

SOME PERSONALITY VARIABLES RELATED TO DEPRESSIVE  
REACTIONS IN ADOLESCENCE

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ABSTRACT

SOME PERSONALITY VARIABLES RELATED TO  
DEPRESSIVE REACTIONS IN ADOLESCENCE

By  
Michael Stern

The study concentrated on some personality variables in the context of situational changes in the senior high school year. Special interest was in depressive reactions to acceptance or rejection by college of one's choice, which was assumed to be one of the highlights of that year, especially among prep-school students. Depressive reactions were conceptualized within Bibring's framework of depression as an expression of decrease in one's self esteem. The interest in depression arose since it is a rather common reaction at this age. This was also the reason behind the attempt to identify predictors of such reactions, so that preventive measures may be taken in advance.

Four variables were observed in their relations to depressive reactions:

1. Initial level of depression, which is the extent of depressive manifestations under "normal" conditions, rather than as reaction to "frustration."
2. Locus of Control (LOC), which is a person's belief in control over gratifications, or in a wider sense, a



belief in ability to effectively influence one's position in the environment.

3. Stability of Self Concept, which is the relative lack of conflict between different aspects of self perception. This is not stability over time, but rather a balanced equilibrium at any given moment.
4. Future Time Perspective, which is the general timetable of an individual regarding certain probable events in the future, up to his death.

One hundred and fifty six high school students (95 males and 61 females) were administered a battery of tests twice during the senior year. First at time of application to colleges (October - November, 1974), and again at time of acceptance or rejection by these colleges (April, 1975). It was hypothesized that external LOC, unstable self concept, and restricted future extension will be related to depressive feelings in general, and to depressive reactions to rejection by college of choice in particular.

Statistical analysis arrived at the following findings:

1. Locus of Control was a significant correlate of depression for males only. This was interpreted as reflecting sex differences in social roles as far as control and initiative are concerned. Mean scores on both LOC and depression were equal for males and females, but the significance of the concept was considerably higher for males as a group. The possibility of high proportion of "defensive externality" among females was discussed.

2. Self esteem or the lack of self criticism was negatively related to depression. Instability within the self concept was positively related to depression, and to external LOC for males only. All findings were in the expected direction.
3. Future orientation was a rather weak correlate of depression, even though the trend was in the expected direction. This was probably related to the overall good adjustment of the subjects and to the unique circumstances in which the measure was taken.
4. For predictive purposes, initial level of depression was the best single predictor of depressive reactions to rejection by college of choice. The three other observed variables (Locus of Control, stability of Self Concept, and Future Time Perspective) were considerably weaker predictors. Initial level of depression, when taken by itself, was a better predictor for females, whereas for males the interaction of initial depression with Locus of Control had greater predictive power.
5. Rejection by college of choice had an effect on level of depression, especially for males. As a group the rejected individuals became more depressed following the rejection (Time 2), as compared to those accepted. The effect was, however, moderate, probably due to two reasons: a) rejection was defined as nonacceptance to first choice college, not as rejection by all colleges and b) students

experienced other events during that period, subjectively perceived as equally important to acceptance or rejection.

6. The use of the Multiple Affect Adjective Check List (MAACL) and the Manifest Affecting Rating Scale (MARS) as parallel measures of depression in a normal population was suggested. Both measures obtained similar results in spite of differences in structure and response procedures.

The study does not offer a concrete formula to predict depression. It does, however, point to some of the important correlates of depression, and calls special attention to sex differences. In any case, the unique nature of the sample--private high school students--has to be considered before generalizing findings to the total age group. It can be speculated that since the effect of acceptance-rejection by college of choice was only moderate for this selected sample, it will be even slighter in a less competitive population, and other experiences of high relevance to self esteem will have to be observed. The detection of such experiences and their evaluation remains to be explored in further research.

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By  
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## CHAPTER I

### INTRODUCTION

Adolescence is often referred to as an age of frustration in which the individual is faced with rapidly changing, unfamiliar circumstances. This is certainly true for senior high school students who intend to continue studying and who go through the long and exhausting process of taking the College Board exams, applying to numerous colleges and waiting for acceptance or rejection by them. For many youngsters this is the first time that they (or their families) are not in full control over important future events, and the admission or non-admission into colleges of their choice becomes a high-involvement issue.

The pressure to get into college, and often into a specific one, is affected by several factors such as family, school, peers, academic interests and financial possibilities. The choice of colleges, therefore, is a complicated task, made even harder by the realistic possibility of rejection. While some colleges have an open admission policy, many of the four-year degree programs do have limited enrollments and proportion of acceptances to applications is sometimes very low (e.g. 17 percent at Harvard).

These difficulties, in addition to the "normal" adolescent struggles for self definition, are very real and high school seniors respond to them in different ways.

It is the purpose of this study to concentrate on this period in adolescence and to observe several personality variables in their relationship to depressive feelings in general and to reactions to frustration in particular.

The intention is to focus on the psychological variables operating under changing circumstances and to observe their relative influence on adjustment. There is also an attempt to observe the predictive value of these variables for future depression.

A variable that obtained increasing attention recently in Locus of Control, which relates to the individual's belief in the direct relationship between his behavior and gratification that follows, or, stated in simpler terms, belief in one's control over one's own fate. The concept appears relevant to reactions to frustration since it relates to a person's choice between actively trying to improve a given situation or sinking into a state of helplessness and passivity. Locus of Control has its maximal distinctive power in ambiguous or unfamiliar situations, which adds to its relevance to this study. It is a cognitive structure and its influence on a wide range of attitudes and behaviors is under increasing attention.

Another variable believed relevant to this study is stability of self concept, or the relative lack of conflict

in one's perception of self. Adolescence is usually described as hardly a stable period in any sense and certainly not as far as self concept is concerned. As Erikson and others often pointed out, change in social roles is accompanied by identity confusion which is normal in adolescence. Confusion follows its own rules, however, and it is believed that while certain internal inconsistency in self concept is normal and serves reorganization, total confusion or intense conflict in certain aspects of self concept may interfere with adjustment, especially in face of frustration. The stability referred to in this study is not stability over time but rather the relative consistency of self perception in different areas such as physical self, social self and moral self. The relationship between such stability and reaction to the events of senior year is one of the study's focal points.

A specific interest is in depressive feelings since it appears to be a rather common response in late adolescence and early adulthood. The concept is used in its broader meaning as will become apparent later on, and relates to a mood or affective state not necessarily abnormal. It is believed, however, to be consistent enough so that a general level of such affect typical for each individual can be referred to. The general level of depression, as measured at a time of no frustration, is believed therefore to serve as a predictor of depressive reactions following frustration.

A typical characteristic of depression is a pessimistic attitude and minimal concern with the future. It was found that severely depressed individuals were unable to imagine any events beyond the immediate future, and their future time perspective was seriously distorted. This study examines future time perspective among adjusted individuals who manifest depressive reactions in order to determine its vulnerability to affective states.

The study examines four possible predictors of reactions to frustration: Locus of Control, stability of self concept, initial level of depression and future time perspective. The idea is to observe the relations between these variables and depression, and also to arrive at a possible profile of individuals who are prone to react maladaptively to frustration so that preventive steps can be taken in advance. The main concern is with correlates of depression and interest is also expressed in the predictive potential of the observed variables.

## CHAPTER II

### THEORETICAL BACKGROUND

#### Depression

The use of the term "depression" for this study's purposes needs to be clarified. The term has been used in the development of psychoanalysis to relate to severe, often psychotic, affective disturbances with debilitating effects on the individual's functioning. Observational criteria were usually designed for mental institutions, and the early (as well as many current) depression scales included items relevant to behavior in the hospital.

Recently, however, the concept has been used for milder phenomena such as moods or states, and new criteria and scales were devised to fit the new definition.

Wessman and coworkers [1960, 1966] dealt much with this issue and described mood as a normal phenomenon "as long as reality is not seriously distorted, the affects are sufficiently appropriate to their source, and eventual change is to be anticipated." He makes it clear, however, that when he refers to low or negative mood he is relating to the same phenomena discussed by Bibring [1953] as depression, and thus his contributions are relevant to the current study. He describes depression in much the same way as others have,

relating to it as the plight in which the organism finds itself as a result of its frustration and attendant disappointment. While accepting some of the psychoanalytical observations, Wessman is skeptical of the essential role of inwardly directed aggression in the formation of depression. He feels that this factor has been oversimplified, and he appears to be closer to Bibring's notions than to earlier psychoanalytic writers.

Klerman [1972], like Wessman, states that the concept of depression is broader nowadays than it was in the past. At the beginning of the century only psychotics were legitimately described as depressives whereas now the term applies for milder cases as well. "The range of depressive illness has been extended and many patient problems not previously grouped with depression are now being studied."

It is more the mild and transitory, or "exogenous" form of depression which is expected to be found in high school seniors following frustration of academic plans. Major emotional breakdowns are rather rare under such circumstances and the scales chosen to measure depression in this study have therefore been adjusted for these specific conditions.

The theoretical formulation of depression on which this study is based is Bibring's [1953] contributions, stating that depression is the emotional expression of a state of helplessness and powerlessness of the ego,



irrespective of what may have caused the breakdown of the mechanisms which established his self-esteem.

Until the last decade, psychoanalysis was practically the only contribution to the theory of depression. Depression was seen as related to disappointments at the oral stage of development, and to the use of the oral mechanism of incorporation.

The earliest psychoanalytic paper on depression was that of Abraham [in Gaylin, 1968], who originally made the distinction between grief and melancholia, between normal mourning and clinical depression. Introducing the notion of anger as existing in melancholy he laid the cornerstone for later contributions along the same line. The anger was so central to Abraham's understanding of depression that he initially related it to fixation in the anal stage (anger as anal sadism). Only later was it related to the oral-sadistic phase, based on observations of the depressed fears of dying of starvation.

Freud in "mourning and melancholia" [1917] also distinguished between mourning and melancholia, as a reaction to a consciously perceived, realistic lost object versus a reaction to an unconsciously perceived, imagined lost object. Both exhibit similar symptoms such as lowered mood, withdrawal of interest in the world, inhibitions of activity and loss of capacity to love, but melancholia is also characterized by a deflated self-esteem, self accusation and need for self punishment.

The narcissistic blow was elaborated by Rado [1928] who saw intense craving for self love and self regard a predisposition for depression. He saw depression as an "unconscious cry for love precipitated by an actual or imagined loss." When the loss is perceived as a threat to the security mechanisms of the individual, he will become depressed. As opposed to Freud who saw the self degradation as expression of anger at the introjected objects, Rado accepts it as true self-punitive expression, due to fear of punishment. This theory, with its ego emphasis, views the symptoms of depression as desperate attempts to restore self-esteem, and the only difference between neurotic and psychotic depression is the extent to which the individual must remove himself from reality to accomplish this end.

Fenichel [1945], still faithful to classical theory, nevertheless reorganized the relationship between depression and self-esteem. He claimed that the precipitating experience in a depressed patient is either a loss of self-esteem or a loss of supplies which would secure or even enhance the self-esteem. In other words, it's not the object itself one mourns but rather what it means to one's self-esteem. Translating this to the present study's purposes, it might be said that if academic advancement and acceptance are a factor in one's self-esteem, or perceived as a means to enhance self-esteem, their frustration will be a precipitating event to depression. One hypothesis of this study relates itself directly to this issue. Fenichel was aware

of differences in what determines the self-esteem of men and women. Consequently he predicted different events to precede depressions for both sexes. An interesting addition is that not only failure may bring about a decrease in self-esteem, but also success if one fears that punishment or increasing demands will follow. This point will be elaborated later in the context of achievement needs in adolescence.

It was Bibring [1951] who eventually put the strongest emphasis on the ego functions and the significance of self-esteem. Influenced by the advent of ego psychology, Bibring tried to combine theories. He did not try to invalidate earlier theories with their emphasis on orality and aggression, but rather to achieve greater scope and applicability. Regarding the ego as a force with its own energy (rather than a dependent borrower from the id) he says:

Depression can be defined as the emotional expression (indication) of the state of helplessness and powerlessness of the ego, irrespective of what may have caused the breakdown of the mechanism which established his self-esteem.

On the relation between depression and orality, Bibring says:

The early self-experience of the infantile ego's helplessness, of its lack of power to provide the vital supplies, is probably the most frequent factor predisposing to depression. I should like to stress the point that the emphasis is not on the oral frustration and subsequent oral fixation, but on the infant's or little child's shocklike experience of, and fixation to, the feeling of helplessness.

It is not only the oral phase in which predisposing events may occur. Frustration of narcissistic needs in other developmental phases may lead to depression as well. In the anal phase, characterized by body and impulse control, depression, i.e., the feeling of relative powerlessness and helplessness, will refer to the lack of control over the libidinal and aggressive impulses or over the objects, to the feelings of weakness, or to the feelings of guilt. Depression related to the phallic phase will follow when the individual feels unable to prevent ridicule and unable to be admired and to be the center of attention.

In other words, any traumatic experiences, usually in early childhood, in which the individual is faced with the realization of helplessness, may establish fixation of the ego to the state of helplessness.

This state is later on regressively reactivated whenever situations arise which resemble the primary shock condition, i.e., when for external or internal reasons those particular functions which serve the fulfillment of the important aspiration, prove to be inadequate.

Experiences of helplessness are indeed more common in the oral stage, mostly because of actual helplessness, but similar reactions may occur in any developmental stage.

Depression is seen as an ego phenomenon, as being essentially independent of the vicissitudes of the aggression as well as of the oral drives.

It is true that an 'orally oriented person', who is dependent on external 'supplies' for the maintenance of his self-esteem, is prone to narcissistic injuries and the oral recovery mechanisms, but to reverse this statement is not justified.

This approach is in basis of the current study's first hypothesis regarding the relationship between depression and locus of control.

This association between depression and locus of control is made since what Bibring seems to mean when he talks about self-esteem, is trust one has in one's own ego, in its ability to meet and solve problems essential to survival. The present writer is included to add a motivational aspect and suggest that, in the depressed person, not only the belief and trust are impaired, but more so the intention and motivation to do something about it. A similar notion was raised by Akiskal and McKinney [1973]. If motivation is totally blocked the depression will have a more paralyzing effect on one's functioning. In Bibring's terminology, what results is paralysis of the ego.

How common is depression in adolescence in general and in high school populations specifically?

According to Anna Freud [1936], Blos [1961] and many other theoretical writers it is little surprise that depression indeed occurs in adolescence. However, the occurrence of psychotic depression in the teen years is relatively rare [Sands, 1956]. Mastropaolo [1971] relates adolescent depression to three possible events: 1) interruption of

an interpersonal relationship, 2) loss of bodily integrity, and 3) loss of self-esteem triggered usually either by guilt or by feelings of inadequacy. He adds, in explaining the third reason, that failure at school is one possible cause for decrease in self-esteem.

### Self-Esteem and Academic Achievement

If Bibring's formulations are taken as a basis, and hypotheses are being raised relating depressive reactions to frustrations in the academic sphere, an intermediate point has to be established, namely, that academic achievement and advancement are indeed relevant to one's self-esteem. This point is difficult to prove for each individual case but it is believed that in a prep school population much is invested in attempts to get into a college of one's choice. Erikson [1968] pointed out that

. . .if the desire to make something work, and to make it work well, is the gain of the school age, then the choice of an occupation assumes a significance beyond the question of remuneration and status.

The point is also difficult to prove because many studies in the past, relating self-esteem to academic work, focused on the effect of self-esteem on achievement rather than on the relative importance of academics in one's self-esteem.

Certainly the importance of school depends on the individual's long term aspirations. It is logical to assume

that college will be considered important by those who aspire for professions requiring higher education. Within the school system the impact of grades and failures on the student's self-perception and self-esteem has often been shown [Frtez and Engle, 1973; Schwartz, 1974]. Also it was noted that prep school students have higher expectations as far as college is concerned and put more weight on education than students in low-status high schools [Nelson, 1972].

The concern and tension over academic achievement reaches a climax towards time of application to college and taking the Scholastic Aptitude Test (SAT). The SAT is intentionally a difficult examination, in order to differentiate among various levels of ability. Scores (Verbal and Math combined) range from 0 to 1600, but according to the Educational Testing Service (ETS) which administers the test, the mean for the most recent class of college bound seniors and juniors was 880 [Ravitch, 1975]. There is continuous controversy about the value and fairness of this examination but for the close to a million students who take it every year, the task of passing is very real and highly significant. In addition to high school grades, the SAT scores are often crucial as criteria for admission to college. It is therefore understandable that by planning the present study to occur during SAT and application period, a high degree of personal involvement was guaranteed.

Sex of the individual may be an important factor in what happens in the senior year. While moving towards sexual

equality, there are still marked differences in graduation. In 1970-71, percentage of women among Bachelor degree recipients was about 42 percent, but among Doctorates it was still very low (15 percent) [Handbook of Higher Education, 1973, 1974].

### Stability of Self-Concept

One of the important determinants of adjustment in the high school age is the stability of self-concept. The literature indicates that adolescence is an age of much turmoil, and many changes in self-perception take place, as Anna Freud described it: "Adolescence is by its nature, an interruption of peaceful growth and, therefore, the upholding of a steady equilibrium during the adolescent process is in itself abnormal." While there is some disagreement about the notion of "interruption of peaceful growth" [Salzman, 1973], there is no argument that adolescence is characterized by much distress and turmoil.

The notion of a self-concept precedes, however, the determination of its stability. Attempts to define self-concept go back as far as the ancient Greeks and probably earlier, and this is certainly not the place to review them. However some clearer definition and rationale for the use of certain instruments are needed. It is assumed by numerous researchers that the major dimensions of self-definition are bodily awareness, social role and the valuing process, often given different names. The bodily awareness is receiving



recently renewed attention from such orientations as biofeedback and bioenergetics, but what aspects of it participate in self-definition and how remains an open issue. Is it the autonomous control, an innate feeling of self, other emotions, or a mental body image? All that can be said is that one's attitude towards the body is one dimension of a more general self-concept.

The social role has also received much attention, and its part in self-definition emphasized by such theorists as Sullivan and Goffman, to name only two. The fact that we all live among others makes the exclusion of social roles and pressures logically impossible, but again, the exact way in which these forces operate and influence are unclear. A specific problem is how translation occurs from objective social role playing to subjective individual experience, and how are the many social roles one plays (especially if they are changing like in adolescence) related to a sense of unity, of self?

A third dimension of self-concept, probably the least accessible to simplification, is the value structure, the continuing ways of realizing and evaluating goals. Adler's framework is especially helpful in understanding this dimension since it deals with the life-long striving towards the final fictional goal. Other concepts such as ego-ideal or self-actualization refer basically to the same component of self-concept. The value structure is considered to be

relatively continuous and stable but theories differ markedly in their understanding of how and why certain values are adopted and not others.

No one theory has yet been suggested, combining' all three dimensions in a comprehensive framework. However, since it is believed that they all contribute to one's self-concept, an instrument was chosen for this study which attempts to measure them as a whole and as units, the relative contribution of each, is also measurable.

Based on Erikson's theory, Stark and Traxler [1974] conducted a study in which they predicted that subjects within the age range of 17 to 20 would report significantly more ego diffusion than older people, and that females would report less ego diffusion than males. Both hypotheses were supported and the writers accepted Erikson's notion that each developmental stage contains a crisis because it involves a radical change in the individual's perspective. Other writers, as well, addressed themselves to the instability of self-concept in adolescence, and to its relationship to anxiety [Waterman and Waterman, 1971; Bronson, 1959].

The importance of a relatively stable self-concept in spite of the changes during adolescence are best described by Friedenberg [1959]:

Adolescents lack reserves of self-esteem to sustain them under humiliating conditions. . . They cannot easily assimilate an attack on their dignity or worth, for it produces not merely resentment but intense anxiety. The self is threatened while still ill-defined and in its early stages of construction.

The focus of this study is on the self-concept's stability as related to adjustment. It was found by Engel [1959] that stability of self-concept over time was positively related to positive self-evaluation, whereas negative self-evaluation persisting over a period of time was related to maladjustment. Wessman [1966] reports unhappy people to have not only a low self-esteem but also a low level of sense of personal identity, as opposed to the happy ones who have a strong and satisfying self-concept. Concentrating on occupational stability, Lee and Doran [1973] conclude that persistence in a vocational choice is closely related to stability of self-concept.

Relating to Locus of Control, Organ [1973] reported an unusually high correlation (.64) between external LOC and unclarity of self-concept among male adults. A significant correlation, but not as high, (.32) was found among undergraduate students. The correlation remained significant even when self-esteem was held constant, and the results were interpreted as supporting Kelly's Attribution Theory [Kelly, 1967].

Attribution Theory appears, indeed to be related to the LOC model since it describes "processes that operate as if the individual were motivated to attain a cognitive mastery of the causal structure of his environment." While concentrating mainly on information acquisition and communication analysis, the theory maintains, as does Rotter's,

that one's beliefs and orientations to factors in the environment are a combined outcome of circumstances and criteria for their evaluation. Both theories claim that attribution of power to external factors may result in reduced appreciation of the power of the self. The connection of lowered self-esteem and depressive reaction in those who attribute power to others, is at the center of the present study.

### Locus of Control

The individual's control over his fate has been of central interest to the social sciences for a long time. The issue received much attention in Sociology, and was referred to as Alienation. Gradually its importance for observation on an individual basis was recognized by Psychology, referring to aspects of it as Competence, Helplessness, Mastery and Locus of Control.

This latter concept, Locus of Control, was proposed in the early sixties, and elaborated by Rotter as part of his social learning theory. Concentrating on reactions to reinforcements, Rotter and his associates noticed individual differences following success in skill and chance situations. They concluded that expectancies, in addition to the value of the goal, are of major importance in determining consequent behavior.

What is meant by expectancies is beliefs a person might have in his ability to determine events in his environment. These beliefs are determined by: 1) Generalizations

from previous similar (but not identical) conditions, 2) experience in the same conditions, and 3) amount of such experience [Phares, 1973]. These generalized expectancies relate to the way in which an individual views the connection between his behavior and the occurrence of later events. While each one of them might be limited in applicability, it is assumed that a person has a typical pattern of expectancies, or locus of control, that cuts across specific need areas, and thus a generalized, rather stable dimension is established. The dimension is along a continuum from internal to external. By this is meant that individuals are not divided into two groups, but rather that they are more internal or more external than others.

The definition of internal or external Locus of Control (LOC) most referred to in literature is that of Rotter [1966]:

When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control.

It is appropriate at this point to emphasize that the significance of LOC in a given situation is dependent on the familiarity of the situation to the individual. As a

rule, the more familiar a situation is to the individual, the more diminished becomes the importance of a generalized expectancy for internal or external control. LOC is most influential in those situations that are not highly structured and which permit varying interpretations by the individual. It is in a complex social situation, for example, that the basic orientation will direct one's behavior. The theory behind the concept claims combined contribution of situations and dispositions, the importance of each depending on circumstances. When frustrated, the externally controlled individual tends to give up attempts to change conditions, and sinks into helplessness. This will be especially true in unfamiliar, unstructured situations, as presented in the present study.

The overall tendency of internals to be more active in gaining mastery over their environment has been demonstrated in numerous studies. Schneider [1968], for example, found that internal males had a stronger preference for skill-sport activities such as baseball and chess, than external males who preferred chance games such as dice games and lottery. The fact that no differences were found for females was explained by the different meaning sport has for the sexes. Similarly, Ducette and Wolk [1973] found externals to prefer chance activities (ESP experiment), and internals to prefer skill activities. Seeman [1963] found that internally oriented reformatory inmates asked for more, and had more

information regarding parole and regulations. Davies and Phares [1967] concluded that not only do internals more actively seek to acquire information relevant to their goals, but they also make more effective use of that information once they have acquired it. Other similar conclusions are reported by Lefcourt and Wine [1969], Rotter and Murly [1965], Williams and Stack [1972] and Brisset and Nowicki [1973].

Ducette and Wolk [1973] relate to LOC as a cognitive structure, responsible for the processes of a) extraction, b) recall, and c) use of information. Internals in their study appeared to do better on all three. They also feel that a motivational factor is involved, which helps to explain the internals' better performances. "It was in the decision to solve (or not to solve) such a perceptual dilemma that the present authors believe the step was taken from an expectancy for control to exertion of control." That means that the mediating power of LOC resides in both its cognitive and motivational qualities, neither of which are sufficient but both of which are necessary.

Locus of control has been related to many aspects of functioning, many of them within the specific interests of Social Psychology. These studies were adequately reviewed by Lefcourt [1966], Joe [1971], and Phares [1973], and are not of importance here. The interest in this study is directed to LOC as related to personality and to coping with

frustration. Operationally the frustration in this study is within the academic achievement area, and therefore previous studies on LOC and academic performance are of interest.

#### Locus of Control in the Academic Area

Studies attempting to relate locus of control to Need Achievement were overall inconclusive. The tendency found, however, was for internally controlled individuals to be more achievement oriented [Rotter, 1966], to be better students, have better study habits [Prociuk and Breen, 1974], be more active in school activities, and better able to accurately assess their academic performances. This was found for a wide age range, and usually for males more than for females [Crandal, 1965; Strassberg, 1973; Foster and Gade, 1973]. When actual school work was examined, it was generally found that grade point average was unrelated to Locus of Control [Hohmuth and Ramos, 1973].

Prociuk [1972] found that while internals do not differ significantly from externals in GPA, they do manifest more facilitating test anxiety, as opposed to externals' debilitating anxiety. Test anxiety scores, in turn, were significantly related to GPA. Similar findings were reported by Butterfield [1964]. Intelligence appears in all these studies to be unrelated to LOC.

Accuracy of prediction of own performance in academic setting was studied by Steger, Simmons and Lavelle [1973], and earlier by Wolfe [1972]. Wolfe reported that internals



predicted GPA better than externals only when there was no previous college experience, but that there was no difference in an experienced college group. Steger and his associates took up from there, studying experienced students only, asking them to predict specific test scores, after they have taken the test. In this study the difference in prediction between internals and externals held up for experienced students as well, and it was explained by the specificity of the task, to which internals respond better in general. Wolfe, however, refused to accept the correction of his conclusions, and in an angry response [Wolfe and Egelston, 1973] claimed that Steger's sample was not representative of college populations, scoring much higher than usually reported.

An interesting aspect of LOC and achievement was introduced by Thurber [1972]. He stated that an external LOC may be adopted as a defense against success perceived as a threat. Relating to success in an academic contest, he claimed that in our society successful women face the reputation of being masculine, and if success can be attributed to some external factors, the successful woman can avoid the stigma. In this respect defensive externality appears an effective adjustment mechanism, since it represents an acceptable conforming state, yet allowing for achievement.

Women's fear of success has been under increasing attention in recent years. In a recent study, including males in the sample, Hoffman [1974] replicated an earlier study and found, much to her surprise, that the same

percentage of women showed fear of success in 1971, when her data was collected, as in 1965.

In general, findings regarding sex differences in LOC are inconclusive. Most studies dealing with college populations report only small sex differences, and even in studies reporting significant findings, the results are unclear [Abramowitz, 1969; Duke and Nowicki, 1973; Prociuk, 1973; Williams and Nickels, 1969]. An interesting finding is reported by Feather [1967a] who found sex differences among young students but not among older ones. Insignificant or small sex differences in Psychiatric populations were reported by Pryer and Steinke [1973] and by Harrow and Ferrante [1969].

The studies reporting significant sex differences agree on higher externality among females. McGinnies, et al. [1974] studied LOC in five countries and found sex differences in the expected direction in all. Similarly, Parsons and Schneider [1974] report sex differences in an eight country study. They divided Rotter's scale into subscales, and it is interesting that they did not find differences in the academic scale.

The hypothesis, raised by Rotter [1966] that the relationship between LOC and adjustment is curvilinear, pathology related to either extreme, has never been clearly supported, and was eventually abandoned by Rotter himself [Rotter, 1975]. The notion of curvilinearity is kept alive, however, by Gurin et al. [1969], who warn against associating internaltiy with positive functioning only. "Because of the potential

intropunitive implications of an internal orientation, people with extremely external scores, tend to be psychologically less well-adjusted and healthy." In field studies an internal LOC was rarely associated with pathology, possibly due to the operation of intervening variables such as the externals' greater willingness to admit uneasy feelings. However, no clear cut conclusions can be drawn.

A person's LOC is a rather stable characteristic, holding steady over time. This is true for all ages, but children are generally more external than adults. This is in no way surprising, given their limited control over events and their dependency on others for rewards. The development of internality with age, however, is not linear. Crandall, et al. [1965] reported a return to externality in late adolescence, especially for males, and concluded that the uncertainty of this age, related to pressure for achievement and independence can be detected through the LOC dimension. It appears that LOC beliefs are influenced by events in the individual's life which relate to uncertainty, unpredictability, and variations in control. This is in line with findings of Friedmand and Manaster [1973] who noted a yearly decline in internal control from freshman to senior year.

The development of an internal LOC with age is dependent on facilitating conditions. Thus Lottman and DeWolfe [1972] found that process schizophrenics, with poorer premorbid adjustment, were much more external than reactive schizophrenics.

Tolor and Jalowiec [1968] relating LOC to parental attitudes found that external expectancy related significantly to authoritarian control and to hostility-rejection as measured on the Parental Attitude Research Instrument (How parents are perceived by an individual). In another study it was found that parents who considered their children's problems to arise from sources external to parental control, earned significantly higher LOC scores than parents who regarded their children's problems as being related to parental behavior [Harris and Nathan, 1973].

In a very recent paper Rotter [1975] mentions the existence of two types of externals: The "defensive externals" who score high on the I-E scale, but who manifest behavior typical of internals, and the "passive externals" who manifest the typical behavior described so far. Even though the two groups differ dynamically their differentiation on the basis of their responses to the scale was impossible. Rotter speculates that with age there is an increased tendency towards defensive externality rather than passive externality, especially within the school system, but this was not put to any satisfactory test. He further claims that one has to analyze the relationship of a given situation to defensive versus congruent (passive) externality in order to make meaningful predictions.

The notion of heterogeneity among externals was raised as early as 1967 by Hersch and Scheibe. They felt that externality could be either optimistic (if the individual

believes that in a competitive situation in which he is, the actions of others are of great relevance for the success of his own efforts) or pessimistic (if he feels weak in relation to others). The psychological meanings of these two types are of course different, and their differentiation was suggested.

Related to studies on LOC and adjustment are studies on anxiety, especially when attempts to predict depression are concerned. Numerous studies have reported positive correlations between external LOC and anxiety, usually ranging between .30 to .40 [Strassberg, 1973; Watson, 1967; Ray and Kathan, 1968]. Butterfield [1964], in an early LOC study, found that intropunitive reactions to frustration became more frequent as LOC became more external. This was paralleled by increasing debilitating anxiety and increasing facilitating anxiety, even though intropunitive reactions per se were unrelated to change in anxiety. Feather [1967] also reported external control to be related to debilitating anxiety.

That anxiety is generally associated with external LOC is not surprising, since most individuals find a situation in which they have no control to be threatening and anxiety provoking. However, it was found that those who make an effort to control the situation experience more physiological arousal [Houston, 1972].

Most of these studies are based on self reported anxiety. When a nonobtrusive measure of anxiety was used

the correlation was eliminated [O'Leary, et al., 1974], which makes the relationship more complex. It appeared to the writers that internals and externals were comparable with respect to the degree of social anxiety experienced, and that the differences on direct anxiety scales such as the MAS, were due to differences in self-esteem and self description. This relates to earlier mentioned differences in self disclosure.

### Locus of Control and Depression

The primary interest of this study is the relationship between LOC and depression. While it was generally found that internal LOC is related to more adjusted responses, not much has been done specifically on depression, and depressive reactions.

Although depressives tend to be self blaming there are also indications that they view events that affect them as being beyond their personal control. It seems that self accusation for what has happened does not mean belief in ability to change it. LOC seems to relate to the active intent to change one's life. Rotter [1966] writes:

Perhaps the most important data to assess the construct validity of the I-E control dimension involves the attempts of people to better their life conditions, that is, to control their environment in important life situations. It is in this sense that the I-E scale appears to measure a psychological equivalent of the sociological concept of Alienation in the sense of powerlessness.

What is presented here is the motivational aspect later elaborated by DuCette and Wolk [1973], and relevant to the seemingly paradoxical relationship between external LOC and depression. The depressives' self blame, while often' apparent and emphasized, is not accompanied by active steps towards improvement, and in fact the helpless, powerless picture is a typical symptomatic characteristic of depression. If LOC is seen as a measure of energy one is able to exert over the environment (due to belief in the effort's fruitfulness), it is not surprising that depressed individuals are found to score very high on the I-E scale, thus reflecting reduced energy.

This issue was the concern of Calhoun, Cheney and Dawes [1974]. They felt that the relation between externaltiy and depression, reported mostly for clinical populations, was valid for those who have already acknowledged severe limits to their own ability to control outcomes in their lives by becoming psychiatric patients. Working with college students they found, as expected, that those who were depressed were more external. The more interesting finding, however, was that when only the transitory mood aspect of depression was measured (with an instrument similar to the one used in the present study), only males showed a significant positive correlation between depression and externality, and females seemed to attribute the depressive mood to causes within their control, more than males. The writers concluded that there are sex differences in dealing with difficulties of

adjustment. It seems possible, however, that since females are usually more external to begin with, their degree of externality is less an indicator for certain phenomena than it is for males.

The studies cited earlier, indicating more involvement of internals in various activities, seem to relate to this general issue. Externals seemed to have less energy invested in their environments, and to exert less control over events, in spite of comparable intelligence. It is the motivational aspect of LOC that seems to place depressives on the external edge.

Abramowitz [1969] reported a significant correlation between external LOC and depression among students, which remained significant even when the effect of social desirability (correlating negatively with depression) was removed. In another correlational study Snow and Held [1973] report similar findings among obese female adolescents.

Seligman, known for his work on "learned helplessness," dealt with the similarity of this concept to LOC [Miller and Seligman, 1973]. He felt that externals were more susceptible to learned helplessness than internals, which would indicate a high correlation between externality and depression. However, though significant, the correlations are usually rather small. It was suggested that depressed persons perceive of reinforcements as independent of their own responses, and therefore do not change expectations even



when the reinforcement is dependent on their response. However, externality per se, as measured by Rotter's scale, had no significant effect on expectancy changes.

A study of special interest for present purposes is that of Lamont and Brooks [1973]. Working with a normal college population they reported strong influence of mood on LOC scores ( $r = -.51$ ). The study was based on an earlier one by the first writer [Lamont, 1972a] in which higher externality of individuals rating themselves having low mood was attributed to item mood quality rather than item content. In other words, individuals chose a statement according to the mood expressed in it rather than its content. The same conclusion was reached in a later, better controlled replication [Lamont, 1972b]. There seems to be a mood response set, which is probably limited in scope to test items which deal with self evaluation or assessment of present or future outcomes. Caution in interpreting correlation between externality and depression was indicated.

LOC has often been studied in relation to behaviors that are indicative of depression. Lambley [1973] administered Rotter's scale to students who admitted contemplating suicide, and to a control group of students who did not. No significant difference in LOC scores was found, and Lambley appears to put the blame on the instrument. However, there was no control in the study as to when suicide contemplation occurred, and no attempt was made to assess the subjects' affective state at the time of the study.

Murray [1973] also used normal students for his study on suicide thoughts and depressions. Eighty-eight percent of his subjects indicated they have sometimes felt deeply discouraged and unhappy, and 41 percent indicated they have thought of killing themselves; 75 percent of this latter group had suicide thoughts more than once, but only 10 percent in the month preceding the study. LOC and social desirability were not significantly related to reports on previous unhappiness. Again, however, there was no control on present affective state.

In a paper and pencil study William and Nickels [1969] report positive correlation between LOC and suicide potentiality as well as accident proneness. Both groups were described as "dependent, guilty, anxious, timid, depressive, and underachieving."

Available research indicates a clear positive relationship between external LOC and depressive affect. This was reported for populations of different ages and adjustment levels, even though little has been done with adolescents. This study examines the relationship in an adjusted adolescent population, at a period of change and assumed emotional restlessness. Sex differences are also observed.

#### Future Time Perspective

A variable that might well relate to the interaction between depression and LOC is Future Time Perspective (FTP). The term is used in the sense of extension of one's thought

into the future, similar to its use by Kastenbaum [1961] and Wallace [1956]. It has distinguished between different groups of individuals, and it was concluded by Kastenbaum that "Young adults who are delinquent, pessimistic, and/or unsuccessful academically might be expected to organize their futures less consistently, and foresee fewer events, experiences, and roles for themselves."

The concept has been studied in relation to schizophrenia, depression, and other clinical syndromes, and found to vary with type of pathology. Dilling and Rabin [1967] report depressives to have a severely curtailed time span, explained by the hopelessness characteristic of depression. Rabin [1957], who introduced changes in previous approaches to the measurement of time orientation, concluded that schizophrenics make poorer long term time estimates than normals. This was also concluded by Wallace [1956] comparing a psychotic group to physically ill individuals. The conclusion of Dilling and Rabin [1967] seems to explain the findings of several studies: "The judgemental process is more involved in estimations of larger intervals and is more vulnerable to effects of psychopathology." Regarding depression specifically, it is apparent that in extreme cases the future is too threatening to be believed extended beyond the present. In milder cases a paradoxical effect may occur, in which positive events are believed to occur in the far future rather than close to a depressive present. In both cases the future perspective is distorted.

More complicated is the relationship between LOC and FTP, but an hypothesis can be logically constructed. For the very young individual life space is poorly differentiated and future expectations hardly exist. Gradually, the child changes his frame of reference, becoming aware that experience extends beyond the present. This probably occurs in parallel to increasing recognition of independence and control, and increasing mastery over one's behavior. It can, therefore, be hypothesized that extended future time perspective and internal LOC develop simultaneously and hence correlate positively at any given stage of development. The only indication in the literature that extended future time perspective is related to internal LOC is found in a study by Tolor, et al. [1970], who report findings in that direction. The correlations however, were rather small and the findings inconclusive. Similar inconclusive results were reported by Fellerath [1973].

In situations of little personal control, such as in prisons, FTP was found to be restricted as compared to a normal control group [Black and Gregson, 1973], but only as far as "short range" future was concerned. The explanation offered by the writers for their findings appears relevant to the relationship observed here. They claimed that when the present (and possibly the past) is unsatisfying the practice of immediate hedonism is not as maladaptive as it first appears.

What is observed in this study is the interplay between future time perspective, LOC, and depression. Since it

appears that no study so far has examined this relationship, their direction remains to be explored.

### Hypotheses

On the basis of the above discussion five general hypotheses were raised to be tested by statistical analysis.

1. There is a positive relationship between external Locus of Control and depressive affect.

This hypothesis relates to "normal" conditions (Time 1) and not to reactions to frustration. It evolved from similarities, suggested by the theoretical discussion, between depressed and external individuals, especially in terms of passivity and lack of initiative.

2. There is an interaction effect between acceptance or rejection by college of choice and Locus of Control on depressive reactions.

This hypothesis relates to reactions to acceptance or rejection (Time 2), and is an extension of hypothesis I since it introduces a new variable (acceptance or rejection) into the relationship between Locus of Control and depression.

3. There is a negative relationship between Future Time Perspective and depressive affect.

This is a relationship that has been reported to exist especially in maladjusted populations, and is observed here in a normal adolescent population.

4. Individuals with internal Locus of Control make

college choices that are in accordance with their ability, and are, therefore, accepted to more colleges than individuals with external Locus of Control.

This hypothesis is based on reported findings regarding internals' superior ability to assess the quality of their performances as compared to externals. Rates of acceptances for the two groups are observed since the event of acceptance or rejection is assumed to affect depression.

5. Stability of self concept is positively related to internal Locus of Control, and negatively related to depressive affect.

This hypothesis relates to the psychological correlates of instability within the self concept concentrating on depression and Locus of Control. It is based on reported findings on conflicting and unstable characteristics both among depressives and among externals.

## CHAPTER III

### DESIGN

This study has a "before and after" design, in which students took two similar test batteries twice during the senior year. The first battery was group administered at time of application to colleges (November-December, 1974) and consisted of the following material:

1. Information given to the students regarding the general nature of the study, its use, and the confidentiality of data. The information given revealed the concern with feelings and attitudes of high school seniors, but did not relate to college admission or graduation, in order to avoid obvious biases in responses. Names or ID numbers were required in order to compare data with a second round, but no time indication was given regarding the follow-up, again in order to avoid biases.
2. Personal information sheet--a survey of each student's academic plans regarding desired field of study, preferred colleges, estimated and obtained SAT scores, and degree of agreement with parents about colleges chosen.
3. Rotter's Locus of Control (I-E) scale.
4. The Multiple Affect Adjective Check List.
5. The Manifest Affect Rating Scale.
6. The Tennessee Self Concept Scale.

7. The Future Orientation Scale. Part of the sample received this scale in the first round, and the rest-in the second.

The material administered in round 1 is presented in Appendix I.

About five months separated the two rounds of data collection. Different students obviously had different experiences during that period, but it was assumed that the common experience of waiting for, and later receiving, feedback from colleges, would have a main effect observable in the data. The second data collection occurred within two weeks after April 15, the agreed date on which colleges inform students of their decisions. Again it was assumed that the proximity to this date would detect specific reactions to acceptance or rejection, rather than to other significant events of that year.

The second battery was group administered under similar conditions to the first round. Promise of confidentiality was repeated, and like in the first round, no school personnel had access to the collected data. The second battery consisted of the following:

1. Personal information sheet II--a survey of acceptances and rejections by colleges for each student, and questions relating to the student's reactions to these results. The six questions were designed to arrive at a measure of frustration, and asked for comparison of application outcomes with his own, his family's, and his peers' expectations. The frustration score is the sum of the



responses given to the six questions, and possible scores range from 6 to 30. This questionnaire is presented in Appendix II.

2. The Multiple Affect Adjective Check List.
3. The Manifest Affect Rating Scale.
4. The Tennessee Self Concept Scale.
5. The Future Orientation Scale (for those who did not take it in the first round).

The scores used in the analysis were both the absolute score obtained in both rounds, and the change scores from time 1 to time 2.

### Subjects

Subjects at time 1 were 156 senior high school students (95 males and 61 females), all from six private, prep-schools in upper midtown Manhattan, New York City. They were all 17-18 years old, and all intended to continue their education in college in 1975/76. "Attrition" rates from time 1 to time 2 were somewhat different on the different scales but usually ranged between 10-20 percent.

### Instruments

Locus of Control: The I-E Scale

The most popularly used instrument to measure LOC is Rotter's I-E Scale [Rotter, 1966]. Several attempts have been made to factor analyze the 23 items, but it appears that the scale as it is has the highest validity and reliability over time.

Rotter reports test-retest reliability ranging from .50 to .83, depending on population and circumstances. Internal consistency is described as moderate, ranging from .65 to .79. Rotter maintains that since the scale samples widely from a variety of different situations, it cannot be expected to have as high internal consistency as a power scale that samples different strengths of responses in a narrow area. Rotter collected norms from several studies and reported mean I-E scores between 7.5 and 9.0 among male students, and slightly higher among female students. Among nonstudents scores were usually higher. In high school populations, those intending to go to college were usually more internal than those who did not.

The scale was factor analyzed by Mirels [1970], who isolated two factors: a belief concerning felt mastery over the course of one's life, and a belief concerning the extent to which the individual citizen is deemed capable of exerting an impact on political institutions. Viney [1974] testing the instrument on two Australian populations agreed with Mirels' analysis, and concluded that "The most fruitful use of the I-E scale in the future may lie in examining the predictive power of individual items rather than focusing on generalized expectancies."

Structuring the response possibilities in a new manner (adding a measure of degree of agreement with a certain choice) Joe and Jahn [1973] conducted another factor analysis and found one factor accounting for most of the variance,

relating to generalized expectancies for success as meant by Rotter, and another factor relating to beliefs in political affairs. The items measuring this factor were the same as reported by Mirels. It was the conclusion of Joe and Jahn that ". . .the results appear to support Rotter's assertion that additional factors involved very few items each, and hence do not warrant identification as subscales." They did recommend, however, a switch to the six point response format from the original forced choice form, thus allowing for the assessment of degrees of belief in internal or external control.

A very recent failure of factor analyzing the I-E scale was reported by Wolk and Hardy [1975] who concluded: "An issue is thus raised concerning the literature that has suggested that several factors appear to underlie expectancy for control as measured by the I-E scale, rather than a predominant general factor."

In general, then, it appears that the complete I-E scale, as suggested by Rotter, is the most consistent and valid instrument available at the moment. It has to be remembered that the scale was not devised as an instrument to allow for very high predictive power in some specific situations, but rather to allow for a low degree of prediction of behavior across a wide range of potential situations.

Depression: The Multiple Affect  
Adjective Check List (MAACL)

The MAACL consists of a list of 132 adjectives, of which the subject is asked to check those that he feels describe him best. The adjectives are arranged alphabetically, but in analysis are grouped into three subscales--Depression, Hostility, and Anxiety. The three scales were constructed separately, prior to the publication of the MAACL, and data are available for each of them [Zuckerman, 1960, 1965; Lubin, 1965, 1966] as well as for the complete scale [Zuckerman and Lubin, 1970]. About half of the items on each subscale are scored if checked by the subject ("+" items), and the other half scored if not checked ("-") items). There are not overlapping adjectives between subscales, but reported intercorrelations are relatively high. The MAACL subscales are of different lengths and consequently have different maximum scores. Of the 132 adjectives 21 are scored for anxiety, 40 for depression, 28 for hostility, and the rest are used as "buffers."

Bloom and Brady [1968] point to the high intercorrelations of the three subscales, and report, on the basis of their findings that the depression scale correlated significantly with Beck's depression scale, and that clinical observations and ranking on the scale were also highly correlated.

Herron [1969] points to the response set influence on scores, and especially to a tendency to mark more adjectives when anxious. However, since in his design the effect of

anxiety could not be separated from the effect of repeated testing, no definite conclusions could be reached. In an earlier paper, Herron, et al. [1968] dealt with the scoring system more critically and concluded that instead of reducing the effects of the response set to check a few or many items on an adjective check list, the inclusion of items scored when no checked increases the influence of the set on the total scores. In any case the fact that if left blank, depression has 20 adjectives scored, calls for caution in interpreting the results.

The instrument appeared appropriate for present purposes since it is sensitive to the mild forms of affective disturbances which were expected to occur in this study. In the past it was able to detect reactions to an undesirable postponement of a course examination, and it was especially designed for a normal, functioning population. Three scores can be computed for the depression scale: the number of unpleasant items checked, the number of pleasant items not checked, and the combined sum. In this study both the combined sum and the "+ score" (the number of unpleasant adjectives checked) were used.

Depression: The Manifest Affect  
Rating Scale (MARS)

The MARS is an instrument developed by Jacobs [1966], consisting of 87 items, measuring four dimensions: Pleasant affect, depression, anxiety, and hostility. To each feeling described in an item, the subject is asked to respond by

stating whether he has felt it intensely, moderately, slightly, or not at all in a given period of time. Three of the four subscales can be combined into a total unpleasant affect score, or can be analyzed separately.

The instrument was used with good results (discrimination ability) in normal as well as clinical populations. In measuring drug effects [Jacobs and Pillard, 1965] the MARS detected relative improvements in mood, and in repeated use of the instrument on the same population its effectiveness did not appear to decrease [Jacobs, Heim and Chassan, 1966].

Mean scores on the MARS for different populations (including a normal adolescent group) have been published. It was expected that this instrument, combined with the MAACL would give a valid and reliable measure of depressive tendencies in a normal population.

#### Self Concept: The Tennessee Self Concept Scale (TSCS)

The TSCS, devised by Fitts in 1965, consists of 100 items, 90 of which contribute to a 3 x 5 self classification system. The first dimension represents 3 measures from the individual's internal frame of reference: Identity (awareness), Self satisfaction (acceptance) and Behavior (acts). The second represents five measures of an external frame of reference: Physical self, moral ethical self, personal self, family self, and social self. Together these eight scales form a net from which measures of self esteem can be established.

Several other scores can be derived by observing various patterns of the 90 items (the empirical scales), or the final 10 Self-criticism items, which reflect the Lie scale of the MMPI. The 90 Likert items, representing equal numbers of positive and negative items are presented on either a Clinical and Research form or a Counseling form. (The C & R form is used in this study.) Information regarding reliability and validity is presented in the Manual [Fitts, 1965], and points to the usefulness of the instrument.

The TSCS is often used in studies concerned with change in self concept. One such study, relevant to the present one, is that of White and Howard [1973] who explored the relationship between failure to be promoted in elementary school and the child's self concept. There were no sex differences in any of the observed TSCS scales, and failure at school was strongly associated with decreased self esteem.

The TSCS has numerous subscales for different purposes, and the following were chosen for the present study:

Self Criticism (SC) - This is composed of 10 items adopted

from the MMPI Lie Scale. All are mildly derogatory statements that most people admit as being true for them. High scores generally indicate a normal, healthy openness and capacity for self criticism.

Total Positive (Tot P) - Considered the most important single score, reflecting the overall level of self esteem.

Variability (V) - Provides a simple measure of the amount of variability or inconsistency from one area of self

perception to another. High score reflect little unity or integration within the self concept.

Net Conflict (Net con) - Measures the extent to which an individual's responses to positive items differ from, or conflict with, his responses to negative items in the same area of self perception.

Total Conflict (Tot con) - Measures level of contradiction and general conflict in self perception.

Both Net and Total Conflict measure conflict within the same area of self perception, which is not to be confused with V scores which reflect fluctuations from one area of self concept to another.

Defensive Positive (DP) - A more subtle measure of defensiveness than the SC score.

Personality Integration (PI) - A measure reflecting general level of personality integration (validated on a psychiatric population).

Self Con - a combined score of SC, Tot con, and V, believed to be a concise measure of integrity (or conflict) within the self concept.

Rentz and White [1967] factor analyzed the TSCS and came up with two major factors, accounting for 67 percent of the total test variance. Factor I, composed of most of the row and column scores, corresponded with Fitts' Self esteem dimension. Factor II, however, consisted of three scores only--Conflict, variability and self criticism (with



loadings of .64, .76, .70, respectively), and appeared to be assessing a conflict-integration aspect of the self. This combined score is used in this study, and is referred to as Self con score.

#### Future Time Perspective

The measure consists of 12 items adopted from Wallace [1956] relating to common life events that are likely to occur throughout the lifetime of every individual. Subjects are asked to estimate how old they might be when each of these events occurs, and an "average Future Time Perspective (FTP) score" is obtained by averaging the ages reported for 10 of these items. Ages at death of both parents were omitted from the average, since this depends on parents' age at present.

In addition to average FTP, two items were used individually as measures of future perspective. One relates to the maximum time span into the future (How old might you be when you die?), and the other relates to general expectations from the future (How old might you be when you can say you have most of the things you want?)

Thus three scores were obtained for each subject, and entered into the statistical analysis.

The FTP measure is presented in Appendix II.

## CHAPTER IV

### RESULTS

Two depression measures were used in this study (the Multiple Affect Adjective Check List, and the Manifest Affect Rating Scale). Data concerning their means and standard deviations, and their intercorrelations are presented in Appendix III.

#### Hypothesis I

HYP I predicted a positive correlation between external Locus of Control and depressive affect. The hypothesis relates to "normal" conditions and not necessarily to reactions to frustration. It was, therefore, tested on data from time (prior to receiving college feedback). Both depression measures were correlated with Locus of Control scores. Means and standard deviations of the measures used are presented in Appendix IV.

Table 1 presents the correlation coefficients between Depression and Locus of Control.

It becomes evident that the significant relationship between external Locus of Control and depression exists for males only. This is inspite of comparable levels of depression and Locus of Control for males and females.

Hypothesis I is therefore supported for males only.

Table 1. Correlation Coefficients of  
Locus of Control and Initial  
Depression (By Sex)

	Males	Females
LOC - MAACL (D)	.296**	.141
LOC - MARS (D)	.417***	.106

\*\* Significant at .01

\*\*\* Significant at .001

Rotter's original claim of curvilinearity in the relationship between Locus of Control and psychopathology (depression), was tested by Trend Analysis, and is presented in Appendix V. It became evident that linearity rather than curvilinearity characterized the relationship.

### Hypothesis II

HYP II predicted that frustration of academic plans will interact with Locus of Control to affect depressive reactions to the frustration. In a broader sense, the intent was to explore the effect frustration has on adjustment.

Before exploring the hypothesized interaction it is necessary to observe the effect rejection by college of choice had on depressive level. Table 2 compared accepted and rejected students on change scores from time 1 to time 2. The table shows considerable increase on the MAACL from time 1 to time 2, especially among those rejected by college of choice. On the MARS, also, rejected individuals showed a considerably smaller decrease in the negative affect and larger decrease in the positive affect. None of the reported

t values reached statistical significance, but all were in the expected direction, thus pointing to a clear trend.

Table 2. Change Scores on the Multiple Affect Adjective Check List and the Manifest Affect Rating Scale

Scale	Accepted		Rejected		t Bet Sexes	t Bet A&R	F Inter
	Males	Females	Males	Females			
MAACL D	0.925	0.650	2.692***	4.100***	-0.83	-1.95	0.407
A	0.800	0.850	1.538*	2.000**	-0.58	-1.18	0.064
H	2.275***	2.900***	2.808***	3.800***	-0.93	-0.73	0.030
MARS D	-3.780**	-2.950*	-0.440	-1.700	-0.43	-1.07	0.184
A	-0.707	-0.750	-0.600	-0.700	-0.37	-0.07	0.010
H	-1.829	0.950	-1.040	-1.700	-1.12	0.33	1.781
P	-2.195	-0.700	-6.640	0.000	-0.89	0.64	0.665

\* Significant at .05

\*\* Significant at .01

\*\*\* Significant at .001

The increase on the MAACL scales and the decrease on the MARS scales from time 1 to time 2, present the only discrepancy between the two instruments, but this discrepancy seems to be explained by the fact that at time 2 subjects admitted more feelings (marked more adjectives regardless of their positive or negative quality) but at lesser intensities ("slightly" rather than "moderately" or "intensely") as compared to time 1. Changes on the instruments reflect the MAACL's sensitivity to amount of admitted feelings and the MARS' sensitivity to their intensity.

The interaction effect was examined through regression analysis, and the results are reported in Table 3.

Table 3. Interaction of Acceptance-Rejection (AR) and Locus of Control (LOC) on Depression (Time 2), By' Sex

	Males			Females		
	Regres Coef.	Stand Coef.	t Value	Regres Coef.	Stand Coef.	t Value
MARS D(1)	0.44	0.51	4.55***	0.50	0.53	3.80***
LOC	- 1.13	-0.41	-2.28*	0.69	0.22	0.94
AR	-22.70	-0.92	-3.25**	7.61	0.26	0.64
AR - LOC	1.87	1.02	3.10**	-0.99	-0.48	-1.09

\* Significant at .05

\*\* Significant at .01

\*\*\* Significant at .001

Figure 1 is a graphic presentation of the interaction effect of AR - LOC on post-depression, holding pre-depression score constant at mean level.

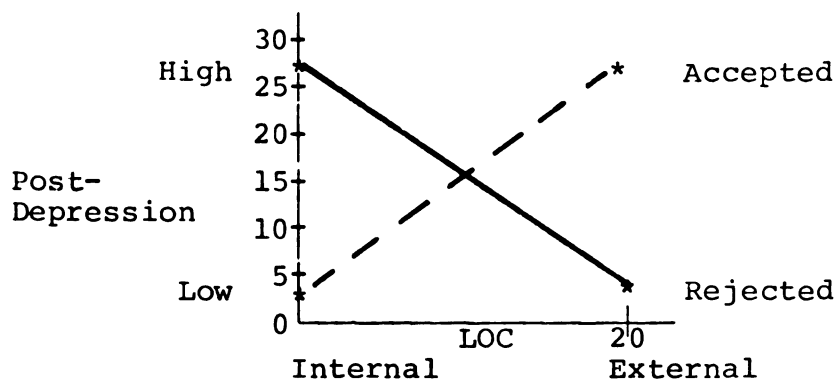


Figure 1. Interaction effect of acceptance-rejection and Locus of Control on post-depression (for males).

The reported interaction effect means that accepted and rejected male students differ in levels of post depression depending on their level of Locus of Control. Among internals acceptance by college of choice was paralleled by a decrease in depression level and rejection by an increase (initial level was held constant). Among externals, however, the effect was in the opposite direction, with accepted males increasing in depression and rejected males, decreasing. The reactions of internals were expected, while those of externals appear paradoxical, indicating that the issue of college acceptance is perceived differently by internal and external males.

Hypothesis II is, then, supported for males only, since no interaction effect was found for females.

Data regarding other differences between accepted and rejected individuals are presented in Appendix VI.

### Hypothesis III

HYP III predicted a negative relationship between future time perspective and depressive reactions. It was assumed that depressed individuals will conceive of shorter time spans into the future, and estimate the farthest life event (age of death) as occurring earlier than would nondepressed.

Table 4 presents means and standard deviations of all three Future Time Perspective (FTP) measures. They are estimated age of death (Est Death), estimated age when satisfied (Est sat), and Average FTP score (Aver FTP).

Table 4. Means and Standard Deviations of Future Time Perspective Measures

	Total		Males		Females		t Bet 'Sexes
	Mean	SD	Mean	SD	Mean	SD	
Est Death	80.96	12.12	80.22	12.34	82.29	11.59	1
Est Sat	52.22	24.75	54.83	25.12	47.76	23.44	1.45
Aver FTP	54.15	6.29	54.19	5.46	54.09	7.58	1

None of the sex differences were significant, but there was a tendency for females to estimate age when satisfied considerably earlier than males.

Tables 5 and 6 present the correlations between the FTP measures and affective scales.

Table 5. Future Time Perspective and Depression (Males)

	MAACL D	MARS D	MARS POS
Age Death	-.158	-.013	.169
Age Sat	.197	.147	.083
Aver FTP	-.072	-.170	.055

Table 6. Future Time Perspective and Depression (Females)

	MAACL D	MARS D	MARS POS
Age Death	-.256	-.286	.351*
Age Sat	.120	.123	-.068
Aver FTP	.118	.272	-.175

\*Significant at .05

Estimated age of death appears to be the only significant correlate, in the expected direction, but for females only. The more depressed individuals estimated their own death as occurring earlier than did the nondepressed ones.

It is interesting to note that average FTP correlated with depression negatively for males and positively for females, even though none of the correlations reached statistical significance. Depressed males had a shorter future extension than nondepressed males, but depressed females had a longer future extension than nondepressed females.

Locus of Control was also correlated with FTP measures. It correlated .094 with estimated age of death, .049 with estimated age when satisfied, and .136 with average FTP non-statistically significant. It appears that there is no meaningful relationship between the two constructs.

Hypothesis III is not supported by the findings, even though a trend for a positive relationship between depression and restricted Future Time Perspective can be observed.

#### Hypothesis IV

HYP IV predicted that individuals with internal Locus of Control would be more realistic in their choices, and would, consequently, be accepted to colleges of their choice more than individuals with external Locus of Control.

Some of the major differences found between internals and externals are presented in Appendix VII.

Regarding the hypothesis, internals and externals (below and above the LOC mean) are compared regarding accuracy of



their SAT predictions (estimated minus actual SAT scores), and "realism" of their choice (required minus actual SAT scores). Results are presented in Table 7.

Table 7. Locus of Control and SAT Performance

	Internals		Externals		t Value
	Mean	SD	Mean	SD	
Est - Actual	43.10	91.13	- 1.31	72.19	1.75
Req - Actual	136.80	149.91	122.91	138.34	0.47

There is a tendency for externals to be more accurate in their SAT predictions than internals. Internals had a tendency to overestimate their success on the SAT. The groups did not differ, however, regarding the "realism" of their choices, nor was there any difference in rates of acceptance to colleges of choice (correlation of .002 between acceptance-rejection and Locus of Control).

Hypothesis IV is not supported by the data.

#### Hypothesis V

HYP V predicted that stability of Self Concept would be positively related to internal control, and negatively to depression.

Means and standard deviations of the Tennessee Self Concept scales are presented in Appendix VIII.

Tables 8 and 9 present the correlation matrices of the TSCS with both depression measures. Initial TSCS scores are correlated with depression scores at both times (for

Table 8. Correlations Between Tennessee Self Concept Scales and Depression (MAACL)

	Time 1				Time 2			
	Accepted		Rejected		Accepted		Rejected	
	Male	Female	Male	Female	Male	Female	Male	Female
Self Crit 1	.242	-.053	-.064	.439	.109	.241	-.340	.481
Self Crit 2					.213	.136	.110	.266
Tot Pos 1	-.592***	-.515*	-.532*	-.809***	-.297	-.232	-.544**	-.494
Tot Pos 2					-.410**	-.232	-.420*	-.548*
Net Con 1	-.039	-.425	-.068	-.053	-.003	-.024	-.342	-.231
Net Con 2					.049	-.193	-.146	-.229
Tot Con 1	.350*	.103	-.161	.476	.275	.307	-.196	.505
Tot Con 2					.369*	-.191	.178	.256
Variab 1	-.072	.475	-.226	.477	.003	.362	-.206	.290
Variab 2					.149	-.128	.218	-.101
DP 1	-.513***	-.522*	-.150	-.745**	-.257	-.029	-.199	-.709***
DP 2					-.417*	-.199	-.326	-.697***
PI 1	.157	.304	-.306	-.181	.076	-.082	.125	-.364
PI 2					.036	-.161	-.377	-.358
Selfcon 1	.178	.338	-.200	.561	.153	.459	-.266	.481
Selfcon 2					.312*	-.119	.254	.165

\* Significant at .05 level.

\*\* Significant at .01 level.

\*\*\* Significant at .001 level.

Table 9. Correlations Between Tennessee Self Concept Scales and Depression (MARS)

	Time 1				Time 2			
	Accepted		Rejected		Accepted		Rejected	
	Male	Female	Male	Female	Male	Female	Male	Female
Self Crit 1	.219	-.225	.113	.461	.056	-.022	-.055	.283
Self Crit 2					.363*	.218	.078	.200
Tot Pos 1	-.654***	-.166	-.471	-.737***	-.464**	-.588*	-.431	-.535
Tot Pos 2					-.618***	-.644***	-.445*	-.665**
Net Con 1	.106	-.364	.036	.099	.130	.068	-.242	-.063
Net Con 2					.435**	-.061	.122	-.222
Tot Con 1	.360*	-.178	.225	.617*	.277	.053	.136	.577*
Tot Con 2					.165	-.004	.105	-.072
Variab 1	-.040	.308	.079	.499	-.041	.509	-.142	.254
Variab 2					.232	-.110	.132	.021
DP 1	-.468**	-.228	-.393	-.693**	-.369*	-.312	-.299	-.527
DP 2					-.538***	-.469*	-.368	-.761***
PI 1	.110	.339	-.319	-.625*	.033	.228	-.096	-.432
PI 2					-.291	-.040	-.142	-.121
Selfcon 1	.192	.039	.158	.638*	.108	.345	-.039	.447
Selfcon 2					.325*	-.006	.153	.038

\* Significant at the .01 level.

\*\* Significant at the .05 level

\*\*\* Significant at the .001 level.

purposes of prediction), and final (Time 2) TSCS scores are correlated with final depression scores only.

Tables 8 and 9 reveal that Total Positive (Tot Pos) and Defensive Positive (DP) consistently correlate negatively with depression. DP correlated with MAACL in different ways accepted versus rejected females (Time 2). This appears to be related to a decrease in defensiveness among accepted females.

In general, the correlations are higher for females. Most findings are in the expected direction, thus supporting this part of Hypothesis V.

Table 10 presents the relationship between LOC and the TSCS measures. Sex differences are observed again.

LOC appears to be a significant correlate of the Self Concept variables for males only. None of the relationships were even nearly significant for females.

This part of Hypothesis V is supported for males only.

Table 10. Correlation Coefficients Between Self Concept Scales and Locus of Control Scores (at Time 1)

TSCS Scales	Locus of Control		
	Total	Males	Females
SC	.227*	.355**	-.072
Tot Pos	-.230*	-.293*	-.096
Tot Conf	.131	.221	-.090
DP	-.171	-.250*	.060
PI	.043	.113	-.051
Selfcon	.107	.158	-.056

\* Significant at .05

\*\* Significant at .01

Summary of Results

Hypothesis I      Supported for males.

Hypothesis II     Supported for males.

Hypothesis III    Not Supported.

Hypothesis IV     Not Supported.

Hypothesis V      Supported for males.

All relations that dealt with LOC were significant for males but not for females. Acceptance-rejection, also, was more crucial for males than for females.

There were only minor sex differences in the Future Orientation and Self Concept relations, as well as in mean levels of all measured variables.

Change scores on all measures were computed as variables and they point to a moderate negative effect of rejection as compared to acceptance by college of choice.

## CHAPTER V

### DISCUSSION

This study intended to observe some personality variables in the senior high school year. Special interest was expressed in the consequences of acceptance or rejection by college of one's choice, and several psychological constructs, believed to be of relevance, were examined in this context. In addition to the theoretical interest in the interrelations between differing variables such as depression, self concept, and locus of control, the study attempted to serve a pragmatic purpose in identifying predictors of depression reactions to frustration, so that preventive measures could be taken in advance. This chapter considers the meaning of the results in terms of these purposes.

#### Affective State

No serious psychopathology was expected to be found in this study, since all subjects were functioning in a demanding environment, and functioning well. The measures used in this study were, therefore, not designed to detect severe pathology, but rather general affective states and their change as a result of certain developments.

On both affect measures (MAACL, MARS) there was a positive and highly significant correlation between depression

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anxiety, and hostility, at both times as well as in change scores. Positive affect was negatively related to all three "negative affects." Since this occurred so consistently on two different instruments, the possibility of response set or instrument bias appears insufficient to explain the findings. It appears, rather, that these three affects are indeed closely related, not in any strict diagnostic sense, but as comparable indications of a certain affective state. The occurrence of depression, anxiety, and anti-social attitudes, often combined, is one of the most often described characteristics of adolescence, and it can be expected that they will correlate highly especially in their milder forms as measured here. Different combinations of these affects can be detected in the usual diagnostic categories, but no attempt to do so was made here.

What happens in adolescence is probably best implied in the term "Heightened Emotionality" [Hurlock, 1973]. This is a state in which emotions are unstable and probably not clearly differentiated, and shifts in their experiencing, or even overlap, is easily possible. There is also an interplay among emotions, as for example, when hostility is an expression of anxiety, or when all emotional expressions are a response to a certain disturbing event. Emotions in adolescence are probably less separable from each other and they shift in a holistic manner regardless of specificity. Also, Wessman and Ricks [1966], reviewing several related studies, reported that in depressive states among normals



hostility was rather high. They thus differentiated between pathological and normal depressions, as did Bibring, and suggested that in the milder cases a turn to intro-punitiveness is not essential. Anxiety was also a reported feature of normal depression, and it is in this broad framework that the term "depression" is used here.

### Effects of Rejection

Rejection by college of choice had a significant effect on level of depression especially for males (see change scores in Table 2). These rejected had higher change score (increased depression) than those accepted, thus pointing to the importance of college acceptance for one's self esteem and positive feelings. The fact that depressive reactions to rejection were stronger among males, can probably be attributed to social expectations which stress the importance of higher education for males more than for females. There was no sex difference in the self reported value attributed to acceptance, but its impact on psychological adjustment seems to be stronger for males. This is not surprising when our cultural biases, and the higher proportion of males in higher education are considered, and indicates that sexual equality in academic aspiration and expectations still has a way to go.

In spite of its effect, the issue of acceptance-rejection did not prove to be as crucial as was initially assumed. One possible reason was mentioned earlier, regarding the definition of rejection as nonacceptance by the college of

first choice. There were only a few individuals who did not get into one of their three top college choices, and for many the choice of preference order was arbitrary and reportedly insignificant. Also, a comparison of accepted and rejected individuals reveals that significantly more rejections occurred in the more demanding (higher average SAT scores) colleges. It appears logical to assume that it is less frustrating or depressing to be rejected by a highly demanding school than by a less demanding one. The rejection effect is then moderated by an "acceptable failure", and its impact on self esteem or emotional adjustment is reduced.

It was the consensus among subjects, in an unstructured conversation following completion of data collection, that "The college business" was only one, and not necessarily the most important, highlight of that year. The second round of observation occurred within two weeks of college responses (between April 15 and April 30, 1975), which was intended to detect the responses at their emotional peak, but even so, the effect was only moderate.

What are the basic differences between accepted and rejected individuals? Data indicate that the rejected students were higher than the accepted ones in all affective measures (depression, anxiety, hostility) after the frustration, but only slightly before it. On the basis of initial affect levels it was impossible to predict acceptance or rejection. More than that, even Grade Point Average (GPA)

or SAT scores were similar for both groups, and the only significant differences were in the reactions to acceptance or rejection. Accepted individuals attributed more importance to their acceptance than rejected individuals attributed to their rejection, and the two groups were also different in their average frustration scores. The increased negative affect and frustration scores of rejected individuals point to the conclusion that rejection by college of choice has a negative effect, however moderate, on affective state and sense of frustration.

#### Depression and Locus of Control

The first hypothesis related to the relationship between Locus of Control (LOC) and Depression. Since feelings of helplessness and powerlessness are typical of depressed individuals, it was hypothesized that they will be accompanied by a belief in external control. It was pointed out that a tendency for self accusation is not identical and assuming responsibility for change, and depressed individuals do not take active steps to improve their situation. If Locus of Control is perceived as a measure of energy one is ready to allocate for change (with the belief that change will follow the effort) it becomes logical to expect that with the lack of such potential energy, frustration will lead to increased depression.

The concept of Locus of Control as originated in the Social Learning theory related to the effect of reinforcements

on expectancies as was described in Chapter II. Three factors are considered important in this effect: the nature of the reinforcement itself, whether positive or negative; the past history with such reinforcements; and the value attached to the reinforcement. All three contribute to a general expectancy, mostly effective in new or unfamiliar situations. In order to calculate the general expectancy for each individual, one has to have knowledge regarding these factors, as well as the "Psychological situation" in which the individual is.

In the present study the nature of the reinforcement (acceptance or rejection) was clearly defined. Since all subjects wanted to go to college, acceptance was logically perceived as a positive reinforcement, as opposed to rejection. Regarding past history, an attempt was made to control its effect by choosing a situation believed to be new for all subjects. College application is probably the first process in which the student or his family are not in control, and in which results are determined by others. In this particular area, no previous experience of this sort was believed to exist for any student. For the third variable--value of the reinforcement--it appeared that among prep-school students college acceptance would be generally very important, since it is the concrete expression of their success or failure of their years long efforts.

Many of the LOC studies failing to obtain significant results were laboratory experiments in which the degree of

ego-involvement was either limited or not controlled. There probably is an interaction between internal or external beliefs and reactions to given situations, but the situation has to be significant enough for this interaction to be meaningful. In this light some nonsignificant findings can be better understood [Hughes, 1972; Sullivan, 1972]. It was the idea of the present study to explore a situation in which artificial manipulations are avoided. To assure high degree of involvement in the situation, only students with clear college plans were included.

The assumption of equal meaning of LOC for both sexes was made in consideration of the academic strivings of all subjects, and in a simple measure of value attached to college acceptance sex differences were indeed insignificant.

If so, LOC could be assumed to have similar meanings for males and females, and to be of similar predictive value for both sexes. Results, however, pointed to significant sex differences. LOC correlates significantly with depression and other variables for males but not for females. In this sample, males and females had basically identical levels of LOC and depression, but only for males was external LOC related to depressive affect. This finding seems to reflect a sex difference in dealing with difficulties of adjustment, probably related to assuming responsibility for such difficulties. Calhoun, Cheney, and Dawes [1974] who explored a similar problem and were faced with a similar sex difference, found that for males there was no significant relationship

between depression and assumption of personal responsibility for mood, whereas for females there was. This might mean that males are better capable of externalizing the perceived source for their negative feelings than are females. In other words, depressed males are characterized by a tendency to blame factors outside of themselves for their depression, whereas females are more willing to look within themselves.

It seems possible, however, to view the sex difference from a different standpoint. Males in our society are expected to be more internal, as the ability to control the environment fits into the masculine stereotype. When a male feels he is not in control, when he holds a belief in external control, and is unable to "fit into the role"--this may be a source of depressive feelings. Females, on the other hand, are not expected to be internal, and being external, therefore, presents no conflict and no source of depression.

One has to remember that LOC is a belief a person holds as a result of life events and experiences which relate to uncertainty, unpredictability and variations in control. It is an approach which develops during the years and is therefore consistent and resistant to change. In the context of social expectations for internal attitudes, a life-long experience-based external approach cannot be easily abandoned. It gets into increasing conflict with social demands and may consequently lead to depression, especially when faced with frustration. This explains the general relationship between external LOC and depression for males, and the even stronger interaction effect of frustration and LOC.

In regard to this relationship a measure of curvilinearity (Appendix V) yielded negative results, and a linear regression line was concluded to best represent the nature of the relationship. This finding is in line with most studies,' and is especially reasonable considering the good adjustment level of the subjects. When Rotter [1966] first raised the curvilinearity hypothesis he related to the total population, including the mentally ill, but in a recent article [Rotter, 1975], after reviewing the evidence against it, concluded that "Our early hypothesis that LOC would have a curvilinear relationship to adjustment has not been borne out, but the fault may be in the methods of measurement of the adjustment variable." Since evidence comes from different studies, using different measures, it appears safe to conclude, though, that linearity rather than curvilinearity is the rule.

The kind of frustration observed in this study was related to academic achievement, an area traditionally considered most important for males but not for females. At present, not only are there still more male college students than females, but also fear of success among females remains almost as high as it used to be. Feather and Raphelson [1974], working on Australian and American samples of college students, reported a higher proportion of fear of success TAT stories to a female cue than to a male cue. Success was perceived as likely to have negative consequences for females more than for males, especially in the Australian sample, which indicates a strong socio-cultural effect.

In the present study rejection by college of choice had a considerable effect on the male students (in terms of depression level) but a smaller effect on the females. This is inspite of the fact that both males and females intended to go to college, and there was no significant sex difference in initial value attached to their college choices, or in their academic standing.

If success is anxiety provoking, and yet sought and attempted, it is reasonable to expect the existence of certain defenses to deal with such conflict. Several writers referred to defensive externality as an ego-defensive, anxiety reducing measure [Phares, et al., 1968; Thurber, 1972]. In attributing reinforcements and punishments to forces outside oneself, one is freed from responsibility for the outcomes of behavior, and is hence relieved of the personal threats those outcomes may incur. Since women still perceive academic success as contrary to traditional female role, they anticipate negative consequences such as social rejection or loss of femininity. They then adopt an external orientation which does not prevent success but at the same time presents an affirmation of expected feminine attitudes.

Viewed this way, external LOC has a quite different meaning than a "true" external belief, based on past experiences of no control. It is rather a mechanism to deal with fear of success. Internals and externals in such cases differ in their approach to success or failure only as far



as their explanation for it is concerned, not in the active strivings. Therefore no major differences are expected between internals and defensive externals as far as reactions to frustration are concerned.

The operational distinction between "true" and "defensive" externals is impossible on the I-E scale. On the basis of the presented considerations, however, one may suggest the possibility of a significantly higher proportion of defensive externality among females than among males. This seems to be the key to the findings of this study, regarding the significance of LOC differences (internals versus externals) for males but not for females. Only among males, for example, are internals more active in academic activities [Brown and Strickland, 1972]. Among females the correlation is insignificant since the external end of the LOC continuum is "contaminated" by defensive externals who are just as active as the other females who are less fearful of breaking the social stigma and hence adopt an openly internal approach. This does not mean that there are no true external females, but rather that as a whole the external female group consists of true and defensive externals, and the relationship with other variables is obscured by the average. This is especially true in areas in which women are not expected to excel (academics).

In general, then, it appears that when no differentiation is made within the concept, Locus of Control is a

significantly more meaningful and influential variable for males than for females.

### Internal Versus External Locus of Control

The preceding discussion of Locus of Control and Depression dealt with the issues raised by Hypotheses I and II. Strong sex differences in the meaning of LOC and its effects on adjustment were discussed, as was the linear nature of these relationships.

The fourth hypothesis of this study related to the relationship between LOC and realistic predictions and choices, and to other previously reported differences between internals and externals. Results clearly indicate that internals were not superior to externals in accuracy of SAT scores predictions or in realistic college choices. As a matter of fact, externals were considerably more accurate in their SAT predictions, while internals overestimated their ability. The reason for that seems to be in the internals' need to exhibit superior self confidence (lower Self Criticism for males), and willingness to risk an optimistic mistake. As far as actual ability is concerned there was no difference between the groups since they were comparable on Grade Point Average, SAT scores, percentage of acceptances, and average proportions of acceptances to applications for each student. There was no sex difference in actual ability between the groups.

These findings are in line with those of Hohmuth and Ramos [1965] and Prociuk [1973], who reported similar school

achievements for internals and externals. As a group, internals were less anxious than externals (males only) and probably less rigid, and the overestimation may well reflect a higher need level for success and achievement, as suggested by Butterfield [1964], and indirectly by Gold [1968].

In general, the study has shown that LOC represents a belief which is in significant correlations with certain characteristics and processes for males but not for females. It is a correlate of negative affect in "normal" conditions and in reaction to frustration, and is associated with different criteria of adjustment in general. It develops with experience and is consequently socially and culturally determined, which accounts for its discriminant significance for males and females.

#### Stability of Self Concept, LOC, and Depression

In its correlation with measures of Self Concept, LOC is once again a significant variable for males only. External males are more self critical and have a lower self esteem than internal males. This also appears to be culturally related since external beliefs are less acceptable for males than for females. It is interesting to note that external LOC was negatively related to the Defensive Positive (DP) score for males only. A low DP score indicates a lack in the defenses needed for maintaining even minimal self esteem. The fact that this correlation was negative for males only

reinforces the previously discussed impression that females' externality may be at least partly defensive in nature, and hence no lack in defenses is observed among female externals as a group. It is only the "true" externality and not the "defensive" one which is related to self criticism and to mechanisms to maintain self esteem.

Measures of inconsistency within the self concept, such as PI and SelfCon score (SC + V + Conf) failed to correlate significantly with LOC for either sex. One possibility is that an external belief may be well incorporated into one's self perception, even though one's satisfaction is very low (low Tot Pos). A person who consistently experienced lack of control in dealing with his environment may have low self esteem and yet a clear self concept. It would appear that the consistency of the experiences is of major importance in this relationship. Another possibility, not unrelated to the first one, is that stability of self concept depends on a wide range of experiences, of which control or lack of control is only one, and not necessarily a crucial one. In general, the findings do not allow definite conclusions on this issue.

Self concept and its stability were the center of the fifth hypothesis, regarding their relationship with depression. It was hypothesized that individuals with low self esteem and unstable self concept would have higher levels of depression than others. The relationship between low

self esteem and depression was under increasing attention as psychoanalytic theory developed, and was broadly discussed by Fenichel and Bibring (see Chapter II). Fenichel [1945] pointed out that the precipitating experience to depression was either actual loss of self esteem, or loss of supplies needed to secure or enhance self esteem. He emphasized that for each individual such experiences would differ, according to components of self esteem, and as example, pointed to sex differences in the relative importance of education. Findings of this study do not reveal marked sex differences in the relationship between self esteem and depression, but point to a generally negative correlation.

The conceptualization of depression as an expression of a state of helplessness and of decrease in self esteem, was borrowed from Bibring [1951]. Bibring claimed that early experiences of severe helplessness may establish fixation of the ego to a state of helplessness, a state which may later be reactivated whenever situations arise which resemble the primary, early, condition. It is implied that any negative experience may be differently interpreted by different individuals according to their unique sensitivities and "fixation points." In this respect, then, rejection by college of choice may arouse different earlier experiences in different students, but the end result (depression) may still be the same. This notion was not directly tested in this study, but findings do support the close relationship between self esteem and depression, and the generally negative effect of rejection. The

fact that rejection did not significantly correlate with change in esteem is not necessarily contradictory to Bibring's theory. It was mentioned earlier in the discussion that the acceptance-rejection issue was perceived by the students as important but not as the most important event in the senior year. They consistently claimed that they were troubled by other issues which had nothing to do with college, but which were related to other aspects of their self concept. Among the issues mentioned most were interpersonal, sexual, and family relations. Any event in each of these spheres, which brings about a decrease in self esteem may have a depressing effect, which would neutralize the effect of acceptance or rejection. Unless one event has a major "main effect" in a given period all other relevant experiences must be considered in predicting depression. Present data is certainly not enough to prove or disprove Bibring's ideas, but combined data from all measures seems to indicate that they are useful as a framework for understanding depressive reactions.

#### Future Time Perspective and Depression

Findings of this study indicate shorter future extension and earlier estimated age of death for depressed as compared to nondepressed individuals. The correlations are rather small, at least partly because the depressive reactions observed here were of much lesser severity and intensity than, for example, in Dilling and Rabin's [1967] study. Also, the present sample consisted of adolescents exclusively, which

is a unique group even in the area of time perception. Webb and Mayers [1974] for example, found that around age 16 adolescents of both sexes become less future oriented than they were before and than they will be at older age levels. They concluded that the ability for future extension was related to ability to delay gratifications. In a group of individuals just about to commit themselves for four years of further study, considerable ability to delay gratification can be assumed to exist, and hence an extended Future Time Perspective, as indeed appeared to exist. (Average estimated age of death was 80, and mean future extension was 54.)

The correlation of restricted Future Time Perspective with negative affect and general maladjustment, previously reported in the literature [Foulkes and Webb, 1970; Krauss and Ruiz, 1967] appears to be reproduced here. Not only depressive reactions correlated with mean future extension, but so did anxiety. The situational stress under which present subjects functioned probably contributed to this relationship as well.

The hypothesis of simultaneous development of Future Time Perspective and Locus of Control remains to be examined. There was no significant correlation between the two in this study, and it appears that even if they do develop in a certain common direction with age, the coordination is very loose. Also, one has to take into consideration the fact that Future Time Perspective was measured at an unsettled period in which

immediacy was the rule for certain events (graduation, leaving home for college), and postponement--for certain others. It would appear that at less stressful periods these tendencies would be less apparent. What is needed is an examination of the relationship between future extension and other variables at different age levels to determine the course of its development. In general, however, it appears that a less depressed and more optimistic outlook is paralleled by a deeper time extension into the future.

The fact that in this sample females estimated age of general satisfaction as occurring earlier than did males (47 versus 54 years of age, respectively) is probably another reflection of the social arrangement in which males are expected to achieve more before than can be satisfied. Part of the sex difference is due to a higher proportion of males stating that they expect never to be fully satisfied with what they have. This also appears to be related to the same traditional belief that females' expectations are not as high as males', and therefore chances for their fulfillment, and at an earlier age, are higher. However, sex differences in this area were rather small, which calls for caution in interpretation. In a normal population the rough measure used here can only point to general trends rather than allow for definite conclusions.



## CHAPTER VI

### SUMMARY AND CONCLUSIONS

The study concentrated on some personality variables in the context of situational changes in the senior high school year. Special interest was in depressive reactions to acceptance or rejection by college of one's choice, which was assumed to be one of the highlights of that year, especially among prep-school students. Depressive reactions were conceptualized within Bibring's framework of depression as an expression of decrease in one's self esteem. The interest in depression arose since it is a rather common reaction at this age. This was also the reason behind the attempt to identify predictors of such reactions, so that preventive measures may be taken in advance.

Four variables were observed in their relations to depressive reactions:

1. Initial level of depression, which is the extent of depressive manifestations under "normal" conditions, rather than as reaction to "frustration."
2. Locus of Control, which a person's belief in control over gratifications, or in a wider sense, a belief in ability to effectively influence one's position in the environment.

3. Stability of Self Concept, which is the relative lack of conflict between different aspects of self perception. This is not stability over time, but rather a balanced equilibrium at any given moment.
4. Future Time Perspective, which is the general timetable of an individual regarding certain probable events in the future up to his death.

One hundred and fifty six high school students (95 males and 61 females) were observed twice during the senior year. First at time of application to colleges (October-November, 1974), and again at time of acceptance or rejection by these colleges (April, 1975). It was hypothesized that external LOC, unstable self concept, and restricted future extension will be related to depressive feelings in general, and to depressive reactions to rejection by college of choice in particular.

Statistical analysis arrived at the following findings:

1. Locus of Control was a significant correlate of depression for males only. This was interpreted as reflecting sex differences in social roles as far as control and initiative are concerned. Mean scores on both LOC and depression were equal for males and females, but the significance of the concept was considerably higher for males as a group. The possibility of high proportion of "defensive externality" among females was discussed.
2. Self esteem or the lack of self criticism was negatively related to depression. Instability within the self

concept was positively related to depression, and to external LOC for males only. All findings were in the expected direction.

3. Future orientation was a rather weak correlate of depression, even though the trend was in the expected direction. This was probably related to the overall good adjustment of the subjects and to the unique circumstances in which the measure was taken.
4. For predictive purposes, initial level of depression was the best single predictor of depressive reactions to rejection by college of choice. The three other observed variables (Locus of Control, stability of Self Concept, and Future Time Perspective) were considerably weaker predictors. Initial level of depression, when taken by itself, was a better predictor for females, whereas for males the interaction of initial depression with Locus of Control had greater predictive power.
5. Rejection by college of choice had an effect on level of depression, especially for males. As a group the rejected individuals became more depressed following the rejection (Time 2), as compared to those accepted. The effect was, however, moderate, probably due to two reasons: a) rejection was defined as nonacceptance to first choice college, not as rejection by all colleges and b) students experienced other events during that period, subjectively perceived as equally important to acceptance or rejection.

6. The use of the Multiple Affect Adjective Check List (MAACL) and the Manifest Affect Rating Scale (MARS) as parallel measures of depression in a normal population was suggested. Both measures obtained similar results in spite of differences in structure and response procedures.

The study points to some of the important correlates of depression, and calls special attention to sex differences. It does not, however, offer a concrete formula to predict depression, since more of the independent variables correlated highly enough with the post-depression. On the basis of these findings it is not possible to make accurate individual predictions as to who will develop depression following rejection, and it appears that additional variables have to be considered in attempts to make such predictions. Also, the unique nature of the sample--private high school students--has to be considered before generalizing findings to the total age group. It can be speculated that acceptance-rejection by college of choice will have slighter effects on a less competitive population, and other experiences of high relevance to self esteem will have to be observed. The detection of such experiences and their evaluation remains to be explored in further research.

## APPENDICES

APPENDIX I

SCALES ADMINISTERED AT FIRST ROUND

Personal Information (Time 1)

Name: \_\_\_\_\_ Sex: \_\_\_\_\_

1. What do you want to study in College? \_\_\_\_\_

2. Do you intend to continue studying beyond College? \_\_\_\_\_

What Field? (If undecided, write so) \_\_\_\_\_

3. What academic degree do you hope to obtain eventually? \_\_\_\_\_

How long will it take? (Estimated number of years) \_\_\_\_\_

4. Below are 3 columns. In the first please rank the Colleges you would like to attend, starting with the one that is your first, most favorable choice. In the second column rank the schools your parents would have liked you to attend, again starting with their first choice. In the third column, please rank the Colleges you intend to apply to, and that you feel you have reasonable chances to get accepted to, again in order of preference (first choice first).

Schools <u>you</u> would like	<u>Parents'</u> choice	Schools you <u>will apply</u> to
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
3. _____	3. _____	3. _____
4. _____	4. _____	4. _____
5. _____	5. _____	5. _____

How many schools are you going to apply to? \_\_\_\_\_

5. How much would it matter to you if you got accepted into your second-choice College rather than the first (as ranked in column 3 above)?

Very much	Much	Some	A little	Very little
X-----	X-----	X-----	X-----	X-----

6. Briefly, why did you choose College No. 1. as your first choice (as indicated in column 3 above)?

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7. What is your estimated score on your final SAT exam?  
 (Please resist the temptation to give a "safe",  
 minimum score; we are interested in a true estimate.)  
 If you have already received your scores mark an  
 "X" here \_\_\_\_\_.

Math: \_\_\_\_\_ Verbal: \_\_\_\_\_

8. What was your score on the PSAT? Math: \_\_\_\_\_ Verbal: \_\_\_\_\_
9. What has been your grade point average in the last year?  
 (Junior year) \_\_\_\_\_

For the following items please estimate how old might you be when:

1. Your first grandchild is born. \_\_\_\_\_
2. You die. \_\_\_\_\_
3. You are too old to be physically active. \_\_\_\_\_
4. Your youngest child leaves home. \_\_\_\_\_
5. Your mother dies. \_\_\_\_\_
6. You have reached middle age. \_\_\_\_\_
7. You can no longer have children. \_\_\_\_\_
8. You can say that you have most of the things you want. \_\_\_\_\_
9. You get married. \_\_\_\_\_
10. Your first child is born. \_\_\_\_\_
11. Your father dies. \_\_\_\_\_
12. You lose interest in sexual activities. \_\_\_\_\_





The Multiple Affect Adjective Check List (MAACL)

Below you will find words which describe different kinds of moods and feelings. Mark an X besides the words which describe how you have felt in the last month. Some of the words may sound alike, but please check all the words that describe your feelings in the last month. Work rapidly.

- |                                       |                                       |                                       |
|---------------------------------------|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> Active       | <input type="checkbox"/> Contented    | <input type="checkbox"/> Frank        |
| <input type="checkbox"/> Adventurous  | <input type="checkbox"/> Contrary     | <input type="checkbox"/> Free         |
| <input type="checkbox"/> Affectionate | <input type="checkbox"/> Cool         | <input type="checkbox"/> Friendly     |
| <input type="checkbox"/> Afraid       | <input type="checkbox"/> Cooperative  | <input type="checkbox"/> Frightened   |
| <input type="checkbox"/> Agitated     | <input type="checkbox"/> Critical     | <input type="checkbox"/> Furious      |
| <input type="checkbox"/> Agreeable    | <input type="checkbox"/> Cross        | <input type="checkbox"/> Gay          |
| <input type="checkbox"/> Aggressive   | <input type="checkbox"/> Cruel        | <input type="checkbox"/> Gentle       |
| <input type="checkbox"/> Alive        | <input type="checkbox"/> Daring       | <input type="checkbox"/> Glad         |
| <input type="checkbox"/> Alone        | <input type="checkbox"/> Desperate    | <input type="checkbox"/> Gloomy       |
| <input type="checkbox"/> Amiable      | <input type="checkbox"/> Destroyed    | <input type="checkbox"/> Good         |
| <input type="checkbox"/> Amused       | <input type="checkbox"/> Devoted      | <input type="checkbox"/> Good Natured |
| <input type="checkbox"/> Angry        | <input type="checkbox"/> Disagreeable | <input type="checkbox"/> Grim         |
| <input type="checkbox"/> Annoyed      | <input type="checkbox"/> Discontented | <input type="checkbox"/> Happy        |
| <input type="checkbox"/> Awful        | <input type="checkbox"/> Discouraged  | <input type="checkbox"/> Healthy      |
| <input type="checkbox"/> Bashful      | <input type="checkbox"/> Disgusted    | <input type="checkbox"/> Hopeless     |
| <input type="checkbox"/> Bitter       | <input type="checkbox"/> Displeased   | <input type="checkbox"/> Hostile      |
| <input type="checkbox"/> Blue         | <input type="checkbox"/> Energetic    | <input type="checkbox"/> Impatient    |
| <input type="checkbox"/> Bored        | <input type="checkbox"/> Enraged      | <input type="checkbox"/> Incensed     |
| <input type="checkbox"/> Calm         | <input type="checkbox"/> Enthusiastic | <input type="checkbox"/> Indignant    |
| <input type="checkbox"/> Cautious     | <input type="checkbox"/> Fearful      | <input type="checkbox"/> Inspired     |
| <input type="checkbox"/> Cheerful     | <input type="checkbox"/> Fine         | <input type="checkbox"/> Interested   |
| <input type="checkbox"/> Clean        | <input type="checkbox"/> Fit          | <input type="checkbox"/> Irritated    |
| <input type="checkbox"/> Complaining  | <input type="checkbox"/> Forlorn      | <input type="checkbox"/> Jealous      |

<input type="checkbox"/> Joyful	<input type="checkbox"/> Pleasant	<input type="checkbox"/> Sympathetic
<input type="checkbox"/> Kindly	<input type="checkbox"/> Polite	<input type="checkbox"/> Tame
<input type="checkbox"/> Lonely	<input type="checkbox"/> Powerful	<input type="checkbox"/> Tender
<input type="checkbox"/> Lost	<input type="checkbox"/> Quiet	<input type="checkbox"/> Tense
<input type="checkbox"/> Loving	<input type="checkbox"/> Reckless	<input type="checkbox"/> Terrible
<input type="checkbox"/> Low	<input type="checkbox"/> Rejected	<input type="checkbox"/> Terrified
<input type="checkbox"/> Lucky	<input type="checkbox"/> Rough	<input type="checkbox"/> Thoughtful
<input type="checkbox"/> Mad	<input type="checkbox"/> Sad	<input type="checkbox"/> Timid
<input type="checkbox"/> Mean	<input type="checkbox"/> Safe	<input type="checkbox"/> Tormented
<input type="checkbox"/> Meek	<input type="checkbox"/> Satisfied	<input type="checkbox"/> Understanding
<input type="checkbox"/> Merry	<input type="checkbox"/> Secure	<input type="checkbox"/> Unhappy
<input type="checkbox"/> Mild	<input type="checkbox"/> Shaky	<input type="checkbox"/> Unsociable
<input type="checkbox"/> Miserable	<input type="checkbox"/> Shy	<input type="checkbox"/> Upset
<input type="checkbox"/> Nervous	<input type="checkbox"/> Soothed	<input type="checkbox"/> Vexed
<input type="checkbox"/> Obliging	<input type="checkbox"/> Steady	<input type="checkbox"/> Warm
<input type="checkbox"/> Offended	<input type="checkbox"/> Stubborn	<input type="checkbox"/> Whole
<input type="checkbox"/> Outraged	<input type="checkbox"/> Stormy	<input type="checkbox"/> Wild
<input type="checkbox"/> Panicky	<input type="checkbox"/> Strong	<input type="checkbox"/> Willful
<input type="checkbox"/> Patient	<input type="checkbox"/> Suffering	<input type="checkbox"/> Wilted
<input type="checkbox"/> Peaceful	<input type="checkbox"/> Sullen	<input type="checkbox"/> Worrying
<input type="checkbox"/> Pleased	<input type="checkbox"/> Sunk	<input type="checkbox"/> Young

In the following questionnaire each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair ( and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. Be sure to find an answer for every choice. Circle the letter of the statement in each pair which you believe is most true.

1. a. Children get into trouble because their parents punish them too much.  
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.  
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.  
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.  
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.  
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.  
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.  
b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.  
b. It is one's experiences in life which determine what they are like.
9. a. I have often found that what is going to happen will happen.  
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.  
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

\_\_\_\_\_

\_\_\_\_\_

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.  
b. Getting a good job depends mainly on being in the right place at the right time.
12. a. The average citizen can have an influence in government decisions.  
b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. a. When I make plans, I am almost certain I can make them work.  
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. There are certain people who are just no good.  
b. There is some good in everybody.
15. a. In my case getting what I want has little or nothing to do with luck.  
b. Many times we might just as well decide what to do by flipping a coin.
16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.  
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand or control.  
b. By taking an active part in political and social affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.  
b. There is really no such thing as "luck".
19. a. One should always be willing to admit mistakes.  
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.  
b. How many friends you have depends on how nice a person you are.
21. a. In the long run the bad things that happen to us are balanced by the good ones.  
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. a. With enough effort we can wipe out political corruption.  
b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.  
b. There is a direct connection between how hard I study and the grades I get.
24. a. A good leader expects people to decide for themselves what ~~they~~ should do.  
b. A good leader makes it clear to everybody what their jobs are.
25. a. Many times I feel that I have little influence over the things that happen to me.  
b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a. People are lonely because they don't try to be friendly.  
b. There's not much use in trying too hard to please people, if they like you, they like you.
27. a. There is too much emphasis on athletics in highschool.  
b. Team sports are an excellent way to build character.
28. a. What happens to me is my duty doing.  
b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a. Most of the time I can't understand why politicians behave the way they do.  
b. In the long run people are responsible for bad government on a national as well as on a local level.

The statements below are to help you describe yourself as you have seen yourself in the last month. Please respond to them as if you were describing yourself to yourself. Do not omit any item. Read each statement carefully, then select one of the five responses listed below, and put a circle around the response you choose on the answer sheet.

Completely false	Mostly false	Partly false & partly true	Mostly true	Completely true
1	2	3	4	5

(for example: If you think a statement is mostly true, circle number 4 for that statement on the answer sheet, etc.) You will find these response numbers repeated at the top of each page to help you remember them.

Please make sure in marking your answers that the item number on the answer sheet corresponds with the item number listed below. (They are not in consecutive order!). The numbers below correspond with those in white areas (right) answer sheet.

1. I have a healthy body.
3. I am an attractive person.
5. I consider myself a sloppy person.
19. I am a decent sort of person.
21. I am an honest person.
23. I am a bad person.
37. I am a cheerful person.
39. I am a calm and easy going person.
41. I am a nobody.
55. I have a family that would always help me in any kind  
of trouble.
57. I am a member of a happy family.
59. My friends have no confidence in me.
73. I am a friendly person.
75. I am popular with men.
77. I am not interested in what other people do.
91. I do not always tell the truth.
93. I get angry sometimes.





Completely false 1	Mostly false 2	Partly false & partly true 3	Mostly true 4	Completely true 5
--------------------------	----------------------	------------------------------------	---------------------	-------------------------

The item numbers on this page correspond with the dark areas in the right column on the answer sheet.

- 2. I like to look nice and neat all the time.
- 4. I am full of aches and pains.
- 6. I am a nice person.
- 20. I am a religious person.
- 22. I am a moral failure.
- 24. I am a morally weak person.
- 38. I have a lot of self control.
- 40. I am an hateful person.
- 42. I am losing my mind.
- 56. I am an important person to my friends and family.
- 58. I am not liked by my family.
- 60. I feel that my family does not trust me.
- 74. I am popular with women.
- 76. I am mad at the whole world.
- 78. I am hard to be friendly with.
- 92. Once in a while I think of things too bad to talk about.
- 94. Sometimes when I am not feeling well I am cross.



-3-

Completely false 1	Mostly false 2	Partly false & partly true 3	Mostly true 4	Completely true 5
--------------------------	----------------------	------------------------------------	---------------------	-------------------------

The item numbers on this page correspond with the white areas in the middle column on the answer sheet.

- 7. I am neither too fat nor too thin.
- 9. I like my looks just the way they are.
- 11. I would like to change some parts of my body.
- 25. I am satisfied with my moral behavior.
- 27. I am satisfied with my relationship to God.
- 29. I ought to go to church (or synagogue) more.
- 43. I am satisfied being just what I am.
- 45. I am just as nice as I should be.
- 47. I despise myself.
- 61. I am satisfied with my family relationship.
- 63. I understand my family as well as I should.
- 65. I should trust my family more.
- 79. I am as sociable as I want to be.
- 81. I try to please others, but I don't overdo it.
- 83. I am no good at all from a social standpoint.
- 95. I do not like everyone I know.
- 97. Once in a while I laugh at a dirty joke.

Turn to next page



-4-

Completely false 1	Mostly false 2	Partly false & partly true 3	Mostly true 4	Completely true 5
--------------------------	----------------------	------------------------------------	---------------------	-------------------------

The item numbers on this page correspond with the dark areas in the middle column on the answer sheet.

- 8. I am neither too tall nor too short.
- 10. I don't feel as well as I should.
- 12. I should have more sex appeal.
- 26. I am as religious as I want to be.
- 28. I wish I could be more trustworthy.
- 30. I shouldn't tell so many lies.
- 44. I am as smart as I want to be.
- 46. I am not the person I would like to be.
- 48. I wish I didn't give up as easily as I do.
- 62. I treat my friends as well as I should.
- 64. I am not sensitive to things my family say.
- 66. I should love my family more.
- 80. I am satisfied with the way I treat other people.
- 82. I should be more polite to others.
- 84. I ought to get along better with other people.
- 96. I gossip a little at times.
- 98. At times I feel like swearing.

Turn to next page

Completely false 1	Mostly false 2	Partly false & partly true 3	Mostly true 4	Completely true 5
--------------------------	----------------------	------------------------------------	---------------------	-------------------------

The item numbers on this page correspond with the white areas on the left column on the answer sheet

- 13. I take good care of myself physically.
- 15. I try to be careful about my appearance.
- 17. I often act like I am "all thumbs".
- 31. I am true to my religion on my everyday life.
- 33. I try to change when I know that I am doing things that  
are wrong.
- 35. I sometimes do very bad things.
- 49. I can always take care of myself in any situation.
- 51. I take the blame for things without getting mad.
- 53. I do things without thinking about them first.
- 67. I try to play fair with my friends and family.
- 69. I take a real interest in my family.
- 71. I give in to my parents.
- 85. I try to understand the other fellow's point of view.
- 87. I get along well with other people.
- 89. I do not forgive others easily.
- 99. I would rather win than lose a game.





-6-

Completely false 1	Mostly false 2	Partly false & partly true 3	Mostly true 4	Completely true 5
--------------------------	----------------------	------------------------------------	---------------------	-------------------------

The item numbers on this page correspond with the dark area in the left column on the answer sheet.

- 14. I feel good most of the time.
- 16. I do poorly in sports and games.
- 18. I am a poor sleeper.
- 32. I do what is right most of the time.
- 34. I sometimes use unfair means to get ahead.
- 36. I have trouble doing the things that are right.
- 50. I solve my problems quite easily.
- 52. I change my mind a lot.
- 54. I try to run away from my problems.
- 68. I do my share of work.
- 70. I quarrel with my family.
- 72. I do not act like my family thinks I should.
- 86. I see good points in all the people I meet.
- 88. I do not feel at ease with other people.
- 90. I find it hard to talk with strangers.
- 100. Once in a while I put off until tomorrow what I ought  
to do today.

95  
The Manifest Affect Rating Scale (MARS)

In the following statements please indicate by making a check in the appropriate space to the right of each statement whether in the last month you have had these feelings to an (A) intense degree, (B) moderately, (C) slightly, or (D) not at all.

	INTENSELY	MODERATELY	SLIGHTLY	NOT AT ALL	
1. I feel cheerful and happy.	_____	_____	_____	_____	1
2. I have a feeling of joy.	_____	_____	_____	_____	2
3. I am ashamed of myself.	_____	_____	_____	_____	3
4. I feel comfortable and at ease.	_____	_____	_____	_____	4
5. I feel inwardly contented.	_____	_____	_____	_____	5
6. I feel tense and jumpy.	_____	_____	_____	_____	6
7. I have a guilty reaction.	_____	_____	_____	_____	7
8. I have plenty of pep and bounce.	_____	_____	_____	_____	8
9. I have butterflies in my stomach.	_____	_____	_____	_____	9
10. I feel like smiling most of the time.	_____	_____	_____	_____	10
11. I feel happy and fun loving.	_____	_____	_____	_____	11
12. I am feeling safe and secure.	_____	_____	_____	_____	12
13. "Nothing to worry about" describes my feelings.	_____	_____	_____	_____	13
14. It is as though I deserve a reward.	_____	_____	_____	_____	14
15. I am tuned up and set to go.	_____	_____	_____	_____	15
16. I am as fit as a fiddle.	_____	_____	_____	_____	16
17. I have lots of vim and vigor.	_____	_____	_____	_____	17
18. I am happy as a lark.	_____	_____	_____	_____	18
19. I have feelings of pessimism.	_____	_____	_____	_____	19
20. My breathing is easy.	_____	_____	_____	_____	20
21. I have a feeling of self respect.	_____	_____	_____	_____	21
22. Feelings of fright are on my mind.	_____	_____	_____	_____	22
23. I am relaxed and unafraid.	_____	_____	_____	_____	23

	INTENSELY	MODERATELY	SLIGHTLY	NOT AT ALL	
24. It is as if I am weighted down and burdened.	_____	_____	_____	_____	24
25. I am on edge with apprehension.	_____	_____	_____	_____	25
26. I have troublesome fears and worries.	_____	_____	_____	_____	26
27. I have been striking things.	_____	_____	_____	_____	27
28. I feel resentful and angry.	_____	_____	_____	_____	28
29. I am filled with anger.	_____	_____	_____	_____	29
30. I have been jumping at the slightest noise.	_____	_____	_____	_____	30
31. I feel I have been doing the right things.	_____	_____	_____	_____	31
32. I feel as if I could cry.	_____	_____	_____	_____	32
33. I am expecting a lot of trouble.	_____	_____	_____	_____	33
34. My hands have been trembling.	_____	_____	_____	_____	34
35. I think the outlook is bleak.	_____	_____	_____	_____	35
36. Life is a delight for me.	_____	_____	_____	_____	36
37. I have a sure, solid feeling.	_____	_____	_____	_____	37
38. I have a sense of secureness.	_____	_____	_____	_____	38
39. I feel affectinately warm.	_____	_____	_____	_____	39
40. I feel contemptible and inferior.	_____	_____	_____	_____	40
41. I have sociable and considerate feelings.	_____	_____	_____	_____	41
42. I expect good things to come my way.	_____	_____	_____	_____	42
43. I am filled with sorrow.	_____	_____	_____	_____	43
44. I am choked up with sadness.	_____	_____	_____	_____	44
45. I feel like cursing to myself.	_____	_____	_____	_____	45
46. A sense of unhappiness describes my mood.	_____	_____	_____	_____	46
47. I have felt like scowling or glaring.	_____	_____	_____	_____	47
48. I have a feeling of hope.	_____	_____	_____	_____	48
49. Life seems pointless to me.	_____	_____	_____	_____	49

INTENSELY  
MODERATELY  
SLIGHTLY  
NOT AT ALL

50. I feel cold and sweaty.	_____	_____	_____	_____	50
51. My breathing has been rapid.	_____	_____	_____	_____	51
52. My heart is pounding.	_____	_____	_____	_____	52
53. It feels as if I've done something wrong.	_____	_____	_____	_____	53
54. I feel genial and sympathetic.	_____	_____	_____	_____	54
55. I think that good times are ahead.	_____	_____	_____	_____	55
56. Uneasy nervousness is troubling me.	_____	_____	_____	_____	56
57. A sense of hopelessness is bothering me.	_____	_____	_____	_____	57
58. I am exhausted and slowed down.	_____	_____	_____	_____	58
59. I can't seem to get going.	_____	_____	_____	_____	59
60. I feel helpless and washed out.	_____	_____	_____	_____	60
61. I feel proud of myself.	_____	_____	_____	_____	61
62. I feel critical and irritated.	_____	_____	_____	_____	62
63. I have a good-for-nothing feeling.	_____	_____	_____	_____	63
64. I feel like hitting people.	_____	_____	_____	_____	64
65. My voice is particularly loud.	_____	_____	_____	_____	65
66. I feel things will turn out well.	_____	_____	_____	_____	66
67. I feel thoroughly decent.	_____	_____	_____	_____	67
68. My feelings are melancholy.	_____	_____	_____	_____	68
69. I have a generous, warm hearted feeling.	_____	_____	_____	_____	69
70. The "other fellow" seems likeable.	_____	_____	_____	_____	70
71. Close and friendly is how I feel.	_____	_____	_____	_____	71
72. "Just plain mad" describes my mood.	_____	_____	_____	_____	72
73. The future is bright for me.	_____	_____	_____	_____	73
74. I feel adequate and worthwhile.	_____	_____	_____	_____	74
75. I seem to be spoiling for a fight.	_____	_____	_____	_____	75
76. I have a sense of optimism.	_____	_____	_____	_____	76

	INTENSELY	MODERATELY	SLIGHTLY	NOT AT ALL	
77. My fists have felt tight and clenched.	_____	_____	_____	_____	77
78. I am drained of drive and energy.	_____	_____	_____	_____	78
79. I have a sense of anxiety.	_____	_____	_____	_____	79
80. My limbs feel relaxed.	_____	_____	_____	_____	80
81. Full of energy describes my feelings.	_____	_____	_____	_____	81
82. I feel active and alert.	_____	_____	_____	_____	82
83. I am feeling downcast.	_____	_____	_____	_____	83
84. It seems I am not worth much.	_____	_____	_____	_____	84
85. It is an effort to go on.	_____	_____	_____	_____	85
86. I am gloomy about the future.	_____	_____	_____	_____	86
87. I feel annoyed and grouchy.	_____	_____	_____	_____	87

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. The document outlines the various methods used to collect and analyze data, ensuring that the information is reliable and valid. It also mentions the need for regular audits to verify the accuracy of the records.

The second part of the document focuses on the financial aspects of the organization. It provides a detailed breakdown of the budget, showing the allocation of funds across different departments and projects. The document also includes a comparison of the actual expenses with the budgeted amounts, highlighting any variances and the reasons behind them. This section is crucial for understanding the financial health of the organization and for making informed decisions about future spending.

The third part of the document discusses the operational aspects of the organization. It describes the various processes and procedures that are in place to ensure the smooth running of the organization. This includes the recruitment and training of staff, the management of resources, and the implementation of quality control measures. The document also mentions the need for continuous improvement and the importance of staying up-to-date with the latest industry trends and technologies.

The fourth part of the document discusses the legal and regulatory aspects of the organization. It outlines the various laws and regulations that the organization must comply with, and the steps taken to ensure compliance. This includes the implementation of data protection policies, the management of intellectual property, and the adherence to environmental regulations. The document also mentions the need for regular legal reviews to ensure that the organization is always up-to-date with the latest legal requirements.

The fifth part of the document discusses the future plans of the organization. It outlines the various strategies and initiatives that are being implemented to achieve the organization's long-term goals. This includes the expansion of the organization's reach, the development of new products and services, and the implementation of sustainable practices. The document also mentions the need for ongoing communication and collaboration with stakeholders to ensure that the organization is always aligned with their needs and expectations.

APPENDIX II

PERSONAL INFORMATION QUESTIONNAIRE (TIME 2)

AND FUTURE TIME PERSPECTIVE SCALE

99

Personal Information (Time 2)

Name: \_\_\_\_\_ Sex: \_\_\_\_\_ Age: \_\_\_\_\_

Father's age: \_\_\_\_\_ Mother's age: \_\_\_\_\_

What was your final SAT score? Verbal: \_\_\_\_\_ Math: \_\_\_\_\_

1. Below please list the colleges you have applied to in order of preference (regardless of acceptance or rejection by these colleges):

1. \_\_\_\_\_ ( )

2. \_\_\_\_\_ ( )

3. \_\_\_\_\_ ( )

4. \_\_\_\_\_ ( )

5. \_\_\_\_\_ ( )

2. Next to each college listed above, please mark in the parentheses as follows: A -if you have been accepted; N -if you have not been accepted; ? -if you don't know yet.

3. What college will you go to next year? \_\_\_\_\_

- 4a. If you were not accepted by college No. 1 above, how important is it to you (that you were not accepted)?

**Very much**               **much**               **some**               **A little**               **Very little**

x-	-	-	-	-	-x-	-	-	-	-	-x-	-	-	-	-x-	-	-	-	-	-x
----	---	---	---	---	-----	---	---	---	---	-----	---	---	---	-----	---	---	---	---	----

- 4b. If you were accepted by college No. 1 above, how important is it to you (that you were accepted)?

**Very much                      much                      some                      A Little                      Very little**

**X- - - - -X- - - - -X- - - - -X- - - - -X**

5. In what way have your expectations been influenced by acceptance or rejection by the colleges to which you applied?

Very  
negatively      negatively      Not at all      Positively      Very  
positively  
X- - - - - -X- - - - - -X- - - - - -X- - - - - -X



6.

7.

8.

9. a.

a.

v.

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L.

a.

b.

4. Wh

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high

2

Lis

a.

b.

6. To what degree are you satisfied with the responses you received from the colleges to which you applied for admittance?

Very					Very
satisfied	satisfied	neutral	dissatisfied	dissatisfied	
x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x

7. To what degree are your parents satisfied with the colleges' responses?

Very					Very
satisfied	satisfied	neutral	dissatisfied	dissatisfied	
x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x

8. Compared to most students in your class, how do you feel about the colleges' responses?

Much more	more	about	less	Much less
satisfied	satisfied	the same	satisfied	satisfied
x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x

9. What is the probability that you might want to transfer to another college within the next two years?

Very				Very
high	high	fair	low	low
x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x

List possible reasons:

a. \_\_\_\_\_

b. \_\_\_\_\_

10. What is the probability of your being frustrated at the college to which you are going?

Very				Very
high	high	fair	low	low
x- - - - -	-x- - - - -	-x- - - - -	-x- - - - -	-x

List possible reasons:

a. \_\_\_\_\_

b. \_\_\_\_\_

Future Time Perspective (FTP) Questionnaire

For the following items please estimate how old  
might you be when:

1. Your first grandchild is born. \_\_\_\_\_
2. You die. \_\_\_\_\_
3. You are too old to be physically active. \_\_\_\_\_
4. Your youngest child leaves home. \_\_\_\_\_
5. Your mother dies. \_\_\_\_\_
6. You have reached middle age. \_\_\_\_\_
7. You can no longer have children. \_\_\_\_\_
8. You can say that you have most of the things you want. \_\_\_\_\_
9. You get married. \_\_\_\_\_
10. Your first child is born. \_\_\_\_\_
11. Your father dies. \_\_\_\_\_
12. You lose interest in sexual activities. \_\_\_\_\_



APPENDIX III

MEANS, STANDARD DEVIATIONS AND COMPARABILITY  
OF THE MULTIPLE AFFECT ADJECTIVE CHECK LIST AND  
THE MANIFEST AFFECT RATING SCALE

## THE MARS AND THE MAACL

Both the MARS and the MAACL were used as measures of affective states (depression, anxiety, hostility, and positive feelings).

Information regarding validity and reliability of both instruments was presented in the Instruments section of Chapter III. Split half test of reliability was repeated in this study, and yielded correlations of .82 for the MAACL, and .91 for the MARS.

Below are means and standard deviations of the two instruments. For the MAACL each scale supplied two scores: a) total score, which is the sum of negative adjectives checked and positive adjectives not checked (for each scale), and b) "+" score which is the number of negative adjectives checked for each scale. Obviously the total score is at least as high as the "+" score.

Findings point to significant sex differences in depression and anxiety, with females more depressed and more anxious. The difference on the MAACL is attributed to the "+" scores, which means that females checked significantly more adjectives (especially negative ones) than did males. Though not significant, females had a higher level of depression than males, which is in line with often reported findings.

Table III.1. Means and Standard Deviations of the Multiple Affect Adjective Check List (MAACL) and the Manifest Affect Rating Scale (MARS) at Time 1

	Total		Males		Females		t 'Bet Sexes
	Mean	SD	Mean	SD	Mean	SD	
MAACL Dtot	13.27	6.00	12.55	5.51	14.38	6.55	-1.81
D+	2.82	3.62	1.93	2.44	4.17	4.59	-3.81***
Atot	7.36	3.68	7.00	3.65	7.91	3.67	-1.47
A+	2.03	2.47	1.43	1.98	2.95	2.84	-3.80***
Htot	7.52	3.77	7.56	3.88	7.47	3.60	0.15
H+	2.26	3.00	1.88	2.70	2.86	3.33	-1.95
MARS D	17.51	14.30	16.32	13.69	19.31	14.98	-1.24
A	10.46	7.03	9.83	6.92	11.41	7.09	-1.33
H	8.21	7.06	8.66	7.14	7.53	6.89	0.94
P	76.36	19.21	78.11	18.13	73.69	20.44	1.36

\*\*\* Significant at the .001 level.

Table III.2 presents the intercorrelations obtained from both instruments at both times for males and females.

Table III.2. Intercorrelations Between Depression Measures

	Females					
	Dtot1	D+ (1)	MRS (1)	Dtot2	D+ (2)	MRS (2)
MAACL Dtot 1		.695***	.685***	.489***	.300**	.551***
D+ 1	.368***		.598***	.178	.376***	.398***
MARS D 1	.433***	.452***		.497***	.314**	.563***
MAACL Dtot 2	.572***	.135	.143		.632***	.630***
D+ 2	.250*	.317**	.268*	.415***		.695***
MARS D 2	.364**	.447***	.573***	.437***	.547***	

\* Significant at .05 level.

\*\* Significant at .01 level.

\*\*\* Significant at .001 level.

APPENDIX IV  
MEANS AND STANDARD DEVIATIONS OF DEPRESSION  
AND LOCUS OF CONTROL MEASURES (TIME 1)



Table IV.1. Means and Standard Deviation of Depression and Locus of Control Measures (Time 1)

	Total		Males		Females		t Between Sexes
	Mean	SD	Mean	SD	Mean	SD	
MAACL D	13.27	6.00	12.55	5.51	14.38	6.55	-1.812
MARS D	17.51	14.30	16.32	13.69	19.31	14.91	-1.236
LOC	11.84	4.17	11.43	4.10	12.51	4.24	-1.490

APPENDIX V

TREND ANALYSIS OF THE RELATIONSHIP BETWEEN  
LOCUS OF CONTROL AND DEPRESSION

Table V.1. AOV Table for MARS D on LOC Trends (Males)

	SS	df	MS	F
Linear	2871.64	1	2871.64	18.13**
Quadratic	52.86	1	52.86	0.33
Cubic	262.96	1	262.96	1.66
Residual	13301.54	84	158.35	---
Total	16489.87	87	189.53	---

Table V.2. AOV Table for MARS D (1) on LOC Trends (Females)

	SS	df	MS	F
Linear	147.33	1	147.33	Less than 1
Quadratic	145.85	1	145.85	Less than 1
Cubic	26.49	1	26.49	Less than 1
Residual	12694.41	54	235.08	---
Total	13014.38	57	228.35	---

\*\* Significant at .01 level.

Table V.3. AOV Table for MAACL D (1) on LOC Trends (Males)

	SS	df	MS	F
Linear	237.08	1	237.08	8.31**
Quadratic	2.58	1	2.58	0.08
Cubic	21.81	1	21.81	0.63
Residual	2436.55	85	28.66	---
Total	2698.02	88	30.66	---

Table V.4. AOV Table for MAACL D (1) on LOC Trends (Females)

	SS	df	MS	F
Linear	49.75	1	49.75	1.15
Quadratic	24.18	1	24.18	Less than 1
Cubic	28.21	1	28.21	Less than 1
Residual	2383.51	54	44.14	---
Total	2485.65	57	43.61	---

\*\* Significant at .01 level

It becomes evident that linearity rather than curvilinearity characterizes the relationship between external LOC and depression.

APPENDIX VI

COMPARISON OF ACCEPTED AND REJECTED STUDENTS (TIME 2)

Table VI.1. Comparison of Accepted and Rejected Students (Time 2)

	Accepted				Rejected				F - Ratios		
	Males		Females		Males		Females		Sex	AR	Inter.
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
MAACL D (2)	13.30	6.91	14.25	7.55	16.70	5.89	21.00	8.40	3.37	12.64***	1.37
MAACL A (2)	7.77	3.82	8.60	3.70	9.30	3.53	11.60	5.12	3.76	7.86**	0.84
MAACL H (2)	9.62	4.80	9.15	5.39	10.70	3.96	12.35	5.53	0.36	4.77*	1.17
MARS POS (2)	74.70	20.41	81.34	16.20	71.33	20.50	65.31	27.11	0.01	5.11*	2.18
SAT Scores	1088	180	1060	165	1182	172	1040	168	5.47*	1.02	2.47
Req SAT	1218	120	1238	81	1286	89	1262	71	0.01	4.52*	1.04
GPA	82.00	8.45	88.13	6.52	85.15	8.14	85.62	7.03	4.04*	0.03	3.00
No. Schls	4.44	2.36	4.90	1.65	5.75	1.90	5.65	1.84	0.19	6.39*	0.47
Value	4.38	0.73	4.50	0.76	3.33	1.27	3.32	1.63	0.05	25.76***	0.09
Frust.	12.73	3.88	12.53	3.35	16.79	3.52	16.74	4.59	0.02	29.54***	0.01

\* Significant at the .05 level.

\*\* Significant at the .01 level.

\*\*\* Significant at the .001 level.

Data clearly indicates that rejected individuals of both sexes were significantly higher on depression, anxiety, and hostility (MAACL), and significantly lower on positive affect (MARS).

The data also indicates that the two groups did not differ on either Grade Point Average (GPA) or actual SAT scores. They did differ, however, in the level of schools they chose as first priority. The rejected group's aspirations in this respect were significantly higher. (Required SAT means average SAT of freshmen in a given college.)

Those accepted attributed more value or importance to their acceptance, then rejected attributed to their rejection. They also had a significantly lower frustration score, which reflects greater satisfaction with the outcomes of their applications.

APPENDIX VII  
CORRELATES OF LOCUS OF CONTROL



Table VII.1. Correlates of Locus of Control

Variable	Locus of Control		
	Total	Males	Females
MAACL D(1)	.245**	.296**	.141
MAACL A(1)	.210*	.254**	.109
MAACL H(1)	.122	.257*	-.100
MARS D(1)	.296***	.417***	.106
MARS A(1)	.203*	.382***	-.098
MARS H(1)	.263**	.423***	.031
MARS P(1)	-.279***	-.293***	-.238
SC (1)	.227*	.355**	-.072
Tot Pos(1)	-.230*	-.293*	-.096
DP (1)	-.171	-.250*	.061
GPA	.082	-.038	-.250
No. Schools	.102	.008	.283*
Acc/Rej	.002	.060	-.060
Percent Acc	.001	.152	-.258
Value	-.062	-.051	-.071
Frust.	.127	.091	.177

\* Significant at .05 level.

\*\* Significant at .01 level.

\*\*\* Significant at .001 level.

The first part of the table presents clear sex differences in the relationship between LOC and the measures of affect and Self Concept. Even though males and females did not differ significantly on Locus of Control scores, they did differ in the correlation of LOC with these measures. In all nine affect measures in the table, correlations were significant in the expected direction for males, but none was significant for females.

The lower part of the table examined some other relevant variables, but none was significantly related to LOC for either sex. Basically, internals and externals did not differ in their school performance, in their acceptance rates into college, or in their reactions to acceptance or rejection.

APPENDIX VIII  
MEANS AND STANDARD DEVIATIONS ON THE  
TENNESSEE SELF CONCEPT SCALES (BY SEX)

Table VIII.1. Means and Standard Deviations on the Tennessee Self Concept Scales (By Sex)

Scale	Total		Males		Females		t Between Sexes
	Mean	SD	Mean	SD	Mean	SD	
SC	36.45	5.3	36.14	5.4	37.05	5.1	-0.89
Tot Pos	337.10	35.0	338.02	35.8	335.43	33.6	0.37
Net Conf	- 4.38	14.3	- 1.77	14.9	- 9.29	11.7	2.81**
Tot Conf	32.63	7.9	31.90	7.4	34.00	8.5	-1.39
V	49.10	11.9	48.20	12.3	50.79	10.7	-1.14
DP	53.48	12.1	54.77	12.1	51.07	11.7	1.61
PI	8.88	3.2	8.99	3.0	8.67	3.5	0.52
Selfcon	118.30	19.1	117.02	16.7	120.40	22.0	-0.82

\*\* Significant at .01 level.

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## BIBLIOGRAPHY

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