of this experiment. This analysis showed no

significant difference between the groups on any of the six factors.

#### Table 1

4

Factor Loadings of the 21 items of the Beck Depression Inventory

Item			Fac	tors		
	l	2	3	4	5	6
<ol> <li>Sadness</li> <li>Pessimism</li> <li>Sense of failure</li> <li>Dissatisfaction</li> <li>Guilt feeling</li> <li>Expectation of Punishment</li> <li>Self dislike</li> <li>Self accusation</li> <li>Suicidal ideas</li> <li>Crying</li> <li>Irritability</li> <li>Social withdrawal</li> <li>Indecisiveness</li> <li>Body image change</li> <li>Work retardation</li> <li>Insomnia</li> <li>Fatiguability</li> <li>Anorexia</li> <li>Weight loss</li> <li>Somatic preoccupation</li> <li>Loss of libido</li> </ol>	.61 .69 .25 05 .40 .52 .47 .51 .19 .20 .29 .13 .59 .23 .07 07 .05 15	$\begin{array}{c}13 \\54 \\54 \\02 \\ .16 \\31 \\40 \\15 \\47 \\ .24 \\13 \\06 \\ .10 \\ .04 \\65 \\50 \\09 \\27 \end{array}$	07 .24 .79 .25 .27 04 .37 .06 .15 .61 .37 .07 .42 02 .24	$\begin{array}{c}26 \\18 \\ .07 \\12 \\49 \\02 \\ .01 \\ .02 \\09 \\15 \\01 \\20 \\35 \\61 \\52 \\66 \end{array}$	04 02 14 .18 .19 21 32 .17 15 .40 .10 .37 .13 .10 .03 10	.26 08 .37 05 06 03 .04 .06 08 .71 .16 .05 .07 42 11 16 05 .32 .11
Total variance %	20.6	7.1	6.9	6.1	5.7	5.3
Eigenvalue	4.33	1.49	1.44	1.28	1.20	1.10

Table 1 presents the factor loadings of the BDI items. The structure of the BDI in the present sample, generally speaking, seems to be similar to that found by Hill et al (1986) among British college students with the exception of one additional factor.

The largest loadings on factor 1 were related to pessimism, sense of failure, selfdislike, self-blame, suicidal ideation, and body image change. As expected, this first factor is more general than the others. The set of variables that load on this factor represent some degrees of hopelessness and an overall negative bias toward selfevaluation. Factor 2, much more limited in scope and in explained variance, was associated mainly with dissatisfaction, crying, insomnia, and fatiguability. This coincides reasonably well with the factor described by Hill et al (1986) as "overt emotional upset".

The third factor has strong loadings from items that portray sadness, guilt feelings and social withdrawal, and indicates the probability of psycho-social deficits. Moderately high loadings of suicidal ideas, indecisiveness and work retardation further support this interpretation.

The fourth factor is dominated by the somatic component of depression - namely anorexia, weight loss and somatic preoccupation - with fairly high loadings for work retardation and fatiguability. This factor appears to reflect the somatic component reported by Hill et al (1986) and Weckowitz et al (1967). The items comprising this factor differ from most BDI items in that they require little introspection and emotional analysis, and are primarily based on behavioural observations by the subject.

Factor 5 is the aforementioned "extra" factor that is absent from the principal component analyses of other studies. High loadings for indecisiveness and loss of libido suggest that this factor is characteristic of the late adolescent, first-year university student population from which the sample was drawn.

Factor 6 appears to share the same developmental features of the previous factor. High loadings on irritability and work retardation are indicative of more transient, student lifestyle-related depressogenic symptoms.

A multiple analysis of variance revealed that an increase in total BDI score was significantly related to increased factor scores on factors 1 through 4, but not factors 5 and 6.

Relationship between BDI principal components and "to be" Categories

An analysis of variance was performed using the "to be" Category ("high" or "low") as the independent variable and the six factors of the BDI as dependent variables. The high "to be" group scored a mean of 9.33 usages out of a possible 20 and the low "to be" group scored a mean of 5.49 usages. Table 2 shows a significant difference between the two grammatical bias groups only on Factor 4 (F(1,78) = 6.003; p<.05) which pertains to somatic deficits. A correlation of 0.27 (p<0.01) was calculated between the "to be" category and Factor 4 of the BDI.

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Table 2

Means and Analysis of Variance of Factors based on "to be" groups Dependent F-Ratio Means р Variable High Low 0.67314 Factor 1 .1052 -.0001 0.18304 0.11558 Factor 2 .2291 -.1587 2.47759 -.0854 -.0743 0.00319 0.90954 Factor 3 Factor 4 -.3640 .2068 6.00335 0.01570 Factor 5 .1598 -.1593 1.54203 0.21563 Factor 6 -.1836 .2035 2.44454 0.11804

Note: Factor scores ranged from -4.8139 to 4.5555.

Subsequent review of BDI results revealed that high "to be" respondents reported higher levels of depressive symptoms in the items salient to factor 4 than did low "to be" respondents.

## Relationship between "to be" Categories and AST results

Subjects who demonstrated a bias toward "to be" verbalizations scored higher on all five items of the AST. Table 3 shows that these respondents made more frequent attributions relating to stability (F(1,72 = 4.614; p < .05)), and future prospects (F(1,72) = 5.225; p < .01), than did low "to be" respondents. While not statistically significant, the correlations between these three types of attribution and the "to be" categories were 0.17, 0.17, and 0.10, respectively.

\_\_\_\_\_

Table 3

1

Means and Analysis of Variance of Attribution Dimensions based on "to be" groups

Dependent Variable	High	Means	Low	F-Ratio	р
Globality	20.1		18.8	0.97401	0.32853
Stability	16.9		14.2	4.61420	0.03296
Blaming	22.2		22.1	0.00604	0.89684
Importance	22.4		21.1	1.44588	0.23116
Future Prosp	17.1		14.5	5.22488	0.00804

Note: Attribution scores ranged from 14.2 to 22.2.

#### **Relationship between BDI Scores and AST results**

Table 4 shows that subjects scoring overall above the mean on the BDI reported higher levels of blame attribution (F(3,72) = 2.75;p<.05). However, the absence of any significant relationship between depression level and either globality, stability, importance, or attribution score indicates a less-than-robust effect.

Table 4

Means and Analysis of Variance of Attribution Dimensions based on Overall Depression Levels

Dependent Variable	Me Dep'd	ans Non-Dep'd	F-Ratio	p
Globality	19.5	19.8	0.50283	0.68570
Stability	16.1	16.2	0.58326	0.63198
Blaming	23.1	22.8	2.75431	0.04771
Importance	21.9	21.7	0.06546	0.97275
Future Prosp	16.8	16.3	3.05781	0.11615

Note: Attribution scores ranged from 14.2 to 22.2.

A correlation between the attribution of stability and Factor 4 of the BDI principle component analysis (r=0.20; p<0.05) was calculated. This was the only significant relationship between BDI factors and the AST results. A subsequent multiple correlation indicated a multiple correlation of 0.293 between "to be" code and factor 4 which increased to 0.368 with the inclusion of stability attribution code.

#### DISCUSSION

This study tested the hypothesis that frequency of the use of the verb "to be" and its declensions, when used to describe hypothetical negative situations, would be significantly related to an elevated level of depression. While no overall relationship was observed, this linguistic bias was found to be significantly related to higher scores on one component of the Beck Depression Inventory: "Somatic Deficits". Subjects who demonstrated this linguistic style also tended to perceive the causes of a negative scenario as relatively fixed and to evaluate the future development of the situation in a more negative light.

The present study relates to other studies in that it may be examining similar phenomena but using a more parsimonious explanation of the relationship between verbal reports and depression level. Janoff-Bulman (1979) found a significant relationship between characterological self-blame and subsequent depression. The present study attempted to show that such blame is simply one way of interpreting comments which include forms of the predicate "to be". Although overall depression level did not correlate positively with the bias, the significant relationship with the somatic component of depression leads to some interesting possible explanations.

A more accurate statement of Janoff-Bulman's (1979) research might represent the results as showing that self-blame at one time can lead to depression at a subsequent time. The present study examined linguistic style and depression level concurrently which may support the contention that a period of time involving internal cogitation is a necessary factor in the development of the overall pattern of depressive symptoms. This sequential hypothesis of the development of depression is congruent with the findings of Peterson (1988), who outlined a developmental sequence in relation to physical ailments. Peterson

(1988) concluded that an explanatory style which included chronic and pervasive causes (and which was dominated by use of the verb "to be") was followed by an apparent inhibition of the ability to fight off illness and even foreshadowed subsequent infectious diseases.

To conceive of the somatic component of the BDI as a precursor of depression would seem (in hindsight) quite reasonable. Certainly the BDI items comprising the somatic element - namely anorexia, weight loss, and pre-occupation with personal health - are symptoms readily detected by the subject. Most of the other BDI items require a degree of introspective evaluation and comparative decision-making, abilities which may be diminished in depression-prone individuals. While the BDI has been shown to measure the overall depressive syndrome with reasonable accuracy, this does not preclude the possibility of a heterogeneous model of the ailment. Some of the limitations in such selfanalytical procedures have been described in studies of the cognitive practices of depressives (Silber et al, 1980).

Another difference between the present study and that of Janoff- Bulman (1979) lies in the selection of stimuli and the subject pool. Janoff-Bulman derived the relation between characterological blame and depression from a survey of rape victims. The weaknesses in the design included the assumption that the defining subject feature (i.e: previously raped) was the only salient stimulus for depression, to the exclusion of the impact of the reactions of significant others, criminal proceedings, individual personality, and many intervening life events. Also, the selection of drastically victimized female subjects augered in favour of finding a generally high overall level of depression rather than a normal distribution of depression.

In contrast, the present study obtained volunteer subjects from a student population

and while the sample was not completely random nor normal it was similar to samples used in most other studies of non-clinical depressives. Also, hypothetical life events were used as stimuli rather than the personal experiences of subjects, in order to ensure that the findings would be independent of individual negative biases and transient attitudes (it is quite conceivable that a rape victim may be overly susceptible to depression). The presence of depression in subjects who did not use the linguistic "to be" style simply indicates that the targeted relationship is not the only correlate with depression.

This study examined the verb "to be" in light of its historical and philosophical meanings. To suggest that subjects are consciously aware of the semantic nuances and implications of their speech is unreasonable but it seems reasonable to assume that most subjects in this experiment would at least have been exposed to most meanings of the verb "to be" in some way. By absorbing the meanings of the verb "to be" via implication from the writings and speech of others, subjects may very well have acquired a fairly sophisticated, albeit unaware, knowledge of what is meant when something "is". Hill et al (1989) found that an encoding rule may unconsciously lead to the interpretation of otherwise ambiguous stimuli as being consistent with pre-existing dispositions. Further, the initial experience capable of triggering such a self-perpetuating development of a bias ("and starting the "snowball"") may in real life be conditions that are very difficult to identify and not consciously remembered as meaningful events by a perceiver (Hill et al, 1989). This means that the various semantic implications of the verb "to be", which may seem somewhat bizzare when stated overtly, are quite likely to be familiar to most people at an unconscious level. How could these meanings have penetrated the individual unconscious mind? Lewicki (1985) showed that surprisingly little consistent learning was sufficient to produce an initial encoding bias, and in some cases even a single instance would suffice.

What these findings imply is that a simple, pervasive element of language may be learned along with a myriad of semantic intricacies of which the subject is unaware. In the case of the verb "to be", such non-consious semantic elaboration could well contain some of the meanings outlined in the introduction. In the specific case of the present study, subjects who possess the variety and scope of "to be" meanings and who use the verb to excess in their analysis of hypothetical life events may well see a very different picture of a situation than those who do not use the verb "to be". For example, Bergh and Pietromonaco (1982) studied the relation between information processing and social perception, and concluded that such processing may be automatic in nature and may often proceed outside of the subject's conscious awareness.

The present study asserts that depressogenic attributions such as globality and stability proceed not from conscious evaluation of a perception, but as an unconscious byproduct of the subject's linguistic interpretation of a situation. Silber et al (1980) examined the thinking patterns of depressives and found that their speech was characterized by a rigid style of thinking ("Cognitive Rigidity"), polarization of alternatives ("it is better to be dead than unhappy"), and insulation of their depressogenic evaluations from additional, modifying information. New information did not affect patients' perceptions of their dilemma. These findings are consistent with the finality and assertion contained in the implicit meanings of the verb "to be"; subjects in the high "to be" category attributed more stability and a more fixed future to hypothetical situations, as indicated in Table 3. "Irrationality lies in believing that what we have defined to be true is inherently true" (Roser, 1989). A fair corollary of this statement would hold that rationality lies in the belief that none of our subjective perceptions "is" true.

If language does indeed dictate an individual's unconscious subjective evaluations and attitudes, then a change in language should insulate one from the dysphoria that emanates from the unconscious mind. In a study of clinically depressed subjects, Dweck (1975) concluded that direct modification of "what clients say to themselves" about events leads to greater improvement than indirect changes due to therapeutic changes in attitude (e.g: increased self-esteem, etc.). Further evidence for the non-conscious locale of psychopathogenic biases was supplied by Arkes (1981). In a study of clinically depressed subjects, he found that explaining a bias to people and then instructing them not to be influenced by it was not an effective strategy for removing the bias. These studies suggest that language modification can affect unconscious attitudes which may otherwise be insulated from therapeutic approaches which rely on conscious cognitive processes.

The present study obtained no confirmation of the Attribution Theory predictions of increased attributions of globality and stability for depressed subjects. However, the high "to be" users (who, according to this paper, are unconsciously attributing globality and stability by virtue of their verbal interpretations) did exhibit some hypothesized depressogenic attributions. The correlation between Factor 4 and the "to be" category (r=0.27) explains almost twice as much variance as the correlation between Factor 4 and the stability attribution level (r=0.40). Additionally, the correlation between "to be" category and stability attributions suggests that this type of attribution may be only a subset of the "to be" bias. It it seems obvious that the hopelessness of depression, by definition, mandates a sense of globality and stability in the perception of a negative life event. If not the only solution, then the most likely resolution of this paradox lies in the unconscious nature of these attributions. Depressives may be making these attributions implicitly in their language usage and therefore may not exhibit any conscious awareness of the process. It is important to note that the Attribution Style Test not only requires that depressives make attributions of globality and stability, but that they be sufficiently aware

of making these attributions to report on them. Reference to non- conscious cognitive processes may also explain the paucity of non-somatic BDI symptoms reported by high "to be" users. The scoring regimen of the BDI detects depression, but it permits achievement of the criterion scores via either the somatic or non-somatic symptom route. By utilizing a linguistic short-cut to understand their perceptions, depressives may be relinquishing access to many of their inner thought and thinking processes.

A major weakness of the present study lies in the attempt to obtain a concurrent observation of the "to be" bias and depression. The procedure was based on the assumption that, in a non-selected sample, subjects using the target linguistic style would tend to exhibit more depressive symptoms than controls. This assumption overlooks the probability that depression-prone subjects (who theoretically exhibit the usage of "to be") may not always be depressed to a greater extent than subjects who have no tendency toward depression. Another question regarding the procedure relates to the assumption that this method of analyzing external self-reporting by the subject adequately mirrors the style used by the subject for internal response to perceptions.

A possible reason for obtaining only the depressive symptoms relating to somatic deficits at an elevated level might lie in the study's basic conception of depression. Using the total BDI score implies that depression is a homogeneous ailment, but there is a substantial body of evidence that questions this concept. Further to this, the present study centres around the depressed/non-depressed dichotomy and overlooks the various degrees of depressive mood and the possible sequential development of dysphoria. The application of more than one measure of depression would be an improvement. To address the sequential possibility, a second test for depression after a given time interval might detect any priming effects of the somatic symptoms.

Although the current results do not adequately support the language:depression connection, therapeutic reports suggest that this could be a productive area for future research. Thus, future studies are required to examine in more detail the relationships among language patterns, conscious and unconscious thought, and proneness to depression.

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#### APPENDIX A

### Beck Depression Inventory

This is a questionnaire on which there are groups of statements. Please read each group of statements carefully and then pick out the one statement in that group which best describes the way you feel today, that is, right now! To indicate which statement is most appropriate to you, simply circle the letter (a,b,c,d, or e) that corresponds to the selected statement.

If you find that the way you feel is covered by two or more statements, then record the higher of the two items (for example, if your feelings are expressed by both statements c and d, then circle statement d).

Please be sure to read all the statements in a group before making a selection. Do not confer with others or share your own responses with other participants. This questionnaire is to be completed anonymously; the only information pertaining to you that is needed is your gender (i.e: male or female) and your age in years. There is no time limit to completing this task, but it must be finished without leaving the room.

Thank you.

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\_ Test ID No.

1. a. I do not feel sad b. I feel blue or sad c. I am blue or sad all the time and I can't snap out of it d. I am so sad or unhappy that it is guite painful e. I am so sad or unhappy that I can't stand it I am not particularly pessimistic or discouraged about the 2. a. future I feel discouraged about the future b. c. I feel I have nothing to look forward to d. I feel that I won't ever get over my troubles I feel that the future is hopeless and that things cannot improve e. 3. a. I do not feel like a failure b. I feel I have failed more than the average person c. I feel I have accomplished very little that is worthwhile or that means anything d. As I look back on my life all I can see is a lot of failures e. I feel I am a complete failure as a person a. I am not particularly dissatisfied 4. b. I feel bored most of the time c. I don't enjoy things the way I used to d. I don't get satisfaction out of anything any more e. I am dissatisfied with everything 5. a. I don't feel particularly guilty b. I feel bad or unworthy a good part of the time c. I feel quite guilty d. I feel bad or unworthy practically all the time now e. I feel as though I am very bad or worthless a. I don't feel I am being punished 6. b. I have a feeling that something bad may happen to me c. I feel I am being punished or will be punished d. I feel I deserve to be punished e. I want to be punished 7. a. I don't feel disappointed in myself b. I am disappointed in myself c. I don't like myself d. I am disgusted with myself e. I hate myself

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- 8. a. I don't feel I am any worse than anybody else
  - b. I am critical of myself for my weaknesses or mistakes
  - c. I blame myself for my faults
  - d. I blame myself for everything bad that happens
- 9. a. I don't have any thoughts of harming myself
  - b. I have thoughts of harming myself but I would not carry them out
  - c. I feel I would be better off dead
  - d. I feel my family would be better off if I were dead
  - e. I have definite plans about committing suicide
  - f. I would kill myself if I could
- 10. a. I don't cry any more than usual
  - b. I cry more now than I used to
  - c. I cry all the time now. I can't stop it
  - d. I used to be able to cry but now I can't cry at all even though I want to
- 11. a. I am no more irritated now than I ever am
  - b. I get annoyed or irritated more easily than I used to
  - c. I feel irritated all the time
  - d. I don't get irritated at all at the things that used to irritate me
- 12. a. I have not lost interest in other people
  - b. I am less interested in other people now than I used to be
  - c. I have lost most of my interest in other people and have little feeling for them
  - d. I have lost all my interest in other people and don't care about them at all
- 13. a. I make decisions as well as ever
  - b. I try to put off making decisions
  - c. I have great difficulty in making decisions
  - d. I can't make any decisions at all any more
- 14. a. I don't feel I look any worse than I used to
  - b. I am worried that I am looking old or unattractive
  - c. I feel that there are permanent changes in my appearance and they make me look unattractive
  - d. I feel that I am ugly or repulsive looking

15. a. I can work as well as before

- b. It takes extra effort to get started at doing something
- c. I don't work as well as I used to
- d. I have to push myself very hard to do anything
- e. I can't do any work at all

- 16. a. I can sleep as well as usual
  - b. I wake up more tired in the morning than I used to
  - c. I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
  - d. I wake up early every day and can't get more than 5 hours sleep
- 17. a. I don't get any more tired than usual
  - b. I get tired more easily than I used to
  - c. I get tired from doing anything
  - d. I get too tired to do anything
- 18. a. My appetite is no worse than usual
  - b. My appetite is not as good as it used to be
  - c. My appetite is much worse now
  - d. I have no appetite at all any more
- 19. a. I haven't lost much weight, if any, lately
  - b. I have lost more than 5 pounds
  - c. I have lost more than 10 pounds
  - d. I have lost more than 15 pounds
- 20. a. I am no more concerned about my health than usual
  - b. I am concerned about aches and pains or upset stomach or constipation
  - c. I am so concerned with how I feel or what I feel that it's hard to think of much else
  - d. I am completely absorbed in what I feel
- 21. a. I have not noticed any recent change in my interest in sex
  - b. I am less interested in sex than I used to be
  - c. I am much less interested in sex now
  - d. I have lost interest in sex completely

### APPENDIX B

# Grammatical Bias Questionnaire

\_\_\_\_\_ SEX (M or F) \_\_\_\_\_ AGE (Years) \_\_\_\_\_ Test ID No.

This test is concerned with your judgement of people and their behaviour. There are four vignettes, each of which describes an individual in a critical situation and tells something of how that individual reacts. Each vignette contains sufficient factual information to give you some familiarity with the person involved and the situation.

Your task is to select from each pair of alternative statements the one which most closely corresponds with your personal evaluation. Neither statement in each pair is "right" or "wrong"; both statements are equally valid and representative of reasonable judgements.

This test is anonymous, so please select the statements which most accurately represent your feelings, and avoid selecting the statement which you might make to a friend or the statement which "sounds" the most reasonable.

There is no time limit for completing this section, to relax and enjoy the test.

Thank you.

Vignette No. 1:

Andy W. started social drinking with his friends during his early teens. He began consuming alcohol on a daily basis around age 20. Three years later, after a failed marriage and an irregular employment history, he now drinks himself into unconsciousness almost every night. Yesterday he returned to his job after a three-day binge and was promptly fired. This happened even though his employer had tried to help Andy but was rudely rebuffed on each occasion. Andy refuses to talk to his ex-wife, his parents, or any social workers, preferring to associate with his friends at the local tavern.

\_\_\_\_\_

A potential employer has asked you to tell him what you know about Andy. Select (a) or (b) from each of the five numbered response pairs to convey your honest impression of Andy:

- (a) Andy is an alcoholic.
   (b) Andy has a severe drinking problem.
- 2. (a) Andy has had difficulties in previous jobs.(b) Andy is irresponsible in his attitude to his jobs.
- 3. (a) Andy is unemployable.(b) Andy has lost all his previous jobs due to poor performance.
- 4. (a) Andy has refused all efforts to help him.(b) Andy is beyond help.
- 5. (a) Andy is a drunk who practically lives at the tavern.(b) Andy socializes with people who provide a bad influence.

Vignette No. 2:

Sharon K. is engaged to be married in about a month. Her fiance has had many girlfriends and has been caught with other girls by Sharon and some of her friends even since they became engaged. All of Sharon's friends have warned her that her husband-to-be acts flirtatious and disloyal whenever she is not around. Two nights ago, Sharon found her fiance in bed with an old flame. He repented and promised to be faithful, so Sharon plans to go ahead with the wedding.

\_\_\_\_\_

You receive a phone call from Sharon's pastor, who is concerned about the coming wedding and wants to know more about Sharon before he performs the ceremony. Give him your honest impression of Sharon by selecting (a) or (b) in each of the following:

- (a) Sharon sees only the good in her fiance.
   (b) Sharon is infatuated with her fiance.
- 2. (a) Sharon's thinking is controlled by her fiance.(b) Sharon ignores the advice of her friends.
- 3. (a) Sharon's fiance is a selfish jerk.
  (b) Sharon's fiance behaves in a disloyal way toward her.
- 4. (a) Sharon cannot see the truth about this two-timer.(b) Sharon is unrealistic about the relationship.
- 5. (a) Sharon is naive and dumb.(b) Sharon trusts and believes in other people too much.

Vignette No. 3:

Three weeks ago, Peter N. was released from prison early because of good behaviour. He had been serving two years for embezzling funds from his employer; this was his third stint for fraud-related crimes. Peter has stolen from most of his relatives, friends, and employers over the last ten years. On each occasion he blames his victim for the crime and has never repaid anyone nor even shown any indication of remorse. Last night the police arrested Peter for dismantling a vending machine and stealing the cash contents at the downtown bus station.

-----

A Justice of the Peace has asked you to give him some background information on Peter. Give him your honest impression about Peter by selecting (a) or (b) in each case - whichever you think would convey you evaluation:

- (a) Peter is a criminal.
   (b) Peter has spent time in prison.
- (a) Peter has stolen from relatives, friends, and employers.
  (b) Peter is disloyal to his relatives, friends, and employers.
- 3. (a) Peter tries to get something for nothing from everyone.(b) Peter is an habitual thief.
- 4. (a) Peter is a crook and should be locked up.(b) Peter needs more counselling about his crimes.
- 5. (a) Peter is insincere and unrepentant.(b) Peter behaves as though he feels no blame for his crimes.

Vignette No. 4:

You have recently recieved your marks for last year at university, the highest of which was a C+ and three of the other marks were failing grades. As you were already under probation because of a similar record in the preceding year, the Dean will be deciding on whether you can return. Last September, you agreed with the Dean that your studies would take precedence over your social life but that agreement soon disappeared in a flurry of dates and parties last fall. Your picture on the front page of the University newspaper during homecoming weekend makes it almost certain that the Dean has some idea of your activities during the year.

\_\_\_\_\_

Assuming that the Dean knows what you have been up to this year, what are some of the remarks that might appear on his report to the admissions committee? Select which statement [(a) or (b)] would more likely appear on the report:

- (a) This student studies very little and socializes very much.
   (b) This student is a dope and a party animal.
- 2. (a) This student is too lazy to be here.(b) This student refuses to commit him/her self to studying.
- 3. (a) This student broke his/her promise to work harder.(b) This student is a liar and untrustworthy.
- 4. (a) This student found plenty of time for homecoming parties.
  (b) This student is a scatter-brain and a carouser.
- 5. (a) This student is an embarassment to the university.(b) This student should be barred from this university.

# APPENDIX C

# Attributional Style Test

In this section, .you are asked to evaluate the people and their characteristics from the four vignettes. After making five judgements about each individual, there is room for any comments you may have about each one.

Do not feel obligated to comment on any or all of the personalities but by all means feel free to do so.

Thinking back to Andy W., select (on the scale from 1 to 7) your opinions in response to the following questions: [stability] 1. Will he ever be able to overcome his drinking problems? Very Unlikely 1-----2-----3-----4-----5------7 Very Likely 2. Will the same personal weaknesses that have led to his marital and occupational problems lead to similar problems in other areas of his [globality] life? Very Unlikely 1----- 3----- 4----- 5----- 7 Very Likely 3. Are Andy's personal difficulties due to himself or are they the fault of other people? [blaming] Himself 1-----7 Others 4. Do you view the problems that Andy faces as important or [importance] unimportant to his future well-being? Important 1-----7 Unimportant 5. Overall, can Andy be helped or is he doomed to a life of booze, future unemployment, and social difficulties? prospects] Beyond help 1----2----3----4----5----7 Can be helped

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Comments:

[ ] - Not shown on actual test copies

Sharon K. and her upcoming wedding appear to be going ahead at full steam. Based on what you know of her, how do you feel about the following questions?

 Will she ever see her fiance for what he really is by thinking about his behaviour rationally?

Very likely 1-----2-----3-----4-----5-----6-----7 Very unlikely

2. Could Sharon be as easily "led down the garden path" by people [globality] other than her fiance?

Probably 1-----7 Probably not

3. Has this situation arisen because of Sharon's gullibility or her [blaming]

Gullibility 1-----7 Cunning

4. Can Sharon lead a reasonably happy life in spite of her apparent [importance]

Very unlikely 1----- 3----- 4----- 5----- 7 Yery likely

5. What chance is there that Sharon will listen to other people and [future dump this guy sometime in the future?

prospects]

Good chance 1----- 2----- 3----- 4----- 5----- 7 No chance

Comments:

[] - Not shown on actual test copies

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Peter N. has made very few friends in his escapades; how has he made out with you? Select the number most representative of your opinions regarding Peter.

1. Will Peter's future be one of criminal activities, or is it possible that he will change his ways? [future prospects]

Very possible 1-----7 Impossible

2. Is it likely that all areas of Peter's life are influenced by his propensity for selfish endeavours, or could he have some separate, perfectly normal relationships?
[globality]

Very likely 1----- Very unlikely

3. How much of Peter's behaviour and apparent attitudes are to blame on other people in his life? [blaming]

All 1-----7 None

4. If Peter met the "right kind of girl" and fell in love, would he treat her differently or the same as all his other acquaintances? [stability]

Differently 1-----7 The same

5. Are Peter's problems really severe in terms of leading a reasonably happy life or are they trivial in the long run? [importance]

Trivial 1-----7 Severe

Comments:

[] - Not shown on actual test copies

As a rather poor student and sitting in a relatively precarious position in terms of academic continuation, how do you feel about the whole mess personally?

 Your irresponsible attitude to school may have an affect on your future career and personal relationships. How likely do you think [future this is?

Very Unlikely 1-----2-----3-----4-----5-----7 Very Likely

2. Thinking back to last September, the Dean discussed your poor academic performance and you agreed to work harder. Now, in the middle of this crisis, who is to blame? Is it the Dean for not handling your situation effectively or is it you for refusing to do [blaming] your work?

Dean 1-----7 Myself

3. Regardless of the decision from the admissions committee, do you [stability] feel that there is a chance you will improve?

No chance 1----2----3-----4----5-----7 Excellent chance

4. At your age, as a relatively new university student, is this devotion to social life rather than school work as serious as the Dean [importance] considers it?

Very serious 1----2----3----4----5-----7 Not serious

5. If you are "given the boot", is it likely that your attitude [globality] toward work versus social activities will hinder your next endeavor after leaving university?

Very unlikely 1----2----3----4----5-----7 Very likely

Comments: