Loneliness and Graduate Students: A Descriptive Study

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Western Michigan University

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LONELINESS AND GRADUATE STUDENTS:
A DESCRIPTIVE STUDY

by

Mary Zirpoli

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
Department of Counselor Education
and Counseling Psychology

Western Michigan University
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LONELINESS AND GRADUATE STUDENTS
A DESCRIPTIVE STUDY

Mary Zirpoli, Ed.D.
Western Michigan University, 1986

The major purposes of this study were to identify the lonely among graduate students, the types and degrees of loneliness they experience, and the possible variables associated with graduate student loneliness. The Belcher Extended Loneliness Scale (BELS), and a second questionnaire about the causes of loneliness, were administered to 337 graduate students in 23 classes at Western Michigan University (WMU).

The BELS identified two types of loneliness that some graduate students experience as well as 104 significant differences which were found to relate mostly to an unspecified type of loneliness. The following variables were found to be very important in the development of graduate student loneliness: marital status, satisfaction with living situation, perceived amount of loneliness, relationship with mother, amount able to rely on both parents, familiarity with neighbors, satisfaction with number and quality of friendships, having no one to talk to, having no spouse or lover, not being needed, feeling different from everyone else, having a mentor who is available, respectful, and who will go out of his/her way for the student.

Implications based upon validated research findings were
discussed. Finally, some suggestions for future empirical studies on loneliness among graduate students were indicated.
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Mary Zirpoli
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CHAPTER I

THE PROBLEM

Introduction

Loneliness is a distressing and common problem in which a person's network of interpersonal relationships is smaller or less satisfying than desired (Peplau and Perlman, 1982). One national survey indicated that 26% of the sample reported feeling lonely, which is the equivalent of over 50 million people (Weiss, 1973). Peplau and Perlman (1982) have estimated that perhaps as many as 10% of the population suffer from severe and persistent loneliness, suggesting the pervasiveness of the problem.

The word loneliness evokes two distinct responses from professionals and lay people (Peplau & Goldston, 1984). Some dismiss loneliness as a passing nuisance which should not be taken too seriously. Others view loneliness as a major disturbance, associated with intense feelings of isolation and a profound sense of having no one who understands or cares. Actually, loneliness takes both of these forms. Transient feelings of loneliness are common and are usually overcome quite quickly and without assistance. In contrast, severe and persistent loneliness is an extremely painful experience that undermines psychological well-being and is a significant risk factor in psychological dysfunction and mental disorder.
several clinicians have called attention to the significance of loneliness for mental health. Harry Stack Sullivan (1953) defined loneliness as the powerful response experienced when the basic human need for interpersonal intimacy is not fulfilled. He argued that loneliness is a more powerful motivator than anxiety, an experience "so terrible that it practically baffles clear recall" (p. 261). Freida Fromm-Reichmann (1959) suggested that extreme loneliness renders people "emotionally paralyzed and helpless"; if allowed to persist, loneliness "leads ultimately to the development of psychotic states" (p. 3). More recently, Weiss (1973) characterized loneliness as a "gnawing distress without redeeming features" (p. 15). Although loneliness has some similarity to such related states as depression and grief, Weiss as well as Bragg (1979) have argued that loneliness is a distinct form of distress, worthy of attention in its own right. Yet, despite these clear statements about the negative aspect of loneliness on psychological well-being, the helping professions have not given this problem serious attention.

The concept of loneliness as a major contributor to the human condition appears to be underestimated (Wright, 1975). Little is known about the causes of loneliness, the subjective experience of loneliness, or its effect on different populations (Peplau & Perlman, 1982). The findings that are available are most often of a theoretical, observational, or speculative bent. Very little empirical research has been directed at the problem. Many explanations have been offered for the neglect of this topic.
Applebaum (1978) suggested 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 the Problem

Feelings of loneliness and isolation may occur at any point in life. Potthoff (1976) believes that each developmental step we take involves us in certain forms of loneliness. He states that the most important roots of loneliness are to be found in infancy. To be born is to experience separation. Along with the hunger for food is the hunger for contact, tenderness, and intimate interaction. In this separation from mother is an experience related to the origins of loneliness. Not all needs are met. The foundations for trust and mistrust are established during this time.

In the midst of the struggles and conflicts of childhood, an individual may experience deep loneliness. Childhood, like all other times of life, involves separation--one is no longer an infant, one's relationship to mother is changed, one experiences growing pains. It is out of this tension of separation that both loneliness and growth come into being (Potthoff, 1976).

In the years of adolescence the young person experiences
tremendous and bewildering changes in physiology, appearance, and outlook. No longer a child and not yet an adult, the adolescent is confused about his or her own identity. The adolescent is not sure who and what he is which sets the stage for deep loneliness.

Young adulthood involves the search for basic identifications around which life can unfold and mature. These identifications are usually found through choices and decisions which are made during this period: the choice of a spouse, the choice of a job, decisions relating to life goals. Loneliness during this period can often be traced to failures and frustrations in establishing some of these basic identifications.

Loneliness is a serious problem among undergraduate students, especially during their first year (Cutrona, 1982). While loneliness can occur at any age, research suggests that late adolescence and early adulthood are times of especially high risk. A large-scale survey by Rubenstein and Shaver (1982) of adults between the ages of 18 and 87 found a significant inverse relationship between loneliness and age. That is, young respondents were the most lonely and older respondents the least.

It is widely agreed that adolescence and early adulthood are particularly difficult transitional stages. According to Erikson (1963), adolescents search for continuity and sameness within the self—a sense of identity—and in this search, they have to refight the battles of earlier years. The potential problem at this period is that the adolescent's identity will fail to become consistent and that he or she will have a sense of personal diffusion.
and loneliness.

The young adult, emerging from the search for identity, is eager to fuse his or her identity with that of others. In terms of Erikson's sixth stage, he or she is ready for intimacy. The potential problem at this period is isolation from others, that is, a failure to commit oneself to loving relationships because of competition or fear. It is at this time in life that the graduate school experience usually takes place.

Much has been written about the recent problems of graduate education, such as less money, fewer students, and the declining market for graduates. It is interesting to note, however, that in spite of the increased attention to American graduate education as a focus of study, there has been little direct attention given to graduate students. Hartnett and Katz (1977) proposed two reasons for this oversight. First, it may be that, because of the concentration of graduate schools on research, no one particularly cared about student development. Second, one might argue that because motivation and task-orientatedness could be taken more for granted with graduate students than with undergraduates, there seemed to be no compelling need to pay much attention to graduate students. Whatever the reasons, Hartnett and Katz have conducted a detailed exploration of the graduate student experience and the graduate school environment. Some of the principle findings, which may relate to the development of loneliness, are summarized below.

Graduate student relations with members of the faculty are regarded by most students as the most important aspect of their
graduate experience; unfortunately, many also report that it is the single most disappointing aspect of their graduate experience. Many graduate students complained that even getting to see members of the faculty was often a major achievement (Katz & Hartnett, 1976; Oxhandler, 1982).

Central to this issue of faculty-student relations is the search for a mentor. Phillips (1979) stated that the intimate relationship between professor and student is imperative to graduate study. He says that "in order to reach proper adulthood, one needs an older and more experienced person to look out for one's interests" (p. 342). He even goes so far as to conjecture that "success or failure in the program depends on locating early a mentor who is properly sympathetic" (p. 343). Given Katz and Hartnett's findings on the relative inaccessibility of faculty, it appears unlikely that such an intimate relationship would be commonly achieved in a graduate department. Such isolation from potential relations with faculty may cause the graduate student to feel lonely and abandoned.

Loneliness may be a major problem for graduate students, but more knowledge and ways of acquiring it are needed about the types of loneliness common to graduate students. "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?" Although this measure may have face validity, such a question may 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 (p. 73).

Russell (1982) identified two approaches to the measurement of loneliness: the unidimensional and the multidimensional approaches. The former 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.

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 (1982), three of the leading researchers in the field 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).

There are, however, many problems finding a suitable
multidimensional scale. Solano (1980) stated 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 exceptions, however,
is the Belcher Extended Loneliness Scale (p. 23).

The Belcher Extended Loneliness Scale (BELS) is a
multidimensional approach to loneliness (Russell, 1982), with
loneliness 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 of
loneliness. This multidimensional approach provides a useful
framework for categorizing the many facets of loneliness that
graduate students may experience.

Purpose of the Study

The major purposes of this study were to identify the types and
degrees of loneliness experienced by Western Michigan University
graduate students. The study was also designed to investigate
whether age, sex differences, living arrangements, marital status,
early relationships with parents, number and quality of friendships, familiarity with neighbors, length of time at the university, college, and procurement of a mentor were significantly related to loneliness.

Assumptions

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 graduate students would experience a significant degree of loneliness and that certain variables, such as living arrangements (e.g., living alone versus living with someone), marital status (single, divorced versus married), and the procurement of a mentor would be significantly related to their degree of loneliness.

Importance of the Study

Taylor (1976) stated that "there is much in graduate life that has the element of exile" (p. 32) because graduate students do not live on the same kinds of schedules as other people. Graduate students have far less money, they do not share the dominant values of the culture, and they can speak to only a few people about their
work. The writer has observed that graduate students rarely have
the time to socialize with fellow students; they appear for class
and, when it is over, they must rush home to a family or to a job.
This experience of "stretching one's self too thin" may lead the
graduate student to feel on the fringes of both job and graduate
school; he or she does not really "belong" in either. Taylor's
point about graduate students being on different schedules than
other people is significant. While others may usually socialize
after work or in the late evenings, graduate students are typically
in class or studying. There are few people with whom graduate
students can talk about what they are learning or studying.
Spouses and friends may not be interested or may not understand.
Another confounding variable is that few graduate students in the
same department actually follow the same program which leads to
less continuity and less familiarity with other graduate students.

These conditions may produce a profound sense of isolation and
loneliness. To be most helpful to these lonely students, it is
important to know what the experience is like for them. It is also
important to know some of the variables associated with their misery
so that scholars and those in the helping professions can identify
the phenomenon of loneliness when it occurs and can be knowledgeable
about its symptoms and effects.

Limitations of the Study

Due to the multifaceted dimensions of loneliness and those
affected by it, this study was limited to:
1. The volunteer graduate students in each of 30 classes offered by the six colleges at Western Michigan University.

2. The types of loneliness as delineated by the Belcher Extended Loneliness Scale.

3. Western Michigan University.

Definitions

Loneliness: a distressing and common problem in which a person's network of interpersonal relationships is smaller or less satisfying than desired (Peplau & Perlman, 1982, p. 21).
CHAPTER II

REVIEW OF THE LITERATURE

The experience of loneliness may well be as old as the human race. Mijuskovic (1979) recently criticized those who suggest that loneliness is a recent product of modern society, arguing instead that "Man has always and everywhere suffered from feelings of acute loneliness" (p. 9). A concern about isolation and loneliness can be found in ancient writings. For example, the Book of Genesis emphasizes the pain of solitude, noting that after God created Adam he observed that the man should not be alone, that he should have a helpmate (1978, p. 30). Although the history of loneliness itself is long, the psychological study of loneliness is very new.

Loneliness is a warning signal that a person's social relationships are deficient in some important way (Peplau & Goldston, 1982). Like physical pain, loneliness provides a valuable cue that something has gone wrong. Rubenstein and Shaver (1982) equate loneliness with hunger. Just as hunger signals the body's need for nourishment, loneliness warns us that important psychological needs are going unmet. Without adequate food, the body will die; without intimacy and community, psychological stability will erode. Mild hunger enhances life and makes eating all the more rewarding but mild or occasional loneliness is also life-enhancing. It causes us to acknowledge our separateness and appreciate our deep
need for other people. Severe hunger, in famile proportions, is a different matter; it is a sign of societal failure, as is widespread loneliness.

Definitions of Loneliness

Many different definitions of loneliness exist in the literature. However, there appear to be three very important points of agreement in the way scholars view loneliness (Peplau & Perlman, 1982). First, loneliness results from deficiencies in a person's social relationships. Second, loneliness is a subjective experience; it is not synonymous with objective social isolation. People can be alone without being lonely or lonely in a crowd. Third, the experience of loneliness is unpleasant and distressing.

Only one researcher has disagreed with this third point. Moustakas (1961) stated that loneliness is "a beginning which initiates totally new sensitivities and awarenesses, and which results in bringing a person deeply in touch with his own existence and in touch with others in a fundamental sense" (p. 7). Loneliness "brings into awareness new dimensions of the self, new beauty, new power for human compassion, and a reverence for the precious nature of each breathing moment" (p. 7). Thus, Moustakas viewed loneliness not as an aversive experience but as a growth-producing one.

The differences that exist in the definitions of loneliness center around the nature of the social deficiency experienced by
lonely individuals (Peplau & Perlman, 1982). One approach emphasizes inherent human needs for intimacy. Sullivan (1953 and Weiss (1973) represent this view. In 1953 Sullivan defined loneliness as "the exceedingly unpleasant and driving experience connected with inadequate discharge of the need for human intimacy, for interpersonal intimacy" (p. 290). Weiss (1973) stated that "loneliness is caused not by being alone but by being without some definite needed relationship or set of relationships" (p. 17). The implication of these definitions is that one's relationships must satisfy an inherent set of social needs, or the individual will experience loneliness.

A second approach to defining loneliness emphasizes cognitive processes concerning people's perception and evaluation of their social relations (Peplau & Perlman, 1982). From this perspective, loneliness results from perceived dissatisfaction with one's social relationships. For example, Lopata (1969) defined loneliness as "a wish for a form or level of interaction different from the one presently experienced" (p. 250).

A third approach to loneliness identifies insufficient social reinforcement as the main deficiency experienced by lonely people. Young (1982) represents this view. He believed that social relations are a particular class of reinforcement. Without these relations, the individual experiences a state of deprivation and becomes lonely.

When defining loneliness it is also important to differentiate between loneliness and aloneness. The important variable is the
perception of a deficit by the individual, not the actual measurement of alone time (Peplau & Perlman, 1982). 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. Mannin (1966) stated that loneliness is mental and emotional isolation. Physical isolation has little or nothing to do with it, any more than being with people has to do with it.

Types of Loneliness

Researchers in the field are in considerable disagreement over the possible types of loneliness (Russell, 1982; Weiss, 1982). "Some argue for a common core to all loneliness experiences; others have proposed typologies of loneliness" (Peplau & Perlman, 1982, p. 69). Weiss (1982) raised many issues with regard to the study of loneliness, his first concern being that of different types.

How many forms of loneliness are there? Is loneliness a single syndrome of 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 year for the presence of one or more other persons? (p. 74)

Weiss stated that there are actually two types of loneliness: emotional and social. The loneliness of emotional isolation is brought about by the absence of a close emotional attachment and can only be resolved through the development of another emotional attachment or the reintegration of the attachment that had been lost. The loneliness of social isolation is associated with the absence of a supportive social network and this absence can only be resolved
by access to such a network.

Belcher (1973) maintained that there were eight different types of loneliness, which he used in his Extended Loneliness Scale. (See Table 1 for names and abbreviations of each type.) Since the BELS was the instrument used in this study, these eight types of loneliness will be described in length.

Table 1
Names and Abbreviations For Each Type of Loneliness

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Abbreviations</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>


Existential Loneliness

Belcher (1973) stated that this type of loneliness is generally
referred to in the literature as "mature," "philosophical," or "universal" loneliness, and is described as an inescapable part of man's human condition (p. 42).

Existential loneliness was recognized by Sullivan (1953), and Erikson (1963) stated that it is a consequence of individual freedom (p. 87). Von Witzelben (1958) suggested that it is inborn in everyone and refers to a feeling of being basically alone and helpless in the world (p. 70). Moustakas (1961) stated that existential loneliness was an inevitable part of the human experience, involving periods of self-confrontation and providing an opportunity for self-growth. It can lead to positive experiences of "triumphant creation" (p. 38).

**Social Loneliness**

Belcher (1973) described social loneliness as "a diffuse and generalized form of loneliness. It ranges from a vague feeling that something just doesn't seem right in an individual's attempt to generally relate to society, to a very strong sense of a lack of relatedness, or isolation from society" (p. 6). The individual places the responsibility for his or her loneliness on society--there are too many discriminatory role expectations or the society is changing too rapidly.

Belcher has divided the concept of social loneliness into two parts: anomie and alienation. He described anomie as the most diffuse, generalized, and perhaps subtlest level of social loneliness. In anomie, the individual has relationships, yet is still not
generalized form of loneliness. It ranges from a vague feeling that something just doesn't seem right in an individual's attempt to generally relate to society, to a very strong sense of a lack of relatedness, or isolation from society" (p. 6). The individual places the responsibility for his or her loneliness on society--there are too many discriminatory role expectations or the society is changing too rapidly.

Belcher has divided the concept of social loneliness into two parts: anomie and alienation. He described anomie as the most diffuse, generalized, and perhaps subtlest level of social loneliness. In anomie, the individual has relationships, yet is still not quite having all of his or her relationship needs adequately fulfilled. Anomie is expressed as a result of an individual's lack of, or inability to, relate his or her behavior and needs to the behavioral expectations, or norms, of society in general. Belcher stated "the individual feels that if the rules of interaction were somehow constant and consistent, he could then receive all of the satisfaction he needs" (p. 148).

Weiss (1982) stated that anomie was the feeling that resulted when there existed a lack of social norms. There is an inability to determine what behaviors will elicit positive reinforcement.

Belcher described alienation as a somewhat less diffuse, and a much more intense level of social loneliness. It is expressed as a lack of identity with, or the rejection of, prevalent social values by the individual. This individual feels rejected by others and
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Belcher described alienation as a somewhat less diffuse, and a much more intense level of social loneliness. It is expressed as a lack of identity with, or the rejection of, prevalent social values by the individual. This individual feels rejected by others and the focus is very much upon others as the cause of the loneliness. Weiss (1982) stated that alienation occurs when the individual is unwilling to engage in behaviors known to elicit positive reinforce-
ment.

Psychic Loneliness

Belcher (1973) described psychic loneliness as a much more explicit feeling than that of social loneliness. In psychic loneliness, the individual focuses on himself or herself as the cause of the loneliness rather than society. Often the individual will have some awareness of either his or her unmet relationship needs, or what his or her inabilities are which interfere with the
development of satisfying relationships.

Belcher divided the concept of psychic loneliness into two parts: estrangement loneliness and pathological loneliness. Estrangement loneliness might be considered a mild and less intense form of psychic loneliness. The individual has many age appropriate relationships but is feeling relatively little satisfaction. This person feels that there is something wrong with the way he or she is living with or relating to others, and if he or she could just do the right things, he or she would receive satisfaction in relationships. Estrangement loneliness is experienced by an individual when an essential relationship has been lost or when he or she has had needs fulfilled to the point where other needs have developed, for which he or she does not have an appropriate relationship available.

Pathological loneliness might be considered the most intense form of psychic loneliness (Belcher, 1973). The individual has no age appropriate relationships, for one reason or another, from which he or she can receive satisfaction. He or she feels there is something personally wrong because a relationship is not able to be established or maintained.

This level is experienced by an individual who has either suffered an acute loss, or has chronically failed to develop those relationships which provide more than very mild, incomplete satisfaction. It is pathological loneliness that is oftentimes identified with the intense sense of distress experienced by extremely disturbed individuals, e.g., schizophrenics (Belcher, 1973, p. 83).
Loneliness Anxiety

Belcher (1973) described loneliness anxiety as "future-focused" and as "an anxious feeling of being powerless to build satisfactory levels of new relationships" (p. 149).

Loneliness Depression

Belcher (1973) described loneliness depression as similar to loneliness anxiety in that it is future-oriented but different because of its hopeless, cynical, despairing quality. Belcher stated that he did not find much about loneliness anxiety or loneliness depression in the literature but they appeared, from the results of his research, to be quite significant (p. 164).

Separateness

Belcher (1973) stated that these items on his test describe a sense of separateness from others. He also stated that his identification of this concept is not based on any descriptions found in the literature and is, therefore, "somewhat uncertain and arbitrary" (p. 59). Fromm (1941) observed that the experience of separation begins at an early age. "After primary bonds with the parents are severed, after 'individuation,' the individual faces the world as a completely separate entity. An aspect of the process of individualization 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.

Variables Associated with Loneliness

The variables associated with loneliness have been studied from many different viewpoints. Peplau and Perlman (1982) identify two distinct classes of variables. The first concerns events or changes that precipitate the onset of loneliness. A second class of variables concerns factors that predispose individuals to become lonely or to persist in remaining lonely over time. Other possible variables that will be reviewed are development, cognitive factors, and cultural factors.

Precipitating Events

There are two types of changes that may trigger loneliness (Peplau & Perlman, 1982). The most common are changes in the person's actual social relations that lead to relationships falling below an optimal level. For example, the ending of a close relationship through death, divorce, or breakup often leads to loneliness. Loneliness is also affected by qualitative aspects of social relations. Thus, decreases in satisfaction with relationships may lead to loneliness.

Loneliness can also be triggered by changes in the person's social needs or desires. Life-cycle changes in a person's capacities or desires for social relations may precipitate loneliness if they are not accompanied by actual changes in relationships. Situational changes, such as periods of stress, may also affect people's
needs for companionship.

Predisposing and Maintaining Factors

Peplau and Perlman (1982) cite a set of personal characteristics that are consistently linked to loneliness. Lonely people are apt to be shy, introverted, and less willing to take social risks; they are often self-deprecatory and have low self-esteem. They also tend to be self-conscious (Jones, Freemon, & Goswick, 1981), nonassertive (Russell, Peplau, & Cutrona, 1980), have low affiliative tendencies (Russell et al., 1980), and an external focus of control (Diamant & Windholz, 1981).

Personal characteristics such as these may contribute to loneliness in several ways. First, such traits may reduce a person's social attractiveness and limit the person's chances for social relations. Second, personal qualities may influence the person's behavior in social situations and contribute to unsatisfactory patterns of interaction. Third, these traits may affect how a person reacts to changes in his or her actual relationships, and so influence how effective the person is in avoiding or alleviating loneliness. Thus, personal factors may predispose people to loneliness and make it harder for them to overcome loneliness when it does occur.

Horowitz (1982) divided the personal characteristics of lonely people into three clusters. The first major cluster reflects feelings and thoughts of being different, isolated, and separate from others. The person thinks "I don't fit in" and feels unlived,
inadequate, and friendless. The second cluster includes negative feelings of depression, sadness, anger, and even paranoia. The final cluster reflects actions, such as avoiding social contacts or working for long hours, which may bring about loneliness.

Gordon (1976) stated that lonely people have feelings of hopelessness which lead them to escape into relationships that appear stable but that, in reality, are only a means to an end rather than an end in themselves. They also are afraid to feel their loneliness and, thus, try to deny it. If they do let themselves experience it, they feel like failures.

Hopelessness is part of the vicious cycle of loneliness (Gordon, 1976). Lonely people may constantly search for someone to quell their sense of isolation and so will attach themselves to anyone or any group. The group or person who is chosen to achieve this end is an instrument, an object rather than a subject appreciated for his, her, or their personal qualities. The result of such a relationship is often not the wished-for escape but further entanglement in the dilemma of loneliness—the lonely person feels that he or she has accepted a substitute rather than the "real thing" and the used person begins to feel degraded, and subsequently, lonely.

Another essential characteristic of a lonely person is fear; the fear of being alone and lonely (Gordon, 1976). People experience fear because it is painful to be without human contact. People need intimacy, warmth, a sense of worth, and frequent confirmation of their identities. Without this confirmation, people
may begin to doubt not only themselves but the world around them. While this fear of pain is one of the most important reasons why people run from loneliness, it is not enough to explain the contradictory flight of some lonely people who will often stay in painful relationships rather than be alone. To explain this phenomenon, Gordon stated that we live in a society whose "financial and social coffers" are always supposed to be full. In this success-oriented country, loneliness or emotional emptiness is more than emotionally distressing—it is socially stigmatic.

Gordon (1976) further stated that loneliness has come to equal failure and, conversely, having people around equals success. Thus, do anything to avoid being lonely, even to the point of staying in an unhappy or hurtful relationship. Above all, do not admit to the weakness of being lonely. In a society that does not deal lightly with what it considers weakness, the admission of loneliness can be akin to an admission of failure and unworthiness.

Burns (1985) stated that lonely people suffer from shyness, social anxiety, rejection sensitivity, disclosure phobia, resentment, and depression. They feel shy and anxious in groups and may become so self-critical and absorbed in themselves that it becomes difficult to express any real interest in others. Self-depreciation helps their loneliness to grow as well as their sense of hopelessness.

Lonely people may remain alienated because they find it very difficult to make friends or join groups (Burns, 1986). They are
often afraid to disclose their thoughts and feelings for fear that others may reject them. They may find it difficult to be assertive or to get angry, but often feel resentful of how dependent on others they have become.

Many lonely people are overly self-blaming and sensitive to any disapproval or criticism. They may become so upset when confronted with any personal shortcoming that they last out defensively instead of owning up to their own faults. Further, lonely people often feel depressed and discouraged (Burns, 1986).

Berg, Mellstrom, Persson, and Suanborg (1981) conducted a large-scale survey of Swedish senior citizens and found that lonely respondents scored higher on Eysenck's neuroticism scale and were frequently judged in a structured psychiatric examination as having mental symptoms needing treatment. Rubenstein and Shaver (1980) reported a strong relationship between loneliness and a checklist of psychosomatic symptoms such as headaches, poor appetite, and feeling tired. Russell et al. (1980) found loneliness to be strongly correlated with anxiety.

Diamant and Windholz (1981) obtained a correlation of .68 between loneliness and Zung's Clinical Index of Potential Suicide. A number of studies (Diamant and Windholz, 1981; Loucks, 1974; Sermat, 1980) have documented an association between loneliness and aggressive tendencies. More recent research (Bowskill, 1983) suggested that loneliness in males is associated with aggression toward women and proclivity toward rape. Further evidence linking loneliness with social problems has come from Brennan and Auslander's
(1979) analyses of several large-scale surveys of American adolescents. They found that loneliness was associated with poor grades, expulsion from school, running away from home, and engaging in delinquent acts such as theft, gambling, and vandalism.

The personal characteristics of lonely undergraduate students have recently attracted the attention of many researchers. In a study by Cutrona (1982), a total of 354 University of California at Los Angeles freshmen were given loneliness questionnaires. She discovered that lonely students lacked social self-confidence, were unassertive, and were sensitive to rejection. Maroldo (1981) found a significant correlation between loneliness and shyness among undergraduates. In a study by Jones, Freemon, and Goswick (1981), lonely students reported themselves to be less acceptable to others, less friendly, and less attractive to the opposite sex. They also showed less acceptance of others, a greater sense of powerlessness, normlessness, and social isolation, less trust in human nature, and less belief in a just world.

Loucks (1974) found that the loneliness experienced by undergraduates was significantly related to the intensities of anger, anxiety, fatigue, and vigor. Hendrix (1971) discovered that students expressing feelings of loneliness have difficulty in the areas of inclusion, control, and affection. In a study by Horowitz and deSales French (1979), lonely students had difficulty relinquishing control. They stated that lonely students have a specific set of interpersonal difficulties that can be described as problems of inhibited sociability. These characteristics of lonely undergraduate
students may impede the initiation of social relationships and may slow down the process of social adjustment.

The personal factors listed above may predispose people to loneliness and may make it harder for them to overcome loneliness when it does occur. Another variable associated with loneliness is development. Henry Stack Sullivan (1953) is a major proponent of this view. He traced the developmental stages and their concomitant needs for intimacy. Loneliness will arise, he argued, when the needs described are not satisfied.

According to Sullivan, the first stage of development is infancy, during which the infant requires tenderness, protective caring, and simple human connection. As the infant grows into a small child, the need for adult participation in play is added to these needs. From this participation, the child learns to take pleasure in another's sharing of his or her accomplishments. During what Sullivan called the juvenile era, another interpersonal need for intimacy is added—the need for peers whose presence helps the child learn and gives him or her a sense of acceptance. And finally, during preadolescence and early and late adolescence, a person continues to require these things previously described but adds to them the need for intimacy with another person—most often a member of the opposite sex. Thus, loneliness, according to Sullivan, can begin in childhood and adolescence, or whenever the needs for intimacy are not met.

Gordon (1976) stated that it is common knowledge that the family unit seems to be in more trouble today than ever in its past.
Although the family may never have provided the ideals of contact presented in Sullivan's developmental scheme, the current instabilities in the nuclear family make it especially difficult for today's infants to get the kinds of warmth and protection they need. Mobility, divorce, parental role confusion, and an individual growth ethic increasingly provide an atmosphere that fosters loneliness in the very young.

For these children, loneliness comes as an overwhelming awareness that there is no support anywhere—that the people upon whom they depend for survival, warmth, affection, and interest, can provide only the most meager attention to their needs (Gordon, 1976). They feel helpless and very anxious. In the case of small children, anxiety and fear cause them to cling to the mothering figure even if she is the source of this anxiety. And in the dynamics of loneliness, there is a similar desire for protection from a relationship that is in fact the source of the distress. Clinging behavior begins as an instinct in infancy and is carried into adulthood as an unconscious reaction to the anxiety and fear of loneliness.

Based on a number of studies (Bergenstal, 1981; Brennan & Auslander, 1979; Rubenstein et al., 1980), one can generally conclude that cold, less nurturant parents have lonely offspring. For instance, in one large-scale study (Rubenstein et al., 1980), lonely respondents remembered their parents as being remote, less trustworthy, and disagreeable. Nonlonely respondents remember their parents as warm, close, and helpful. Similar findings have been
reported by Brennan and Auslander (1979). They summed up their evidence by stating that lonely adolescents come from families manifesting "an absence of emotional nurturance, guidance, or support. The climate is cold, violent, undisciplined, and irrational. Lonely adolescents also reported higher levels of parental rejection, more uses of parental rejection as a form of punishment, and greater dissatisfaction with their choice of friends" (Brennan & Auslander, 1979, p. 200).

Erik Erikson (1963) also described an elaborate stage theory of emotional development. The failure to resolve problems at any of his eight stages may result in confusion and loneliness which can affect subsequent development.

In the first stage, Erikson believes that a baby needs constant, reliable care in order to promote a sense of trust. If the baby's needs are not consistently met— he or she can develop a sense of mistrust and will react to frustration with anxiety and upset. During the second stage, the child increasingly demands to determine his/her own behavior in order to gain autonomy. Erikson warned that children should not be shamed into feeling that they are incompetent during this stage since this could prove devastating to future ego development. In the third stage of development, the child is ready to take the initiative in planning his or her own activities. The potential problem at this stage is guilt; therefore, the child may come to feel that his/her activities, such as attractions to the opposite sex parent, will have evil consequences (Erikson, 1963).
During the fourth stage, the child will gain recognition by producing things. In this stage of industry, the potential problem lies in a sense of inadequacy and inferiority which can develop if a child is not praised for his/her accomplishments. In the fifth stage, the adolescent questions all of his/her previous resolutions to problems of trust, autonomy, initiative, and industry. The adolescent searches for continuity and sameness within him or herself, that is, a sense of identity. The potential problem at this period is that the adolescent's identity will fail to become consistent and he/she will have a sense of personal diffusion (Erikson, 1963).

The young adult, in terms of Erikson's sixth stage, is ready for intimacy. The potential problem at this period is isolation from others, a failure to commit oneself to relationships because of fear or competition. Generativity characterizes the seventh stage and refers to the adult's concern with guiding the next generation. The potential dangers of this period are self-absorption and/or a sense of stagnation. The final stage of life should result in a sense of wholeness with the potential problem being a sense of regret and despair over lost or wasted chances (Erikson, 1963).

Loneliness may develop during any of these stages and, since the stages build on one another, loneliness may become more and more chronic as the years go on.

Another variable associated with loneliness has to do with cognitive factors. Recent research (Jones et al., 1981; Peplau & Perlman, 1982; Young, 1982) has focused on the impact of cognitive
processes of attention and attributions on loneliness. There is some evidence that lonely people may generally be less able to concentrate or focus their attention effectively (Peplau & Perlman, 1982). Several studies suggested that lonely people are highly self-conscious or self-focused (Jones et al., 1981). That is, they dwell on their own actions to a greater extent than do less lonely people. Heightened self-focus may be reflected in subtle aspects of interpersonal behavior, such as asking fewer questions of others.

Peplau and Goldston (1984) stated that the intensity of the loneliness response was mediated by intervening cognitive processes. They stated that this process consisted of three important factors: attributions, social comparisons, and perceptions of personal control. According to attribution theorists, people are motivated to understand the causes of their experiences. Causal attributions for loneliness thus refers to a person's perception of the factors that caused them to become lonely and remain lonely. These causal explanations can have important implications for a person's feelings, expectations, and self-concept.

Studies conducted at the University of California (Mechela, Peplau, & Weeks, 1982; Peplau & Perlman, 1982) have shown the applicability of attributional theory to the problem of loneliness. For example, the longer people are lonely, the more apt they are to attribute their dilemma to personal factors about themselves rather than to situational factors. When people believe that their loneliness is due to factors that are both personal and unchangeable, e.g., their personality, depression and pessimism are more likely
to accompany loneliness.

In addressing the adequacy of inadequacy of one's relations, social comparisons with others in similar situations is important. Students who believe they have fewer friends than their age peers are apt to be lonely (Peplau & Perlman, 1982).

A final cognitive factor in the loneliness experience is the person's perception of having personal control over his or her relationships. Existing evidence suggested that feelings of personal control may generally reduce stress (Averill, 1973) and enhance performance. In a study on the breakup of college dating relationships, both members of each couple reported loneliness and depression as a result of the breakup. However, the partners who wanted the relationship to end and initiated the breakup were less distressed (Hill, Rubin, & Peplau, 1976).

Greenwald (1980) proposed fourteen irrational loneliness myths. These myths reflect, Greenwald asserts, the "shoulds" and "should nots" of our culture. Belief in these myths makes it harder to break out of the loneliness experience. For example, myth #4 states that loneliness is a sign of failure. Thus, failure should be kept hidden which, of course, prevents any constructive resolution and places a double burden on the shoulders of the lonely person.

A final factor associated with loneliness may lie in our culture. Riesman, Glazer, and Denney (1961) characterize Americans as "other directed," concerned with how others evaluated them. However, they are cut off from their inner selves. The result is
that the other-directed person "remains a lonely member of the crowd because he or she never really comes close to others or to themselves" (p. 22).

For Slater (1970), America's problem is individualism. Slater believed that we all want to trust and engage other people but these basic social needs are thwarted because of our commitment to individualism. Americans generally believe that we should pursue our own destiny and the more we succeed in realizing this value, the more we become "disconnected, bored, and lonely" (p. 34).

Gordon (1976) called loneliness a new American tradition. She stated that despite the fact that people may voice their need for contact, there are few places where it can be made, spontaneously or otherwise. In small towns or urban neighborhoods, people used to have many relationships which would affirm who they were. In their daily lives they reinforced and created networks of contacts. Daily chores, for example, meant more than just cleaning and cooking; they were also social events through which people gave each other mutual recognition. In modern America, however, efficiency has replaced humanity. Modern day "chores" have taken on an air of expediency rather than sociability.

In the past, especially in rural settings, neighbors were very willing to help each other in crisis situations—they felt it was their responsibility (Gordon, 1976). Now neighbors are hesitant to call when in need for fear of imposing on one another. Furthermore, rural areas and urban neighborhoods used to provide a
center where people of all ages could meet. In these centers the old could maintain contact with the young, and youth could have some familiarity with aging and death. In modern America, the generations are radically separated, with the old set aside and doomed to loneliness in "senior citizens' communities."

Gordon (1976) asserted that the frequent mobility of today undoes the ties formed by frequent contact. People lose each other and the pain of that loss, renewed every two or three years, makes people withdraw from further contact. Why get close to someone when they will leave soon?

Mobility does more than affect close friendships; it changes the whole tone of a neighborhood. When people lived in the same place for years, residents in a community knew one another. They would welcome new residents with visits and gifts. Today, it is not unusual for people not to know their neighbors at all. Why make the effort to welcome someone when they will be leaving in a year. Gordon (1976) stated that the price of this new mobility has been high and that many aspects of both community and personal life have been shattered, making loneliness a common lifestyle for millions.

Packard (1972) documented the geographical mobility that has come to be common experience for the American family. "The average American moves about fourteen times in his or her life time," wrote Packard. "About forty million Americans change their home addresses at least once each year." More than half the 32 million
people living on farms in 1940 have migrated in two decades. In many places and for many occupations, transience is a permanent state. College towns, traveling sales people, pilots, flight attendants, and migrant farm workers are obvious examples of this principle in practice.

The consequences of this new restlessness, according to Packard, "is a substantial increase of inhabitants suffering a loss of community, identity, and continuity. These losses all contribute to a deteriorating sense of well-being, both for individuals and for society" (p. 40).

Zimbardo (1972) seems to be in agreement with Gordon and Packard. He stated that loneliness is becoming increasingly prevalent, as more and more people are living alone or in ever-smaller families. Americans are marrying later, having fewer children, divorcing more often, and moving greater distances away from "home."

**Effects of Loneliness on Physical Health**

Lynch (1977) argued that loneliness made people susceptible to serious illness and promoted the overuse of various medical services. He carried the connections between loneliness, stress, and poor health to this conclusion: loneliness contributes to premature death. He cited many examples of this—for example, a healthy 17-year old boy who died of an aneurism exactly one year after his
brother was killed in a car accident or a man 52 years old, with no known heart disease, who died of a heart attack the day after his wife's funeral. Lynch called his book The Broken Heart because loss of intimacy seemed especially linked with heart problems. He further stated that divorced men die earlier than married men and they have twice the death rate from heart disease that married men have. For women, although the overall rate of heart disease is lower, the divorced are still more likely than the married to die of heart trouble.

Besides being stressful in itself, loneliness can, according to Lynch, "bring on self-destructive behavior--increased smoking and drinking, for example, or becoming more prone to risk-taking behavior, such as reckless driving" (p. 72).

The Graduate Student Experience

Researchers have found that certain elements of the graduate school experience may be harmful to students and may produce the conditions under which loneliness can easily develop. Hartnett and Katz (1977) found that for both developing relationships with others and for developing autonomy, the graduate experience often has an inhibiting effect on student growth and development. Many students felt that the faculty treated them as if they were still adolescents. There are two ways in which this phenomenon of "prolonged adolescence" is manifested. One is through the reluctance of faculty to regard the graduate students as being responsible individuals, which
probably emerges in faculty attitudes toward graduate student participation in the affairs of the department more than any other way. The second is that graduate student ideas are not considered worthy of serious attention or discussion because, after all, they are not the products of mature minds.

Russell (1978) stated that identities are functional and since graduate students do not have a vocational function, they do not have identities. King (1980) found that graduate students did not have a secure sense of themselves, a secure identity, because they felt a great deal of ambiguity about their adult status. King called this confusion "status ambiguity." He stated that the cause of this ambiguity is a combination of low income and subordination within the system, which is characterized by one graduate student as "being like children in the control of their parents" (p. 151).

Kuh and Thomas (1983) stated that the graduate experience prolongs ambivalent aspects of the separation process from parents, substituting professor and department for parents. Prolongation thrives in the stressful atmosphere of the graduate school where many factors complicate the student's movement toward autonomy. These factors include inadequate funds, insufficient time and energy for intimates and friends, and feelings of helplessness in the face of perceived arbitrary actions of the faculty.

Hartnett and Katz (1977) found that graduate students are particularly vulnerable to emotional disorders, such as severe anxiety, role confusion, and alienation. They exhibit a rigid
tendency toward compliance and possess critical self-esteem problems.

Thus, we have come full circle. Unquestionably, 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 with depression. To confront loneliness in the modern world, our response will have to be a multilevel one. Types and dimensions of loneliness must be clearly defined to be helpful to social scientists, counselors, and anyone who tries to help others cope with the complex problem of loneliness.
CHAPTER III

METHOD

Subjects

The subjects for this study were graduate students at Western Michigan University (WMU), a state-supported multi-purpose university located in Kalamazoo, Michigan. They were all students in one of these six colleges within WMU: Arts and Sciences, Business, Education, Engineering and Applied Sciences, Fine Arts, and Health and Human Services. Since there are few graduate students in Fine Arts, and only one student volunteered, this college was dropped from the study.

There were 337 graduate students in the sample. In terms of gender, there were 57% females and 43% males. Married graduate students accounted for 50% of the sample, while 36% were single, 7% divorced, and 5% lived with a lover. Of the total sample, 86% were under 40 years of age with 27% falling between 20 and 25 years, 25% between 26 and 30, 19% between 31 and 35, and 15% between 36 and 40 years of age. Graduate students in a master's program accounted for 89% of the sample with the remaining 11% in doctoral programs.

Table 2 shows the frequency and percentage of graduate students in each of the six colleges. Although the College of Fine Arts was dropped from the study, it is shown here. Over two-thirds of
the sample was obtained from the Colleges of Health and Human
Services, Business, and Education.

Table 2
Frequency and Percentages of Graduate Students
in Each of the Six Colleges

<table>
<thead>
<tr>
<th>College</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Human Services</td>
<td>88</td>
<td>26%</td>
</tr>
<tr>
<td>Business</td>
<td>87</td>
<td>26%</td>
</tr>
<tr>
<td>Education</td>
<td>75</td>
<td>22%</td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td>53</td>
<td>16%</td>
</tr>
<tr>
<td>Engineering and Applies Sciences</td>
<td>33</td>
<td>9%</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>1</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

The number of years that graduate students have lived in
their present communities is shown in Table 3. The majority have
lived in their communities under 3 years but a large percentage,
12%, have lived for 21 or more years in the same place.
Table 3
Frequency and Percentage of Years Lived in Present Community

<table>
<thead>
<tr>
<th>Years</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>38</td>
<td>11%</td>
</tr>
<tr>
<td>6 months-1 year</td>
<td>74</td>
<td>22%</td>
</tr>
<tr>
<td>2-3 years</td>
<td>65</td>
<td>19%</td>
</tr>
<tr>
<td>4-7 years</td>
<td>45</td>
<td>13%</td>
</tr>
<tr>
<td>8-11 years</td>
<td>35</td>
<td>10%</td>
</tr>
<tr>
<td>12-20 years</td>
<td>40</td>
<td>12%</td>
</tr>
<tr>
<td>21 or more years</td>
<td>40</td>
<td>12%</td>
</tr>
</tbody>
</table>

The number of semesters or years that graduate students have been at WMU is shown in Table 4. The majority of the students have been at WMU less than 3 years but a large percentage, 13%, have been at WMU 6 years or more.

Table 4
Number and Percentage of Semesters or Years at WMU

<table>
<thead>
<tr>
<th>Semester/Years</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 semester</td>
<td>72</td>
<td>22%</td>
</tr>
<tr>
<td>2 semesters-1 year</td>
<td>104</td>
<td>31%</td>
</tr>
<tr>
<td>2-3 years</td>
<td>81</td>
<td>24%</td>
</tr>
<tr>
<td>4-5 years</td>
<td>34</td>
<td>10%</td>
</tr>
<tr>
<td>6 years or more</td>
<td>45</td>
<td>13%</td>
</tr>
</tbody>
</table>
Procedure

Thirty graduate classes, five from each college, were randomly selected out of The Graduate College Bulletin (1984-1986). These classes were then checked with the Schedule of Classes booklet to find out if they were to be offered in the fall semester and each was found to be offered in the fall (See Appendix A). The 30 professors who taught the classes were mailed a letter which outlined the purpose of the study, the procedure, and included a request to visit the class with the intention of administering the two loneliness questionnaires. Along with this letter was a consent form on which the professor could indicate his or her willingness or nonwillingness to participate (See Appendix B). Twenty-three of 30 professors were willing to participate.

The professors were contacted by the phone approximately one week before the beginning of the fall semester date in order to ascertain the exact time and day of the visit. Some preferred that the questionnaires be administered at the beginning of the class period while some preferred to wait until the class was over. In either case, the writer gave a packet to each volunteer student that consisted of an information form, A Belcher Extended Loneliness Scale and answer sheet, and a second questionnaire which inquired about the causes of loneliness (See Appendix C).

The students were briefly told about the purpose of the study and asked to participate. They were assured that there was no penalty for not participating and that all data were to be kept confidential. Students took approximately fifteen minutes to
complete the questionnaires and then returned them to the writer.

Instrumentation

The Belcher Extended Loneliness Scale (BELS) (Belcher, 1973), was chosen for this study because of its purported ability to differentiate among various types of loneliness. It was hypothesized that a multidimensional approach would provide a useful framework for categorizing the many facets of loneliness which graduate 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. 123).

Belcher (1973) reported test-retest correlations ranging between r = .79 to .84 over a nine to eleven week interval. The reliability 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 the present study, the BELS was given to each consenting student in 23 classes. Students were asked to indicate, for each item on the scale, how often a statement was 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 types, or 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). These factors were described in Chapter II.

In addition to the 60 items on the BELS, students were asked to fill out a 27-item questionnaire which was designed specifically for this study and was directed at possible variables associated with loneliness. On this questionnaire, students were asked about their marital status, living situations, mobility, early relationships with parents, friendships, and mentor relationships.

Data Analysis

In his dissertation, Belcher (1973) listed each factor by its significant items and their loadings. A varimax rotation factor analysis was computed on the present data to determine if the loadings were similar to Belcher's loadings. If they were found to be similar, it could be ascertained that the present study was measuring the same concepts as the BELS. The raw scores from the Belcher were used to compute the relationship with the second questionnaire.

One-way anovas of the eight factor scores by each of the 45 variables on the possible associated variables (PAV) questionnaire were computed. The level of significance was set at .05. Tukey's
pairwise comparisons (Solano, 1980) were run when significant differences were found among the variables. Among significant comparisons, mean scores from the BELS were used to determine the amount of loneliness.

Hypothses

**Hypothesis One:** There will be no significant differences for any of the factors by age.

**Hypothesis Two:** There will be no significant differences for any of the factors by gender.

**Hypothesis Three:** There will be no significant differences for any of the factors by college.

**Hypothesis Four:** There will be no significant differences for any of the factors by program.

**Hypothesis Five:** There will be no significant differences for any of the factors by length of time spent in present community.

**Hypothesis Six:** There will be no significant differences for any of the factors by length of time spent at WMU.

**Hypothesis Seven:** There will be no significant differences for any of the factors by marital status.

**Hypothesis Eight:** There will be no significant differences for any of the factors by living situation.

**Hypothesis Nine:** There will be no significant differences for any of the factors by degree of satisfaction with living situation.

**Hypothesis Ten:** There will be no significant differences for any of the factors by perceived amount of loneliness.
Hypothesis Eleven: There will be no significant differences for any of the factors by number of times moved before age 18.

Hypothesis Twelve: There will be no significant differences for any of the factors by number of times moved after age 18.

Hypothesis Thirteen: There will be no significant differences for any of the factors by early relationship with mother.

Hypothesis Fourteen: There will be no significant differences for any of the factors by ability to rely on mother.

Hypothesis Fifteen: There will be no significant differences for any of the factors by early relationship with father.

Hypothesis Sixteen: There will be no significant differences for any of the factors by the ability to rely on father.

Hypothesis Seventeen: There will be no significant differences for any of the factors by ability to rely on both parents.

Hypothesis Eighteen: There will be no significant differences for any of the factors by familiarity with neighbors.

Hypothesis Nineteen: There will be no significant differences for any of the factors by number of people relied on in an emergency.

Hypothesis Twenty: There will be no significant differences for any of the factors by number of close friends.

Hypothesis Twenty-one: There will be no significant differences for any of the factors by degree of satisfaction with number of close friendships.

Hypothesis Twenty-two: There will be no significant differences for any of the factors by degree of satisfaction with quality of close friendships.
Hypothesis Twenty-three: There will be no significant differences for any of the factors by the variable, feeling bored.

Hypothesis Twenty-four: There will be no significant differences for any of the factors by the variable, being alone.

Hypothesis Twenty-five: There will be no significant differences for any of the factors by the variable, having no one to talk to.

Hypothesis Twenty-six: There will be no significant differences for any of the factors by the variable, being far away from friends or family.

Hypothesis Twenty-seven: There will be no significant differences for any of the factors by the variable, death of a loved one.

Hypothesis Twenty-eight: There will be no significant differences for any of the factors by the variable, break-up with spouse or lover.

Hypothesis Twenty-nine: There will be no significant differences for any of the factors by the variable, having no spouse or lover.

Hypothesis Thirty: There will be no significant differences for any of the factors by the variable, being in a new job or new school.

Hypothesis Thirty-one: There will be no significant differences for any of the factors by the variable, not being needed.

Hypothesis Thirty-two: There will be no significant differences for any of the factors by the variable, coming home to an empty house.
Hypothesis Thirty-three: There will be no significant differences for any of the factors by the variable, being hospitalized.

Hypothesis Thirty-four: There will be no significant differences for any of the factors by the variable, moving too often.

Hypothesis Thirty-five: There will be no significant differences for any of the factors by the variable, feeling different from everyone else.

Hypothesis Thirty-six: There will be no significant differences for any of the factors by the variable, having a mentor in the student's department.

Hypothesis Thirty-seven: There will be no significant differences for any of the factors by the variable, having a mentor in another department.

Hypothesis Thirty-eight: There will be no significant differences for any of the factors by the variable, interest in the student's progress in the program.

Hypothesis Thirty-nine: There will be no significant differences for any of the factors by the variable, interest in the student as a person.

Hypothesis Forty: There will be no significant differences for any of the factors by the variable, availability.

Hypothesis Forty-one: There will be no significant differences for any of the factors by the variable, ability to be supportive.

Hypothesis Forty-two: There will be no significant differences for any of the factors by the variable, ability to be respectful.
Hypothesis Forty-three: There will be no significant differences for any of the factors by the variable, giving helpful advice.

Hypothesis Forty-four: There will be no significant differences for any of the factors by the variable, supportive of professional development.

Hypothesis Forty-five: There will be no significant differences on any of the factors by the variable, going out of the way for the student.
CHAPTER IV

ANALYSIS OF THE DATA

Introduction and Review of Analysis

The analysis of the data collected in this study is presented in this chapter. The study consisted of the administration of two loneliness questionnaires to graduate students in five different colleges at WMU.

As reviewed in Chapter 3, the Belcher Extended Loneliness Scale (BELS) with 60 variables was used to quantify the types and degrees of loneliness experienced by graduate students. The raw scores from the Belcher were used to compute the relationship with the possible associated variables (PAV) questionnaire. One-way anovas of the 8 factor scores by each of the 45 variables on the PAV questionnaire were computed. Tukey pairwise comparisons, mean scores were used to determine the amount of loneliness. The range of loneliness for each of the 8 factors was found by summing, as Belcher did, the numbers associated with the "most lonely answers" and "least lonely answers" on the BELS.

Findings

The Belcher Extended Loneliness Scale (BELS)

As stated in Chapter 3, Belcher (1973) listed each factor on his scale by its significant items and their loadings. A varimax
rotation factor analysis was computed on the present data to
determine if the loadings were similar to Belcher's loadings. It
was found that the loadings in the present study were quite differ­
ent.

Appendix D shows each factor with the items it is constructed
of, Belcher's loadings, and the loadings from the present study.

The loadings on factors 1 and 2 are quite similar to Belcher's
loadings but those on factors 3 through 8 are not. The loadings
from the present study are much lower than Belcher's on every item
from these six factors. The varimax rotation factor analysis
also resulted in sixteen factors instead of eight. Table 5 shows
the sixteen factors, their eigenvalues, percentage of total vari­
ance, and cumulative percentages.

It was decided that Belcher's original eight factors would be
used even though, in the present study, they account for only 50%
of the total variance. It was also decided that the findings from
factors 3 through 8 would be reported even though they were not
measuring the same concepts as Belcher's factors 3 through 8.
Table 5
Sixteen factors: eigenvalues, variance, and cumulative percentages

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<td>16</td>
<td>1.0</td>
<td>1.7</td>
<td>64.4</td>
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Table 6 shows the range of scores possible on the BELS for each factor.
Table 6
Most lonely and least lonely scores for each factor on the BELS

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<th>Factor</th>
<th>Most Lonely Score</th>
<th>Least Lonely Score</th>
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<td>30</td>
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<td>4</td>
<td>23</td>
<td>33</td>
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<td>5</td>
<td>44</td>
<td>19</td>
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<td>6</td>
<td>72</td>
<td>12</td>
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<td>7</td>
<td>24</td>
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<td>8</td>
<td>12</td>
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</table>

The BELS and the PAV Questionnaire

One-way anovas of the eight factor scores by each of the 45 variables on the PAV questionnaire were computed. For factor 1, 21 significant differences among the groups of students were found, factor 2 had 13 significant differences, factor 3 had 14, factor 4 had 4, factor 5 had 19, factor 6 had 12, factor 7 had 14, and factor 8 had 8 significant differences. A total of 104 significant differences were found. These are shown in Table 7.
Table 7
104 significant differences by factor and variable

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<td>5. years in present community</td>
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<td>6. years at WMU</td>
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<td>8. living sit.</td>
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<td>9. satis, w/liv. sit.</td>
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<td>10. perc. amt of lon.</td>
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<td>11. # moves before 18</td>
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<td>13. rel. w/mother</td>
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<td>14. rely on mother</td>
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<td>27. far away</td>
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<td>37. mentor in dept?</td>
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<td>39. mentor int. in progress</td>
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(table continues)
Factor I (Pathological Loneliness)

A one-way analysis of variance was computed on factor I by marital status. The F-test yielded a value of 7.29 with the associated probability of .0000. This is a significant difference (p < .05) so Tukey's test was computed. Table 8 shows the variable, marital status, the means from the BELS, and the pairs of groups that were found to be significantly different.
Table 8
Marital status: means, and significant groups

<table>
<thead>
<tr>
<th>Mean Marital Stat.</th>
<th>Married</th>
<th>Widow</th>
<th>Live w/ Lover</th>
<th>Single</th>
<th>Divorced</th>
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<tr>
<td>56 Married</td>
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</tr>
<tr>
<td>59 Widowed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 Live w/lover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64 Single</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82 Divorced</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

From Table 8, it is seen that the means of both single and divorced graduate students are significantly ($p < .05$) higher on factor 1 than the mean of married graduate students. The mean of divorced students is also significantly higher on factor 1 than the mean of single students. However, given that the highest score possible on factor 1 is 147 and the lowest is 42, the means of all five groups are in the lower half of the measure.

A one-way analysis of variance was computed on factor 1 by living situation. The F-test yielded a value of 3.4 with the associated probability of .0010. This is a significant difference ($p < .05$) so Tukey's test was performed. Table 9 shows the variable, living situation, the means from the BELS, and the significant groups.
Table 9
Living situation: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Live w/ spouse</th>
<th>Live w/ lover</th>
<th>Live alone</th>
<th>Live w/ roomies</th>
<th>Live w/ parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>56</td>
<td>59</td>
<td>64</td>
<td>67</td>
<td>78</td>
</tr>
</tbody>
</table>

From Table 9, it is seen that the mean obtained from those graduate students who live with their parents is significantly higher on factor 1 than the mean of those who live with a spouse. These means, however, are all in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by satisfaction with living condition. The F-test yielded a value of 11.4 with the associated probability of .0000. This is a significant (p < .05) difference so Tukey's test was computed. Table 10 shows the variable, satisfaction with living situation, the means from the BELS, and the significant groups.
Table 10
Satisfaction with living situation: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

From Table 10, it is seen that the means from those graduate students who are somewhat dissatisfied, very dissatisfied, and neither satisfied nor dissatisfied with their living situation are significantly higher on factor 1 than the mean from those who are very satisfied with their living situation. The mean from those neither satisfied nor dissatisfied is also significantly higher on factor 1 than the mean of those students who are somewhat satisfied with their living situation. These means are all in the lower half of Belcher's factor 1.

A one-way analysis of variance was computed on factor 1 by perceived amount of loneliness as compared to others of the same age. The F-test yielded a value of 41.03 with the associated probability...
of .0000. This is a significant ($p < .05$) difference so Tukey's test was performed. Table 11 shows the variable, perceived amount of loneliness, the means from the BELS, and the significant groups.

Table 11
Perceived amount of loneliness: means, and significant groups

<table>
<thead>
<tr>
<th>Mean Group</th>
<th>Much &lt; average</th>
<th>Less than average</th>
<th>Average</th>
<th>Somewhat average</th>
<th>More than average</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Less than</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Average</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>84</td>
<td>Somewhat</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>More than</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 11, it is seen that the means from graduate students who perceive themselves to be more lonely than average, somewhat more lonely, and an average amount of loneliness are significantly higher on factor 1 than the mean of those who perceive themselves to be much less lonely than average. The means of those who are somewhat more than average and more than average on loneliness are significantly higher on factor 1 than the means of those who perceive themselves to be less lonely than the average person and about an
average amount. These means are all in the lower half of Belcher's pathological loneliness scale except for the mean of those who saw themselves as having more than an average amount of loneliness. Those students are in the upper half of factor 1.

A one-way analysis of variance was computed on factor 1 by relationship with mother. The F-test yielded a value of 4.008 with the associated probability of .0033. This is a significant ($p < .05$) difference so Tukey's test was computed. Table 12 shows the variable, relationship with mother, the means, and the significant groups.

Table 12
Relationship with mother: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Very close</th>
<th>Not live w/her</th>
<th>Fairly close</th>
<th>Almost no rel.</th>
<th>No rel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>56</td>
<td>59</td>
<td>60</td>
<td>67</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 12, it is seen that the mean of those graduate students who argued often with mother (no relationship) is significantly higher on factor 1 than the means of those students who were either very close or fairly close to their mother. These means are all in
the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the amount that graduate students felt they could rely on their mothers for help. The F-test yielded a value of 3.64 with the associated probability of .0036. This is a significant (p < .05) difference so Tukey's test was performed. Table 13 shows the variable, help from mother, the means from the BELS, and the significant groups.

Table 13
Amount able to rely on mother: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Very much</th>
<th>Not appli.</th>
<th>Fair amt.</th>
<th>Not at all</th>
<th>Some</th>
<th>Not very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>56</td>
<td>59</td>
<td>60</td>
<td>68</td>
<td>69</td>
<td>72</td>
</tr>
<tr>
<td>Very much</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not appli.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fair amt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Not very much</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

From Table 13, it is seen that the means from those graduate students who felt they could rely on their mothers sometimes or not very much were significantly higher on factor 1 than the means of those students who could rely on their mothers very much. These
means are all in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the amount that graduate students felt they could rely on both parents together. The F-test yielded a value of 5.34 with the associated probability of .004. This is a significant \((p < .05)\) difference so Tukey's test was computed. Table 14 illustrates the variable, ability to rely on both parents, the means from the BELS, and the significant groups.

Table 14
Amount able to rely on both parents: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Very much</th>
<th>Fair amount</th>
<th>Some</th>
<th>Not very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>57</td>
<td>58</td>
<td>60</td>
<td>69</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Not at all</td>
<td>Very much</td>
<td>Fair amount</td>
<td>Some</td>
<td>Not very much</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 14, it can be seen that the means from those graduate students who felt they could rely on their parents some and not very much were significantly higher on factor 1 than the means from those students who felt they could rely on their parents very much.

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The means from the students who could not rely on their parents very much is significantly higher on factor 1 than the mean from the students who relied on their parents a fair amount. These means are all in the lower half of Belcher's pathological loneliness scale.

A one-way analysis of variance was computed on factor 1 by how well graduate students know their neighbors. The F-test yielded a value of 4.02 with the associated probability of .0037. This is a significant (p < .05) difference so Tukey's test was calculated. Table 15 illustrates the variable, familiarity with neighbors, the means from the BELS, and the significant groups.

Table 15
Familiarity with neighbors: means, and significant groups

<table>
<thead>
<tr>
<th>Fairly well</th>
<th>Very well</th>
<th>Not very well</th>
<th>Somewhat</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Fairly well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Not very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Somewhat</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Not at all</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15 shows that the means from those graduate students who know their neighbors somewhat and not at all are significantly higher
on factor 1 than the means from those who know their neighbors fairly well. These means are all in the lower half of Belcher's factor 1.

A one-way analysis of variance was computed on factor 1 by number of close friends. The F-test yielded a value of 2.73 with the associated probability of .0301. This is a significant difference so Tukey's test was performed. Table 16 shows the variable, number of close friends, the means from the BELS, and the significant groups.

Table 16
Number of close friends: means, and significant groups

<table>
<thead>
<tr>
<th>Greater than 8</th>
<th>6-8</th>
<th>4-5</th>
<th>2-3</th>
<th>0-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Greater than 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>6-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>4-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>2-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>0-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 16 shows that the mean from those graduate students who have two or three friends is significantly higher on factor 1 than those who have more than eight friends. These means are all in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by
satisfaction with number of close friends. The F-test showed a value of 10.55 with an associated probability of .0000. This is a significant (p < .05) difference so Tukey's test was computed. Table 17 shows the variable, satisfaction with number of close friends, the means from the BELS, and the significant groups.

Table 17
Satisfaction with number of close friends: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>55</td>
<td>59</td>
<td>67</td>
<td>73</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Very satis.</td>
<td>Somewhat satis.</td>
<td>Neither</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 17 shows that the means from those graduate students who are very dissatisfied with the number of close friends they have, or are somewhat dissatisfied, or are neither satisfied nor dissatisfied are significantly higher on factor 1 than the means of those students who are very satisfied with their number of close friends. Further, the means from the students who are very dissatisfied or somewhat dissatisfied with their number of close friends
are significantly higher on factor 1 than the mean of those who are somewhat satisfied with their number of close friends. These means are all in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by satisfaction with the quality of friendships. The F-test yielded a value of 13.8 with an associated probability of .0000. This is a significant (p < .05) difference so Tukey's test was computed. Table 18 shows the variable, satisfaction with the quality of friendships, the means from the BELS, and the significant groups.

Table 18
Satisfaction with friendship quality:
means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Very satis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Somewhat satis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82</td>
<td>Somewhat dissat.</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>85</td>
<td>Very dissat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 18 shows that the mean from those graduate students who are somewhat dissatisfied with the quality of their friendships are
significantly higher on factor 1 than the means from those who are very satisfied with their friendships and those who are somewhat satisfied. These means are all in the lower half of Belcher's factor 1.

A one-way analysis of variance was computed on factor 1 by the variable, having no spouse or lover which is one of the possible reasons listed on the second questionnaire for feeling lonely. The F-test yielded a value of 16.33 with an associated probability of .001. This shows a significant (p < .05) difference which means that those graduate students who circled this variable (mean = 73) as a possible cause of their loneliness had a significantly higher mean on factor 1 than those who did not circle it (mean = 59). Both means are in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the variable, break-up with spouse or lover which was another of the possible reasons for feeling lonely. The F-test yielded a value of 8.63 with the associated probability of .0037. This shows a significant (p < .05) difference which means that those graduate students who circled this item (mean = 71) had a significantly higher mean on factor 1 than did those who did not circle this variable (mean = 60). Both means are in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the variable, having nothing to do, feeling bored. The F-test yielded a value of 4.78 with the associated probability of .0298. This shows a significant (p < .05) difference which means that those graduate students who endorsed this item (mean = 65) had a
significantly higher mean on factor 1 than did those who did not endorse it (mean = 59). Both means are in the lower half of Belcher's pathological loneliness scale.

A one-way analysis of variance was computed on factor 1 by the variable, having no one to talk to. The F-test yielded a value of 13.47 with the associated probability of .0003. This shows a significant (p < .05) difference which means that those graduate students who circled this item (mean = 72) had a significantly higher mean on factor 1 than those who did not endorse this item (mean = 59). Both means are in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the variable, not being needed. The F-test yielded a value of 9.72 with the associated probability of .0021. This shows a significant (p < .05) difference which means that students who endorsed this item (mean = 77) had a significantly higher mean on factor 1 than those who did not circle it (mean = 60). Both means are in the lower half of factor 1.

A one-way analysis of variance was calculated on factor 1 by the variable, being hospitalized. The F-test yielded a value of 5.06 with the associated probability of .0255. This shows a significant (p < .05) difference which means that those graduate students who circled this item (mean = 81) had a significantly higher mean on factor 1 than did those who did not circle it (mean = 60). Both means are in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by
the variable, feeling different from everyone else. The F-test yielded a value of 25.43 with the associated probability of .0000. This shows a significant (p < .05) difference which means that those graduate students who circled this item (mean = 75) had a significantly higher mean on factor 1 than did those who did not circle it (mean = 58). Both means are in the lower half of Belcher's pathological loneliness scale.

A one-way analysis of variance was computed on factor 1 by the variable, my mentor treats me with respect. The F-test yielded a value of 5.46 with the associated probability of .0227. This shows a significant (p < .05) difference which means that those students who endorsed this item (mean = 56) had a significantly lower mean on factor 1 than did those who did not endorse it (mean = 67). Both means are in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the variable, my mentor is available to me. The F-test yielded a value of 9.06 with the associated probability of .0038. This shows a significant (p < .05) difference which means that those students who endorsed this item (mean = 55) had a significantly lower mean on factor 1 than did those who did not endorse it (mean = 68). Both means are in the lower half of factor 1.

A one-way analysis of variance was computed on factor 1 by the variable, my mentor will go out of his/her way for me. The F-test yielded a value of 5.82 with the associated probability of .0189. This shows a significant (p < .05) difference which means that those graduate students who circled this item (mean = 55) had a
significantly lower mean on factor 1 than did those who did not endorse it (mean = 65). Both means are in the lower half of factor 1.

These 21 variables were all found to be statistically significant on factor 1. The other 24 variables on the PAV questionnaire were not significant on factor 1.

Factor II (Alienation)

Thirteen significant differences were found on factor 2. The highest and lowest possible loneliness scores on factor 2 are 57 and 27.

A one-way analysis of variance was computed on factor 2 by gender. The F-test yielded a value of 7.16 with the associated probability of .0081. This shows a significant (p < .05) difference which means that male graduate students (mean = 34) had a significantly higher mean on factor 2 than did female students (mean = 31). Both means are in the lower half of Belcher's alienation scale.

A one-way analysis of variance was computed on factor 2 by marital status. The F-test yielded a value of 3.04 with the associated probability of .0186. This is a significant (p < .05) difference so Tukey's test was computed. Table 19 shows the variable, marital status, the means from the BELS, and the significant groups.
Table 19
Marital status: means, and significant groups

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Mean Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>31</td>
</tr>
<tr>
<td>Widowed</td>
<td>31</td>
</tr>
<tr>
<td>Live w/ lover</td>
<td>32</td>
</tr>
<tr>
<td>Single</td>
<td>33</td>
</tr>
<tr>
<td>Divorced</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 19 shows that the mean from the divorced graduate students is significantly higher on factor 2 than the mean from the married students. These means are all in the lower half of Belcher's factor 2.

A one-way analysis of variance was computed on factor 2 by satisfaction with living situation. The F-test yielded a value of 4.33 with the associated probability of .0022. This is a significant (p < .05) difference so Tukey's test was computed. Table 20 shows the variable, satisfaction with living situation, the means from the BELS, and the significant groups.
Table 20
Satisfaction with living situation: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Somewhat sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Somewhat dissat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Neither</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Very dissat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 20 shows that the mean from those graduate students who are neither satisfied nor dissatisfied with their living situation is significantly higher on factor 2 than the mean of those who are very satisfied with their living situation. All of these means are in the lower half of Belcher's alienation scale.

An analysis of variance was computed on factor 2 by the amount of perceived loneliness as compared to others of the same age. The F-test yielded a value of 7.93 with the associated probability of .0000. This is a significant (p < .05) difference so Tukey's test was computed. Table 21 shows the variable, perceived loneliness, the means from the BELS, and the significant groups.
Table 21 shows that the mean from those graduate students who perceive themselves to be more lonely than the average person and somewhat more lonely than average is significantly higher on factor 2 than the mean of those students who see themselves as much less lonely than average, as less lonely than average, and as average when compared to others. All of these means are in the lower half of factor 2.

A one-way analysis of variance was computed on factor 2 by the amount that graduate students felt they could rely on both of their parents. The F-test yielded a value of 2.57 with the associated probability of .0388. This is a significant (p < .05) difference so Tukey's test was performed. Table 22 shows the variable,
ability to rely on both parents, the means from the BELS, and the significant groups.

<table>
<thead>
<tr>
<th></th>
<th>Fair amount</th>
<th>Very much</th>
<th>Some</th>
<th>Not at all</th>
<th>Not very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>31</td>
<td>32</td>
<td>34</td>
<td>35</td>
<td>36</td>
</tr>
<tr>
<td>Group</td>
<td>Fair amount</td>
<td>Very much</td>
<td>Same</td>
<td>Not at all</td>
<td>Not very much</td>
</tr>
</tbody>
</table>

From Table 22 it can be seen that the mean from those graduate students who felt they could not rely on their parents very much is significantly higher on factor 2 than the mean of those who could rely on their parents a fair amount. All of these means are in the lower half of Belcher's alienation scale.

A one-way analysis of variance was computed on factor 2 by familiarity with neighbors. The F-test yielded a value of 3.87 with the associated probability of .0047. This is a significant (p < .05) difference so Tukey's test was calculated. Table 23 shows the variable, familiarity with neighbors, the means from the BELS, and the significant groups.
Table 23
Familiarity with neighbors: means, significant groups

<table>
<thead>
<tr>
<th></th>
<th>Fairly well</th>
<th>Not very well</th>
<th>Somewhat</th>
<th>Very well</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>30</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Fairly well</td>
<td>Not very well</td>
<td>Somewhat</td>
<td>Very well</td>
<td>Not at all</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
</tr>
</tbody>
</table>

Table 23 shows that the mean from those graduate students who do not know their neighbors at all is significantly higher on factor 2 than the mean of those who know their neighbors fairly well. These means are in the lower half of factor 2.

An analysis of variance was computed on factor 2 by satisfaction with the quality of friendships. The F-test showed a value of 6.2 with the associated probability of .001. This is a significant (p < .05) difference so Tukey's test was performed. Table 24 shows the variable, satisfaction with quality of friendships, the means from the BELS, and the significant groups.
Table 24

Satisfaction with friendship quality: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Very satis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Somewhat satis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Somewhat dissat.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Neither dissat.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Very dissat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 24 shows that the means of those graduate students who are somewhat dissatisfied or neither satisfied nor dissatisfied with the quality of their friendships are significantly higher on factor 2 than the mean of those students who are very satisfied with the quality of their friendships. Further, the mean of students who are neither satisfied nor dissatisfied with their friendships is significantly higher on factor 2 than the mean of those who are somewhat satisfied. All of these means are in the lower half of Belcher's alienation scale.

A one-way analysis of variance was computed on factor 2 by the variable, having no spouse or lover which was one of the possible reasons listed on the second questionnaire for feeling lonely. The F-test yielded a value of 5.14 with the associated probability of
This is a significant (p < .05) difference which means that those graduate students who circled this variable (mean = 35) had a significantly higher mean on factor 2 than did those who did not circle it (mean = 31). Both means are in the lower half of Belcher's factor 2.

A one-way analysis of variance was computed on factor 2 by the variable, my mentor treats me with respect. The F-test yielded a value of 15.4 with the associated probability of .002. This is a significant (p < .05) difference which means that those graduate students who endorsed this item (mean = 31) had a significantly lower mean on factor 2 than those who did not endorse it (mean = 38). Both means are in the lower half of factor 2.

A one-way analysis of variance was computed on factor 2 by the variable, my mentor will go out of his/her way for me. The F-test yielded a value of 7.28 with the associated probability of .0090. This is a significant (p < .05) difference which means that those graduate students who circled this item (mean = 30) had a significantly lower mean on factor 2 than those who did not circle this item (mean = 35). Both means are in the lower half of factor 2.

A one-way analysis of variance was computed on factor 2 by the variable, my mentor is available to me. The F-test yielded a value of 10.47 with the associated probability of .0020. This shows a significant (p < .05) difference which means that those graduate students who endorsed this item (mean = 31) had a significantly lower mean on factor 2 than those who did not endorse it (mean = 37). Both means are in the lower half of Belcher's alienation scale.
An analysis of variance was computed on factor 2 by the variable, my mentor is supportive of my development as a professional. The F-test yielded a value of 4.27 with the associated probability of .0431. This is a significant (P < .05) difference which means that those students who endorsed this item (mean = 32) had a significantly lower mean on factor 2 than those who did not endorse it (mean = 37). Both means are in the lower half of Belcher's factor 2.

An analysis of variance was computed on factor 2 by the variable, my mentor is interested in me as a person. The F-test yielded a value of 6.4 with the associated probability of .0137. This is a significant (P < .05) difference which means that those students who circled this item (mean = 31) had a significantly lower mean on factor 2 than those who did not circle it (mean = 36). Both means are in the lower half of Belcher's factor 2.

These 13 variables were all found to be statistically significant on factor 2. The other 32 variables on the PAV questionnaire were not significant on factor 2.

Factor III (Loneliness Anxiety)

Fourteen significant differences were found on factor 3; however, due to the low factor loadings found, it is thought that the present study's factor 3 may not be dealing with the same construct of loneliness anxiety as the BELS. See Chapter 5 for more about this issue. The highest and lowest possible loneliness scores on factor 3 are 30 and 5.
A one-way analysis of variance was computed on factor 3 by college. The F-test yielded a value of 2.65 with the associated probability of .0347. This is a significant difference ($p < .05$) so Tukey's test was computed. Table 25 shows the variable, college, the means from the BELS, and the significant groups.

Table 25
College: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Business</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Arts &amp; Sci.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Health &amp; Hum. Servs.</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 25 it is seen that the mean of those graduate students who are in the College of Health and Human Services is significantly higher on factor 3 than the mean from those who are in the College of Education. These means are all in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by satisfaction with living situation. The F-test yielded a value of
4.12 with the associated probability of .0032. This is a significant (p < .05) difference so Tukey's test was performed.

Table 26
Satisfaction with living situation: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Somewhat dissat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Somewhat sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Very dissat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

From Table 26, it can be seen that the mean from those graduate students who are neither satisfied nor dissatisfied with their living situation is significantly higher on factor 3 than the mean from those who are very satisfied with their living situation. These means are all in the lower half of factor 3.

A one-way analysis of variance was calculated on factor 3 by perceived amount of loneliness as compared to others of the same age. The F-test yielded a value of 13.31 with the associated probability of .0000. This is a significant p < .05) difference so
Tukey's test was performed. Table 27 shows the variable, perceived amount of loneliness, the means from the BELS, and the significant groups.

Table 27
Perceived amount of loneliness: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Much &lt; average</th>
<th>Average</th>
<th>Less than average</th>
<th>Somewhat average</th>
<th>More than average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Group 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Group 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Group 16</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Mean Group 21</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

From Table 27 it is seen that the means from those graduate students who perceive themselves to be more lonely than the average person and somewhat more lonely are significantly higher on factor 3 than the means from those who perceive themselves to be much less lonely than average, an average amount of loneliness, or less lonely than average. Except for the mean from those who are more lonely than average, these means are in the lower half of factor 3.
An analysis of variance was calculated on factor 3 by the number of times moved since age 18. The F-test yielded a value of 4.45 with the associated probability of .0018. This is a significant (p < .05) difference so Tukey's test was performed. Table 28 shows the variable, number of times moved since age 18, the means from the BELS, and the significant groups.

Table 28
Number of times moved since age 18: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>3-5</th>
<th>0-2</th>
<th>6-8</th>
<th>9-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>11</td>
<td>12</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Group</td>
<td>3-5</td>
<td>0-2</td>
<td>12 or more</td>
<td>6-8</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 28 shows that the mean from those graduate students who have moved 6-8 times since age 18 is significantly higher on factor 3 than the mean from those who have moved 3-5 times. These means are all in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by relationship with mother. The F-test yielded a value of 2.51 with the associated probability of .0429. This is a significant (p < .05)
difference to Tukey's test was performed. Table 29 shows the variable, relationship with mother, the means from the BELS, and the significant groups.

Table 29
Relationship with mother: means, and significant groups

<table>
<thead>
<tr>
<th>Did not live w/her</th>
<th>Very close</th>
<th>Almost no rel.</th>
<th>Fairly close</th>
<th>No rel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Did not live w/her</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Very close</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Almost no rel.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Fairly close</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 No rel         *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 29 it is seen that the mean of those graduate students who argued often with mother (no relationship) is significantly higher on factor 3 than the mean of those who were very close to their mother. These means are all in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by satisfaction with number of close friends. The F-test yielded a value of 6.61 with the associated probability of .001. This is a significant (p < .05) difference so Tukey's test was performed. Table 30 shows the variable, satisfaction with number of close friends,
the means from the BELS, and the significant groups.

Table 30
Satisfaction with number of close friends:
means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat dis.</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very dis.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From Table 30 it is seen that the means of those graduate students who are very dissatisfied or somewhat dissatisfied with their number of close friends are significantly higher on factor 3 than the mean of those who are very satisfied with the number of their close friends. Further, the mean of those who are somewhat dissatisfied is also significantly higher on factor 3 than the mean of those who are somewhat satisfied with their number of close friends. These means are all in the lower half of factor 3.

A one-way analysis of variance was calculated on factor 3 by satisfaction with the quality of friendships. The F-test yielded a value of 5.03 with the associated probability of .007. This is a
significant (p < .05) difference so Tukey's test was computed.

Table 31 shows the variable, satisfaction with friendship quality, the means from the BELS, and the significant groups.

Table 31
Satisfaction with friendship quality: means, and significant groups

|-----------|---------------|--------------|-----------|
Mean Group |
12 Very sat.  |
12 Somewhat sat. |
15 Neither |
16 Somewhat dis. * | * |
17 Very dis. |

Table 31 shows that the mean of those graduate students who are somewhat dissatisfied with the quality of their friendships is significantly higher on factor 3 than the means of those who are very satisfied or somewhat satisfied with the quality of their friendships. The means of all of these groups are in the lower half of factor 3.

A one-way analysis of variance was calculated on factor 3 by the variable, no one to talk to, which is listed on questionnaire 2 as one of the possible causes of loneliness. The F-test yielded
a value of 10.21 with the associated probability of .0016. This is
a significant \( (p < .05) \) difference which means that those graduate
students who endorsed this item (mean = 15) had a significantly
higher mean on factor 3 than those who did not endorse it (mean =
12). Both means are in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by the
variable, being far away from family or friends. The F-test yielded
a value of 14.33 with the associated probability of .0002. This is
a significant \( (p < .05) \) difference which means that those graduate
students who endorsed this item (mean = 14) had a significantly
higher mean on factor 3 than those who did not endorse it (mean =
11). Both means are in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by the
variable, feeling different from everyone else. The F-test yielded
a value of 14.18 with the associated probability of .0002. This is
a significant \( (p < .05) \) difference which means that the graduate
students who endorsed this item (mean = 15) had a significantly
higher mean on factor 3 than those who did not endorse it (mean =
12). Both means are in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by the
variable, moving too often. The F-test yielded a value of 4.57 with
the associated probability of .0337. This is a significant \( (p < .05) \)
difference which means that the students who circled this item
(mean = 16) had a significantly higher mean on factor 3 than those
who did not circle it (mean = 12). Both means are in the lower half
A one-way analysis of variance was calculated on factor 3 by
the variable, not being needed. The F-test yielded a value of
16.74 with the associated probability of .0001. This is a signifi-
cant (p < .05) difference which means that those students who
circled this item (mean = 18) had a significantly higher mean on
factor 3 than those who did not circle it (mean = 12). Both means
are in the lower half of factor 3.

A one-way analysis of variance was calculated on factor 3 by
the variable, death of a loved one. The F-test yielded a value of
4.96 with the associated probability of .0271. This is a signifi-
cant (p < .05) difference which means that those graduate students
who endorsed this item (mean = 13) had a significantly higher mean
on factor 3 than those who did not endorse it (mean = 10). Both
means are in the lower half of factor 3.

A one-way analysis of variance was computed on factor 3 by
the variable, having no spouse or lover. The F-test yielded a
value of 9.60 with the associated probability of .0022. This is a
significant (p < .05) difference which means that the graduate
students who circled this item (mean = 15) had a significantly
higher mean on factor 3 than those who did not circle it (mean = 12).
These means are both in the lower half of factor 3.

**Factor IV (Existential Loneliness)**

Three significant differences were found on factor 4; however,
due to the low factor loadings found, it is hypothesized that the present study's factor 4 may not be dealing with the construct as the BELS. See Chapter 5 for more about this issue. The highest and lowest possible loneliness scores on factor 4 are 23 and 33 (higher scores mean less lonely and lower scores mean more lonely).

A one-way analysis of variance was computed on factor 4 by gender. The F-test yielded a value of 5.29 with the associated probability of 0.0225. This is a significant (p < .05) difference which means that the female graduate students (mean = 30) had a significantly higher mean on factor 4 than did the male students (mean = 27). Both means are in the lower half of factor 4.

A one-way analysis of variance was calculated on factor 4 by the amount graduate students felt they could rely on both of their parents. The F-test yielded a value of 2.46 with the associated probability of 0.0422. This is a significant (p < .05) difference so Tukey's test was computed. Table 32 shows the variable, amount students could rely on parents, the means from the BELS, and the significant groups.
Table 32
Amount rely on parents: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Not very much</th>
<th>Fair amount</th>
<th>Very much</th>
<th>Some</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>22</td>
<td>28</td>
<td>29</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Group</td>
<td>Not at all</td>
<td>Not very much</td>
<td>Fair amount</td>
<td>Very much</td>
<td>Some</td>
</tr>
</tbody>
</table>

From Table 32 it is seen that the means from those graduate students who felt that they could rely some and very much on their parents are significantly higher on factor 4 than the mean from those students who felt they could not rely on their parents at all. The means from the students who felt they could not rely on their parents at all and not very much are both in the upper half of factor 4.

A one-way analysis of variance was computed on factor 4 by the variable, being in a new job or new school. This was one of the variables listed under possible reasons for loneliness. The F-test yielded a value of 6.69 with the associated probability of .0104. This is a significant (p < .05) difference which means that those
graduate students who endorsed this item (mean = 30) have a significantly higher mean on factor 4 than those who did not endorse it (mean = 28). Both means are in the lower half of factor 4.

These three variables were found to be statistically significant on factor 4. The other 42 variables on the PAV questionnaire were not significant on factor 4.

Factor V (Estrangement)

Nineteen significant differences were found in factor 5; however, due to the low factor loadings found, it is thought that the present study's factor 5 may not be dealing with the same construct of estrangement as the BELS. See Chapter 5 for more about this issue. The highest and lowest possible lineliness scores on factor 5 are 44 and 19.

A one-way analysis of variance was computed on factor 5 by satisfaction with living situation. The F-test yielded a value of 4.01 with the associated probability of .0038. This is a significant ($p < .05$) difference so Tukey's test was computed. Table 33 shows the variable, satisfaction with living situation, the means from the BELS, and the significant groups.
Table 33 shows that the mean of those graduate students who are neither satisfied nor dissatisfied with their living situation is significantly higher on factor 5 than the mean of those who are very satisfied with their living situation. All of these means are in the lower half of factor 5.

A one-way analysis of variance was computed on factor 5 by perceived amount of loneliness as compared to others of the same age. The F-test yielded a value of 12.44 with the associated probability of .0000. This is a significant ($p < .05$) difference so Tukey's test was calculated. Table 34 shows the variable, perceived amount of loneliness, the means from the BELS, and the significant groups.
Table 34
Perceived amount of loneliness: means, and significant groups

<table>
<thead>
<tr>
<th>Mean Group</th>
<th>Much &lt; average</th>
<th>Less than average</th>
<th>Average</th>
<th>Somewhat more than average</th>
<th>More than average</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

Table 34 shows that the means of those students who perceive themselves to be more lonely than average, somewhat more lonely than average, and average are significantly higher on factor 5 than the mean of those who are much less lonely than average. Further, the means of those who see themselves as more lonely than average and somewhat more lonely than average are significantly higher on factor 5 than the means of those who are less lonely than average and much less lonely than average. The mean from those who are more lonely than average falls in the upper half of factor 5 while the other four means fall in the lower half.
A one-way analysis of variance was computed on factor 5 by relationship with mother. The F-test yielded a value of 2.56 with the associated probability of .0397. This is a significant (p < .05) difference so Tukey's test was calculated. Table 35 shows the variable, relationship with mother, the means from the BELS, and the significant groups.

Table 35
Relationship with mother: means, and significant groups

<table>
<thead>
<tr>
<th>Did not live w/her</th>
<th>Very close</th>
<th>Fairly close</th>
<th>Almost no rel.</th>
<th>No rel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Did not live w/her</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Very close</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Fairly close</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Almost no rel.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>No rel.</td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

From Table 35 it is seen that the mean of those graduate students who argued often with mother (no relationship) is significantly higher on factor 5 than the mean of those who were very close to their mother. These means are all in the lower half of factor 5.

A one-way analysis of variance was calculated on factor 5 by the amount able to rely on parents. The F-test yielded a value of
4.21 with the associated probability of .0027. This is a significant (p < .05) difference so Tukey's test was performed. Table 36 shows the variable, amount able to rely on parents, means from the BELS, and the significant groups.

Table 36  
Amount able to rely on parents: means, and significant groups

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Very much</th>
<th>Fair amount</th>
<th>Some</th>
<th>Not very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Very much</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Fair amount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Some</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Not very much</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Table 36 shows that the mean of those students who could not rely very much on their parents is significantly higher on factor 5 than the means of those who could rely very much or a fair amount on their parents. These means are all in the lower half of factor 5.

A one-way analysis of variance was computed on factor 5 by familiarity with neighbors. The F-test yielded a value of 3.19 with the associated probability of .0144. This is a significant (p < .05) difference so Tukey's test was performed. Table 37 shows
the variable, familiarity with neighbors, the means from the BELS, and significant groups.

Table 37
Familiarity with neighbors: means, and significant groups

<table>
<thead>
<tr>
<th>Fairly well</th>
<th>Very well</th>
<th>Not very well</th>
<th>Somewhat</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Fairly well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Not very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Somewhat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Not at all</td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Table 37 shows that the mean of those graduate students who do not know their neighbors at all is significantly higher on factor 5 than the mean of those who know their neighbors fairly well. These means are all in the lower half of factor 5.

A one-way analysis of variance was computed on factor 5 by satisfaction with the number of close friends. The F-test yielded a value of 4.47 with the associated probability of .0018. This is a significant (p < .05) difference so Tukey's test was performed. Table 38 shows the variable, satisfaction with number of close friends, the means from the BELS, and the significant groups.
Table 38 shows that the mean of those graduate students who are somewhat dissatisfied with their number of close friends is significantly higher on factor 5 than the mean of those who are very satisfied with their number of close friends. These means are a-1 in the lower half of factor 5.

A one-way analysis of variance was calculated on factor 5 by satisfaction with the quality of friendships. The F-test yielded a value of 5.81 with the associated probability of .0002. This is a significant (p < .05) difference so Tukey's test was performed. Table 39 shows the variable, satisfaction with friendship quality, the means from the BELS, and the significant groups.
Table 39
Satisfaction with friendship quality:
means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>24</td>
<td>25</td>
<td>29</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 39 shows that the mean from those graduate students who are somewhat dissatisfied with the quality of their friendships is significantly higher on factor 5 than the means of those who are very satisfied and somewhat satisfied with their friendship quality. These means are in the lower half of factor 5.

A one-way analysis of variance was computed on factor 5 by the variable, feeling different from everyone else. The F-test yielded a value of 11.19 with the associated probability of .0010. This is a significant (p < .05) difference which means that the students who circled this item (mean = 28) had a significantly higher mean on factor 5 than those who did not circle it (mean = 25).

A one-way analysis of variance was computed on factor 5 by
the variable, being hospitalized. The F-test yielded a value of 8.35 with the associated probability of .0043. This is a significant \( (p < .05) \) difference which means that those students who circled this variable (mean = 34) had a significantly higher mean on factor 5 than those who did not circle it (mean = 25).

A one-way analysis was computed on factor 5 by the variable, not being needed. The F-test yielded a value of 11.33 with the associated probability of .0009. This is a significant \( (p < .05) \) difference which means that those students who endorsed this item (mean = 31) had a significantly higher mean on factor 5 than those who did not endorse it (mean = 25).

A one-way anova was calculated on factor 5 by the variable, having no spouse or lover. The F-test yielded a value of 7.34 with the associated probability of .0073. This is a significant \( (p < .05) \) difference which means that those who circled this item (mean = 28) had a significantly higher mean on factor 5 than those who did not circle it (mean = 25).

A one-way anova was computed on factor 5 by the variable, having no one to talk to. The F-test yielded a value of 7.75 with the associated probability of .0059. This is a significant \( (p < .05) \) difference which means that the students who circled this item (mean = 28) had a significantly higher mean on factor 5 than those who did not circle it (mean = 25).

A one-way anova was computed on factor 5 by the variable, having nothing to do. The F-test yielded a value of 4.15 with the
associated probability of .0430. This is a significant (p < .05) difference which means that those graduate students who endorsed this item (mean = 27) had a significantly higher mean on factor 5 than those who did not endorse it (mean = 24).

A one-way anova was computed on factor 5 by the variable, being far away from friends or family. The F-test yielded a value of 5.29 with the associated probability of .0225. This is a significant (p < .05) difference which means that the graduate students who circled this item (mean = 27) had a significantly higher mean on factor 5 than those who did not circle it (mean = 24).

A one-way anova was computed on factor 5 by the variable, having a mentor in the student's department. The F-test yielded a value of 5.15 with the associated probability of .0248. This is a significant (p < .05) difference which means that the graduate students who circled this item (mean = 24) had a significantly lower mean on factor 5 than those who did not circle it (mean = 26).

A one-way anova was calculated on factor 5 by the variable, my mentor will go out of his/her way for me. The F-test yielded a value of 11.47 with the associated probability of .0012. This is a significant (p < .05) difference which means that the graduate students who circled this variable (mean = 22) had a significantly lower mean on factor 5 than those who did not circle it (mean = 27).
A one-way anova was calculated on factor 5 by the variable, my mentor respects me. The F-test yielded a value of 9.74 with the associated probability of .0028. This is a significant (p < .05) difference which means that the students who circled this item (mean = 23) had a significantly lower mean on factor 5 than those who did not circle it (mean = 28).

A one-way anova was computed on factor 5 by the variable, my mentor is available to me. The F-test yielded a value of 6.77 with the associated probability of .0117. This is a significant (p < .05) difference which means that the students who circled this item (mean = 23) had a significantly lower mean than those who did not circle it (mean = 27).

A one-way anova was computed on factor 5 by the variable, my mentor is supportive of my professional development. The F-test yielded a value of 5.38 with the associated probability of .0237. This is a significant (p < .05) difference which means that those who circled this item (mean = 23) had a significantly lower mean than those who did not circle it (mean = 28).

These 19 variables were found to be statistically significant on factor 5. The other 29 variables on the PAV questionnaire were not significant on factor 5.

Factor VI (Anomie)

Twelve significant differences were found on factor 6; however, due to the low factor loadings found, it is thought that the present study's factor 6 may not be dealing with the same construct of
anomie as the BELS. See Chapter 5 for more about this issue. The highest and lowest possible loneliness scores on factor 6 are 72 and 12.

A one-way anova was computed on factor 6 by marital status. The F-test yielded a value of 3.68 with the associated probability of .0065. This is a significant (p < .05) difference so Tukey’s test was performed. Table 40 shows the variable, marital status, the means from the BELS, and the significant groups.

Table 40
Marital status: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Widowed</th>
<th>Married</th>
<th>Live w/ lover</th>
<th>Divorced</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>27</td>
<td>27</td>
<td>30</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>Widow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live w/ lover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Table 40 shows that the mean from those students who are single is significantly higher on factor 6 than the mean from those who are married. These means are in the lower half of factor 6.

A one-way anova was computed on factor 6 by living situation.
The F-test yielded a value of 2.69 with the associated probability of .0078. This is a significant \( p < .05 \) difference so Tukey's test was computed. Table 41 shows the variable, living situation, the means from the BELS, and the significant groups.

Table 41
Living situation: means, and significant groups

<table>
<thead>
<tr>
<th>Live w/ spouse</th>
<th>Live w/ lover</th>
<th>Live w/sp. and child</th>
<th>Live w/ parents</th>
<th>Live w/ roomies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>32</td>
</tr>
<tr>
<td>Live w/ spouse</td>
<td>Live w/ lover</td>
<td>Live w/sp. and child</td>
<td>Live w/ parents</td>
<td>Live w/ roomies</td>
</tr>
<tr>
<td>28</td>
<td>28</td>
<td>28</td>
<td>32</td>
<td><strong>33</strong></td>
</tr>
<tr>
<td>Live w/ lover</td>
<td>Live w/sp. and child</td>
<td>Live w/ parents</td>
<td>Live w/ roomies</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>28</td>
<td>32</td>
<td><strong>33</strong></td>
<td>*</td>
</tr>
</tbody>
</table>

Table 41 shows that the mean from the graduate students who live with roommates is significantly higher on factor 6 than the mean from those who live with a spouse or a spouse and child. These means are in the lower half of factor 6.

A one-way ANOVA was computed on factor 6 by satisfaction with living situation. The F-test yielded a value of 5.08 with the
associated probability of .0006. This is a significant \( (p < .05) \) difference so Tukey's test was computed. Table 42 shows the variable, satisfaction with living situation, the means from the BELS, and the significant groups.

Table 42
Satisfaction with living situation: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Somewhat sat.</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Very dis.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Somewhat dis.</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 42 shows that the means from those students who are somewhat satisfied with their living situation or somewhat dissatisfied are significantly higher on factor 6 than the mean from those who are very satisfied with their living situation. These means are in the lower half of factor 6.

A one-way anova was computed on factor 6 by perceived amount of loneliness as compared to others of the same age. The F-test yielded a value of 8.1 with the associated probability of .0000. This is a significant \( (p < .05) \) difference so Tukey's test was
performed. Table 43 shows the variable, perceived amount of loneliness, the means from the BELS, and the significant groups.

Table 43
Perceived amount of loneliness: means, and significant groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Much &lt; average</th>
<th>Less than average</th>
<th>Average</th>
<th>Somewhat average</th>
<th>More than average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Somewhat</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>36</td>
<td>More than</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 43 shows that the means from those students who see themselves to be more lonely than average, somewhat more lonely, or average are significantly higher on factor 6 than the mean from those who feel they are much less lonely than average. Further, the mean from those who are somewhat more lonely than average is significantly higher on factor 6 than the mean from those students who feel they are less lonely than average. These means are all in the lower half of factor 6.

A one-way anova was computed on factor 6 by familiarity with
neighbors. The F-test yielded a value of 3.04 and an associated probability of .0184. This is a significant (p < .05) difference so Tukey's test was computed. Table 44 shows the variable, familiarity with neighbors, the means, and significant groups.

Table 44
Familiarity with neighbors: means, and significant groups

<table>
<thead>
<tr>
<th>Fairly well</th>
<th>Not very well</th>
<th>Somewhat</th>
<th>Very well</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Fairly well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Not very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Somewhat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Very well</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Not at all</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 44 shows that the mean from those students who do not know their neighbors at all is significantly higher on factor 6 than the mean of those who know their neighbors fairly well. All of these means are in the lower half of factor 6.

A one-way anova was computed on factor 6 by satisfaction with number of close friends. The F-test yielded a value of 5.61 and an associated probability of .0003. This is a significant (p < .05) difference so Tukey's test was computed. Table 45 shows the variable, satisfaction with number of close friends, means, and
significant groups.

Table 45
Satisfaction with number of close friends: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 45 shows that the means from those graduate students who are somewhat dissatisfied or neither satisfied nor dissatisfied with their number of close friends are significantly higher on factor 6 than the mean of those who are very satisfied. These means are all in the lower half of factor 6.

A one-way anova was computed on factor 6 by satisfaction with friendship quality. The F-test yielded a value of 5.52 and an associated probability of .0003. This is a significant ($p < .05$) difference so Tukey’s test was computed. Table 46 shows the variable, satisfaction with friendship quality, means, and significant groups.
Table 46
Satisfaction with friendship quality: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Somewhat sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Somewhat dis.</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Very dis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 46 shows that the mean from those graduate students who are somewhat dissatisfied with the quality of their friendships is significantly higher on factor 6 than the mean of those who are very satisfied with the quality of their friendships. All of these means are in the lower half of factor 6.

A one-way anova was computed on factor 6 by the variable, nothing to do. The F-test yielded a value of 11.15 and a probability of .0010. This is a significant (p < .05) difference which means that the students who circled this item (mean = 32) had a significantly higher mean on factor 6 than those who did not circle it (mean = 28).

A one-way anova was calculated on factor 6 by the variable, feeling different from everyone else. The F-test yielded a value...
of 9.81 and an associated probability of .0020. This is a significant (p < .05) difference which means that the students who circled this item (mean = 33) had a significantly higher mean on factor 6 than those who did not circle it (mean = 28).

A one-way anova was computed on factor 6 by the variable, no one to talk to. The F-test yielded a value of 4.99 and an associated probability of .0266. This is a significant (p < .05) difference which means that those who circled this item (mean = 32) had a significantly higher mean on factor 6 than those who did not circle it (mean = 28).

A one-way anova was calculated on factor 6 by the variable, my mentor will go out of his/her way for me. The F-test yielded a value of 4.84 and a probability of .0314. This is a significant (p < .05) difference which means that those who circled this item (mean = 28) had a significantly lower mean on factor 6 than those who did not circle it (mean = 33).

A one-way anova was computed on factor 6 by the variable, my mentor respects me. The F-test yielded a value of 7.05 and an associated probability of .0101. This is a significant (p < .05) difference which means that those who circled this item (mean = 28) had a significantly lower mean on factor 6 than those who did not circle it (mean = 34).

These 12 variables were found to be statistically significant on factor 6. The other 33 variables on the PAV questionnaire were not significant on factor 6.
Factor VII (Loneliness Depression)

Fourteen significant differences were found on factor 7; however, due to the low factor loadings found, it is thought that the present study's factor 7 may not be dealing with the same construct of loneliness depression as the BELS. See Chapter 5 for more about this issue. The highest and lowest possible loneliness scores on factor 7 are 24 and four.

A one-way anova was computed on factor 7 by gender. The F-test yielded a value of 4.56 and an associated probability of .0339. This is a significant (p < .05) difference which means that the male graduate students (mean = 9) had a significantly higher mean on factor 7 than did the female graduate students (mean = 7).

A one-way anova was computed on factor 7 by marital status. The F-test yielded a value of 4.87 and an associated probability of .0009. This is a significant (p < .05) difference so Tukey's test was performed. Table 47 shows the variable, marital status, the means from the BELS, and the significant groups.
Table 47
Marital status: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Widowed</th>
<th>Married</th>
<th>Single</th>
<th>Live w/lover</th>
<th>Divorced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>Widowed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live w/lover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 47 shows that the means from single and divorced graduate students are significantly higher on factor 7 than the mean of those who are married.

A one-way ANOVA was computed on factor 7 by satisfaction with living situation. The F-test yielded a value of 8.7 with the associated probability of .0000. This is a significant (p < .05) difference so Tukey's test was performed. Table 48 shows the variable, satisfaction with living situation, means, and significant groups.
Table 48
Satisfaction with living situation: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Somewhat sat.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Somewhat dis.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Very dis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 48 shows that the means from those students who are somewhat satisfied, neither satisfied nor dissatisfied, and very dissatisfied with their living situation are significantly higher on factor 7 than the mean of those who are very satisfied with their living situation.

A one-way anova was calculated on factor 7 by perceived amount of loneliness as compared to others of the same age. The F-test yielded a value of 13.89 with an associated probability of .0000. This is a significant ($p < .05$) difference so Tukey's test was performed. Table 49 shows the variable, perceived amount of loneliness, means, and significant groups.
Table 49
Perceived amount of loneliness: means, and significant groups

<table>
<thead>
<tr>
<th>Mean Group</th>
<th>Much &lt; average</th>
<th>Less than average</th>
<th>Average</th>
<th>Somewhat More than average</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Much &lt; aver.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Less than</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Average</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Somewhat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>More than</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 49 shows that the means from those graduate students who are more lonely than average, somewhat more lonely than average, and average are significantly higher on factor 6 than the mean of those who see themselves as much less lonely than average. Further, the means of those students who are more lonely than average and somewhat more lonely than average are significantly higher on factor 7 than the means of those who are less lonely than average and average.

A one-way anova was computed on factor 7 by relationship with mother. The F-test yielded a value of 2.67 and an associated probability of .0333. This is a significant (p < .05) difference so
Tukey's test was computed. Table 50 shows the variable, relationship with mother, means, and significant groups.

Table 50
Relationship with mother: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th>Fairly close</th>
<th>Very close</th>
<th>Not very close</th>
<th>No rel.</th>
<th>Did not live w/her</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Group</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Fairly close</td>
<td>Very close</td>
<td>Not very close</td>
<td>No rel.</td>
<td>Did not live w/her</td>
</tr>
</tbody>
</table>

Table 50 shows that the mean from those students who argued often with their mother (no relationship) is significantly higher on factor 7 than the mean of those students who were fairly close to their mother.

A one-way anova was computed on factor 7 by amount able to rely on mother. The F-test yielded a value of 2.34 with the associated probability of .0432. This is a significant (p < .05) difference so Tukey's test was performed. Table 51 shows the variable, amount able to rely on mother, means, and significant groups.
Table 51 shows that the mean from those students who could not rely very much on their mother is significantly higher on factor 7 than the mean from those students who could rely very much on their mothers.

A one-way ANOVA was computed on factor 7 by familiarity with neighbors. The F-test yielded a value of 3.29 and an associated probability of .0122. This is a significant ($p < .05$) difference so Tukey's test was performed. Table 52 shows the variable, familiarity with neighbors, means, and significant groups.
Table 52
Familiarity with neighbors: means, and significant groups

<table>
<thead>
<tr>
<th>Mean</th>
<th>Group</th>
<th>Fairly well</th>
<th>Not at all</th>
<th>Not very well</th>
<th>Very well</th>
<th>Somewhat</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Fairly well</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Not very well</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Very well</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Somewhat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 52 shows that the mean from those who somewhat know their neighbors is higher on factor 7 than the mean from those students who know their neighbors fairly well.

A one-way anova was calculated on factor 7 by satisfaction with number of close friends. The F-test yielded a value of 3.68 and an associated probability of .0065. This is a significant (p < .05) difference so Tukey's test was computed. Table 53 shows the variable, satisfaction with number of close friends, means, and significant groups.
Table 53
Satisfaction with number of close friends: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Somewhat sat.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Very dis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Somewhat dis.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 53 shows that the mean from those graduate students who are somewhat dissatisfied with their number of close friends is significantly higher on factor 7 than the mean from those who are very satisfied with their number of close friends.

A one-way anova was computed on factor 7 by satisfaction with the quality of friendships. The F-test yielded a value of 7.14 and an associated probability of .0000. This is a significant (p < .05) difference so Tukey's test was computed. Table 54 shows the variable, satisfaction with friendship quality, means, and significant groups.
Table 54
Satisfaction with friendship quality: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Somewhat dis.</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Neither</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Very dis.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 54 shows that the means from those students who are somewhat dissatisfied and neither satisfied nor dissatisfied with the quality of their friendships are significantly higher on factor 7 than the mean of those who are very satisfied with their friendship quality.

A one-way anova was computed on factor 7 by the variable, break-up with spouse or lover. The F-test yielded a value of 4.87 with the associated probability of .0285. This is a significant (p < .05) difference which means that the graduate students who circled this item (mean = 10) have a significantly higher mean on factor 7 than those who did not circle it (mean = 8).

A one-way anova was computed on factor 7 by the variable, feeling different from everyone else. The F-test yielded a value of 5.82 with the associated probability of .0167. This is a
significant (p < .05) difference which means that the graduate students who endorsed this item (mean = 10) had a significantly higher mean on factor 7 than those who did not endorse it (mean = 8).

A one-way anova was computed on factor 7 by the variable, my mentor is available to me. The F-test yielded a value of 8.15 and a probability of .0059. This is a significant (p < .05) difference which means that those who circled this item (mean = 7) had a significantly lower mean than those who did not circle it (mean = 10).

A one-way anova was computed on factor 7 by the variable, my mentor will go out of his/her way for me. The F-test yielded a value of 6.81 and an associated probability of .0114. This is a significant (p < .05) difference which means that those students who circled this item (mean = 7) had a significantly lower mean than those who did not circle it (mean = 10).

A one-way anova was computed on factor 7 by the variable, my mentor respects me. The F-test yielded a value of 12.8 and a probability of .0007. This is a significant (p < .05) difference which means that those who endorsed this item (mean = 7) had a significantly lower mean than those who did not endorse it (mean = 11).

These 14 variables were found to be statistically significant on factor 7. The other 31 variables on the PAV questionnaire were not significant on factor 7.
Factor VIII (Separateness)

Eight significant differences were found on factor 8; however, due to the low factor loadings found, it is thought that the present study's factor 8 may not be dealing with the same construct of separateness of the BELS. See Chapter 5 for more about this issue. The highest and lowest possible scores on factor 8 are 12 and 2.

A one-way anova was computed on factor 8 by amount of perceived loneliness as compared to others of the same age. The F-test yielded a value of 5.1 and a probability of .0006. This is a significant (p < .05) difference so Tukey's test was computed. Table 44 shows the variable, perceived amount of loneliness, means, and significant groups.

Table 55
Perceived amount of loneliness: means, and significant groups

<table>
<thead>
<tr>
<th>Mean Group</th>
<th>Much &lt; average</th>
<th>Less than average</th>
<th>Average</th>
<th>More than average</th>
<th>Somewhat average</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Much aver.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Less than average</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Average</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 More than average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Somewhat avg.</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 55 shows that the means from those students who perceive themselves to be somewhat less lonely than average, average, and less lonely than average are significantly higher on factor 8 than the mean of those students who see themselves to be much less lonely than average.

A one-way anova was computed on factor 8 by the number of times moved since age 18. The F-test yielded a value of 2.81 and a probability of .0268. This is a significant (p < .05) difference so Tukey's test was computed. Table 56 shows the variable, number of times moved since age 18, means, and significant differences.

<table>
<thead>
<tr>
<th>Number of times moved since age 18:</th>
<th>means, and significant groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-2</td>
</tr>
<tr>
<td>Mean Group</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0-2</td>
</tr>
<tr>
<td>4</td>
<td>3-5</td>
</tr>
<tr>
<td>4</td>
<td>6-8</td>
</tr>
<tr>
<td>5</td>
<td>12 or more</td>
</tr>
<tr>
<td>6</td>
<td>9-11</td>
</tr>
</tbody>
</table>

Table 56 shows that the mean from those who have moved from 9 to 11 times since age 18 is significantly higher on factor 8 than the means from those students who have moved either 0 to 2 times or
3 to 5 times.

A one-way anova was computed on factor 8 by familiarity with neighbors. The F-test yielded a value of 3.44 and a probability of .0096. This is a significant (p < .05) difference so Tukey's test was computed. Table 57 shows the variable, familiarity with neighbors, means, and significant groups.

<table>
<thead>
<tr>
<th>Mean Group</th>
<th>Fairly well</th>
<th>Very well</th>
<th>Somewhat</th>
<th>Not very well</th>
<th>Not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Fairly well</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Very well</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Somewhat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Not very well</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Not at all</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 57 shows that the mean from those graduate students who do not know their neighbors at all is significantly higher on factor 8 than the mean from those students who know their neighbors fairly well.

A one-way anova was calculated on factor 8 by satisfaction with number of close friends. The F-test yielded a value of 3.57 and a probability of .0077. This is a significant (p < .05) difference
so Tukey's test was done. Table 58 shows the variable, satisfaction with number of close friends, means, and significant groups.

Table 58
Satisfaction with number of close friends: means, and significant groups

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Very sat.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Somewhat sat.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Very dis.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Somewhat dis.</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Neither</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 58 shows that the mean of those students who are somewhat dissatisfied with their number of close friends is significantly higher on factor 8 than the mean from those who are very satisfied with their number of close friends.

A one-way anova was computed on factor 8 by the variable, not being needed. The F-test yielded a value of 4.2 and a probability of .0419. This is a significant (p < .05) difference which means that those who circled this item (mean = 6) had a significantly higher mean on factor 8 than did those who did not circle it (mean = 4).

A one-way anova was calculated on factor 8 by the variable,
no one to talk to. The F-test yielded a value of 4.63 and a probability of .0326. This is a significant (p < .05) difference which means that the students who circled this item (mean = 6) had a significantly higher mean than those who did not circle it (mean = 4).

A one-way anova was computed on factor 8 by the variable, being far away from family or friends. The F-test yielded a value of 5.36 and a probability of .0217. This is a significant (p < .05) difference which means that those who circled this item (mean = 6) have a significantly higher mean than those who did not circle it (mean = 4).

A one-way anova was computed on factor 8 by the variable, having no spouse or lover. The F-test yielded a value of 5.12 and a probability of .0255. This is a significant (p < .05) difference which means that those graduate students who endorsed this item (mean = 7) had a significantly higher mean than those who did not endorse it (mean = 4).

These eight variables were found to be statistically significant on factor 8. The other 37 variables on the PAV questionnaire were not significant on factor 8.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The phenomenon of loneliness has only begun to be studied seriously in the past decade. Graduate students, because of the possibility of postponement of autonomy and identity formation, have been identified as a group-at-risk. Yet, there is an inadequate amount of information available to help them. Little is known about the types or causes of the loneliness they experience.

The general purpose of this research was to explore the social phenomenon referred to in the literature as loneliness among graduate students. Specifically, the major purposes were to identify if loneliness was a problem for graduate students and, if it were, some of its associated variables.

The Belcher Extended Loneliness Scale (BELS) and the possible associated variables (PAV) questionnaire were administered to 23 graduate classes (N = 337) at Western Michigan University. A varimax rotation factor analysis was computed to determine if the loadings on the BELS were similar to the loadings from the present data. The loadings were found to be similar on factors 1 and 2, but quite different on factors 3 through 8. While all of Belcher's factors and their items continued to be used as identifying
constructs, it was believed that factors 3 through 8 were measuring some type of concept associated with loneliness but which defied further definition or specification. The raw scores from the BELS were used to compute the relationship with the PAV questionnaire.

One-way anovas were computed for the eight factor scores associated with each of the 45 variables on the PAV questionnaire. The level of significance was set at .05. Tukey's pairwise comparisons were calculated when significant differences were found among the variables. Among significant comparisons, mean scores from the BELS were used to determine the amount of loneliness.

Conclusions

The Belcher Extended Loneliness Scale (BELS)

The BELS was found to be composed of 16 factors instead of eight. Since Belcher's factors were already defined, it was decided to stay with these. However, only the loadings from factors 1 and 2 were sufficiently similar to Belcher's loadings to conclude that they were measuring similar concepts. Factor 1 (pathological loneliness) and factor 2 (alienation) were types of loneliness that graduate students at WMU experienced. Since all significant means associated with factors 1 and 2 were in the lower half of the scales, it must be remembered that the students involved experience mild examples of pathological loneliness and alienation. They experience symptoms rather than disorders or psychoses.

In general, graduate students who feel pathological loneliness
have few or no age appropriate relationships and blame themselves totally for this. They feel unable to establish or maintain a relationship. Graduate students who experience alienation have rejected, or felt a lack of identity with, prevalent social values. They focus on others as the cause of their loneliness.

Factors 3 through 8 did not measure the same concepts as Belcher's factors. They continue to be referred to separately in this study because of the specific item pool associated with each one. They seem to be associated with loneliness but further definition cannot be made. Therefore, these six factors are not as descriptive for the graduate population at WMU as they were for Belcher's undergraduate population. Perhaps graduate students do not feel the anxiety or the same type of anxiety associated with factor 3 as do undergraduate students. Belcher (1973) described loneliness anxiety as "an anxious feeling of being powerless to build satisfactory levels of new relationships" (p. 149). Perhaps the majority of graduate students, being older and more experienced, have more confidence in their ability to develop new relationships.

Belcher (1973) called factor 4 existential loneliness which refers to "the feeling of being basically alone and helpless in the world" (Von Witzelben, 1958). Some graduate students may have come to terms with this feeling or are in a period of their lives when they feel more in control than out of control or helpless. Perhaps estrangement (factor 5) is not an appropriate concept for graduate students because when graduate students have age appropriate relationships, they may tend to find them satisfying
or may have the maturity to make them more satisfying or to seek out new relationships. Anomie (factor 6) may not fit for graduate students because they may know how to relate their behavior and needs to the behavioral expectations, or norms, of society in general. Some of them have been out in the "real world" of work and have experienced more behavioral expectations than an undergraduate student might have considering age and experience.

Loneliness depression (factor 7) may not be appropriate for graduate students because of its hopeless, cynical, and despairing quality. Graduate students have usually freely chosen to continue in school so they may tend to feel more in control than some college students who view college as something they must do to please parents. Finally, separateness (factor 8) may be more of a college-age phenomenon because of how divisive and isolating the previous years of high school socializing can be. Graduate students may feel that they have more in common with each other right from the start because of similar work or college experiences.

Whatever the reasons, these six factors were not as descriptive for the graduate students at WMU as they were for Belcher's undergraduate students. Factors 1 and 2 did correlate with Belcher's factors and many significant differences were found on each of the factors. These differences will be discussed in terms of factor and variable.

The BELS and the PAV Questionnaire

For factor 1, the hypothesis was rejected in the case of the
following variables: marital status, living situation, satisfaction with living situation, perceived amount of loneliness, relationship with mother, amount able to rely on mother and both parents, familiarity with neighbors, number of close friends, satisfaction with number and quality of friendships, having nothing to do, no one to talk to, break-up with spouse or lover, not being needed, being hospitalized, feeling different from everyone else, mentor being available, mentor going out of his/her way, and mentor treating student with respect. The main hypothesis was accepted for factor 1 in the case of the remaining 24 variables (see Table 8).

For factor 2, the hypothesis was rejected in the case of the following variables: marital status, satisfaction with living situation, perceived amount of loneliness, amount able to rely on both parents, familiarity with neighbors, satisfaction with friendship quality, having no spouse or lover, mentor interested in student as a person, mentor supportive of professional development, mentor available, mentor goes out of his/her way, and mentor respects student. The main hypothesis was accepted for factor 2 in the case of the remaining 32 variables (see Table 8).

For factor 3, the hypothesis was rejected in the case of the following variables: college, satisfaction with living situation, perceived amount of loneliness, times moved after age 18, relationship with mother, satisfaction with number and quality of friendships, no one to talk to, far away from family or friends, death of a loved one, and being in a new job or school. The hypothesis was accepted for factor 3 in the case of the remaining
31 variables (see Table 8).

For factor 4, the hypothesis was rejected in the case of the following variables: gender, amount able to rely on both parents, and being in a new job or new school. The hypothesis was accepted for factor 4 in the case of the remaining 42 variables (see Table 8).

For factor 5, the hypothesis was rejected in the case of the following variables: satisfaction with living situation, perceived amount of loneliness, relationship with mother, amount able to rely on both parents, familiarity with neighbors, satisfaction with number and quality of friendships, having nothing to do, no one to talk to, far away from family or friends, having no spouse or lover, not being needed, being hospitalized, feeling different from everyone else, having a mentor in the department, mentor is supportive of professional development, mentor is available, mentor goes out of his/her way, and mentor treats student respectfully. The hypothesis was accepted for factor 5 in the case of the remaining 24 variables (see Table 8).

For factor 6, the hypothesis was rejected in the case of the following variables: satisfaction with living situation, perceived amount of loneliness, relationship with mother, amount able to rely on both parents, familiarity with neighbors, satisfaction with number and quality of friendships, having nothing to do, no one to talk to, feeling different from everyone else, mentor goes out of his/her way, and mentor is respectful. The hypothesis was accepted for factor 6 in the case of the remaining 33 variables.
For factor 7, the hypothesis was rejected in the case of the following variables: gender, marital status, satisfaction with living situation, perceived amount of loneliness, amount able to rely on mother, familiarity with neighbors, satisfaction with number and quality of friendships, break-up with spouse or lover, feeling different from everyone else, mentor available, mentor goes out of his/her way, and mentor is respectful. The hypothesis was accepted for factor 7 in the case of the remaining 31 variables (see Table 8).

For factor 8, the hypothesis was rejected in the case of the following variables: perceived amount of loneliness, number of times moved after age 18, familiarity with neighbors, satisfaction with number of close friends, no one to talk to, far away from family or friends, having no spouse or lover, and not being needed. The hypothesis was accepted in the case of the remaining 37 variables (see Table 8).

Gender was found to be a significant variable on both factor 4 and 7. Males are more lonely on both of these factors. Perhaps they have a more difficult time making friends in graduate school than do females or maybe, if they are not working, they feel the social stigma of being an unemployed male. Either would set the stage for isolation and loneliness. Since these factors are measuring some unknown aspect of loneliness, it is unclear to what the two genders were responding. However, gender does seem to play some part in loneliness.
The specific college at WMU was found to be significant only for factor 3. Those students in the College of Health and Human Services were more lonely in an unspecified way than those in the College of Education. Perhaps class size has something to do with this: the four classes that were visited in the College of Health and Human Services were all much larger and met in more stark and impersonal surroundings than did the five classes visited in Education.

Marital status was significant on four factors. Single and divorced graduate students were more lonely than married students with divorced students being more lonely than singles on factor 1. Single and divorced students may feel more isolated, alone, and bad about themselves because of societal messages that emphasize relationships (Gordon, 1976). Living situation was significant on two factors. Living with a spouse or a spouse and child seems to be associated with less loneliness than living with a parent or a roommate. Perhaps graduate students are able to relate better or feel more comfortable with a spouse who may know them on a deeper level than a parent or roommate.

Satisfaction with living situation was significant on six factors. It seems that feeling at all dissatisfied with the living situation or even feeling only somewhat satisfied, as opposed to very satisfied, can lead to loneliness. Being happy at home seems to be very important to graduate students. Perhaps this is because they spend a lot of time working at home and need a supportive environment.
Perceived amount of loneliness was significant on 7 factors. Graduate students who saw themselves as more lonely than average, as average, and as somewhat more lonely than average turned out to be more lonely on the BELS than those who saw themselves as much less lonely and less lonely than average. Attribution theory may play a part here (Peplau & Goldston, 1984). If these students perceive themselves to be lonely, they may be overly blaming themselves which would interfere with their self-esteem and the subsequent ability to seek out new friends.

Moving after age 18 may play a role in graduate student loneliness. Students who moved between six and 11 times were lonelier than those who had moved zero to five times. Perhaps all the moving taught them that making friends wasn't worth it or maybe they missed out on some of the important developmental steps involved in socialization (Erikson, 1963).

Relationship with mother was significant on four factors. It seems that arguing often with one's mother and feeling as if no relationship exists with her is significant in the development of loneliness later in life. Since the relationship with mother was so chaotic, these graduate students may have no idea of how to go about establishing or maintaining a trusting, caring friendship. Distrusting one's mother would set the precedent on which all future relationships would rest (Rubenstein & Shaver, 1980). It also seems important to be able to rely on both parents. Some graduate students who are lonely today felt that they could not rely on their parents at all when growing up. Again, a supportive and trusting
early environment seems very important.

Familiarity with neighbors was significant on six factors. In order not to be lonely, it seems that graduate students must know their neighbors at least fairly well. Perhaps being acquainted with neighbors leads to a greater sense of connectedness and rootedness for graduate students which would, in turn, tend to combat loneliness (Gordon, 1976).

Satisfaction with a number of close friends was significant on six factors. Those graduate students who were very dissatisfied and somewhat dissatisfied with their number of close friends were lonelier than those who were satisfied. Not only is the number of friendships important to the development of loneliness but also the quality of the friendships. Those students who were very dissatisfied, somewhat dissatisfied, and neither satisfied nor dissatisfied with the quality of their friendships were lonelier than those who were satisfied or even somewhat satisfied. It seems that an important element is missing from some graduate students' relationships, such as a true sense of trust or the ability to freely disclose and be understood.

Having nothing to do, no one to talk to, and not being needed seem to be important elements in the development of loneliness. They may injure the student's self-esteem by making him or her feel unproductive and/or unworthy of a relationship. Graduate students who are far away from family or friends or who have had a break-up with spouse or lover may be going through the grieving process and may be isolating themselves. Those who have no spouse
or lover may feel very inadequate because of society’s message that to be single is to be a failure (Gordon, 1976). This feeling of inadequacy may keep them from trying to meet new people. Feeling different from everyone else was significant on five factors. These graduate students may feel unable to be understood by anyone and are probably keeping themselves very isolated.

Having a mentor who is available and respectful seems to help graduate students not feel lonely. Perhaps they feel that they are important and that they matter when their mentor, who they usually admire, treats them this way. When the mentor also goes out of his/her way for them and seems interested in their professional development, they may feel that they are not alone; there is a trustful person looking out for their best interests. They may also begin to believe in their personal and professional selves more with this kind of interest. Such interest would build, or add to, a sense of self-esteem in the graduate student and would also combat loneliness.

In summary, it seems that selected variables on the PAV questionnaire are significant when investigating graduate student loneliness. These are: marital status, satisfaction with living situation, perceived amount of loneliness, relationship with mother, amount able to rely on both parents, familiarity with neighbors, satisfaction with number and quality of friendships, having no one to talk to, having no spouse or lover, not being needed, feeling different from everyone else, having a mentor who is available, respectful, and who will go out of his/her way for the student.
Recommendations

Four students almost refused to take the BELS because of its sexist language (only the pronoun "he" was used). This should be amended. On the PAV questionnaire, items 11 and 12 about the number of times moved should include an explanation of exactly what constitutes a move. Item 25 about mentors should include a definition of the term "mentor." Further, the answers to the PAV questionnaire should be marked on mark-sense sheets by the students as was the BELS; this had to be done for scoring purposes anyway and it would have been easier to have the students do it at the time of administration rather than the researcher.

The classes involved in the study were originally chosen from The Graduate College Bulletin (1984-1986). At that time, it was unknown how many students would be in each class. Since some classes turned out to have only two or three students, it would be helpful to ascertain the class size before administration. Those classes with a small number could be dropped.

This study can be helpful to counseling psychologists and all mental health professionals who counsel graduate students. These professionals should be aware that loneliness has been identified as a definite problem for some graduate students. It has been linked with certain variables, such as living situation and number of friends, that can serve as warning signals for the possible development or diagnosis of loneliness. The knowledge that some graduate students have experienced pathological loneliness and/or
alienation can aid in the development of treatment plans. Students with pathological loneliness need to focus more of their energy on the environment and how it contributes to their loneliness instead of constantly blaming themselves. Due to the great amount of guilt these students feel, the professional should be aware that they may also be depressed and may need some cognitive-behavioral treatment and/or medication. For graduate students who feel alienated, the focus should shift away from society's responsibility and toward the individual's feelings and behaviors.

This study can also serve to make graduate school faculty more aware of the importance of mentee/mentor relationships. Faculty can combat graduate student loneliness by being available to their students, by treating them in a respectful manner, and by going out of their way at times.

The findings from this study can help graduate students, and all the professionals associated with them, to better understand loneliness and its associated variables.
APPENDIX A

List of Classes
APPENDIX A

College of Arts and Sciences

1. Math 640 - Graph Theory I, Rood Hall, MThF, Dr. G. Chartrand*
2. Psychology 663 - Marital Therapy, Wood Hall, Mon., Dr. M. Robertson*
3. Science Education 625 - Environmental Science Seminar, hours arranged, Dr. G. Mallinson**
4. Anthropology 603 - Seminar in Physical Anthropology, Moore Hall, Mon., Dr. R. Sundick*
5. Psychology 660 - Introduction to Clinical/Community Psychology, Wood Hall, Thurs., Dr. C. Koronakos*

College of Business

1. Accounting 606 - Advanced Financial Accounting, East Hall, MW, Dr. J. Burke*
2. Finance and Commercial Law 608 - Financial Management, West Hall, Wed., Dr. A. Issa*
3. Management 655 - Organization Theory, East Hall, Wed., Dr. Dr. Farrell*
4. Marketing 607 - Marketing Management, West Hall, Thurs., Dr. J. Belonak**
5. Accounting 610 - Seminar in Financial Accounting Theory, East Hall, Mon., Dr. J. Kreuze*

College of Education

1. Counselor Education and Counseling Psychology 674 - Psychological Development, Sangren Hall, Thurs., Dr. E. Trembley*
2. Educational Leadership 609 - Theories of Leadership, Sangren Hall, Tues., Dr. C. Sheffer*
3. Education and Professional Development 601 - Fundamentals of Educational Research, Sangren Hall, Tues., Dr. J. Bosco*
4. Special Education 624 - Fundamentals of Learning Disabilities, Sangren Hall, Mon., Dr. B. Harris*
5. Special Education 635 - Counseling Parents of Exceptional Children and Youth, Sangren Hall, Wed., Dr. D. Sellin*

College of Engineering and Applied Sciences

1. Consumer Resources and Technology 636 - Teaching for Independent Living, Kohrman Hall, MTF, Dr. Ponchillia*
2. Industrial Engineering 640 - Introduction to Manufacturing Administration, Kohrman Hall, Mon., Dr. B. Akers*
3. Paper Science and Engineering 620 - Paper, Printing, and Ink, McCracken Hall, MW, Dr. J. Kline*
4. Consumer Resources and Technology 610 - Nutrition in the Life Cycle, Kohrman Hall, Tues., Dr. M. Pettersons*
5. Paper Science and Engineering 691 - Pulp and Paper Operations II, McCracken Hall, Th., Dr. D. Peterson*

College of Fine Arts

1. Art 641 - Print Workshop/Seminar, hours arranged, Dr. C. Rhodes*
2. Art 640 - Advanced Painting, hours arranged, Dr. D. King**
3. Art 634 - Advanced Textile Design, hours arranged, Dr. H. Moulton**
4. Art 635 - Advanced Multi-Media Art, hours arranged, Dr. L. Rizzolo**
5. Art 630 - Advanced Ceramics, hours arranged, Dr. E. Harkness**

College of Health and Human Services

1. Blind Rehabilitation 664 - Principles of Rehabilitation Teaching, Sangren Hall, MW, Dr. P. Ponchillia**
2. Health and Human Services 650 - Holistic Methods I, Sangren Hall, Thurs., Dr. M. Vass*
3. Occupational Therapy 640 - Theory in Occupational Therapy, Wood Hall, Tues., Dr. D. Smith*
5. Social Work 645 - Social Welfare Policy, Planning, and Administration Technologies, Brown Hall, Mon., Dr. D. Thompson*

* = professors that are willing to participate
** = professors that are unwilling to participate
June 20, 1986

Dear Dr. ____________

I am a doctoral level graduate student in Counseling Psychology at Western Michigan University. I am currently interning at the University of Illinois in Champaign-Urbana. When I return to Kalamazoo in August, I will be ready to collect data for my dissertation on loneliness and graduate students. To obtain this data, I would like to visit certain core graduate classes in each of the six colleges at WMU.

That's where you come in. I would like to visit your ____________ class with the purpose of having your graduate level students fill out two loneliness questionnaires. Together, these questionnaires take about ten minutes to fill out and will measure the extent to which loneliness exists as well as some of its associated variables. The volunteers' names will not be used on the questionnaires, thus, their identities will be protected. The data will be used solely for my dissertation.

Ideally, I would like to visit your class in the beginning of the semester, e.g., in the first half of September. Perhaps immediately preceding your class or immediately following it would be the least disruptive. Please indicate your interest or disinterest on the attached sheet and, using the enclosed envelope, sent it back to me. If you have any questions, please feel free to call me in Illinois at 217-333-3704. Thank you very much for your time.

Sincerely,

Mary Zirpoli, M.A.
I am willing to have Mary Zirpoli visit my class. I understand that she will administer two questionnaires that will measure the extent to which graduate students experience loneliness as well as some of its associated variables. I also understand that all data collected will be kept confidential and participation is voluntary. Mary Zirpoli will contact me by phone before the start of fall semester to determine the exact date and time.

I am not willing to have Mary Zirpoli visit my classroom.

Signed ________________________________
APPENDIX C

Test Packet
APPENDIX C

INFORMATION FORM FOR RESEARCH PARTICIPANTS

A research project is being undertaken at Western Michigan University by Mary Zirpoli of the Western Michigan University Department of Counselor Education and Counseling Psychology. The aim of this project is to find out if graduate students are lonely, what form their loneliness takes, and what some of the associated variables of their loneliness may be. To do this, students who agree to participate will fill out two short questionnaires. The results from these questionnaires will be statistically analyzed. No names will be used so that each student’s identity will be protected.

Each student will indicate their willingness to participate in the study by filling out the questionnaires. It is understood that participation is voluntary, that all information collected is confidential, and that this information will be treated in a professional manner. Each student has the right to not participate or to discontinue participation in the project without penalty.

This project is being conducted as part of a doctoral dissertation. Your cooperation by completing the questionnaires is greatly appreciated. If at any time you have any further questions about this project and your participation, you may contact:

Mary Zirpoli
Department of Counselor Education and Counseling Psychology
Western Michigan University
Kalamazoo, MI 49008
(616) 383-1975
THE BELCHER EXTENDED LONELINESS SCALE

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.

RARELY OR ALMOST NEVER TRUE

1 2 3 4 5 6

TRUE ALL OF MOST Of TIME

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

2. I FEEL LIKE I 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. I DOUBT IF I WILL EVER FIND ANYONE WHO REALLY UNDERSTANDS ME.
39. NICE AS IT MAY SEEM TO HAVE FAITH IN OTHER PEOPLE, IT DOESN'T PAY OFF.
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

Possible Associated Variables Questionnaire

1. What is your age? ______________

2. What is your gender? ______________

3. What is the name of your college? ____________________________

4. Are you presently in a masters or doctoral program? ____________________________

5. How long have you been living in your present community? ________

6. How long have you been at WMU? ________

7. What is your marital status? (Circle one)
   a. Single
   b. Living with a lover
   c. Married
   d. Separated
   e. Divorced
   f. Widowed

8. At present, which best describes your living situation? (Circle one)
   a. Live alone
   b. Single parent with child(ren)
   c. Live with parents
   d. Live with roommate(s)
   e. Live with spouse
   f. Live with spouse and child(ren)
   g. Live with lover
   h. Live with lover and child(ren)
   i. Live with more than two generations of family
   j. Other (Specify: ____________________________)

9. How satisfied are you with the living situation described in #8? (Circle one)
   a. Very satisfied
   b. Somewhat satisfied
c. Neither satisfied or dissatisfied
d. Somewhat dissatisfied
e. Very dissatisfied

10. Compared to people your own age, how lonely do you think you are? (Circle one)
   a. Much lonelier than average
   b. Somewhat lonelier than average
   c. About average
   d. Somewhat less lonelier than average
   e. Much less lonelier than average

11. During the first 18 years of your life, how many times have you moved?
   __________

12. Since the age of 18, how many times have you moved? _______ times

13. Which of the following describes your mother and her relationship with you while you were growing up? (Circle one)
   a. She and I had a warm, loving relationship; we were very close.
   b. She and I had a good relationship; we were fairly close.
   c. She and I had almost no relationship; we were not very close.
   d. She and I had a very conflicted relationship; we argued often.
   e. I didn't live with my mother during most of those years.

14. How much could you rely on your mother for help when you had any kind of problem? (Circle one)
   a. Very much
   b. A fair amount
   c. Some
   d. Not very much
   e. Not at all
   f. Not applicable

15. Which of the following describes your father and his relationship with you while you were growing up? (Circle one)
   a. He and I had a warm, loving relationship; we were very close.
   b. He and I had a good relationship; we were fairly close.
   c. He and I had almost no relationship; we were not very close.
d. He and I had a very conflicted relationship; we argued often.
e. I didn't live with my father during most of those years.

16. How much could you rely on your father for help when you had any kind of problem? (Circle one)
   a. Very much
   b. A fair amount
   c. Some
   d. Not very much
   e. Not at all
   f. Not applicable

17. While you were growing up, how much did you consider your parents to be trusted and secure bases of support? How much could you really count on them? (Circle one)
   a. Very much
   b. A fair amount
   c. Some
   d. Not very much
   e. Not at all

18. How well do you know most of your neighbors? (Circle one)
   a. Very well
   b. Fairly well
   c. Somewhat
   d. Not very well
   e. Not at all
   f. I don't have nearby neighbors

19. Besides members of your family, how many people in your neighborhood or community could you rely on to help you in an emergency? (For example, to take you to the hospital, help you when you are sick, etc.)
   ____________ people

20. At present, about how many close friends would you say you have?
   ____________ friends

21. About how often do you see most of your closest friends? (Circle one)
   a. Every day
   b. Several times a week
   c. Once or twice a week

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22. How satisfied are you with the number of close friends you have? (Circle one)
   a. Very satisfied
   b. Somewhat satisfied
   c. Neither satisfied nor dissatisfied
   d. Somewhat dissatisfied
   e. Very dissatisfied

23. How satisfied are you with the quality of friendships that you have? (Circle one)
   a. Very satisfied
   b. Somewhat satisfied
   c. Neither satisfied nor dissatisfied
   d. Somewhat dissatisfied
   e. Very dissatisfied

24. Listed below are some reasons that various people have given for feeling lonely. If you have been lonely during the past year or so, please circle the major reasons.
   a. Having nothing to do, feeling bored
   b. Being alone
   c. Having no close friends; no one to talk to
   d. Being far away from friends or family
   e. Death of a loved one
   f. Break-up with spouse or lover
   g. Having no spouse or lover
   h. Being in a new job or new school
   i. Not being needed
   j. Coming home to an empty house
   k. Being hospitalized
   l. Moving too often
   m. Feeling different from everyone else, alienated
   n. Other (Specify: ____________________________)

25. Is there a person in your department whom you regard as your mentor? (Circle one)
   a. Yes
   b. No

26. Is there anyone else in this university you regard as your mentor? (Circle one)
a. Yes
b. No

IF YOU ANSWERED YES TO #25 OR #26, PLEASE GO ON TO #27. IF YOU ANSWERED NO TO #25 AND #26, YOU ARE FINISHED WITH THIS QUESTIONNAIRE.

27. My mentor . . . (Please circle the appropriate answer(s))

a. is interested in my progress in the program.
b. is interested in me as a person.
c. is supportive of my development as a professional.
d. is available to me.
e. will go out of his/her way for me.
f. treats me with respect.
g. gives me helpful advice.
APPENDIX D

The BELS 8 Factors
APPENDIX D

The BELS's 8 factors, their items, Belcher's loadings, and the loadings from the present study

<table>
<thead>
<tr>
<th>Item</th>
<th>Belcher's Loadings</th>
<th>Present Study Loadings</th>
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