The Psychological Aspects of Loneliness Experienced by College Students

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THE PSYCHOLOGICAL ASPECTS OF LONELINESS EXPERIENCED
BY COLLEGE STUDENTS

by

Jerie Kull Wood

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
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Western Michigan University
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Loneliness is a common problem that occurs at various life stages, but is most intense for college students. To clarify and operationalize the concepts of loneliness, several current sociological and psychological approaches to loneliness were critically examined.

The major purposes of this study were to identify the lonely among the student population, the types of loneliness they experience, the behavioral manifestations of that loneliness, and the effectiveness of an intervention method. The Belcher Extended Loneliness Scale was administered to 126 students in a pretest and 203 students in a posttest. The students also answered questions about grade point average and plans to return to Western Michigan University.

Although there was no support for loneliness being reduced as a result of the intervention, statistical analyses revealed that other factors were found to influence the loneliness scores. Students that reported failing grade point averages also reported more loneliness. Males were significantly lonelier, when both gender and living arrangements were considered. Females living in coed
residence halls were the least lonely group.

Implications for interventions based upon validated research findings were discussed. Finally, some major implications and caveats for future empirical studies on loneliness among college students are indicated.
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This study is dedicated
to the memory
of

Robert A. Kull

Remembered with love
as a father
and a friend
ACKNOWLEDGEMENTS

I wish to express my appreciation and thanks to Dr. Thelma Urbick, Chairperson of my Doctoral Committee for her wisdom, patience, and faith. Her support and encouragement was always there when it was needed the most. I also wish to thank my committee members Dr. Robert Brashear, Dr. Chris Koronakos, and Dr. George Sidney, whose insights and encouragement were invaluable throughout the past few years.

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Jerie Kull Wood
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CHAPTER I

THE PROBLEM

Introduction

In the opening speech at the first meeting of the German Sociological Society Georg Simmel (1949) made the following statement:

One may speak of an impulse to sociability in man. To be sure, it is for the sake of special needs and interests that men unite in economic associations or blood fraternities, in occult societies or robber bands. But above and beyond their special content, all these associations are accompanied by a feeling for, by a satisfaction in, the very fact that one is associated with others and that the solitariness of the individual is resolved in togetherness, a union with others. This association or union with others is basic to the nature of humans. (p. 254)

The solitariness of the individual that Simmel referred to is more commonly known as loneliness. Loneliness, as Sullivan (1953) defined it, is "the exceedingly unpleasant and driving experience connected with inadequate discharge of the need for human intimacy, for interpersonal intimacy" (p. 290). Loneliness, as a phenomenon, is so terrible that it practically baffles clear recall (Sullivan, 1953). Lonely people seek companionship even though in doing so they may experience intense anxiety. Sullivan's (1953) belief that loneliness in itself is more terrible

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than anxiety was prompted by the fact that loneliness will lead to behavior that induces severe anxiety.

This ubiquitous phenomenon is a common problem for many Americans (Donson, & Georges, 1967). In a national survey of Americans, Bradburn (1969) found that 26% of those responding reported recently feeling lonely or socially remote from others. Tournier (1962) described loneliness as the most devastating malady of the age. Although there are many facets of loneliness on which there seems to be no agreement, one fact does seem to be widely accepted: no human being escapes the experience of loneliness (Hoskisson, 1963; Moustakas, 1972; Weiss, 1973; Epstein, 1974).

One may experience loneliness at any age, yet the beginning of college is a period in which the life circumstances expose the student to a greater degree of loneliness than any other period. The transition from high school to college precipitates stress and change in the life of the student. Many students are miles from the security of home and the comfort of personal relationships. Woodward (1972) surveyed several groups and found students to be more lonely than any group surveyed, including the elderly. Typically, the elderly have been thought of as spending a great deal of time alone, and therefore lonely; a Harris Poll (1975) showed that although 60% of the public assumes that most of the elderly are frequently lonely,
only 12% of people sixty-five and over view loneliness as a serious problem for them. Rubenstein and Shaver (1982) confirmed an inverse relationship between loneliness and age. Although the elderly generally spend more time alone, social isolation and loneliness are not synonymous (Chelune, Sultan, & Williams, 1980).

Solitude need not be experienced as loneliness, while loneliness can be felt in the presence of other people. For instance, persons residing in nursing homes often complain of loneliness, even though they are surrounded by people and, at a superficial level, are interacting with them. Loneliness is the awareness of an absence of meaningful integration with other individuals or groups of individuals, a consciousness of being excluded from the system of opportunities and rewards in which other people participate. (Busse & Pfeiffer, 1969, p. 188)

The quantitative aspects of social relationships are only modestly predictive of well-being or loneliness among both older and younger adults (Peplau, Miceli, & Morasch, 1982). Loneliness appears to be largely a subjective experience associated with a perceived lack of interpersonal intimacy.

Although this severely distressing condition is widely distributed, (Weiss, 1973), the concept of loneliness as a major contributor to the human condition appears to be underestimated (Wright, 1957). Little is known about the causes of loneliness, the subjective experience of loneliness, or effective interventions to alleviate the condition (Peplau, 1979). The works that are available are
most often of a theoretical, observational, and speculative bent. Very little empirical research has been directed at the problem. A variety of explanations have been offered for the neglect of this topic. Applebaum (1978) suggests that loneliness has usually been viewed as either a normal reaction needing no explanation or a symptom of another disorder, such as depression. Weiss (1973) noted "there is a paucity of serious attention to loneliness. One of the burdens of loneliness is that we have so many preconceptions regarding its nature, so many defenses against recognizing its pain, and so little knowledge of how to help" (p. 236).

**Background of Problem Situation**

Feelings of loneliness and isolation may occur at various stages of life, but are usually strongest during times of stress or status change (Rubin, 1965). Status changes are usually concomitant with the transition period between developmental periods. The developmental periods, or stages, are similar for everyone in a culture; what happens in each stage happens to almost everyone in that culture at about that time. These stages or developmental periods have been analyzed by a number of ancient philosophers and writers including Confucius, Plato, and Shakespeare. Old schemata tended to be static and emphasized either the abilities characteristic of various stages or
the social and moral responsibilities of the particular phase. Contemporary theories are more dynamic; they stress changes in the psychological tasks, development of the personality, and shifts in the individual's private goals.

One of the most influential developmental theorists has been Erik Erikson (1950) who established that there are eight psychosocial stages during which growth is based on the relationship between the individual and the world in which that individual lives. The onset of each of Erikson's (1950) stages brings its own crisis. This is a crucial period, or transitional stage, which is a turning point for better or for worse. A decisive turn one way or another is unavoidable. The choice is always between two distinctive components, one positive and one negative, that belong to each of the phases in the life cycle. Erikson's sixth stage is young adulthood. The conflict encountered in this stage is intimacy versus isolation. This is a particularly difficult period for most persons; a period that is laden with the possibility of disaster, and yet, it is the period of life that holds the brightest promise for the future. It is a time of paradoxes that compelled Shakespeare to write, "I would there were no age between sixteen and three-and twenty." Actions and attitudes which in an adult would be considered symptomatic of severe emotional disturbance are now understood to be a
normal part of the transitional stage between childhood and adulthood. Blaine (1962), a psychiatrist at Harvard and Radcliffe, states:

Rebellion and provocative behavior, isolation and withdrawal, extreme lethargy and apathy, peculiar ways of dressing, a bizarre and unintelligible language, strange obsessions and fads— all these are characteristics which would be considered signs of illness in an adult, but they can now be accepted, albeit somewhat reluctantly and woefully, by parents as growing pains in teen-age sons and daughters. They are not cause for alarm. (p. 23)

Although the behaviors themselves may not be cause for alarm, the problems and the possible consequences of the inability to deal effectively with those problems, provide reasons for concern. Among these consequences are drug abuse, disinterest in and dropping out of school, high levels of unemployment, delinquency, and suicide. VanderZanden (1978) reported that the suicide rate among young people has nearly tripled over the past two decades, and that as a consequence, suicide ranks today as the second or third leading cause of death among adolescents in virtually every industrialized nation of the world. After studying the life histories of fifty adolescents who attempted suicide, Jacobs (1971) concluded that they typically followed a course of progressive isolation, becoming increasingly cut off from sympathetic, warm, and secure contacts and ties with others. Many students actually precipitate their own loneliness by engaging in
high levels of social interaction with strangers and acquaintances while simultaneously decreasing their interactions with family and old friends (Jones, 1978; Peplau, & Perlman, 1979).

During this period, young people engage in a love-hate relationship with their parents. Although the parents are role models for adulthood and they are admired, the young person must break away from them in order to achieve a personal identity. Frequently this separation is traumatic because the young person is attempting to prove to everyone that he/she is no longer a docile child (Keniston, 1968). The separation from parents motivates the young person to look outside the family for satisfying relationships. During this period a roughly equal balance exists between being in the family and moving out. Getting across the boundary of the family represents the major developmental task. Gould (1972) described the age group of 19 to 22.

These young people are in a transitional phase between being dependent upon their families and being 'out on their own'. Their watchword is still 'We have to get away from our parents,' but now they actually are getting away to some extent, such as living at college, working, and owning their own cars. Even so, they do not feel independent; they have not made it completely out of the family nest. They look to their peer group for help in moving away from their families, and they tend to feel betrayed when their peers do not share their way of thinking or fail to supply instant support. (p. 33)
It is during this transition that the peer group is most important in the life of an individual. Acceptance and belonging are necessary for the individual to feel secure and move through the transition to adulthood. This transition entails confronting life decisions concerning future occupations, philosophical concepts, goals, and other important issues. In high school security is provided by a peer group with which the individual frequently has had contact for many years. These long term, well established relationships provide the needed support. Leaving this network of friends and family to enter college can be traumatic, particularly when the young person is experiencing a disturbing developmental transition.

College freshmen, as would be expected, have been identified as a group-at-risk and frequently rate themselves significantly higher on loneliness questionnaires than other groups (Cutrona, 1982). The separation from family and friends may be accompanied by feelings of doubt, confusion and anxiety. At each phase of the life cycle there is a tendency to make strong bonds with a few other special and particular individuals, and as long as these bonds remain intact the world seems secure. However, when bonds are broken, either by involuntary separation or by death, the typical response is one of dismay and anxiety (Bowlby, 1969). The first bond, and usually the most persistent of all, is that between mother and her young.
Thus, affectional bonding is no recent evolutionary development. It is a prerequisite of being human, deeply built into our biological inheritance. Experimental psychologists, notably the Harlows (1967), have demonstrated the vital role of attachment behavior as a primary reinforcer. There is abundant evidence that the disruption of a significant attachment bond may well represent the most traumatic withdrawal of reinforcement in the primate species, including man (Akiskal, 1975). The essential feature of affectional bonding is that bonded partners tend to remain in proximity to one another and separation usually gives rise to feelings of anxiety. Anxiety typically accompanies loneliness, but often it is separation anxiety and should not be confused with loneliness. Parkes (1973) has defined separation anxiety as the awareness or feeling of an impending danger of loss. Loneliness, however, represents a feeling that a loss has already occurred, and the apprehension, or anxiety, accompanying loneliness seems to derive from fear of continued isolation.

Young people who attend a college distant from their home risk isolation if they cannot quickly fit into the life of the residence hall or other group housing they have chosen, and they have no other basis, such as skill in dramatics or athletics, for developing a congenial social network. Frequently the institution expects the
student to cope with the separation and resulting feelings they experience without the assistance of any specific intervention. Stanford (1967) offers an explanation for the situation.

Psychologist and psychologically oriented psychiatrists, as they have worked with college students and offered commentary upon college education, have sometimes put so much stress upon adjustment, health, well-being, and the like that they have educators to exclaim, 'This may all be very well but what has it to do with EDUCATION?' (p. 36)

Knapp (1967) described present day higher education as fragmented and depersonalized. Students requiring help from the institution in the adjustment process are frequently considered "not college material." "Some public colleges use their freshman year as the real basis of admission, and in many state universities less than half of those who begin the year finish it" (Riesman & Jencks, 1967, p. 118). The present drop out rate remains high; over half drop out in two years, and only a third complete four years (Newman, 1971), however, the attitude of most institutions concerning attrition has changed. Shaffer (1984) identified some of the trends and forces that are reshaping the field.

One of the most obvious trends is the tight budget situation. Although some areas of the country have been harder hit than others, the budgets and functioning of practically every institution are under intense scrutiny—and the situation is not temporary. Thus, it is not productive for student affairs to 'wait it out' or to make expedient adjustments
in the hope that past support will return. (p. 112)

Today, responsibilities in such areas as student retention, recruitment, orientation, and career development are survival issues for the institution itself. Maintaining student enrollment was ranked second in importance on a list of twenty critical issues for institutions by college presidents (Duea, 1981). There is a new focus on the developmental needs of the student. This focus was also reflected in the attendance of faculty, student affairs personnel, and university administrators at the National Conference on the Freshman Year Experience, which has steadily increased from 130 in 1982 to over 500 in 1984.

Sanford (1967) has identified challenge and support as the necessary and sufficient conditions for growth and developmental change. Canon (1984) outlined the developmental tasks for the members of the American College Personnel Association. "As professionals who endeavor to promote the developmental needs of students, we cannot escape the magnitude of the challenge" (p. 110). Canon (1984) also recommended that professionals provide the same types of challenge and support on their own behalf. He saw this task as entailing some risk.

I believe the most threatening part of the task involves the ultimate need to acknowledge more openly our personal and professional loneliness, to admit that we are not
as invincible as we commonly communicate to others, and by freely expressing that vulnerability, to invite support. (p. 110)

If faculty and staff do not recognize their own loneliness and need for support, it is unlikely that they will recognize the same problems when they occur for other individuals. Subsequently, they will be unable to effectively deal with the students' loneliness and needs for support.

Loneliness is a major problem for college students. Students experience different forms and intensities of loneliness, but more knowledge and ways of acquiring it are needed about the types of loneliness common to students (Young, J., 1979; Chelune, et al., 1980). "And surely we can find better ways of establishing the existence and measuring the intensity of loneliness than a single brief question on which surveys have thus far relied" (Weiss, 1973, p. 229).

Efforts to develop instruments that would measure and identify types of loneliness are relatively recent. This situation has frequently been cited as one of the reasons for the lack of definitive research on loneliness. Many of the early measures consisted of the single question, "Are you lonely?" or some variation thereof. Although this measure may have much face validity, such a question might also be answered in an ego-defensive manner. The single question instrument has been the basis
of a number of studies, including large-scale surveys (Weiss, 1982). A multiple item test is obviously more efficient and preferable. Weiss (1982) pointed out several advantages of the multiple item test.

The multiple item test would seem less vulnerable to idiosyncrasies of interpretation and response and so more likely to be both reliable and valid. It would also facilitate discrimination of degrees of loneliness and make possible factor analytic search for components of loneliness. In addition, a scale that appears to have been carefully constructed may help bring an area of research into good currency. This last point, while having to do with the psychological functioning of investigators, rather than with that of subjects is nevertheless worth noting. (p. 73)

Russell (1982) identified two approaches to the measurement of loneliness; the unidimensional and the multidimensional approaches. These approaches are based on conceptual differences concerning the loneliness experience. The unidimensional approach views loneliness as an experience that is the same for all people, varying only in intensity. Conversely, the multidimensional approach recognizes several different types of loneliness, as well as varying degrees of the experience. Both approaches have avoided a comparative approach to loneliness. Weiss (1982) recently pointed out the dangers of a comparative approach to the measurement of loneliness.

But while saying that someone is 'intelligent' is ultimately only a statement of how he or she
compares with others, saying that someone is 'lonely' should mean that the person is experiencing a very special emotional state, perhaps its intensity, rather than to producing a distribution of scores in a normal population so that we can better identify the distinctly abnormal. (p. 72)

One of the most popular measures of loneliness used today is the UCLA Loneliness Scale, a short, 20-item general measure of loneliness. One of the reasons for the popularity of this measure is that it was developed by Russell, Peplau, and Ferguson (1978), three of the leading researchers today in the area of loneliness. The UCLA Loneliness Scale is a unidimensional measure. The efficacy of this approach as opposed to the multidimensional approach has yet to be empirically proven. Russell (1982) addressed this issue.

At present, it is unclear whether multidimensional scales assess loneliness more adequately than global or unidimensional measures. More research is needed to develop such measures further. Multidimensional scales have the potential of identifying variations in the experience of loneliness that may be particularly useful in helping the lonely. (p. 89)

However, there are many problems finding a suitable multidimensional scale. Solano (1980) found the following:

Although a number have been devised in the past, a review of the ones currently available shows that none have either been widely used or generally accepted. For most of them, there are problems with reliability, validity, length, or accessibility of materials. The exception, however, is the Belcher Extended Loneliness Scale. (p. 23)
The Belcher Extended Loneliness Scale (BELS) is a multidimensional approach to loneliness (Russell, 1982). Loneliness is viewed as a multifaceted phenomenon. Rather than focusing on the commonalities underlying the experience of loneliness for all individuals, the BELS differentiates among various types or manifestations of loneliness. This multidimensional conceptual approach provides a useful framework for categorizing the many facets of loneliness that students experience.

Different types of loneliness may be responsive to different remedies, but Weiss (1973) could offer "no method for ending loneliness other than the formation of new relationships that might repair the deficit responsible for the loneliness" (p. 231). He questioned if new forms of social organization or support for the existing ones, such as residence hall living, could reduce the likelihood of situations where loneliness is at high risk. For many students their first year at an university is also their first time away from home for any long period. Although the companionship of life in a residence hall would seemingly prevent students from being overcome by the strain imposed on them during the first few weeks of university life, this does not seem to be the case.

Recent research at UCLA, entitled the New Student Study (Cutrona, 1982), found "that living in a dormitory at a large urban university like UCLA did not necessarily
promote adequate social adjustment" (p. 303). The UCLA students participating in the study were divided into two groups, transiently lonely and chronically lonely, based on their responses to the UCLA Loneliness Scale conducted in three sessions throughout the school year. Students that reported themselves as lonely in the fall, but not in the spring, were identified as transiently lonely, and the students that reported themselves as lonely at all three time points were identified as chronically lonely (Cutrona, 1982). One of the factors that differentiated the students who overcame their loneliness and those who did not was the perception of the role played by the environment in their loneliness. The transiently lonely tended to recognize the impact of the environment, whereas the chronically lonely tended to blame themselves.

These results suggest that college counselors should alert students to environmental factors that impede social relationships and avoid an exclusive focus on personal deficiencies. Students may require help in making realistic assessment of the extent to which they are experiencing more situationally determined problems. (Cutrona, 1982, p. 304)

Residence Advisors (RAs) are the established support group; they provide the supplementary relationships, "that are not elements of the normal relational patterns of those in their situation, but which are instead con-
sciously designed to make provisions that they could not otherwise obtain" (Weiss, 1973). In a study that examined
the kinds of counseling problems encountered by RAs at Indiana University during 1971, 1974, 1977, and 1980, findings suggested a relative stability in the nature and frequency of counseling problems. A notable exception was that of an increase over the last 10-year period of the issue of homesickness, while there has been a decline in encounters with students who were alienated or ostracized by other students (Shipton, & Schuh, 1982). This data would indicate that although social loneliness may have declined, because of increased tolerance on the part of students, emotional loneliness is more prevalent.

Shipton & Schuh (1982) have suggested:

> In the final analysis, it seems obvious that while limited trends can be identified concerning the number and types of counseling problems RAs encounter, it is clear that they still must address a myriad of such problems. Strong developmental programs are still necessary for staff to sharpen the skills necessary to address such problems. These staff development programs probably should not focus on new topical training issues but rather should continue to provide training in such areas as human relations, individual and group advising, and referral to campus resources. The programs should be updated so that they reflect the most current thinking of professionals in the field. (p. 251)

> If issues concerning certain types of loneliness are increasingly being brought to the attention of RAs, who are one of the main support groups for new students, it would be advantageous for RAs to know the significant aspects of the manifestations of loneliness and existing
campus resources for referral. Such information could facilitate effective counseling and reduce all types of loneliness the students are experiencing.

Purpose of the Study

The major purposes of this study were to identify the types and degrees of loneliness experienced by Western Michigan University students and to compare the loneliness of students living in resident halls where RAs were trained to recognize and effectively intervene in the various types of loneliness and residence halls where the RAs were not trained. The study was also designed to investigate whether sex differences, living arrangements, self-reported grade point average (GPA), and attrition were significantly related to loneliness.

RAs trained to deal with loneliness would be more responsive to the needs of the student than friends, family or those associates also experiencing loneliness. All too frequently the lonely are simply advised not to become caught up in self-pity and to use the time alone to study. The result may be self-condemnation if they cannot shake off their loneliness and attend to something else (Weiss, 1973; Cutrona, 1982; Peplau, et al., 1979). Trained RAs would recognize the force of loneliness, as well as its normality under appropriate circumstances. This knowledge will enable them to deal with the student
in an effective manner.

Assumptions

General basic assumptions are requisite to provide direction for study design and data analysis. The organization of this study was predicated upon the following basic assumptions:

1. It is assumed that loneliness is a multifaceted phenomenon that is manifested in different types of loneliness.

2. It is assumed that types of loneliness can be assessed by loneliness scales.

Hypotheses

It was hypothesized that loneliness experienced by students will be reduced by the training of RAs to recognize the behavioral manifestations of the different types of loneliness and the appropriate remedies. Students troubled by social isolation, will be referred to clubs or groups in which they could share an interest, i.e.: Adventure Club, dance class, or a sports group. Conversely, students troubled by emotional isolation will be referred to situations where there is a high level of intimate communication, i.e.: risking class, church group, or the counseling center. The responses are specific to the type of loneliness the student may be
experiencing.

It was hypothesized that significant differences in the degrees of loneliness existed between the respective groups of students on floors where the RAs were trained to recognize and deal with the different types of loneliness. The degree of loneliness would vary according to gender and living arrangements. Students experiencing higher degrees of loneliness would have a lower self-reported GPA and be more likely to indicate that they planned to leave school. The bases for these hypotheses were: (a) different types of loneliness respond to different interventions; (b) frequently studies find that female students report a higher degree of loneliness; (c) students who are lonely will divert significant energy into socialization instead of their studies resulting in a lower GPA; (d) if students have not resolved their feelings of loneliness, they will attempt to find a more compatible environment.

Null Hypotheses

The following null hypotheses were formulated and were tested in this study:

1. There will be no significant difference between students on floors where the RAs are trained to recognize and appropriately respond to loneliness and those on floors where the RAs were not trained with respect to
loneliness.

2. Males and females will not be significantly different in the types or degrees of loneliness they experience.

3. The self-reported grade point average of students reporting higher degrees of loneliness will not be significantly different than those who report less loneliness.

4. The number of students reporting higher degrees of loneliness and plans to leave college will not be significantly different than the number of students reporting low degrees of loneliness and plans to leave college.

Importance of the Study

Cutrona (1982) noted that 75% of all college students reported experiencing loneliness at some time during their first term. To be most helpful to lonely individuals, it is important to know what the experience of loneliness is typically like. This task is complicated by the fact that loneliness is not a unitary phenomenon, yet we know little about the dimensions on which lonely people differ. Even less is known about interventions that might reduce the incidence of loneliness. "Controlled investigations of the effectiveness of intervention strategies for loneliness are sorely needed" (Rook & Peplau, 1982, p. 374). The importance of this study was in providing descriptive and statistical data concerning the nature of loneliness.
experienced by the students and the effectiveness of an intervention strategy.

Loneliness has been defined as a basic sense of unconnectedness with people, involuntary and most often unproductive of anything but restlessness and discontent (Sullivan, 1945). The unconnectedness that Sullivan referred to could more specifically be described as a lack of positive reinforcement from interactions with others, which is the operational definition used in this project. This definition is congruent with the various definitions and descriptions of loneliness found in the literature. The need for positive reinforcement from a significant other or others is synonymous with Maslow's (1954) need for love and belongingness. The need for achievement, such as education, is an esteem need. Although both are psychological needs, esteem needs are of a higher order than love and belonging needs. The essential precondition for the expression of higher-ordered needs is the satisfaction of more basic ones. If the basic needs are not satisfied, the higher motives tend to be held in check, and the more basic motives dominate one's life. In other words, students will not attend to learning, which is a higher-ordered need, if and when they are lonely. Most of their behavior will be motivated by unfulfilled belongingness and love needs. Examining student failure, Christiaans (1965) found that loneliness was extremely debilitating
and related to a loss of motivation. Nelson, Scott, and Bryan (1984), in attempting to predict freshman year persistence, found that "Persistence decisions are determined by students' intellectual and social integration within the institution" (p. 53).

This study was designed to evaluate the correlation between both, self-reported GPA and attrition and the degree of loneliness experienced by the individual.

If this study succeeds in providing definitive information on the most significant aspects of loneliness and has direct application for the university under study, the approach could be adopted by other institutions.

Delimitations of the Study

Because of the multifaceted dimensions of loneliness and those effected by it, this study was delimited to:

1. The volunteer students living in residence halls at Western Michigan University.
2. The types of loneliness as delineated by the Belcher Extended Loneliness Scale.
3. Western Michigan University.

Definitions

A complete list of the operational definitions for the types of loneliness is included in Chapter II, Table 1. Loneliness - Dejected by the awareness of being alone.
Residence Advisor - A student assigned to a floor capable of housing approximately 50 students who’s main objective is to help the students achieve personal, social, and academic success.
CHAPTER II

REVIEW OF THE LITERATURE

History

Loneliness has long been recognized as an aversive experience. Aristotle devoted two books, in the *Nicomachean Ethics* to a discussion of the moral virtue of friendship. "No one," he states, "would choose a friendless existence on condition of having all the other things in the world." Yet there is a strong tendency to regard loneliness as a modern phenomenon resulting from a technological society (May, 1953; Gordon, 1976; Riesman, 1950). Gordon (1976) in *Lonely in America* wrote, "What was once a philosophical problem, spoken of mainly by poets and prophets, has now become an almost permanent condition for millions of Americans" (pp. 15-16). Mijuskovic (1977) rejected this assertion. "This view, I am convinced, is quite mistaken. Rather I believe it can be established that man has always and everywhere suffered from feelings of acute loneliness" (p. 25). A review of the themes in classical literature supports Mijuskovic's view. The experience of loneliness has been documented since earliest recorded history; the psychological study of loneliness, however, is quite contemporary.
Only recently has loneliness been recognized as a significant clinical problem (Sullivan 1953; Fromm-Reichmann, 1959). Sullivan (1953) described loneliness as a "driving power" for interpersonal intimacy. Fromm-Reichmann (1959), in a paper that was the beginning of a major increase in the literature on loneliness, described loneliness as an exceedingly unpleasant and nonconstructive experience, rendering people emotionally paralyzed and helpless. This paper remains the most cited source in the literature today.

Her definition of loneliness, contrasted with Sullivan's, presented one of the first conflicts regarding the affective components of loneliness. Sullivan defined loneliness as a driving force, whereas Fromm-Reichmann thought loneliness resulted in depression. Much of the early empirical work focused on the affective components, as well as the conceptual distinctions, between loneliness and related states such as aloneness. In 1973 Weiss published an insightful book, *Loneliness: The Experience of Emotional and Social Isolation*. Weiss viewed loneliness as a nonpathological but painful experience that deserved attention from clinicians as well as researchers. This book remains one of the most important works in the literature. Although in the last 6 years, 1977 to 1983, there has been a major research thrust in the area of loneliness, this empirical study is still in its infancy,
"Perhaps most of all, the field needs an encompassing theoretical framework to guide and integrate research so that the diversity of factors influencing loneliness does not produce a scattered morass of research findings" (Flanders, 1982, p. 166).

Definitions of Loneliness

There are almost as many definitions of loneliness as persons that write about it (Woodward, Gingles, & Woodward, 1974). Fromm-Reichmann at the time of her death left unfinished her paper, "On Loneliness" (1959). She noted that loneliness was poorly conceptualized, and that the varied states of aloneness, isolation, loneliness in cultural groups, self-imposed loneliness, compulsory solitude, and real loneliness were thrown into one "terminological basket."

Peplau and Perlman (1982) offered 12 formal definitions that reflected differing theoretical orientations that focus on the nature of social deficiency experienced by the lonely. They have categorized these orientations into three approaches: (a) needs for intimacy, (b) cognitive processes, and (c) social reinforcement. A definition of loneliness to be complete must take into account all three approaches, or social deficiencies.

Comprehensively defined, loneliness is the absence or perceived absence of satisfying social relationships,
accompanied by symptoms of psychological distress that are related to the actual or perceived absence (Young, 1982). It "is an adaptive feedback mechanism for bringing the individual from a current lack stress state to a more optimal range of human contact in quantity or form" (Flanders, 1982, p. 170). The second part of this definition stresses the situational component of the loneliness experience as well as providing a broad theoretical base. Situational factors in loneliness are usually underestimated (Caplan & Nelson, 1973; Peplau, Russell & Heim, 1979; Flanders, 1982). A broader theoretical framework should help in identifying such variables.

When defining loneliness it is also important to differentiate between loneliness and aloneness. Researchers have found no relationship between subjects' degree of loneliness and their indices of social contact (Cutrona, Russell & Peplau, 1979; Sisenwein, 1964; Jones, 1978; Peplau & Perlman, 1979). The important variable is the perception of a deficit by the individual, not the actual measurement of alone time. When a person feels aloneness, the withdrawal is voluntary. In loneliness, the withdrawal is involuntary, and the person feels separated and isolated by outside forces. If this loneliness becomes extreme, there is the feeling of no-relationship, the feeling that there is no significant human being in the world with whom to relate. Whereas aloneness may be
constructive, loneliness is usually destructive.

With the exception of existentialistic views, which will be addressed later, the following three general viewpoints are shared by all orientations:

1. Loneliness results from deficiencies in one's social relationships.

2. Loneliness is subjective experience and is not synonymous with objective social isolation.

3. The experience of loneliness is unpleasant and distressing.

Types of Loneliness

In 1959, Fromm-Reichmann wrote, "loneliness is one of the least satisfactorily conceptualized psychological phenomena" (p. 325). The word loneliness has been used to describe various facets of the human condition. There remains considerable debate as to the types of loneliness (Weiss, 1982; Russell, 1982). "Some argue for a common core to all loneliness experiences; others have proposed typologies of loneliness" (Peplau & Perlman, 1982, p. 69). Weiss (1982) stated that there were substantive questions to be answered if loneliness is to be understood, and the first issue he raised was that of types.

How many forms of loneliness are there? Is loneliness a single syndrome or definite character, or are there instead various types of loneliness. Or, a third alternative, is loneliness without definite character, so that
one individual's loneliness is quite a different phenomenon from another individual's except that each yearns for the presence of one or more persons? (p. 74)

Weiss (1982) maintained that there are actually two affective states. One of his major contributions to a useable theory was the reduction of the numerous conceptual distinctions of loneliness that appeared in the literature to two analytically and therapeutically distinct conceptual affective states: emotional and social isolation. The following table is an effort to extend Weiss' work one step further. Weiss organized all concept designations under two umbrella terms; Table 1 operationalizes those conceptual distinctions. The current sociological and psychological approaches to the concepts are presented in the conceptual definitions. A motivational formulation of the concepts is presented in the operational definitions to achieve greater parsimony and integration of the diverse sociological and psychological thinking on the concepts within a framework that could be used in future research. These motivational, or operational, definitions suggest that human behavior is purposive; it has directionality; it is initiated by need states; and it is instrumental in satisfying these need states.
Table 1
Selected Loneliness Concepts and Operations

<table>
<thead>
<tr>
<th>Concept Designations</th>
<th>Conceptual Definition</th>
<th>Operational Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characterological Chronic, or Psychic Loneliness</td>
<td>Certain individuals because of the way they deal with or react to typical interpersonal situations are loneliness prone.</td>
<td>The skill to elicit positive reinforcement from interactions is lacking.</td>
</tr>
<tr>
<td>Situational Loneliness</td>
<td>Regardless of personality factors, anyone is liable to suffer loneliness in situations appropriately defective.</td>
<td>Interactions that have been a source of positive outcomes or reinforcement in the past are no longer available.</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>Absence of engaging social network.</td>
<td>Insufficient positive reinforcement from friends.</td>
</tr>
<tr>
<td>Emotional Isolation</td>
<td>Absence of close emotional attachment.</td>
<td>Insufficient positive reinforcement from a significant other.</td>
</tr>
</tbody>
</table>
Table 1
(contd.)

Selected Loneliness Concepts
and Operations

<table>
<thead>
<tr>
<th>Concept Designations</th>
<th>Conceptual Definition</th>
<th>Operational Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alienation</td>
<td>Feelings resulting when the existing norms have been rejected.</td>
<td>Unwillingness to engage in behaviors known to elicit positive reinforcement.</td>
</tr>
<tr>
<td>Anomie</td>
<td>Feelings resulting from a lack of social norms (Durkheim, 1893).</td>
<td>Inability to determine what behaviors will elicit positive reinforcement.</td>
</tr>
<tr>
<td>Existential, Primary, or Philosophical, Universal Loneliness</td>
<td>Feelings of being basically alone and helpless in the world.</td>
<td>Reinforcement normally experienced as positive is as neutral.</td>
</tr>
</tbody>
</table>

Table 1 identifies different forms of loneliness, as well as varying degrees, such as alienation and anomie, that will be used in this study. The framework is aimed at integrating the sociological and psychological thinking on the issues and providing a more complete
understanding of the complex phenomena of loneliness in a parsimonious way. The operationalization describes the various types of loneliness in terms of behaviors that are measurable and terms that have universal agreement as to definition. It is widely accepted that loneliness is a deficit condition (Weiss, 1973; Peplau & Perlman, 1982); the controversy centers around precisely what variable is in a deficit state. When a person is no longer appreciated or reinforced for who they are or what they do, they respond to the absence of some particular type of relationship, or more accurately, "to the absence of some particular relation provision" (Weiss, 1973, p. 17). The relation provision Weiss is referring to is synonymous with the concept of positive reinforcement.

The concept of positive reinforcement is referred to by many writers, although they may not label the concept as such. Theorists tend to use terminology that is consistent with the theory to which they adhere. Weiss, for example, spoke of the lack of affirmation for tasks which is analogous to the concept of positive reinforcement. Lonely people frequently report that their life lacks meaning and that they are bored. Weiss maintained that this boredom is a result of a lack of affirmation for the tasks that make up their daily routine. He further explained that the tasks lose meaning and become a burdensome ritual "which one can hardly persuade oneself to
observe" (Weiss, 1973, p. 20). Frankl (1965) maintained that one's life is meaningful because of one's uniqueness and the experience of that uniqueness by actualizing creative values in accomplishments that bear on community (usually in one's work) and by being loved. Glasser (1972) noted that we can fulfill our human needs only if we care for another and know that someone somewhere cares for us. This caring is usually expressed in ways that could be referred to as positive reinforcement.

For some, even the hope that someone at some time in the future will appreciate them is enough to tolerate aloneness, not allowing it to become loneliness. Mijuskovic (1977) contended that even the artist, who suffers isolation so that a work may be completed, does so primarily because of the belief that eventually there will be compensation for the sacrifice when the work results in recognition by others. Despite the diversity in terminology, each of the above writers are referring to positive reinforcement from others.

Gaev (1976) maintained that loneliness is a feeling of sadness that an individual experiences when the desire or the attempt to relate with some aspect of the world is frustrated. He asserted that the most significant problem contributing to loneliness in our modern world is the pervasive sense of meaninglessness many people feel. Gaev concluded:
We can tolerate a great deal of pain and deprivation in life, if we can have something to hold on to, the feeling that our life has meaning. There are people who live without wealth, sexual love, or family ties, but who, nevertheless find meaning in some value or cause they live for. But, I have not seen anyone who can stand the feeling of meaninglessness, without breaking down in some way. . . . It is this sense of meaninglessness in our time that we are least able to cope with. (p. 7)

Along with types and degrees, it is important to distinguish chronic versus temporary loneliness to reach a better understanding of the loneliness experiences (Gerson & Perlman, 1979). Temporary loneliness is usually situational and the dynamics are different from those of chronic loneliness.

**Characterological, Chronic, or Psychic Loneliness**

Characterological, chronic, or psychic loneliness is expressed as an explicit feeling. These individuals report being lonely over several situations. Their loneliness is long term; they most often lack an intimate partner and have only a few other relationships. Although some of these individuals express strong feelings or dissatisfaction with their peer relations, others have become resigned to their situation (Jong, Gierveld, & Raadschelders, 1983). The chronic lonely who perceive themselves as the source or cause of the loneliness usually have some awareness of either the unmet relationship needs, or what abilities exist which interfere with the development of
satisfying relationships. They think there is something wrong with them because of the inability to establish and maintain satisfying relationships (Belcher, 1973). When the person believes themselves to be the cause of their loneliness, anxiety and/or depression are a result of that belief. The dynamics of anxiety and depression are similar; both are concerned with feelings of inadequacy resulting from a concentration on mistakes. They mainly differ on the dimension of time. Depression mainly relates to the past and anxiety to the future. If the individual feels badly about the past and the mistakes made, guilt and/or depression can result. Fear concerning possible future mistakes results in anxiety.

As was mentioned previously, psychologists have advanced widely discrepant views of the motivational consequences of loneliness. On the one hand, Sullivan (1953) considered loneliness to be arousing, a "driving force." On the other hand, Fromm-Reichmann (1959) and others have argued that lonely people are apathetic, passive, and depressed. Peplau and Perlman (1979), employing attribution theory, attempted to resolve the controversy. They assumed that situationally lonely people commonly attribute their feelings to unstable causes, such as a situation, (i.e., the beginning of college). Chronically lonely people commonly attribute their condition to internal, stable causes from which they see no relief. The
situationally lonely have high expectations that their loneliness will change as soon as their situation stabilizes. They will be highly aroused and frequently anxious; whereas chronically lonely people are apathetic, adopting a helpless, hopeless attitude so basic to depression.

It has been suggested that loneliness is experienced as both anxiety and depression (May, 1953; Knaupp, 1968), and the self-reports of the lonely would indicate that this is accurate. Most lonely people feel some major features of depression; it is important to note, however, that the converse is not necessarily true. Depression is a more general and global experience than loneliness and frequently results from events unrelated to loneliness. Depressed lonely persons are more significantly dissatisfied with the nonsocial aspect of their lives, experience more anxiety and anger than the nondepressed lonely; both groups, however, are equally dissatisfied with social relationships (Bragg, 1979). Loneliness and depression are distinct, but correlated phenomena and although they seem to share some common causal origins, neither is the cause of the other (Weeks, Michela, Peplau, & Bragg, 1980). Depressed people tend to be less successful as communicators (Prkachin, 1977). According to Prkachin, poor social skills predispose people to depression because such deficiencies result in a reduced
rate of response-contingent positive reinforcement. Although Gerson and Perlman (1979) found that the results of their study agreed with Prkachin (ibid.), greater depression was generally associated with poorer expressive communication; the relationship did not hold for the situationally lonely group.

Social Isolation

Any severe disruption of a social role is capable of producing social isolation. Situations that lead to a loss of contact with those who share one's concerns may give rise to feelings of loneliness referred to as social isolation (Weiss, 1973). Social isolation is the feeling of loneliness due to the loss of friendships, whereas its counterpart, emotional isolation, refers to the loss of an intimate attachment. Young people are particularly susceptible to social isolation because of the frequent moves they are required to make, i.e., from junior high to high school and then to college. At the same time, they are in a developmental stage when peer relationships are extremely important (Erikson, 1968).

The young person achieves self-definition in part by identifying with a peer group that share commonalities, and in part by occupying a unique place in that group. Continued interaction that communicates a group's perceptions of the individual is necessary during this
developmental period to sustain a self-identity. "This may expalain the difficulty sometimes encountered by those who move in to a radically different milieu" (Weiss, 1973, p. 147).

**Situational Loneliness**

When social isolation is short term and the result of an environmental change it is described as situational loneliness. Situational loneliness is one of many transient situational disturbances. The major diagnostic indicators are an essentially benign and nonpathological history and a reaction which is proportionate to the realistic significance of the loss (Applebaum, 1978). It is the situation that is perceived as causal, not the personality characteristics of the lonely individual.

For all persons, social integration provides for the pleasures of sociability. "Social isolation removes these gratifications; it very directly impoverishes life" (Weiss, ibid. p. 150). The two following terms, anomie and alienation, explain the conditions that are frequently responsible for the extended maintenance of social isolation, which was initially situational in nature.

**Anomie**

According to Durkheim (1961), anomie refers to the perceived conditions of one's social environment, such as
the perception of a breakdown of social norms regulating individual conduct in modern societies. Normlessness and isolation result from such perceived breakdown. An individual may develop a sense of normlessness when the previously approved social norms are no longer effective in guiding behavior for the attainment of personal goals, appreciation, or positive reinforcement. College freshmen frequently find themselves in an environment totally different from that which they left at home. The value system of their new companions is often so different from their high school friends and family that the individual feels confused, not knowing what behaviors are now acceptable. The individual experiencing anomie is willing to engage in behaviors that might be positively reinforced, or at least consider them, but simply does not know what those desired behaviors are.

Alienation

The contributions of sociologists in explaining the nature of alienation have been extensive. In the classics of sociology, such as in the writing of Marx, Weber, and Durkheim, the concept of alienation has received comprehensive treatment. In contrast, the psychological approach to the concept of alienation has been somewhat sketchy, and the development of a psychological theory to explain the phenomenon of alienation is simply absent from the
Alienation is an individual's general experience of unacceptance by others. It can be described as the lack of identity with, or the rejection of, prevalent social values by the individual. It is expressed as a lack of relatedness with society, and a concomitant isolation from the general culture, and is experienced as unacceptance of the individual by others (Belcher, 1973).

Alienation is distinguished from anomie in that anomie indicates a lack of knowledge about the norms or behaviors that will gain acceptance or be positively reinforced. In alienation the individual knows what behaviors will be positively reinforced, but refuses to engage in those behaviors. The individual then feels alienated from the group and rejected. The focus is very much upon others as the source or cause of the loneliness; whereas the individual experiencing anomie feels positive toward the group and is hopeful that as soon as the group norms are identified and reinforcing behaviors are engaged in, the feelings of isolation will cease.

In an attempt to clarify the concept of alienation, Seeman (1959, 1971) has proposed five different variants of the concept; meaninglessness, isolation, powerlessness, self-estrangement, and normlessness. Each variant refers to a different subjectively felt psychological state of the individual, caused by different environmental
conditions. Nearly all formulations of alienation include the individual's feeling of a lack of means to eliminate the discrepancies between the definition of the role the person thinks should be played and the role that is being played in a particular situation (Clark, 1959). Gould (1969) defined alienation as a general syndrome consisting of feelings of cynicism, pessimism, apathy, distrust, and emotional distance. In general, the alienated individual is very distrustful and pessimistic.

**Emotional Isolation**

Emotional isolation refers to the lack of an intimate attachment. As in social isolation, the experience of emotional isolation may be chronic or situational. Situational emotional isolation follows a precipitating event, such as divorce or the death of a spouse. The loss is of a significant other and the positive reinforcement that resulted from intimate interactions with that significant other. The emotionally isolated individual will frequently state that there is no one to talk with about personal concerns. There is an awareness of the specific type of deficiency and a longing for intimacy.

**Separateness**

When individuals are separated from their significant others, they experience anxiety. Fromm (1941) in *Escape*
from Freedom observed that this experience begins at an early age. "After primary bonds with parents are severed, after 'individuation,' the individual faces the world as a completely separate entity. An aspect of the process of individuation is growing aloneness" (p. 29). The loss of separation from a significant other at any age produces the same response. The individual, as a separate entity, faces the world and feels alone and anxious. As the individual adjusts to the separation from significant others, a sense of self develops. The "self" has been a persistent but troublesome concept, occupying the attention of philosophers and psychologists alike. Although self has received a variety of definitions, two central aspects have been consistently included" (a) self as an object, which includes the collection of attributes of the person; James (1890) called it the empirical self, and (b) self as an organized force with purpose and direction; James called it the knowing self.

**Estrangement**

If the individual is unwilling to communicate with others and share personal concerns, the initial emotional isolation becomes chronic and the person feels estranged. Rogers (1961, 1970) offered an explanation for the unwillingness of some to share intimate concerns. The lonely
person responds mainly to the roles and expectations assigned by society. In the search for acceptance and love, a facade develops which alienates the individual from the self and prevents the communication of the individual's real experiences to another person. Whitehorn's (1961) views on loneliness are similar to Rogers'. He also proposes that loneliness is closely related to the discrepancies between the individual's self-view and the reflected self, the way others view him/her.

The disassociation of oneself from others results in the perception of emotional isolation and estrangement. Estrangement is much like the social loneliness concept of alienation, whereas emotional separateness is more analogous to anomie.

**Existential Loneliness**

Existential loneliness results from the realization of one's essential aloneness in the universe and all that implies. This concept is distinguished from psychological loneliness in that the definition, causation, and treatment are perceived differently.

Fromm (1955) was one of the first to write about existential loneliness. In 1961, Moustakas published the first of his several books on the topic. Fromm, Moustakas, and most existentialists believe fundamentally that humans are ultimately alone. Since an individual can only
experience their own thoughts and feelings, separateness is considered an essential condition of existence. How people can live with their loneliness is the existentialistic focal point. Moustakas (1961, 1972) stated that true loneliness stems from the reality of being alone and of facing life's ultimate experiences such as birth and death alone. Facing this reality, which the existentialists term loneliness and sometimes aloneness, is considered to be a positive growth experience. This is the only theoretical orientation that views loneliness as a positive experience.

The anxiety which results from loneliness is viewed as a negative system of defense mechanisms. Anxious people are distracted from dealing with crucial life questions because the anxiety motivates the constant seeking of activity with others. Existentialists encourage people to overcome their fear of basic aloneness and use it in a positive manner.

The concept of existential loneliness is useful in understanding adolescent loneliness (Burton, 1961; Ferreira, 1962; Gaev, 1976) because young people frequently report experiencing this type of loneliness. Developmentally they are becoming aware of their ultimate separateness from others and the total personal responsibility they must bear for the decisions within their lives (Brennan, 1982). This would be true for most
college freshman. Life decisions are being made during this developmental period which produce feelings of anxiety and/or depression. This process is amplified when there is a concurrent physical separation from the previous main support groups and for some, the separation from all significant others.

Causation

The precipitating event in any type of loneliness appears to be the experience of loss (Applebaum, 1978). The causation of the loss can be attributed to several factors which fall into three major categories. Peplau and Perlman (1982) identified these categories as: self, others, and situational. Loneliness is often described as a response to a discrepancy between desired and achieved levels of social contact. Both of these levels are determined by the perceptions of the individual. This cognitive process of determining that a deficit exists and the causal factors of that deficit can have a moderating or exacerbating influence on the experience of loneliness.

Attributions of the Lonely

Lonely people usually hold a multifactor theory of the etiology of their condition (Weiss, 1982). They use external attribution or blame their loneliness on others.
These people are frequently angry (Young, 1982) and frustrated because they have little power to change the persons they see as responsible for their discomfort and therefore see no relief from their condition. They also blame themselves, thinking that if it weren't for their own personal inadequacies, people would like them. This self or internal attribution can result in depression (Young, 1982). Lonely people blame their situation, thinking that if and when the environmental situation changes, they will no longer be lonely. Although lonely people attribute their loneliness to all three causal factors, they tend to emphasize one of these factors, usually the self or others. As Weiss (1982) pointed out, "And yet, even while they maintain a multifactor theory, people seem to underestimate the relative importance of situational causes and to overestimate the relative importance of their characters or actions" (p. 78).

Attributions of Theorists

Theorists also attribute loneliness to factors that can be categorized in the same manner as those of lonely people: others, situation, and self.

Others

Several theorists look at society rather than phenomenological feelings of the individual when attempting to
give some reasons for the development of loneliness. Bowman (1955) identified three major changes in our industrial-urban society as probably conducive to feelings of loneliness. The first was the decline in primary group contact. He viewed decreased family size and parents working outside the home to be responsible for this decrease in contact. An increase in mobility was the second societal change Bowman identified as conducive to loneliness. This mobility separates the family and restricts communication. The third causal factor identified was upward social mobility. The upwardly mobile individual frequently rejects the social class and value system which is being left, but at the same time this individual feels isolated and lonely among the members of the aspired for class before the person accepts or is accepted into the new class. The construct of "marginal man" clearly exemplifies this view of loneliness.

**Situational**

The situation in which loneliness occurs has gained much importance in the past few years to researchers and theorists. Many typologies stress the situation as a dominating principle (Weiss, 1973; Peplau & Perlman, 1982). For many individuals, loneliness occurs in response to disruptive life changes, situations that predispose people to loneliness.
American society is aware of the high probability that its members will experience loneliness at certain times in their life or as a result of events, such as the death of a loved one, which disrupts social support. Society has built up an extensive and complex set of resources for social engagements, varying by community and region. Professional mental health personnel are trained for intervention in crises and for dealing with a variety of emotional problems" (Lopata, Heinemann, & Baum, 1982, p. 312).

The groups of people in these situations have been identified as groups-at-risk. Theorists do not identify the persons in these groups as having characterological deficiencies. These people are viewed as capable of initiating and maintaining gratifying relationships. When these individuals are lonely, they identify as the problem the opportunity to relate to others, not an inability or characterological flaws. In a content analysis of approximately 400 biographical statements, Sermat and Smyth (1973) found that about 75% of their subjects attributed their feelings of loneliness to the "lack of an opportunity to talk about personally important, private matters with someone else" (p. 332). These people attributed their loneliness to a situation where the opportunity, not the ability, to relate was lacking.

Self

Learning to be sociable begins at birth. The infant's social skills and communication patterns are
developed through the modeling of significant others and the interactions of the infant with the people in the environment. Sociability is a developmental process.

Sullivan (1953) believed loneliness was also a developmental process. He identified the needs of each developmental period of the child: (a) the need for tenderness in infants, (b) the need for expressive play in children, (c) the need for compeers in the juvenile area, and (d) the need for a more intimate kind of relationship in preadolescence. When these needs are satisfied, sociability develops; when they are not, loneliness develops. Early life experiences in which remoteness, indifference, and emptiness were the principle themes were also identified by Peplau as causal factors of loneliness.

The above three views as to the causation of loneliness are not necessarily in opposition to each other. In fact the phenomenological and sociological viewpoints compliment each other, and any research which supports one need not necessarily cast doubt on the other (Moore, 1976).

Theoretical Approaches to Loneliness

In their sourcebook, Perlman and Peplau (1982) recognize eight major theoretical approaches to loneliness which include psychodynamic, phenomenological,
existential, sociological, interactionist, cognitive, privacy, and general systems. These theoretical orientations are related to important aspects of the ways in which loneliness is conceptualized, and they reflect three broad approaches to the conceptualization of loneliness (Perlman & Peplau, 1982).

Two of these approaches emphasize human needs. The first approach, endorsed by both Sullivan (1953) and Fromm-Reichmann (1959) concentrates on the human needs for intimacy. A second approach to conceptualizing loneliness emphasizes social needs. This approach focuses on the importance of human contact and the reinforcement that results from social interactions. Weiss' theory of social and emotional isolation concentrates on both, the social and intimate or emotional needs.

A third approach to loneliness identifies cognitive processes concerning how loneliness is conceived and evaluated by the individual as a focal point. From this perspective, loneliness results from perceived dissatisfaction with one's social relations (Flanders, 1976; Sadler & Johnson, 1980; Lopata, 1969). These cognitions strongly influence the individual and may be the most important factor in determining if and/or how long the person will experience loneliness (Cutrona, 1982). Attribution theory is the basis for this approach and is used to determine how the lonely individual will respond to...
the environment. The main focus is the cognitions of the individual; to what do they attribute their loneliness, and what discrepancy do they perceive exists between the desired and the achieved pattern of social relations.

The emotional and social needs and cognitive approaches to conceptualizing loneliness can be distinguished in two major ways. First, the needs approach emphasizes the affective and social aspects of loneliness; cognitive approaches emphasize the perception and evaluation of social relations and relational deficits. These approaches are complimentary and an understanding of all three is necessary to totally comprehend the concept of loneliness.

**Treatment**

Typically, lonely people, and particularly the situational or transient lonely, do not seek help from professionals to cope with the distress they experience (Rook & Peplau, 1982). One of the reasons that help is not sought is "the general attitude of the public toward loneliness, which sees it merely as a symptom of a weak character" (Sadler, 1980, p. 129). "For some people, the most painful part of their loneliness is the shame of other people's knowing about it" (Greenwald, 1980, p. 141). Cutrona (1982) found that only 9% of the students she surveyed had ever talked to a counselor about ways they might
deal with their loneliness, and only 2% of a large survey of Americans said they would seek professional help (Gurin, Veroff, & Feld, 1960). Most people overcome loneliness on their own. Yet we know little about how people try to alleviate loneliness or about which coping strategies are most effective (Peplau & Perlman, 1982).

**Self-therapy**

The empirical investigation of coping mechanisms and their effectiveness is very new. The few studies of coping strategies that exist are based exclusively on self-reports. Self-reported responses to feelings of loneliness were factor analyzed by Rubenstein and Shaver (1982). The emerging four factors were: sad passivity, active solitude, spending money, and social contact. The sad passivity factor included responses such as: cry, sleep, watch television, overeat, and drink or get "stoned". Chronically lonely people characteristically respond to feelings of loneliness in these ways (Rubenstein & Shaver, 1982), however, the factor, sad passivity, was negatively correlated with age. It seems that the endorsed responses are those used by young people who are chronically lonely. The remaining three factors represented responses of the transient lonely. Factor two, active solitude, included responses such as reading, listening to music, and walking. Factors three and four
are self-explanatory.

In another study, the effectiveness of 23 coping responses were evaluated by college students. They rated talking to a friend, thinking alone, and listening to music as most effective (Paloutzian & Ellison, 1982). Only responses that involve social contact directly confront the problem; other responses may provide short term distraction, but they are not problem-solving in nature because they do not directly address feelings of loneliness. Paloutzian and Ellison (1979) found that the more favorably the students in their study viewed their social functioning, the more likely their loneliness resulted in responses that focused on involvement with other people. Conversely, students that held less favorable views about their social skill tended to choose coping strategies that would prolong their loneliness.

Specific Intervention Programs

Two programs have been specifically designed to help people overcome their loneliness, social skills training and shyness groups. However, these interventions are not effective with all lonely persons, simply because not all lonely persons are shy or lack skills.

Horowitz, French, and Anderson (1982) designed a prototype of the lonely. The features endorsed by 20% or more subjects in their study included: avoids social
contact, isolates self from others, feels depressed, thinks she/he wants a friend, feelings of rejection. The goal of this study was to provide a prototype; commonalities were therefore emphasized. The chronic and situational, or transient lonely were not differentiated. For treatment purposes people who describe themselves as lonely need to be separated into these two groups in order to understand their problems. A common theory holds that lonely people lack social skills, and this deficiency is a large factor contributing to their loneliness. However, when the communication skills of the two groups of lonely were examined, Gerson and Perlman (1979) found that the situationally lonely subjects were more successful as communication senders than were the chronically lonely or nonlonely subjects. Motivational arousal has often been linked with enhanced expressiveness; thus, situationally lonely individuals, being in an aroused state, should be especially successful in emotional communication. Similarly, Chelune, et al., (1980) found that although greater willingness to disclose was related to higher observer ratings and peer ratings of social skills, neither level of loneliness nor disclosure flexibility was related to the social-skills ratings.

Horowitz and French (1979) described the set of interpersonal problems experienced by the lonely as problems of inhibited sociability. These researchers found
that when people who describe themselves as lonely were compared to those who describe themselves as not-lonely, they differed significantly along two dimensions; friendliness and control. Lonely people had difficulties in being friendly; whereas not-lonely people had difficulties in being hostile. The groups also differed on the dimension of control. Control was defined as the extent to which the behavior manifested an intention to influence other people. Lonely people seem to have difficulty relinquishing control; whereas the not-lonely people had difficulty in exercising control (Horowitz & French, 1979). This research did not differentiate the type of loneliness the individuals were experiencing, nor to what problem the individuals attributed their loneliness. Persons that attribute their loneliness to others would understandably feel hostile and manifest behaviors intended to influence others that were being held responsible for the discomfort. Of course, these attitudes and behaviors would serve to maintain the loneliness.

Research on strategies for maintainers of loneliness is virtually nil (Peplau & Perlman, 1982). The chronic lonely may benefit most from social skills training designed to reduce social anxiety; whereas, situational lonely may benefit from support and assistance in identifying social contexts in which new relationships can be explored (Rook & Peplau, 1982). The value of
increasing social contacts is controversial; although any rewarding social event can be helpful, social events should be designed to establish particular types of social relationships that the individual has identified as lacking (Peplau & Perlman, 1982).

Pilkonis and Zimbardo (1979) suggested that shy people need to develop more adequate general response styles, in addition to specific social skills. Certainly the chronic lonely individuals who avoid engaging in social activities might benefit from social-skills-training programs that first teach them how to discriminate relevant social cues for appropriate disclosure and then encourage them to increase their social activity level. Shyness groups attempt to help people increase their social confidence by reducing the anxiety they normally experience.

These two approaches, social skills and shyness groups, are geared to meet the needs of the chronically lonely. Because the needs of the situationally or transient lonely are very different, the format and goals of the interventions that have been designed for them are also different, as in divorced or separated and bereaved groups. These interventions were developed by Weiss, (1976) to alleviate feelings of marginality, confusion, and self-doubt. While there are no published studies evaluating the effectiveness of these interventions,
participants' evaluations are reported to be positive. The growing popularity of these groups is attested to by the fact that they are presently offered by churches or schools in almost all American cities.

Psychotherapy

With the exception of Young's (1982) work, which is the most comprehensive treatment program for loneliness now available (Peplau & Perlman, 1982), there have been no published systematic approaches to the treatment of loneliness (Young, 1982). This is not to say that there is not a great deal of advice available, especially in the self-help literature. Much of the advice is of the pull-yourself-up-by-your-bootstraps type and often too general to be of any real help (Young, 1982). Some of the self-help literature can actually be detrimental to the lonely person. When this literature states that loneliness is caused from deficits in the personality of the individual, the lonely person seeking help from this literature may also attribute their loneliness to themselves, a belief that, as previously noted, leads to depression and other counterproductive responses.

Some of the early writings of theorists and clinicians were equally discouraging. Fromm (1941) proposed a "love'em or leave'em" strategy for dealing with loneliness. He stated that two courses are open to overcome
the unbearable state of powerlessness and aloneness. The first course was to become one again with the world via lone work and positive freedom. The other course was to give up freedom, "escape from freedom," and try to overcome aloneness by latching on to an authoritarian movement and become a conformist (Fromm, 1941). Actually Fromm's proposal isn't as insensitive as it may superficially appear. Fromm thought that the individual through the aloneness of the first course, or the loss of self suggested in the second course, would develop awareness and strength that would lead to more positive interactions with others and hence, reduce or ameliorate the feelings of loneliness.

Sullivan (1953) and Fromm-Reichmann (1959) were more gentle in their approach to the lonely. Both encouraged therapists to initiate discussions of the client's loneliness. Sullivan (1953) warned:

Anyone who has experienced loneliness is glad to discuss some vague abstract of this previous experience. . . . But it is a very difficult therapeutic performance to get anyone to remember clearly how he felt and what he did when he was horribly lonely. (p. 262)

In 1978, Applebaum was still attempting to sensitize therapists to loneliness as a significant and neglected clinical problem. She did not agree with Sullivan, however, that the clients would be glad to discuss their loneliness.
The symptoms of loneliness are not always recognized as such. Alcoholism, drug addiction, psychosomatic illness, compulsive eating, depression, and many other problems can all be symptomatic of a basic loneliness. Often I believe we treat symptoms because we fail to recognize the underlying disorder. Confusion perhaps arises from the fact that, as we have seen, loneliness is part of a normal growth process as well as a pathological condition. It is also frequently a normal and temporary reaction which quickly passes.

Loneliness which does not remit spontaneously is treatable by the same means as other disorders. The recognition of loneliness as a category for treatment in its own right does not lead so much to new strategies for intervention as much as to alteration of the focus of interventions and the direction of insights. It is especially important to tread slowly and carefully in this area because of the great reluctance, noted by almost everyone who has written on the subject, of so many patients to face and discuss their loneliness. (p. 20)

Applebaum, as most psychoanalytic therapists, did not advocate a specific intervention for loneliness except to focus on the topic. Other psychodynamic formulations emphasize fear of intimacy or rejection (Gaev, 1976). These approaches have generated little research. "Systematic description and evaluation of psychodynamically based treatments are needed" (Rook & Peplau, 1982, p. 364).

The design of systematic interventions for loneliness is new (Rook & Peplau, 1982), and as was previously mentioned, Young (1982) is the only author to publish a systematic approach to the treatment of loneliness. Young uses a cognitive behavioral model based on Beck's (1976) work with depressed clients. His model includes
techniques for improving and ending relationships as well as initiating, which is the primary focus of most of the present interventions. Young's diagnostic procedures enable the treatment to be specific to the type of relationship problems the individual is encountering. Young avoids lumping all persons identified as lonely in the same group to receive the same treatment. The distinction of type of loneliness the person is experiencing is emphasized, as the treatment will be different for the person who has been lonely for a long time (chronic) from that of a person who is experiencing a situational loneliness. The diagnostic procedures also determine if loneliness is a primary or secondary problem and whether other clinical disorders like depression or anxiety are prominent. These measures also determine if the loneliness is chronic or transitional and what events triggered loneliness (Young, 1982). Therapy emphasizes the distortions, automatic thoughts, and assumptions of the individual. Cognitive behavioral techniques are then implemented to help the individual correct the irrational thinking and then overcome their loneliness.

Although the above intervention strategies all appear to have merit, "controlled investigations of the effectiveness of intervention strategies for loneliness are sorely needed. Such research should be extended to include evaluation of the self-help 'interventions'
employed by lonely people" (Rook & Peplau, 1982, p. 374).

There seems to be a general agreement that loneliness reflects a deficit condition, a lack of something. The antidote to loneliness is generally agreed to comprise human closeness, meaningful relationship, intimacy, or some other form of human contact (Flanders, 1976). Intervention strategies attempt to provide these missing elements by teaching the lonely individual to interact and think in ways that will enhance their social relationships. It has not yet been determined precisely what the missing elements in the social relationships are. Psychoanalytic approaches view the therapeutic relationship as a role model for future relationships. The systematic intervention programs that have been previously outlined were designed to improve social performance in hopes that improved performance will enhance the lonely individual's ability to remedy the deficit condition. Clinicians, unsure about what they should be helping their clients to learn, have turned to researchers, who are attempting to delineate the variables involved in the concept of human contact. Intimacy, for example, has been identified as an important variable for satisfying human contact or relations; unfortunately, the construct of intimacy is as ambiguous as that of human contact. Intimacy has been conceptualized as self-disclosure (Jourard, 1971; Derlega & Chaikin, 1975); yet psychotherapy
involves self-disclosure, but not necessarily intimacy. Montagu (1971) and Morris (1971) equated intimacy and touching, but again, touching does not necessarily promote nor signify intimacy. In both of these cases, and in the loneliness research in general, the referent of mutuality is missing. "Yet, while blessed with case history and anecdotal material, we still lack systematic theory to guide empirical work" (Levinger, 1977a, p. 13).

It seems that we have come full circle. Undeniably, in the last 20 years great strides have been made in the theory, research, and therapy for the lonely; yet, if we are to meet the needs of lonely people effectively, we must get at the sources of their loneliness. Too often loneliness is treated merely as a symptom or confused as depression. To confront loneliness in the modern world, our response will have to be mulitlevel. Types and dimensions of loneliness must be clearly defined to be helpful to social scientists, counselors, and anyone who attempts to help others cope with the complex problem of loneliness.
CHAPTER III

METHOD

Design

Loneliness is not an experience that can be simulated or replicated in the laboratory. Due to the fact that, "there is no convenient and ethical way to manipulate loneliness in the laboratory, and so this topic requires the use of other, perhaps less fashionable methods" (Peplau & Perlman, 1982, p. 3). "Thus, the crucial task for investigators is not the development of an experimental paradigm to produce loneliness in differing degrees, but rather the development of instruments to detect variations in loneliness that occur in everyday life" (Russell, Peplau, & Cutrona, 1980, p. 270). This experiment was conducted in the field. Because field research does not allow for the total control of extraneous variables, a rigorous statistical procedure, the Solomon (1949) Four-Group Design, was selected.

Sample and Population

The population used for this experiment was undergraduate students and Residence Advisors (RAs) of a four unit residential complex on the campus of Western Michigan
University in Kalamazoo, Michigan. Each unit contained four floors, and each floor was capable of housing approximately 50 students. The number of students in the sample and the number and percentage of students responding by pre-posttest are reported in Table 2.

Table 2

Number and Percentage of Students Responding to the BELS

<table>
<thead>
<tr>
<th></th>
<th>Number in Respondents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample</td>
<td>Pretest</td>
<td></td>
</tr>
<tr>
<td>Control groups</td>
<td>88</td>
<td>63</td>
<td>71.590</td>
</tr>
<tr>
<td>Experimental groups</td>
<td>89</td>
<td>63</td>
<td>70.786</td>
</tr>
<tr>
<td>Total</td>
<td>177</td>
<td>126</td>
<td>71.186</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Posttest</td>
<td></td>
</tr>
<tr>
<td>Control groups</td>
<td>124</td>
<td>81</td>
<td>65.322</td>
</tr>
<tr>
<td>Experimental groups</td>
<td>165</td>
<td>122</td>
<td>73.939</td>
</tr>
<tr>
<td>Total</td>
<td>289</td>
<td>203</td>
<td>70.242</td>
</tr>
</tbody>
</table>

This residential complex was chosen as the experimental site because of the diversity of living arrangements within the four units. Male and female students living on alternate floors comprised the two coed units, while the other two units consisted of males and females living in same gender units. The number of students tested in each living arrangement is shown in Table 3.
Table 3

Number of Students in Living Arrangements
by Pre- posttest

<table>
<thead>
<tr>
<th>Living Arrangement</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>All male</td>
<td>59</td>
<td>52</td>
</tr>
<tr>
<td>All female</td>
<td>0</td>
<td>61</td>
</tr>
<tr>
<td>Coed male</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>Coed female</td>
<td>35</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td>203</td>
</tr>
</tbody>
</table>

It was believed that these living arrangements might have an effect on the degrees and types of loneliness experienced by the students. Gender differences in the experience of loneliness could also be investigated within the same residential complex, as well as the interaction of gender differences and living arrangements. Each residential complex is postulated to have a different "reputation" and atmosphere. To control for these factors, it was ideal to conduct the entire study in one residential complex. The number of students tested by sex is shown on Table 4.
Table 4

Number of Students Responding to the Pre- posttest by Sex

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>35</td>
<td>120</td>
</tr>
<tr>
<td>Male</td>
<td>91</td>
<td>83</td>
</tr>
</tbody>
</table>

The majority of students living in this residential complex were in their freshman year at school. This first year is frequently a time when an individual experiences more intense loneliness than any other time (Cutrona, 1982). The number of students, by year in school, is shown in Table 5.

Table 5

Number of Student Respondents to BELS by Year in College

<table>
<thead>
<tr>
<th></th>
<th>Fr</th>
<th>So</th>
<th>Jr</th>
<th>Sr</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control groups</td>
<td>41</td>
<td>4</td>
<td>12</td>
<td>4</td>
<td>61</td>
</tr>
<tr>
<td>Experimental groups</td>
<td>52</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>64</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>9</td>
<td>19</td>
<td>4</td>
<td>125</td>
</tr>
<tr>
<td>Posttest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control groups</td>
<td>48</td>
<td>26</td>
<td>13</td>
<td>3</td>
<td>90</td>
</tr>
<tr>
<td>Experimental groups</td>
<td>98</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>146</td>
<td>32</td>
<td>18</td>
<td>6</td>
<td>202</td>
</tr>
</tbody>
</table>
The students were tested at the beginning and at the end of the winter term. The winter term was chosen because it could be assumed that the situational loneliness experienced by most students in the first few weeks of their college transition had been resolved and the remaining loneliness would not usually be of a transitional type. These assumptions are based on the recent research on student loneliness at UCLA, entitled the New Student Study, which was reviewed in Chapter I.

One floor per unit was randomly selected as an experimental floor, with a randomly selected corresponding floor acting as a control. Of these eight floors, two experimental and two control floors were randomly selected for pretesting. The RAs (4) on the experimental floors attended a training session which focused on: (a) recognition of the behavioral manifestation of loneliness, (b) types of loneliness, and (c) appropriate existing referral resources on campus for help. All students and RAs participated in this study as unpaid volunteers (see Appendix B for detailed description of workshop format).

Instrumentation

There are two major approaches to the measurement of loneliness, unidimensional and multidimensional (Russell, 1982) The advantages and disadvantages of each approach are discussed in Chapter I. The Belcher Extended
Loneliness Scale (BELS) (Belcher, 1973), a multidimensional approach, was chosen for this study because of its ability to differentiate among various types or manifestations of loneliness. This multidimensional conceptual approach provided a useful framework for categorizing the many facets of loneliness that students experience.

Solano (1980) compared the UCLA Loneliness Scale and the BELS on internal consistency and validity. She found the UCLA scale had a coefficient of .89, and the BELS internal consistency for the total measure was .93. "Both scales correlated quite highly with the global index and at the same magnitude (UCLA r = .62; BELS r = .62)" (Solano, 1980, p. 25).

The BELS was administered as a pre-postmeasure (see Appendix A). The BELS has been validated on both student and non-student populations. Subjects were asked to indicate, for each item on the scale how often a statement is true for them. The answer format was a 6-point Likert scale with "rarely or almost never true" (1) and "true all or most of the time" (6) as the end points.

Eight factors were identified in the scales: alienation (18-items), anomie (12-items), estrangement (19-items), existential loneliness (8-items), loneliness anxiety (5-items), loneliness depression (5-items), pathological loneliness (28-items), and separateness (2-items). Table 6 identifies the factors, their number,
and abbreviations.

Table 6

<table>
<thead>
<tr>
<th>Factor</th>
<th>Name</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Pathological Loneliness</td>
<td>Path.</td>
</tr>
<tr>
<td>II</td>
<td>Alienation</td>
<td>Al.</td>
</tr>
<tr>
<td>III</td>
<td>Loneliness Anxiety</td>
<td>LAnx.</td>
</tr>
<tr>
<td>IV</td>
<td>Existential Loneliness</td>
<td>EX.</td>
</tr>
<tr>
<td>V</td>
<td>Estrangement</td>
<td>Est.</td>
</tr>
<tr>
<td>VI</td>
<td>Anomie</td>
<td>An.</td>
</tr>
<tr>
<td>VII</td>
<td>Loneliness Depression</td>
<td>LDp.</td>
</tr>
<tr>
<td>VIII</td>
<td>Separateness</td>
<td>Sep.</td>
</tr>
</tbody>
</table>

Belcher (1973) reported test-retest correlations ranging between $r = .79$ to $.84$ over a 9 to 11 week interval. The validity of the total score of the BELS was supported by finding significantly higher loneliness scores among students receiving counseling than an analogous sample of college students not receiving counseling (Belcher, 1973). Solano (1980) reported a correlation of $.59$ between the total score on the BELS and a single item question asking students how lonely they were.

In addition to the 60 items on the BELS, students were asked to respond yes or no to the questions: (1) Do you plan to return to Western Michigan University? (2)
and abbreviations.

Table 6

<table>
<thead>
<tr>
<th>Factor</th>
<th>Name</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
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<td>V</td>
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<td>Est.</td>
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<tr>
<td>VI</td>
<td>Anomie</td>
<td>An.</td>
</tr>
<tr>
<td>VII</td>
<td>Loneliness Depression</td>
<td>Ldp.</td>
</tr>
<tr>
<td>VIII</td>
<td>Separateness</td>
<td>Sep.</td>
</tr>
</tbody>
</table>

Belcher (1973) reported test-retest correlations ranging between $r = .79$ to $.84$ over a 9 to 11 week interval. The validity of the total score of the BELS was supported by finding significantly higher loneliness scores among students receiving counseling than an analogous sample of college students not receiving counseling (Belcher, 1973). Solano (1980) reported a correlation of .59 between the total score on the BELS and a single item question asking students how lonely they were.

In addition to the 60 items on the BELS, students were asked to respond yes or no to the questions: (1) Do you plan to return to Western Michigan University? (2)
Do you plan to return to this dormitory? They were also asked to indicate their grade point average on the following scale: (a) - 1.0-1.9; (b) - 2.0-2.9; (c) - 3.0-4.0.

Data Collection

Data collection was handled in approximately the same manner for both the pre-posttesting on all floors in the residence halls. Four floors or groups participated in the pretesting, and eight groups participated in the posttesting. The number of students in each group by pre-posttest is shown in Table 7.

Table 7

Table of Respondents in Each Group by Pre-posttest

<table>
<thead>
<tr>
<th>Group Number</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>Group II</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Group III</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Group IV</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Group V</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Group VI</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Group VII</td>
<td>32</td>
<td>lost</td>
</tr>
<tr>
<td>Group VIII</td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>126</td>
<td>203</td>
</tr>
</tbody>
</table>

The BELS was administered to students by the RAs.
during evening hours in the residence halls. All respondents received a test packet which consisted of a cover-letter, test (Belcher Expanded Loneliness Scale), and a coded answered sheet. The cover letter explained the purpose of the study and assured the student of the confidentiality of their responses (see Appendix C). The answer sheets substituted a four digit number code for the name of the student. This code identified the student's resident hall, room number, grade level, sex, and living arrangement (single or double room). The RA assigned to the floor being tested collected the test packets from the students. To assure uniformity in the collection procedure, each RA received a letter outlining the collection method to be followed (see Appendix D). The complete test packets were then taken to a central office for collection on the following day. This procedure proved to be somewhat problematic, as one of the packets containing the completed posttests from a control group was inadvertently thrown away. It was impossible to replicate this date.

Data Processing and Analysis

The Solomon (1949) Four-Group Design was used so that the effect of testing, and the interaction of testing and the intervention, were determinable. There were four experimental and four control groups; two of each of
these (two experimental and two control) were pretested. Table 8 shows the number of students in each experimental and control group by pre-posttest.

Table 8

Number of Respondents in Control and Experimental Groups by Pre-posttest

<table>
<thead>
<tr>
<th>Control Groups</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>Group III</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>Group V</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>Group VII</td>
<td>32</td>
<td>lost</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experimental Groups</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group II</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Group IV</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Group VI</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Group VIII</td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
<td>122</td>
</tr>
</tbody>
</table>

If the pretest, or the interaction of the pretest and the intervention, had no effect on the degree or types of loneliness reported, there should be no significant differences on the posttests of the corresponding groups. The comparison of the control groups that were pretested and those that were not would indicate the effect of pretesting. The comparison of the pretested
experimental groups, and those that were not, would indicate the effect of the interacting of pretesting and the intervention. Table 9 shows the breakdown of the number and the living arrangement of the students pre-tested and those who were not by control and experimental groups. The effect of the lost data from the male coed control group weakened the design. However, since there were eight groups, the data collected on the female coed group could be compared to the male control group.

Table 9

Number of Males and Females Responding to the BELS Posttest by Living

<table>
<thead>
<tr>
<th>Control Groups</th>
<th>Experimental Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pretested</strong></td>
<td></td>
</tr>
<tr>
<td>Group I</td>
<td>Group VII</td>
</tr>
<tr>
<td>All male</td>
<td>Coed male</td>
</tr>
<tr>
<td>22</td>
<td>Data lost</td>
</tr>
<tr>
<td><strong>No pretest</strong></td>
<td></td>
</tr>
<tr>
<td>Group III</td>
<td>Group V</td>
</tr>
<tr>
<td>All female</td>
<td>Coed female</td>
</tr>
<tr>
<td>35</td>
<td>24</td>
</tr>
</tbody>
</table>

Analyses of variance were computed for all of the comparisons relevant to the null hypotheses stated in Chapter I. The F-test indicates there are differences
between the groups' totals that are not expected by chance alone. Tukey's (1949) correction for comparing individual means was computed when appropriate. The .05 level of confidence was used to determine statistical significance. A portion of the data were converted to T-scores to make the results readily comparable across items and to make them more comprehensible.
CHAPTER IV

ANALYSIS OF THE DATA

Introduction and Review of Analysis

The analysis and discussion of the data collected in this study are presented in this chapter. Every attempt has been made to analyze and interpret the data in a clear, concise, orderly and readable manner using the overall hypothesis as a logical departure point.

This study consisted of an investigation of the differences in loneliness among various college groups, and the changes in loneliness after an intervention, which consisted of a workshop presentation about loneliness, the types of loneliness, and appropriate intervention resources.

As reviewed in Chapter III, the Belcher Extended Loneliness Scale (BELS) with 60 variables was used to quantify the types and degrees of loneliness experienced by Western Michigan University students. The subscale scores derived from the factor analysis of the BELS were also available, thus providing the opportunity to examine some of the differences and changes that occurred with various or different kinds of loneliness. In addition, three questions concerning the students' future plans and
their grade point average (GPA) were added to the ques-
tionnaire making a total of 63 variables. A total of 126
students from four groups responded on the pretest, and a
total of 203 students from seven groups responded on the
posttest.

The BELS identifies eight factors that were reviewed
in Chapters I and II. Belcher (1973) computed two sets
of scores for his group, factor loading scores (FLS) and
raw scores (RS).

The factor loading scores (FLS) were obtained by
multiplying each individual's raw score on each
item by the factor loading for each factor.
These resulting items scores were then summed
for each of the factors, which were in turn
summed for a total score (Total). The same
procedure was followed in computing the raw
scores (RS), except the individual raw scores
were used without multiplying them by their
factor loadings . . . . The FLSs and the TSs
for each factor and the Total were correlated
using the product-moment method in order to
obtain an indication of their equivalency.
. . . . All were significant at beyond the
.001 level. . . . Only RSs were used in
the remainder of the analyses of the data.
(p. 121)

Using the same procedure as Belcher (1973), the
FLSs and RSs for each factor, which were in turn summed
for a total score (Total), were correlated using Pearson's
product-moment correlation in order to obtain an indica-
tion of their equivalency. The resulting correlations
indicated that the FLSs and the RSs were equivalent (see
Appendix E); only RSs were used in the remainder of the
analyses of the data.
Findings

Pretest Data

Table 10 shows the mean (Mn.) and standard deviation (SD) on the pretest for each group on each factor and the Total. Groups 1 and 7 are control groups and groups 2 and 6 are experimental groups.

Table 10

Mn.s and SDs for Each Group's Pretest Score on Each Factor and the Total

<table>
<thead>
<tr>
<th>Factor</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 6</th>
<th>Group 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>30</td>
<td>26</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>Factor I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>66.61</td>
<td>56.73</td>
<td>54.55</td>
<td>60.10</td>
</tr>
<tr>
<td>SD</td>
<td>18.91</td>
<td>19.52</td>
<td>17.05</td>
<td>17.06</td>
</tr>
<tr>
<td>Factor II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>53.75</td>
<td>46.37</td>
<td>41.88</td>
<td>48.33</td>
</tr>
<tr>
<td>SD</td>
<td>11.36</td>
<td>10.59</td>
<td>5.64</td>
<td>10.23</td>
</tr>
<tr>
<td>Factor III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>13.68</td>
<td>11.05</td>
<td>12.07</td>
<td>11.82</td>
</tr>
<tr>
<td>SD</td>
<td>5.38</td>
<td>3.50</td>
<td>4.87</td>
<td>3.99</td>
</tr>
<tr>
<td>Factor IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>22.59</td>
<td>17.83</td>
<td>13.97</td>
<td>18.45</td>
</tr>
<tr>
<td>SD</td>
<td>4.69</td>
<td>6.08</td>
<td>1.99</td>
<td>5.81</td>
</tr>
<tr>
<td>Factor V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>24.68</td>
<td>22.97</td>
<td>19.34</td>
<td>23.63</td>
</tr>
<tr>
<td>SD</td>
<td>7.65</td>
<td>5.65</td>
<td>4.19</td>
<td>4.92</td>
</tr>
<tr>
<td>Factor VI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>32.04</td>
<td>27.72</td>
<td>28.68</td>
<td>32.48</td>
</tr>
<tr>
<td>SD</td>
<td>11.86</td>
<td>7.44</td>
<td>7.25</td>
<td>5.73</td>
</tr>
<tr>
<td>Factor VII</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>10.66</td>
<td>8.70</td>
<td>7.61</td>
<td>9.06</td>
</tr>
<tr>
<td>SD</td>
<td>4.37</td>
<td>3.81</td>
<td>2.50</td>
<td>3.54</td>
</tr>
<tr>
<td>Factor VIII</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>4.27</td>
<td>4.20</td>
<td>3.68</td>
<td>4.57</td>
</tr>
<tr>
<td>SD</td>
<td>2.77</td>
<td>2.07</td>
<td>1.94</td>
<td>2.28</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>227.41</td>
<td>197.14</td>
<td>182.50</td>
<td>211.75</td>
</tr>
<tr>
<td>SD</td>
<td>55.63</td>
<td>47.40</td>
<td>35.69</td>
<td>40.27</td>
</tr>
</tbody>
</table>
A one-way analysis of variance was completed for the Totals of the four groups, and an $F$-test for the data yielded a value of 3.77 ($p < .05$). The $F$-test indicates there are differences between the groups' Totals that are not expected by chance. Table 11 shows the pairs of groups significantly ($p < .05$) different after computing Tukey's (1949) correction for comparing individual means.

Table 11

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An examination of Tables 10 and 11 indicate that while the group 1 Total is significantly ($p < .05$) higher than the Totals of the other groups, the Totals of groups 2, 6, and 7 are not significantly different from each other.

A one-way analysis of variance was completed for the Factor 1 Mn. scores of the four groups, and a $F$-test for the data yielded a value of 2.09. Table 10 shows the Mn.s and SDs for the four groups. From this and the $F$-test, it is obvious that there are no significant ($p < .05$)
differences found between the group means.

A one-way analysis of variance was computed for the Factor II Mn. scores of the four groups, and an F-test for the data yielded a value of 4.78 (p < .05). Tukey's (1949) correction for comparing individual means was computed, and the results are shown in Table 12.

Table 12

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 12 and an examination of Table 10, it is seen that while the group 1 total is significantly (p < .05) higher than that of group 6, it is not significantly higher than any other group. The totals of groups 2 and 7 are not significantly different from each other's.

A one-way analysis of variance was completed for the Factor III Mn. scores of the four groups, and an F-test for the data yielded a value of 1.19. Table 10 shows the Mn.s and SDs for the four groups. From this and the F-test, it is obvious that no group Factor III Mn. score is significantly different from another's.
A one-way analysis of variance was completed for the Factor IV Mn. scores of the four groups, and an F-test for the data yielded a value of 9.45 (p < .05). Table 13 shows the pairs of groups significantly (p < .05) different after computing Tukey's (1949) correction for comparing individual means.

Table 13

Significant Differences Between Group's Pretest Mn.s on Factor IV

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

From Table 13 and an examination of Table 10, it is seen that the totals of groups 1 and 7 are significantly (p < .05) higher than that of group 6, and that the group 1 total is also significantly higher than that of group 2. The totals of groups 2 and 7 are not significantly different from each other.

A one-way analysis of variance was completed for the Factor V Mn. scores of the four groups, and an F-test for the data yielded a value of 3.23 (p < .05). Table 14 shows the pair of groups significantly (p < .05) different after computing Tukey's (1949) correction for comparing
From Table 14 and an examination of Table 10, it is seen that while the group 1 total is significantly (p < .05) higher than that of group 6, it is not significantly higher than any other group's. The totals of groups 6, 7, and 2 are not significantly different from each other.

A one-way analysis of variance was completed for Factor VI scores of the four groups, and an F-test for the data yielded a value of 2.42 (p > .05). Table 10 shows the Mn.s and SDs for the four groups. From this and the F-test, it is obvious that no group Factor VIII Mn. score is significantly different from another's.

A one-way analysis of variance was completed for the Factor VII totals of the four groups, and an F-test for the data yielded a value of 3.86 (p < .05). Table 15 shows the pair of groups significantly (p < .05) different after computing Tukey's (1949) correction for
comparing individual means.

Table 15

Significant Differences Between Group's
Pre Means on Factor VII

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 15 and an examination of Table 10, it is seen that while the group 1 total is significantly (p < .05) higher than that of group 6, it is not significantly higher than any other group's. The totals of groups 6, 7, and 2 are not significantly different from each other.

A one-way analysis of variance was completed for Factor VIII scores of the four groups, and an F-test for the data yielded a value of 1.09 (p > .05). Table 10 shows the Mn. and SDs for the four groups. From this and the F-test, it is obvious that no group Factor VIII Mn. scores are significantly different from another's.

Pretest Summary. The Mn.s of the four groups that completed the pretest differed significantly on Factors II, IV, V, VII, and the Total. There were no differences that reached a significant level on Factors I, III, VI, or VIII.
Posttest Findings

Table 16 shows the Mn. and SD for each experimental group's postdata on each factor and the total. Table 17 shows the Mn. and SD for each control group's postdata on each factor and Total.

Table 16

Mn.s and SDs for Each Experimental Group's Postscore on Each Factor and the Total Score

<table>
<thead>
<tr>
<th>Factor</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>30</td>
<td>26</td>
<td>35</td>
<td>31</td>
</tr>
<tr>
<td>Factor I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>63.63</td>
<td>54.07</td>
<td>45.57</td>
<td>55.10</td>
</tr>
<tr>
<td>SD</td>
<td>24.40</td>
<td>20.83</td>
<td>16.34</td>
<td>16.60</td>
</tr>
<tr>
<td>Factor II</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>49.37</td>
<td>40.57</td>
<td>37.33</td>
<td>48.45</td>
</tr>
<tr>
<td>SD</td>
<td>14.23</td>
<td>10.12</td>
<td>7.35</td>
<td>8.18</td>
</tr>
<tr>
<td>Factor III</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>13.83</td>
<td>11.03</td>
<td>10.29</td>
<td>12.26</td>
</tr>
<tr>
<td>SD</td>
<td>5.81</td>
<td>4.07</td>
<td>3.64</td>
<td>4.29</td>
</tr>
<tr>
<td>Factor IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>21.40</td>
<td>16.77</td>
<td>12.52</td>
<td>17.39</td>
</tr>
<tr>
<td>SD</td>
<td>7.30</td>
<td>5.25</td>
<td>5.15</td>
<td>5.43</td>
</tr>
<tr>
<td>Factor V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>24.00</td>
<td>21.90</td>
<td>17.90</td>
<td>21.23</td>
</tr>
<tr>
<td>SD</td>
<td>6.54</td>
<td>5.94</td>
<td>3.71</td>
<td>6.20</td>
</tr>
<tr>
<td>Factor VI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>30.43</td>
<td>32.23</td>
<td>25.86</td>
<td>32.68</td>
</tr>
<tr>
<td>SD</td>
<td>11.81</td>
<td>7.72</td>
<td>5.85</td>
<td>7.33</td>
</tr>
<tr>
<td>Factor VII</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>9.00</td>
<td>8.33</td>
<td>6.43</td>
<td>9.65</td>
</tr>
<tr>
<td>SD</td>
<td>3.37</td>
<td>5.16</td>
<td>2.99</td>
<td>3.85</td>
</tr>
<tr>
<td>Factor VIII</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>4.13</td>
<td>4.10</td>
<td>3.29</td>
<td>4.61</td>
</tr>
<tr>
<td>SD</td>
<td>2.28</td>
<td>1.75</td>
<td>1.97</td>
<td>2.03</td>
</tr>
<tr>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>215.80</td>
<td>189.00</td>
<td>159.19</td>
<td>201.35</td>
</tr>
<tr>
<td>SD</td>
<td>66.88</td>
<td>50.59</td>
<td>32.45</td>
<td>37.59</td>
</tr>
</tbody>
</table>
Table 17

Mn.s and SDs for Each Control Group's Postscore on Each Factor and the Total

<table>
<thead>
<tr>
<th>Factor</th>
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</thead>
<tbody>
<tr>
<td>Number</td>
<td>22</td>
<td>35</td>
<td>24</td>
</tr>
<tr>
<td>Factor I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.</td>
<td>70.38</td>
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<td>59.29</td>
</tr>
<tr>
<td>SD</td>
<td>17.301</td>
<td>14.81</td>
<td>21.49</td>
</tr>
<tr>
<td>Factor II</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mn.</td>
<td>55.57</td>
<td>65.71</td>
<td>43.03</td>
</tr>
<tr>
<td>SD</td>
<td>8.60</td>
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<td>8.14</td>
</tr>
<tr>
<td>Factor III</td>
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<tr>
<td>Mn.</td>
<td>13.90</td>
<td>12.74</td>
<td>11.89</td>
</tr>
<tr>
<td>SD</td>
<td>4.45</td>
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<td>4.83</td>
</tr>
<tr>
<td>Factor IV</td>
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</tr>
<tr>
<td>Mn.</td>
<td>22.95</td>
<td>16.90</td>
<td>17.47</td>
</tr>
<tr>
<td>SD</td>
<td>4.07</td>
<td>3.82</td>
<td>2.94</td>
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<td>Factor V</td>
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<tr>
<td>Mn.</td>
<td>24.33</td>
<td>23.16</td>
<td>22.29</td>
</tr>
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<td>SD</td>
<td>5.78</td>
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<td>5.02</td>
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<tr>
<td>Factor VI</td>
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<tr>
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<td>33.13</td>
<td>29.18</td>
</tr>
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<td>8.54</td>
<td>7.41</td>
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<tr>
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<td>8.26</td>
<td>8.03</td>
</tr>
<tr>
<td>SD</td>
<td>3.33</td>
<td>2.87</td>
<td>3.60</td>
</tr>
<tr>
<td>Factor VIII</td>
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</tr>
<tr>
<td>Mn.</td>
<td>4.71</td>
<td>4.94</td>
<td>4.58</td>
</tr>
<tr>
<td>SD</td>
<td>1.88</td>
<td>1.87</td>
<td>2.24</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td>Mn.</td>
<td>234.52</td>
<td>204.87</td>
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<tr>
<td>SD</td>
<td>41.59</td>
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<td>46.66</td>
</tr>
</tbody>
</table>

A one-way analysis of variance was completed for the Totals of the seven groups, and an F-test for the data yielded a value of 3.81 (p < .05). Table 18 shows the pairs of group Totals that are significantly (p < .05) different after computing Tukey's (1949) correction for
comparing individual means.

Table 18

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>*</td>
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<tr>
<td>3</td>
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<td>8</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

From Table 18 and an examination of Tables 16 and 17, it is seen that while the totals of groups 1 and 2 are significantly ($p < .05$) higher than that of group 6, they are not significantly higher than any other group's. The totals of groups 3, 4, 5, and 8 are not significantly different from each other.

A one-way analysis of variance was completed on Factor I for the seven groups, and an F-test for the data yielded a value of 3.10 ($p < .05$). Table 19 shows the pairs of groups significantly ($p < .05$) different after computing Tukey's (1949) correction for comparing individual means.
Table 19

Significant Differences Between Group's Posttest Mn.s on Factor I

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>4</td>
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<tr>
<td>6</td>
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<tr>
<td>8</td>
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<td></td>
</tr>
</tbody>
</table>

From Table 19 and an examination of Tables 16 and 17, it is seen that while the totals of groups 1 and 2 are significantly (p < .05) higher than that of group 6, they are not significantly higher than any other group's. The totals of groups 3, 4, 5, and 8 are not significantly different from each other.

A one-way analysis of variance was completed on Factor II for the seven groups, and an F-test for the data yielded a value of 4.42 (p < .05). Table 20 shows the pairs of groups significantly (p < .05) different after computing Tukey's (1949) correction for comparing individual means.
Table 20

Significant Differences Between Each Group's Posttest Mn.s on Factor II

<table>
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<tr>
<th>Group</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>3</td>
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<tr>
<td>6</td>
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<td>8</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

From Table 20 and an examination of Tables 16 and 17, it is seen that the totals of groups 1 and 2 are significantly ($p < .05$) higher than that of group 6, and the total of group 1 is also higher than those of groups 4 and 5. The total of group 2 is not significantly higher than any other group. The totals of groups 3, 4, 5, and 8 are not significantly different from each other.

A one-way analysis of variance was completed for Factor III Mn. scores of the four groups, and an F-test for the data yielded a value of 1.09 ($p > .05$). Tables 16 and 17 show the Mn.s and SDs for the seven groups. From this and the F-test, it is obvious that no group Factor III Mn. scores are significantly different from another's.

A one-way analysis of variance was completed on Factor IV for the seven groups, and an F-test for the data yielded a value of 5.93 ($p < .05$). Table 21 shows the
pairs of groups significantly (p < .05) different after computing Tukey's (1949) correction for comparing individual means.

Table 21

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>6</td>
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</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

From Table 21 and an examination of Tables 16 and 17, it is seen that while totals of groups 1 and 2 are significantly (p < .05) higher than that of group 6, the total of group 1 is also higher than those of groups 3, 4, and 5; however, the total of group 1 is not significantly higher than any other group. The totals of groups 3, 4, 5, and 8 are not significantly different from each other.

A one-way analysis of variance was completed on Factor V group Mn.s for the seven groups, and an F-test for the data yielded a value of 2.20 (p < .05). Table 22 shows the pairs of groups significantly (p < .05) different after computing Tukey's (1949) correction for
comparing individual means.

**Table 22**

**Significant Differences Between Group's Post Means on Factor V**

<table>
<thead>
<tr>
<th>Group</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
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<td>*</td>
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</tr>
<tr>
<td>2</td>
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<td></td>
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<tr>
<td>6</td>
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</tr>
<tr>
<td>8</td>
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</tr>
</tbody>
</table>

From Table 22 and an examination of Tables 16 and 17, it is seen that while the totals of groups 1 and 2 are significantly (p < .05) higher than that of group 6, they are not significantly higher than any other group. The totals of groups 4, 5, 3, and 8 are not significantly different from each other.

A one-way analysis of variance was completed on Factor VI group Mn.s for the seven groups, and an F-test for the data yielded a value of 2.48 (p < .05). Table 23 shows the pairs of groups significantly (p < .05) different after computing Tukey's (1949) correction for comparing individual means.
Table 23

Significant Differences Between Group's Post Means on Factor VI

<table>
<thead>
<tr>
<th>Group</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
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</tr>
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<td>3</td>
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<td></td>
</tr>
</tbody>
</table>

From Table 23 and an examination of Tables 16 and 17, it is seen that while the total of group 3 is significantly (p < .05) higher than that of group 6, it is not significantly higher than any other group. The totals of groups 1, 2, 4, 5, and 8 are not significantly different from each other.

A one-way analysis of variance was completed on Factor VII Mn. scores for the seven groups, and an F-test for the data yielded a value of 2.57 (p < .05). Table 24 shows the pairs of groups significantly (p < .05) different after computing Tukey's (1949) correction for comparing individual means.
Table 24

Significant Differences Between Group's Post Means on Factor VII

<table>
<thead>
<tr>
<th>Group</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

From Table 24 and an examination of Tables 16 and 17, it is seen that while the totals of groups 1 and 8 are significantly (p < .05) higher than that of group 6, they are not significantly higher than any other group. The totals of groups 2, 3, 4, and 5 are not significantly different from each other.

A one-way analysis of variance was completed for Factor VIII Mn. scores of the seven groups, and an F-test for the data yielded a value of 1.78 (p > .05). Tables 16 and 17 show the Mns and SDs for the seven groups. From this and the F-test, it is obvious that no group Factor VIII Mn. scores are significantly different from another's.

GPA

A one-way analysis of variance was computed for all
groups by self-reported GPA. Students that reported a GPA of 1.9 or below, which would be failing were placed in the low group. Those who reported a GPA of 2.0 to 2.9, or just passing were placed in the medium group, and students reporting a GPA of 3.0 or above were placed in the high group.

There are no significant (p < .05) differences between the three groups on the pretest; however, on the posttest, the low group reporting the GPA of 1.9 or below had the highest Mn. on all Factors and the Total. Significant differences between the Mn.s are reported in Table 25.

Table 25

Mn.s of Groups Differing Significantly on Posttest Factors and Total by GPA

<table>
<thead>
<tr>
<th>Group</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>Total</th>
</tr>
</thead>
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<td>Low</td>
<td>72.88</td>
<td>55.44</td>
<td>25.13</td>
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<td>243.38</td>
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<td>0.02</td>
<td>0.00</td>
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<td>0.01</td>
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<tr>
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<tr>
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<td>197.72</td>
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<td>0.02</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.01</td>
</tr>
</tbody>
</table>

As can be seen from Table 25, the low group that reported that they were failing in their class work, have significantly higher Mn.s on three Factors and the Total;
although, they do not differ significantly on any Factor or the Total in the pretest.

**Attrition**

A one-way analysis of variance was computed on the Mn.s of the group of students that indicated that they did not plan to return to Western Michigan University and the students that indicated plans to return, by the factors and Total. Table 26 shows the statistical significance of the results of the F-test for the two groups.

Table 26

<table>
<thead>
<tr>
<th>Factors</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>0.49</td>
<td>0.73</td>
<td>0.82</td>
<td>0.94</td>
<td>0.29</td>
<td>0.39</td>
<td>0.61</td>
<td>0.48</td>
<td>0.80</td>
</tr>
<tr>
<td>Posttest</td>
<td>0.11</td>
<td>0.09</td>
<td>0.94</td>
<td>0.30</td>
<td>0.70</td>
<td>0.32</td>
<td>0.24</td>
<td>0.60</td>
<td>0.15</td>
</tr>
</tbody>
</table>

From the Table 26, it is obvious that there are no significant differences (p < .05) in the Mn.s of the groups on the pretest or the posttest.

**Experiment**

The results of a two-way analysis of variance was
computed to determine possible pre-posttest interaction effects on each factor and the Total (p > .05) indicated that there were no interaction effects and that the \( F \)-tests and \( t \) tests computed on those Mn.s are robust.

A two-way analysis of variance was computed for the Mn.s of the experimental groups and the control groups by pre-posttest; as well as both pre-posttest Mn.s by experimental and control groups. Table 27 shows the Mn.s and SDs of the four groups, and Table 28 shows the statistical significance of the \( t \) tests computed on the results of the two-way analysis of variance for Factor I.

Table 27

Mn.s and SD of the Control and Experimental Groups by Pre-posttest

<table>
<thead>
<tr>
<th></th>
<th>Pretested Groups</th>
<th></th>
<th>Posttested Groups</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>Experimental</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mn.s</td>
<td>66.09</td>
<td>62.20</td>
<td>64.87</td>
<td>62.36</td>
</tr>
<tr>
<td>SD</td>
<td>17.58</td>
<td>17.56</td>
<td>17.91</td>
<td>19.88</td>
</tr>
</tbody>
</table>

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Table 28

Statistical Significance of the t Values Between Control and Experimental Groups on Pre- posttests for Factor I

<table>
<thead>
<tr>
<th>Group</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre 1</td>
<td>Post 2</td>
</tr>
<tr>
<td>1</td>
<td>.636</td>
<td>.233</td>
</tr>
<tr>
<td>2</td>
<td>.353</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.964</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 28, there are no significant differences between the Mn.s of the experimental and control groups on the pre- posttest for Factor I.

Table 29 shows the statistical significance of the t values computed on the Mn.s of the experimental and control groups by pre- posttest for Factor II.

Table 29

Statistical Significance of the t Values Between Control and Experimental Groups on Pre- posttests for Factor II

<table>
<thead>
<tr>
<th>Group</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre 1</td>
<td>Post 2</td>
</tr>
<tr>
<td>1</td>
<td>.118</td>
<td>.009</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As can be seen from Table 29, although there is a significant difference between group 1 and 3 on the pre-test, there are no significant differences between the Mn.s of the experimental and control groups on the pre-posttest for Factor II.

Table 30 shows the statistical significance of the t values computed on the Mn.s of the experimental and control groups on the pre-posttest for Factor III.

Table 30

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th></th>
<th>Experimental</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Group 1</td>
<td>.574</td>
<td>.500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
<td></td>
<td>.485</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
<td></td>
<td>.425</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 30, there are no significant differences between the Mn.s of the experimental and control groups on the pre-posttest for Factor III.

Table 31 shows the statistical significance of the t values computed on the Mn.s of the experimental and control groups by pre-posttest on Factor IV.
Table 31

Statistical Significance of the $t$ Values Between Control and Experimental Groups on Pre- posttests for Factor IV

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th></th>
<th>Experimental</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>.487</td>
<td>.481</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>.758</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>.665</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 31, there are no significant differences between the Mn.s of the experimental and control groups on the pre-posttest for Factor IV.

Table 32 shows the statistical significance of the $t$ values computed on the Mn.s of the experimental and control groups by pre-posttest for Factor V.

Table 32

Statistical Significance of the $t$ Values Between Control and Experimental Groups on Pre- posttests for Factor V

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th></th>
<th>Experimental</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>.567</td>
<td>.232</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>.651</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>.618</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 32, there are no significant differences between the Mn.s of the experimental
and control groups on the pre-posttest for Factor V.

Table 33 shows the statistical significance of the $t$ values computed on the Mn.s of the experimental and control groups by pre-posttest for Factor VI.

Table 33

<table>
<thead>
<tr>
<th>Control Group</th>
<th>1</th>
<th>2</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>.872</td>
<td>.121</td>
<td>.884</td>
</tr>
</tbody>
</table>

As can be seen from Table 33, there are no significant differences between the Mn.s of the experimental and control groups on the pre-posttest for Factor VI.

Table 34 shows the statistical significance of the $t$ values computed on the Mn.s of the experimental and control groups by pre-posttest for Factor VII.
Table 34

Statistical Significance of the $t$ Values Between Control and Experimental Groups on Pre- posttests for Factor VII

<table>
<thead>
<tr>
<th>Group</th>
<th>Control 1 Pre</th>
<th>Control 2 Post</th>
<th>Experimental 3 Pre</th>
<th>Experimental 4 Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.085</td>
<td>.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.442</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.433</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 34, although there is a significant difference between groups 1 and 3, both control groups, on the pretest; there are no significant differences between the Mn.s of the experimental and control groups on the posttest for Factor VII.

Table 35 shows the statistical significance of the $t$ values computed on the Mn.s of the experimental and control groups by pre- posttest for Factor VIII.

Table 35

Statistical Significance of the $t$ Values Between Control and Experimental Groups on Pre- posttests for Factor VIII

<table>
<thead>
<tr>
<th>Group</th>
<th>Control 1 Pre</th>
<th>Control 2 Post</th>
<th>Experimental 3 Pre</th>
<th>Experimental 4 Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.566</td>
<td>.932</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.870</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.654</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As can be seen from Table 35, there are no significant differences between the Mn.s of the experimental and control groups on the pre- posttest for Factor VIII.

Table 36 shows the statistical significance of the t values computed on the Mn.s of the experimental and control groups by pre- posttest on the Total.

<table>
<thead>
<tr>
<th>Group</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>.503</td>
<td>.90</td>
</tr>
<tr>
<td>2</td>
<td>.491</td>
<td></td>
</tr>
</tbody>
</table>

There are no significant differences between the Mn.s of the experimental and the control groups on the Total.

Gender Differences

Figure 1 shows profiles that were plotted for the male and female scores on each Factor and the Total on the pretest.
Figure 1

Profiled Pretest Scores for Males and Females

<table>
<thead>
<tr>
<th>Standard T Scores</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
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<td></td>
<td></td>
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<tr>
<td>40</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>30</td>
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<td></td>
</tr>
</tbody>
</table>

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Figure 2

Profiled Posttest Scores for Males and Females

<table>
<thead>
<tr>
<th>Standard T Scores</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>50</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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As is seen from Figure 1, males living in all male residence halls, Groups 1 and 2, and males living in a coed residence hall, Group 7, have consistently higher T scores than Group 6, females living in a coed residence hall.

Figure 2 shows the profiles plotted for the males and females for each Factor and the Total on the post-test.

As is seen in Figure 2 and Table 37, with the exception of Factors 6 and 8, Groups 1 and 2 consistently score higher than other groups. On Factor IV all groups, with the exception of 1 and 2, scored below 20. Table 37 shows the standard T scores of each group on each Factor and the Total.

Table 37

T Scores on Posttest for Males and Females

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor I</td>
<td>51</td>
<td>48</td>
<td>46</td>
<td>43</td>
<td>45</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>Factor II</td>
<td>49</td>
<td>42</td>
<td>61</td>
<td>32</td>
<td>35</td>
<td>28</td>
<td>41</td>
</tr>
<tr>
<td>Factor III</td>
<td>52</td>
<td>52</td>
<td>50</td>
<td>46</td>
<td>48</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td>Factor IV</td>
<td>33</td>
<td>29</td>
<td>17</td>
<td>17</td>
<td>19</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>Factor V</td>
<td>47</td>
<td>46</td>
<td>45</td>
<td>42</td>
<td>43</td>
<td>35</td>
<td>41</td>
</tr>
<tr>
<td>Factor VI</td>
<td>51</td>
<td>49</td>
<td>52</td>
<td>51</td>
<td>47</td>
<td>43</td>
<td>51</td>
</tr>
<tr>
<td>Factor VII</td>
<td>52</td>
<td>49</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>42</td>
<td>51</td>
</tr>
<tr>
<td>Factor VIII</td>
<td>53</td>
<td>50</td>
<td>54</td>
<td>50</td>
<td>52</td>
<td>46</td>
<td>52</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>45</td>
<td>42</td>
<td>39</td>
<td>40</td>
<td>32</td>
<td>42</td>
</tr>
</tbody>
</table>
Summary

This analysis included a one-way analysis of the Mn.s of each group on each Factor and the Total of both the pre- and posttest. There were significant (p < .05) differences between the Mn.s of the four groups pretested on four of the factors and the Total. On the posttest the seven groups were significantly (p < .05) different on all Factors and the Total with the exception of Factors III, and VIII.

In addition, a one-way analysis of variance was computed for both the self-reported GPA and attrition on the pre- and posttest. The results of these analyses showed no significant (p < .05) differences on either the pre- or posttest for the groups that stated that they planned to return to Western Michigan University and those that did not.

Although there were no differences between the groups that reported that they were failing in their class work and those that reported that they were not on the pretest, there were significant (p < .05) differences between the groups on the Total and seven of the eight factors on the posttest.

A two-way analysis of variance was computed for the experimental and control groups by pre- posttest, and for pre- and posttest by groups. There were no significant
(p < .05) on any factor or the Total, with the exception of Factor VII on the pretest, where there was a significant (p < .05) difference between the control groups. There were no significant differences on Factor VII on the posttest.

Standardized T scores were computed for each group on all factors and the Total for both the pre- and posttest. Group 1, a male group living in an all male residence hall, scored highest on six of the eight factors and the Total of the pretest. This group also scored the highest of the seven groups on five of the eight factors and the Total on the posttest. Group 6, a female group living in a coed residence hall, scored lowest on six of the eight factors and the Total of the pretest, and lowest on all eight factors and the Total on the posttest. The differences between Group 1 and Group 6 was significant (p < .05) on four of the factors and the Total of the pretest, and five of the factors and the Total on the posttest. Group 6 also scored significantly (p < .05) lower than Group 2, an all male group living in an all male residence hall, on four of the eight factors and the Total on the posttest.
CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS

The Problem

The empirical investigation of the experience of loneliness has just begun to shed significant light on this phenomenon only in the past decade. College students, because of the normal developmental period they are in and the transition from high school to college, have been identified as a group-at-risk. Yet, there is an inappreciable amount of information available to help them. Little is known about the types of loneliness they experience or the behavioral manifestations of loneliness that might be expected. Moreover, methods of identifying these individuals have been very inadequate.

The common theme of all concept referents for loneliness that there is no human interaction or unsatisfying interaction. The resultant feeling state is most certainly an abstraction, which takes on individual characteristics and can manifest itself differently in different persons. Loneliness is a respondent category rather than an observers category. Respondents place themselves in a category of lonely or not lonely, as loneliness must be studied as the abstraction manifests
itself.

The general purpose of this research was to explore, both subjectively and objectively, the social phenomenon referred to in the literature as loneliness. Specifically, the major purposes were to identify the lonely at Western Michigan University, and investigate: (a) the types of loneliness they experience, (b) the behavioral manifestations, specifically GPA and attrition, of that loneliness, and (c) the effectiveness of an intervention strategy.

Method and Procedures

The Belcher Extended Loneliness Scale (BELS) was administered to four randomly selected groups (N = 126) of students living in the residence halls at Western Michigan University at the beginning of the winter term. Shortly thereafter, a one session workshop on loneliness was presented to the Resident Assistants (RAs) of four floors. The workshop was educational in nature, and focused on the types of loneliness and their manifestations. The resource referral network that was available in the Western Michigan University and the Kalamazoo area was also investigated. A week before the term ended, eight randomly selected groups, four experimental and four control, were administered the BELS. One of the packets containing a control group's tests was
inadvertently thrown away. It was impossible to retrieve or replicate these data. The statistical analysis was performed on the remaining seven groups (N = 203).

A one-way analysis of variance was computed for all groups on the pre-posttest. In addition to the total score (Total), the analysis was computed on eight factors that were identified by the BELS. The factors were: (a) Factor I - Pathological Loneliness, (b) Factor II - Alienation, (c) Factor III - Loneliness Anxiety, (d) Factor IV - Existential Loneliness, (e) Factor V - Estrangement, (f) Factor VI - Anomie, (g) Factor VII - Loneliness Depression, and (h) Factor VIII - Separateness.

Findings and Conclusions

On the basis of this research two of the four null hypotheses presented in Chapter I were rejected, and the other two were accepted.

Experiment

The first hypothesis, there will be no significant difference between students on floors where the RAs are trained to recognize and appropriately respond to loneliness and those on floors where the RAs were not trained with respect to loneliness, was accepted. The major findings of this research indicated there were no
differences between the control (N = 124) and the experimental groups (N = 165) on the posttest; nor were there and differences between the experimental groups' pre-posttests. Explanations for those results are purely speculative; however, since the intervention concentrated on increasing the appropriate type of interpersonal contact, emotional or social, even if the intervention were successful in producing increased interactions, it may not have reduced loneliness. Findings from the New Student Study, discussed in Chapter I, indicated that there were no clear patterns found linking reduction of loneliness to the numerous behavioral and cognitive strategies studied. "Students who continued to be lonely reported doing many of the same activities as students who recovered from loneliness" (Peplau, 1982, p. 372).

Attrition

Using the eight factors and the Total on the BELS, the students were compared on the basis of their responses indicating if they planned to return to Western Michigan University. No significant differences were found between the two groups on either the pre- or posttest. Therefore, the null hypothesis, the number of students reporting higher degrees of loneliness and plans to leave college will not be significantly different than the number of students reporting low degrees of loneliness and plans to
Although many of the frequently expressed beliefs and opinions about loneliness have received no support when they have been subjected to empirical study, it is difficult to know how to interpret these findings, given the limitations of the study. An intriguing trend did emerge in statistical analysis of these data that precludes a conclusive demonstration that loneliness and attrition are not necessary correlates. The pretest Mn.s of students who intended to leave were lower than the posttest Mn.s of the same group, however this difference did not reach statistical significance, and can only be interpreted as a possible trend.

**Grade Point Average**

Students were asked to report their grade point average (GPA), and based on their responses, were divided into three groups, (a) 1.9 or below - low group, (b) 2.0 to 2.9 - medium group, and (c) 3.0 or above - high group. The three groups were then compared using the eight factors and Total on the BELS. There were no significant differences on the pretest, which was administered shortly after the term began. However, on the posttest the low group had the highest mean on all eight factors and the Total. The low group was significantly different from the high group on Factors I Pathological Loneliness,
II Alienation, IV Existential Loneliness, and the Total, and was significantly different from the medium group on Factor IV and the Total. The posttest was administered two weeks before the term ended, so although students may have had an idea of their final grades, they had not taken their final tests in most classes. The response to the GPA question, in most cases, was the student's perception of what their final grades would be. A precise interpretation of the analysis of this data would have to take into account the fact that the response to the GPA question was based on the student's perception of how well he or she was doing as opposed to the actual GPA. Students who perceived themselves to be failing also reported themselves to be more lonely than students who perceived themselves to be passing or doing well in their class work. The null hypothesis, the self-reported grade point average of students reporting higher degrees of loneliness will not be significantly different than those who report less loneliness, was, therefore, rejected.

It was hypothesized that one of the behavioral manifestations of loneliness would be an inability to attend to a higher-order need, such as learning, when a more basic need was not met. Because of the obvious problems of cause-effect assumptions, these findings do not necessarily support this hypothesis, therefore, more detailed studies regarding the relationship between loneliness and
GPA will be needed to confirm these findings.

An alternative explanation for these results is that a low GPA represents a decreased amount of positive reinforcement. Positive reinforcement is the key concept of all types of loneliness; it is therefore not surprising that students reporting a low objective measure of positive reinforcement, low GPA, also reported a subjective lack of positive reinforcement, loneliness.

**Gender Differences**

The pretest was administered to four groups; Groups 1 and 2 consisted of males living in an all male residence halls, Group 6 consisted of females living in a coed residence hall, and Group 7 was males living in a coed residence hall. Using the eight factors and Total the four groups were compared on the basis of their prescores. Group 1, the males living in an all male residence hall, scored highest of the four groups on six of the eight factors and the Total. Group 6, females living in a coed residence hall, scored lowest on six of the eight factors and the Total. This trend continued on the posttest where Group 1 scored highest of all seven groups on five of the eight factors and the Total, and Group 6 scored lowest on all eight of the factors and the Total.

On the posttest, Group 3, which consisted of females living in an all female residence hall, scored highest on
three factors. Group 2, males living in an all male residence hall, consistently scored second highest on seven of the eight factors and the Total. There was considerable variation in the rank scoring of the rest of the groups.

The differences between Group 6, females living in a coed residence hall and Group 1, males living in an all male residence hall, reached statistical significance (p < .05) on four factors and the Total on the pretest and five factors and the Total on the posttest. The differences between Group 6 and Group 2 were statistically significant on four factors and the Total on the posttest. The differences between Group 6 and Group 3, however, were statistically significant only on the Total. Based on these results there appears to be gender differences in respect to loneliness, and therefore, the null hypothesis, males and females will not be significantly different in the types or the degree of loneliness they experience, was rejected. It appears, however, that the interaction of gender and living arrangements is more precise in determining the degree of loneliness experienced by the student.

Based on this research, females living in a coed residence hall are less lonely than any other group, and they are significantly less lonely than males living in an all male residence hall. These findings are
inconsistent with those of other studies of student populations, particularly Russell (1982) and Peplau (1982), where absence of sex differences were found. The Russell (1982) and Peplau (1982) studies, however, did not take into account the specific living arrangements of the students.

Levine (1977, p. 242) states, "the single most important factor in determining whether two people will become friends is physical proximity." Perhaps the most extensive examination of the effects of physical proximity was carried out by Festinger, Schachter, and Back (1959), who studied the development of social interaction in married student housing units at MIT. They found the major determinant of who became friends was mere proximity. Any architectural feature that forced a resident to meet other residents now and then tended to increase that person's popularity.

Although Peplau (1982, p. 372) warns against "the single-minded search for a romantic partner to the exclusion of developing friendships," coed residence halls provide proximity to both sexes. As was pointed out in Chapter I, the early phase of the young adult years is both a full and complex one. One of the many important tasks to be accomplished is an increased capacity for intimacy. Women in our society tend to specialize in the social and emotional dimensions of life (Rubin, 1973).
Although men and women are equal in the degree of intimacy they share with each other, women also tend to share intimacies with their same-sex friends more often than men do with same-sex friends (Rubin, 1965). The advantages of the physical proximity in coed residence halls may provide women, in particular, with an environment well suited to develop intimate relationships with both sexes and thus reduce loneliness to a significant degree.

The interaction of gender and living arrangements as they affect loneliness certainly warrants further investigation.

Implications

Implications Derived from Data

The most critical findings that emerged from this study were the relationships of gender, living arrangement, and loneliness. Female students living in coed residence halls were found to be the least lonely with students particularly male students living in same gender residence halls being most lonely. These findings would indicate that the interaction of gender and living arrangement is an important variable in determining what conditions predispose a student to loneliness and conditions that may reduce loneliness.

In addition these findings have many practical
implications and support conclusions drawn by other researchers who support that changes in "college dormitories might also reduce the incidence of loneliness" (Peplau, 1982, p. 373). To a great extent, architects unknowingly shape the social lives of the residents of their buildings. As was previously discussed, proximity is the main determinant of social contact. On the other hand, students living in high density, or crowded conditions, react by withdrawal. They communicate less with others and have less social interaction (Baum & Valins, 1977; McCarthy & Saegert, 1979; Paulus, 1979). Recent research has confirmed that students living in crowded conditions report difficulty in controlling events, numerous somatic complaints, encountered many problems in the dormitory, and more often reported feeling lonely than students in noncrowded conditions (Reddy, Baum & Fleming, 1981). While crowding does not appear to be harmful to the general population, the loss of control imposed by the rules of an institution make people more susceptible to stressful effects of crowding (Paulus, McCain & Cox, 1978). Baum and Valins (1977) found that when students shared a bath and lounge with fewer students, they were more satisfied and felt more in control of their environment.

Buildings tend to be taken for granted, and seldom is there a reflection on what makes a building good or
bad or makes a room pleasant or unpleasant. This distinc-
tion goes far beyond the aesthetic appeal of a hand-
somely designed structure. The quality of life depends
to a great degree upon the physical features of the build-
ings and rooms in which students live. University admin-
istrators, and in particular student housing administra-
tors, need to be cognizant of the psychological functions
of the architectural design of residence halls.

Implications Derived from the Survey of Literature

In the past, universities have frequently attempted
to adjust the student to the system. Recently the system
is also adjusting and changing; in all probability, the
system is likely to change even more. The main ingre-
dient necessary to effect any change at all in the optimal
development of students is caring. Reform must start with
people -- especially people with power -- caring about the
well-being of others.

Young adults who have recently left the security of
home and family are in desperate need of the understanding
and caring of the new adults in their lives. A new net-
work of peers is usually formed from residence hall rela-
tionships when students begin college; yet, many students
feel isolated during their first year, suggesting that
the development of a supportive network fails to occur for
many students (Kegan, 1978). Erikson (1963) has noted:
There is a 'natural' period of uprootedness in human life: adolescence. Like a trapeze artist, the young person in the middle of vigorous emotion must let go of his safe hold on childhood and reach out for a firm grasp on adulthood, dependent for a breathless interval on his training, his luck, and the reliability of the 'receiving and confirming' adults. (p. 56)

Traditionally the "receiving and confirming" adults on our campuses have been the faculty. On many large campuses today, faculty are simply not available to undergraduate students! Publication pressures, research and other commitments do not allow time for students.

RAs and the university counseling centers have been expected to fill the gap. The philosophy behind this policy seems to be that faculty should teach and do research and professionals will take care of the student's emotional needs. The student who wishes to maintain a close relationship with an adult is thereby encouraged to define a normal developmental need as a psychological problem. Even if the student is willing to do this, as only a small percentage are, the RA or counselor is a poor substitute for an interested and available teacher.

"Helping the lonely sometimes involves changing the situation rather than the person" (Peplau, 1982, p. 374). The first step to be taken in changing this situation is the examination of the psychological consequences which arise when faculty are estranged from students. Secondly, faculty-student contact must be recognized and supported.
by the administration of the university. These are difficult tasks that in many cases will involve changes in the philosophical goals of the university so that policies will be implemented that concretely prioritize and value faculty-student contact.

Summary

This research included a complete and critical review of the literature, covering the various forms of loneliness, experiential characteristics, causation, theory, dynamics and treatment in general, with an emphasis on loneliness as related to college students. This review was presented in Chapters I and II. An intervention designed to reduce loneliness in a student population was presented in Chapter III and described in detail in Appendix B. Chapter III also included a description of the methods that would be used to implement and evaluate the intervention. In addition, descriptive data on student loneliness was gathered and statistically analyzed. These results were described in Chapter IV.

This concluding chapter has dealt with a discussion of those results. The null hypothesis relating to the effectiveness of a specific RA loneliness training workshop was accepted. Workshops on loneliness in the future might investigate the effectiveness of a workshop that focused on the situational aspects, in addition to the
types of loneliness and appropriate interventions.

The null hypothesis relating to attrition and its relationship to loneliness was also accepted, although a trend toward increased loneliness from pre- to posttest was noted.

The null hypothesis relating a low GPA and high loneliness was rejected. The students that reported they were failing also reported experiencing more loneliness. These findings tentatively validate the theoretical postulation that learning is a higher-order need, and will not be attended to until lower-ordered needs are met.

Finally, the fourth null hypothesis concerning gender differences as they relate to loneliness was rejected. Students living in same sex residence halls reported a higher degree of loneliness than females living in coed residence halls. Loneliness was found to be most heavily influenced by the interaction of gender and living arrangement.

There are limitations posed by the size and selectivity of the sample. The evidence cited and interpreted must be seen as suggestive rather than conclusive of the role played by influences on loneliness.

The findings reported have implications for practitioners, researchers, and university staff attempting to understand student loneliness. They need to be sensitive to the factors associated with high levels of loneliness.
These factors are useful as diagnostic tools, as well as possible means of intervention.

The transition from high school to college is overwhelming for many students and loneliness is a dominant theme throughout their college years. Although no simple prescription is a panacea for this universal emotion, the empirical study of loneliness has provided many new and promising insights that can be of immeasurable value to the university, the student, and ultimately, the society of which both are a part.
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APPENDIX A

INSTRUCTIONS

1. DO NOT PUT NAME ON ANSWER SHEET. ANSWER EACH QUESTION BY FILLING IN ONE OF THE SIX SPACES ON THE ANSWER SHEET. THE FIRST OR LEFT HAND SIDE IS RARELY OR ALMOST NEVER TRUE FOR ME AND THE RIGHT HAND SIDE (6) IS TRUE FOR ME ALL OR MOST OF TIME. TO ANSWER EACH QUESTION, MARK ONE OF THE SIX COLUMNS WHICH MOST CLOSELY APPROACHES YOUR FEELINGS.

2. BE SURE TO ANSWER EACH QUESTION. THERE IS NO TIME LIMIT, BUT WORK QUICKLY. THERE IS NO RIGHT OR WRONG ANSWER. IT IS YOUR FEELINGS THAT ARE IMPORTANT.

EXAMPLE:

1. WHEN I AM IN A GROUP, I FEEL THAT OTHERS IN THE GROUP ARE HAPPIER THAN I AM.

1. IT IS HARD FOR ME TO GET OUT OF BED AND FACE THE PROSPECTS THE DAY HOLDS.

2. I FEEL LIKE IS AM WORTHLESS.

3. THERE IS NO ONE WITH WHOM TO SHARE MY HAPPY AND SAD MOMENTS.

4. I HAVE FRIENDS THAT UNDERSTAND ME.

5. RIDING IN A CROWDED ELEVATOR BOTHERS ME.

6. I FEEL BORED.
7. I feel that no one cares about me.
8. I have no one to depend upon but myself.
9. I need someone to talk to about my problems and there is no one there.
10. I feel like I don't have a friend in the world.
11. I am afraid of being different than other people.
12. I feel very empty inside.
13. I am embarrassed to show fear or pain.
14. People do not seem to notice that I am around.
15. I worry about the impression I make on others.
16. I cannot discuss my problems with anyone.
17. I know that life is worthwhile.
18. I feel sort of like a "hollow shell".
19. I believe that no one cares what happens to me.
20. I wonder if I can really love another person.
21. People enjoy my company.
22. People do not like me.
23. When a group tours the institution, I feel like I am on exhibit (like a germ under a microscope).
24. I feel like I don't have a world of my own.
25. I feel that others in a group are happier than I am.
26. People would think that I was foolish if they really knew me.
27. Memories of past friends and the happy times I have spent with them are sad.
28. I feel isolated from human contact -- like I'm on the outside looking in.
29. I feel terrible when I know that someone is watching me.
30. I HAVE DIFFICULTY IN STARTING TO DO THINGS.
31. WHEN I AM IN A GROUP I FEEL LIKE A SMALL FISH IN A LARGE FISH BOWL.
32. I AM AFRAID OF PEOPLE NOT LIKING ME.
33. WHEN I AM AROUND A GROUP, I FEEL LIKE I DON'T BELONG.
34. I FEEL FREE TO JUST BE MYSELF AROUND OTHER PEOPLE.
35. EVEN WHEN I AM WITH PEOPLE I FEEL LONELY MUCH OF THE TIME.
36. YOU CAN COUNT ON MOST PEOPLE YOU MEET.
37. MAN'S LIFE ON EARTH HAS REAL MEANING AND PURPOSE.
38. NICE AS IT MAY SEEM TO HAVE FAITH IN OTHER PEOPLE, IT DOESN'T PAY OFF.
39. I DOUBT IF I WILL EVER FIND ANYONE WHO REALLY UNDERSTANDS ME.
40. OUR LIVES DON'T HAVE ANY REAL MEANING OR PURPOSE.
41. PEOPLE ARE BASICALLY GOOD.
42. VERY FEW PEOPLE CAN BE TRUSTED.
43. YOU CAN'T EVER REALLY PREDICT THE FUTURE. YOU CAN NEVER TELL WHAT WILL HAPPEN NEXT.
44. TO AVOID DISAPPOINTMENT A PERSON HAS TO EXPECT THE WORST OF OTHERS.
45. MOST PEOPLE ARE PRETTY ALONE AND FRIENDLESS.
46. IT'S ALMOST IMPOSSIBLE TO FIND ANYONE WHO WILL ACCEPT YOU FOR WHAT YOU ARE.
47. I DO NOT EXPECT MUCH HELP OR PRAISE OR SYMPATHY FROM OTHER PEOPLE.
48. MOST FRIENDSHIPS END UP WITH DISAPPOINTMENT.
49. THERE ARE ALWAYS PLENTY OF PEOPLE TO LEND A HELPING HAND.
50. ALMOST EVERYONE HAS A GOOD CHANCE OF LEADING A HAPPY AND USEFUL LIFE.

51. A PERSON SHOULD PLAN HIS LIFE SO THAT HE DOESN'T HAVE TO COUNT ON OTHER PEOPLE, THAT WAY HE WON'T GET HURT.

52. THE WORLD IS FULL OF PEOPLE WHO WILL TAKE ADVANTAGE OF YOU IF YOU GIVE THEM A CHANCE.

53. IN THE LONG RUN, THINGS USUALLY WORK OUT FOR THE BEST.

54. IF YOU HAVE FAITH IN YOUR FRIENDS THEY WILL SELDOM DISAPPOINT YOU.

55. THERE IS LITTLE USE WRITING TO PUBLIC OFFICIALS BECAUSE OFTEN THEY AREN'T REALLY INTERESTED IN THE PROBLEMS OF THE AVERAGE MAN.

56. NOWADAYS A PERSON HAS TO LIVE PRETTY MUCH FOR TODAY AND LET TOMORROW TAKE CARE OF ITSELF.

57. IN SPITE OF WHAT SOME PEOPLE SAY, THE LOT OF THE AVERAGE MAN IS GETTING WORSE, NOT BETTER.

58. IT'S HARDLY FAIR TO BRING CHILDREN INTO THE WORLD WITH THE WAY THINGS LOOK FOR THE FUTURE.

59. THESE DAYS A PERSON DOESN'T REALLY KNOW WHOM HE CAN COUNT ON.

60. RATE YOURSELF ON THE FOLLOWING SCALE OF LONELINESS — THAT IS, THE DEGREE OF LONELINESS YOU FEEL AS COMPARED WITH OTHERS AROUND YOU.

(1) LEAST LONELY
(2) MUCH LESS LONELY
(3) LESS LONELY
(4) MORE LONELY
(5) MUCH MORE LONELY
(6) MOST LONELY


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DO YOU PLAN TO RETURN TO WESTERN MICHIGAN UNIVERSITY?

_____ YES _____ NO

DO YOU PLAN TO RETURN TO THIS DORMITORY?

_____ YES _____ NO

WHAT IS YOUR APPROXIMATE GRADE POINT AVERAGE?

1 - 1.0-1.9
2 - 2.0-2.9
3 - 3.0-4.0
APPENDIX B

RA INTERVENTION WORKSHOP

Educational Phase

This portion (30 minutes) of the workshop was didactic in nature and covered the following issues in loneliness.

I. Types of loneliness
   A. Emotional loneliness
   B. Social loneliness

II. Manifestation of loneliness
   A. Emotional
      1. Distress
      2. Fear of abandonment
      3. Pervasive apprehensiveness - nameless fear
      4. Defensiveness
      5. Empty, hollow or dead feeling inside
      6. Concentration difficulty
      7. Physical activity to drain off anxiety
      8. Emotional outbursts - crying, aggression
      9. Insecure
     10. Less self-confidence
     11. Mood swings
     12. Eating and sleeping patterns disrupted
     13. Pressure - explosive feelings
     14. Need to talk to someone about personal concerns

   B. Social
      1. Boredom
      2. Exclusion
      3. Aimlessness - no purpose or goal
      4. Marginality
      5. Daily tasks become boring without affirmation of others
      6. Restlessness
      7. Need to search out and spend time with others
      8. Unhappy
      9. Difficulty making friends
     10. Uncertain - decisions become difficult

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Brainstorming Phase

This portion (60 minutes) of the workshop was interactive and the RAs were encouraged to spontaneously identify loneliness intervention strategies they could implement on the floors that they were assigned. They also generated a list of community and campus referral sources that they could utilize when they wished to refer students who were lonely. Following is a list of the interventions and resources that was generated from the workshop.

I. Intervention strategies
   A. Organized activities that included all students residing on the floor
      1. Theme dinners - meal designed around a theme, such as Italian, etc.
      2. Floor parties
      3. Floor acknowledgments for individual's achievements
      4. "New Games" activities where all students are invited and encouraged to participate

II. Referral Sources
    A. Campus
       1. Western Michigan University Counseling Center
       2. Classes that encourage student-student and teacher-student interaction, i.e., Risk-taking class
       3. Involvement in interest groups, i.e., drama, athletics, debate club, etc.

    B. Community
       1. Church groups
       2. Activity groups, i.e., Adventure Club, Art Center classes, etc.
       3. Volunteer service groups
Dear Respondent:

Loneliness is a serious and distressing problem for many students at Western Michigan University. This is a period of transition, and loneliness is a possible side-effect of that transition. Unfortunately, there is a social stigma attached to loneliness. Many people do not wish to admit that they have experienced loneliness, yet, it is important to know more about this experience if we are to be effective in reducing the problem.

It is the intent of this survey to gather information concerning the causes and treatment of loneliness. Your responses are of real importance to all students at Western Michigan University.

Although your name is not required, your responses will be coded for the purpose of data analysis. All information will be treated confidentially, and will not be available to faculty, students, or administrators.

The results of the data analyses and interpretation will be made available to groups or individuals at Western Michigan University interested in determining possible direction they should pursue in approaching the problem of loneliness.

This survey is being conducted as part of a doctoral dissertation. Your cooperation by completing the questionnaire will be greatly appreciated.

Sincerely,

Jerie K. Wood
APPENDIX D

SURVEY ADMINISTERING

I. Distribute survey-packets to all students
   A. Packets contain: 1. letter to respondents
                      2. survey
                      3. answer sheet

II. Instruct students to: 1. complete surveys within one hour
                          2. USE COLUMNS 1 THROUGH 6 ONLY
                          3. for yes-no answers, use columns 1 (yes) and 2 (no)
                          4. return survey and answer sheet to you

III. Check off names for return

IV. Collect surveys and answer sheets not in within the hour

V. Encourage students who did not turn in their survey and answer sheet to do so by noon of the next day

VI. Return surveys and answer sheets to Director's office for pick-up

VII. Surveys and answer sheets will be picked up late afternoon the next day

VIII. Name labels will be taken off answer sheets and destroyed when answer sheets are coded
APPENDIX E

CORRELATIONS BETWEEN FACTOR LOADING SCORES AND RAW SCORES FOR EACH FACTOR AND THE TOTAL SCORE

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