

Self-Directed Learning, Stress
and
The Adult Learner

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Abstract

The purpose of this correlational study was to investigate the relationship between the degree of self-directed learning readiness and stress for level one nursing students and level two nursing students. One hundred female nursing students participated in the study who were attending an Ontario Community College. Data were collected from the main nursing campus and the satellite nursing campus using the random sample method. Instruments used were said to be valid and reliable for testing self-directed learning readiness and stress respectively. Data were analyzed using frequency response to each item, means and standard deviation, and the Pearson product correlation between self-directed learning readiness and stress. The results of the study show that there is a difference in the relationship between the degree of self-directed learning readiness and stress between the level one nursing students and the level two nursing students. Such results will be of particular interest to nursing instructors and administrators when planning for delivery of programs to such students.

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CHAPTER ONE

Introduction

To be self-directed seems to be one of the main criteria of being an adult learner as discussed by many authors. One would then consider what is self-direction in learning and how does one become self-directed. Brookfield (1981), suggests that self-directed learners are individuals who are able to plan, initiate, and evaluate their own learning experience with or without the assistance of others.

Who is an adult? Malcolm Knowles spoke at a Graduate Conference at Brock University (1988) and raised this question. On my first night of a class in Education 5P23, a course offered through Brock University in January of 1989, the same question was asked by the professor. On both occasions people did not have a clear cut definition of the term. Knowles states, "As I see it, there are four definitions of an adult" (Knowles 1984, p. 55). He speaks of an adult using a Biological definition, which is reaching an age when one can reproduce. The Legal definition is when one is at the age where one can vote, and obtain a driver's license. The Social definition is when one begins to perform adult roles, such as working and getting married. Lastly, Knowles speaks of the Psychological definition, that is, one arrives at a self-concept of being responsible for his/her own life, of being self-directing. Knowles feels that from the aspect of learning, the Psychological definition is

definition is the most important. Knowles feels that developing a self-concept of self-directedness begins early in life and, therefore, "We become adults by degree as we move through childhood and adolescence" (Knowles, 1984, p.55). The degree by which the individual moves from childhood and adolescence may depend on such factors as home life, schools, and participation in youth organizations which allow for increased responsibility. Some individuals do not fully develop their self-concept of self-directedness until they leave school or college and join the work world. Knowles (1980), and others have stated that adult learners are self-directed, but Cranton (1989), states, "the learner with low self-esteem will require considerable support, positive feedback, and respect before he or she can comfortably take responsibility for learning" (p.175).

Although adults are expected to be self-directed and direct a family and make decisions, one finds that when they are in a new learning environment they tend to withdraw and become dependent. Can self-directed learning then become stressful for the adult learner?

Background of the Problem

Student nurses have been told in the past that they must be effective problem solvers, responsible, and be self-directed. More and more nurses are expected to face the challenge in order to work effectively on the wards, in the community, or in doctors' offices. Student nurses are expected to function well in the class and to integrate the cognitive skills with the psycho motor skills. Students often say that they feel stressed because of what they are expected to know and do.

Stress is one of the characteristic features of the adult learner (Brundage and Mackeracher 1980). With the demands placed on the adult students to be self-directed and to be "Miss Perfect" as nursing students, how well will they fare? Knowles (1975), feels that each individual has the ability to be self-directed and, therefore, can be motivated.

Although stress can trigger motivation, too much stress can be destructive. Many studies have been done which particularly examine stress among student nurses (Malarkey 1979, Parkes, 1982, Strauss, 1983). In more recent years, added emphasis has been placed on studies of adult learners, and the degree of stress they encounter as they return to school (Malarkey, 1979).

Purpose of the Study

It is clear that student nurses must be self-directed in order to function well in their chosen profession. As adults they are expected to be effective problem solvers and this is mostly gained by being self-directed. Thus, the purpose of this present study is to ascertain if there is any relationship between the degree of self-directed learning readiness and stress among student nurses.

Rationale

Much research has been documented regarding self-directed learning, the adult learner, and stress. Few studies have been cited which specifically deal with the relationship between self-directed learning readiness and anxiety or stress. Many leaders in adult education over the years (Knowles, Tough, Brookfield) have stressed the importance of self-direction in adult education. Stress has also been discussed by Selye (1956), as a necessary component in a mild form for motivation to occur. One would wonder, at this point, whether or not the degree of stress which motivates the individual depends on the readiness of the individual.

This study focuses on female nursing students in a community college. The research question is: What is the relationship between the degree of self-directed learning readiness and stress among the adult learner in a first and

second year diploma nursing program at a community college?

Glossary of Terms

A glossary is presented to give a clearer understanding of terms used in this paper.

1. Adult learner/student: A student who is 17 years or older and has been out of High School for a least one year (as stated by the college used for this study) and has successfully completed the admission criteria for the Nursing Program.
2. First-year nursing student: A student who has entered the program in September or January of any given year and has not completed the first four required modules in nursing and the necessary electives.
3. Modules: A course of study which is subdivided into units, packages, and objectives.
4. Second-year nursing student: A student who has successfully completed the four required modules in nursing and the necessary electives.
5. Self-assessment test: Tests are made up by faculty which cover specific content in the modules. Students will do these tests and assess their knowledge base by checking the answers in the Learning Resource Centre.

Outline of Subsequent Chapters

Chapter Two deals with the review of the literature as it relates to the theories of adult learning, and a theoretical framework for stress. Other areas deal with research on stress, research on self-direction, and research on nursing students specifically dealing with stress and self-direction.

Chapter Three deals with the methodology of the study. The methodology looks at the research design, sample, instrument, data collection procedure, methods of analyses, and limitations of the study.

Chapter Four outlines the results of the study. Descriptive statistics, frequency of responses, Pearson correlation and results of the hypothesis and sub-hypothesis testing are recorded in tables, figures, and graphs.

Chapter Five gives a summary of the previous four chapters and a discussion of the results of the study. Results were discussed with reference to theory and previous research. Implications for the learner, the instructor, and administration were presented, and, finally, implications based on this study for future research.

CHAPTER TWO

REVIEW OF THE LITERATURE

Theoretical Framework

Theories of Adult Learning

There are many theories cited in the literature which relate to adult learning. All these theories seem to draw from other disciplines such as anthropology, psychology, and sociology, with the most common learning theories from behaviorism, humanism, and cognitivism. One of the most enlightening reviews regarding learning theories was published by Dubin and Okin in which they stated that "no single learning theory is applicable to all educational settings" (Dubin and Okin, 1973, p.3). Based on the work done by Dubin and Okin, it appears that it would be very difficult to have a theory of adult learning that would be acceptable by all those who are involved with adults. Some theories of adult learning will now be discussed with the goal of finding some commonality from which to expand and explore.

Theories of adult learning have been formulated by notable authors such as Cross (1986), Freire (1971), Gagne (1977), Knowles (1978), Mezirow (1978), Rogers (1969), and Tough (1978). There are many similarities in the ideas brought forth by these theorists which strongly outweigh the differences, and it seems reasonable at this point to discuss their work in order to bring together common threads

and also to discuss some differences.

Cross's Model

Cross, in her theory, examines the chain of response (COR) model that one would go through in order to become involved in adult learning. The individual first has to do some sort of self-evaluation by saying, "Do I have the self-esteem and motivation to participate in learning?" Research suggests that people who lack self-confidence might see themselves as failures and this will decrease their self-esteem (Cross, 1986).

The second area of Cross's model looks at attitudes about education. If the individual had a difficult experience in school as a child, then, as an adult, some of the fears, anxieties, and apprehensions of those earlier experiences can still linger. Such an adult will still harbour some bad feelings towards learning. On the other hand, if the learning experience in earlier years were excellent, then, as an adult, the individual can be enthusiastic about adult learning. The attitudes about education can also be enhanced or inhibited by friends and family.

The third area of the model discusses the importance of goals and expectations and how participation will meet goals. The individual's self-esteem is strongly interwoven

in achieving one's goal even though self-confidence might be low. Cross further suggests that if the individual's need to achieve a goal is high, then motivation will be high, but if the need to achieve the goal is not that important, the motivation to achieve will decrease.

The fourth area of the chain of response model (COR) looks at change or transition throughout the lifespan. Cross reminds her readers that recent literature on lifelong learning has given specific attention to life transition. Thus, her model of adult learning points out that although there are gradual transitions in life, there are some more drastic ones such as separation, divorce, the loss of a loved one, or the change of a job, which may cause someone to be involved in adult learning.

The fifth area of Cross's model looks at opportunities and barriers. The sixth area could be combined here-information - and both can be discussed simultaneously. If the individual is motivated to achieve his/her goal, he/she will seek out information that will enhance opportunities to succeed. On the other hand, if the individual is faced with barriers, he or she might not be motivated to seek out other alternatives to gain information that can be of assistance.

The seventh and final area of Cross's model deals with

participation. The chart form of the model shows a feedback mechanism (Cross, 1986, p. 124) which demonstrates that if participation is to occur, then the individual has to do a self-evaluation regarding attitude towards education. The individual's participation, therefore, will aid in achievement of goals.

Cross's model - chain of response - for adult learning seems all-encompassing for adult participation in learning. The focal point of the model deals with opportunities and barriers. The individual has to be informed as to what opportunities are available. After gaining this knowledge, the individual has to identify barriers that might interfere with success. Such barriers could be support systems, finances, or having to attend to a young family. The most important and initial stage of the model is the motivation of the individual. Motivation needs the self-examination and self-evaluation of the learner before participation in adult learning can begin.

Freire's Model

Another theory which relates to adult learning is that of Freire (1971). His theory originates from a socio-cultural background, and gives a humanistic approach to learning. Freire feels that learning is not a neutral process, but as the learners gain new knowledge they no longer remain

passive. The individual uses that knowledge to become an active participant in the wider world. He talks about conscientization which means that the individual discovers himself as being self-oppressed, but learning will change the oppression. For Freire, education is the practice of freedom, and the learner, after gaining knowledge, discovers the self and achieves humanity by acting upon the world to transform it. Freire also believes that the learner should be an actor who creates roles, and not only plays the part because of preparation.

The unique feature of Freire's work deals with his interpretation of culture as it relates to the learning. Because of this uniqueness, his theory has been criticized because it stems from a Marxist model and may not be appropriate for Western society. Freire's theory involves complex ideas which would be more appropriate for teaching adults rather than children (cited in Jarvis, 1983). On the other hand, there are positive aspects to Freire's theory. Freire feels that if the individual gains knowledge, it gives power to allow the individual to no longer remain passive, but to become an active participant in his/her world. Freire, like Cross, talks about the motivation of the individual, and here we see some similarities in their theories. Freire also discusses humanism and sees the individual as making life changes because of knowledge

gained. Cross and Freire are echoing the same points of view as they both refer to the self-esteem of the individual. The self-esteem can be enhanced through new knowledge thereby allowing for personal growth and satisfaction of the participant in adult learning.

Gagne's Theory

Gagne (1977), focuses his theory on cognitive processes and behaviourism. He proposes eight types of learning which are signal learning, stimulus-response learning, motor and verbal chaining, multiple discrimination: concept learning, rule learning, and problem solving. Seven of these types of learning occur as hierarchy, but signal learning occurs at any level of the hierarchy. Signal learning is a type of classical conditioning and can occur in both adults and children.

From Gagne's theory, special attention will be given to two areas which seem to focus more on adult learning. The first is concept learning in which Gagne reminds his readers that developmental psychologists, such as Piaget (1929), claimed that abstract thinking begins mostly in adolescence, so that there should be a different approach to teaching adults as opposed to teaching children. The second is problem solving. Gagne places problem solving at the highest order of the hierarchial structure of his theory.

Gagne feels that the learner resorts to previously learned rules in order to find an answer to a problem. The flexible learner will be open to more suggestions and alternatives in problem solving than the rigid learner. "Problem solving is an approach to learning and teaching used frequently in the education of adults" (cited in Jarvis, 1983, p.96). The problem solving sequence that Gagne sets out in his theory is therefore important for adult educators.

Gagne's theory demonstrates some similarities to Cross's work. Cross discusses "chain of response" in her work while Gagne discusses "stimulus response". Both theorists are saying that a situation must occur to trigger a response. The situation could be a traumatic change such as loss of a job, separation, or divorce. There could be other less dramatic factors, such as wanting a promotion and, therefore, need to return to school in order to compete for a job. For a change to occur, the individual will be motivated because of the need to achieve a goal. Motivation, therefore, seems to be the unifying link between the work of Cross, Freire, and Gagne.

Mezirow's Theory

Mezirow (1978), in his theory, suggests that the individual is in perspective with reality. When this perspective is shifted or transformed due to such factors as

a life crisis, the individual has to plot new strategies in order to cope. The individual may have to return to studying because of a life crisis and therefore has to plot a sequence of events with this life change. In 1971, Mezirow developed a learning cycle which dealt with experience, alienation from prescribed social roles, reframing one's conception of reality and one's place in it. He also dealt with contractual solidarity and re-integration into society with a new perspective. In a later year Mezirow (1981), extended the learning cycle to ten stages from the previous four stages.

Mezirow believes that learning can free the individual from rigid structure in his culture, thereby facilitating a change. He suggests that there are seven different levels of reflection due to the individual's experience, three of which are more likely to occur in adulthood. These are conceptual reflectivity, psychic reflectivity, and theoretical reflectivity. Conceptual reflectivity will assess how well the individual can conceptualize and make a judgment. Psychic reflectivity will assess how intuitive is the individual and the ability to make a judgment based on minimal information. Theoretical reflectivity will determine how well the individual is aware of ideas that will guide and explain personal experiences which will be paramount to perspective transformation. In this type of

transformation, new learning transforms existing knowledge into a new perspective and this frees the learner to make other choices.

Mezirow, like Freire, discusses the importance of the culture and the need to identify and make changes through learning. Mezirow also discusses in his theory levels of reflection which tend to occur in life. There are three specific ones which occur mostly in adulthood (conceptual, psychic, and theoretical reflecting). Mezirow, like Gagne, discusses important levels or stages which occur in adult learning and which only occur because of problem-solving ability and maturity of the adult.

Roger's Theory

Rogers (1969), gives his theoretical perspective of adult learning based on a humanistic psychological viewpoint. He puts great emphasis on the self, self development, and self-direction. Rogers believes in experiential learning because it has a quality of personal involvement, both cognitive and affective. Although experiential learning is initiated by the learner, Rogers recognizes that the teacher is still the facilitator of learning. He goes on further to discuss his theory of experiential learning in which he cites ten principles.

Rogers' theory does not include learning in the wider

context of socio-cultural arena and this weakens the relevance of his work for the adult educator. Although he does not present a holistic approach to adult learning, he still recognizes the importance of self-initiation and self-direction. His work reflects the humanistic views of adult education.

Tough's Theory

Tough (1978), gives a humanistic approach to learning. He feels that adults have the inherent tendency to learn and to be self-directed. Tough has been given recognition for being the first to initiate a study of self-initiated and planned learning (Long, 1983). Tough feels that with self-directed learning, the amount of planning by the learner varies. Some will use programs already prepared, while others will independently identify the questions to which they need answers, and seek the appropriate resources.

Although there has been considerable support for Tough's theory of self-directed learning, others have been critical because there is not a clear ideology of why people are involved in self-directed learning. Tough (1979), has set out to explain why people become involved in self-directed learning and the main thrust seems to be motivation.

Tough's theory, along with other theories of adult

learning discussed here, seems to have some common threads which link them together. The most common thread seems to be that the participants of adult learning demonstrate motivation (Cross, Freire, Gagne, Mezirow, and Rogers). Rogers and Tough agree that the individual is self-directed and, therefore, will seek out learning activities. Cross and Gagne agree that the individual recognizes the need for change which triggers a chain of response or stimulus response. Mezirow and Freire agree that the socio-cultural environment can determine the need to be motivated to learn and make changes within the culture. Cross, Rogers, and Tough recognize that past experience with schooling can either inhibit or enhance the adult learner's self-esteem.

Knowles' Theory

Knowles (1978), in his theory makes a clear distinction between child learning and adult learning. Pedagogy is derived from the Greek word "paid", meaning child. Thus, pedagogy means the art and science of teaching children. Andragogy, on the other hand, means the art and science of helping adults learn. Knowles may be regarded as the father of andragogy. "Although he did not actually invent the term, he has been mainly responsible for its popularization" (Jarvis 1983, p. 90).

Knowles further explains that his theory of adult

learning is based on four assumptions. These assumptions deal with self-concept, experience, developmental readiness, and time perspective. Knowles explains that as the individual matures there is a change in self-concept, therefore, the adult becomes more self-directed. With maturity, the adult gains more experience which becomes a wealth of resource for learning. With maturity comes the readiness to learn because adults are now placed in a situation where they can learn what they want to learn, as opposed to being told what to learn as a child. With maturity, the adult is more oriented towards learning and has a more problem-centred approach, as opposed to a subject-centered approach.

The validity of Knowles' theory has been debated by many educators. A year later, Knowles (1979), himself re-entered the debate where he acknowledged that andragogy and pedagogy were not separate entities, but both can be seen as on a continuum. As the debate of Knowles' theory continues, it has also been criticized and analyzed more than any other theory. For example, Brookfield (1986), points out that the definition of self-direction should not only focus on the external mechanism of the learner, but also on the internal. By viewing the internal action of the learner, the individual can demonstrate autonomy and empowerment. Brookfield critiques the concept of andragogy in his book

"Understanding and Facilitating Adult Learning". Like Knowles, Brookfield feels that the pedagogy and andragogy models may be more useful when not seen as two separate entities, but viewed as on a continuum. Brookfield further notes that important issues in self-directed learning are critical reflections of experience and collaboration among learners and facilitators. Learning is too complex for someone to think that any one approach to learning is better than the other. "Knowles no longer claims andragogy to be unique to adults, thus leaving its status as a theory of adult learning up in the air" (Cross 1981, p 255). Further to Cross's observation of Knowles' theory, it was also noted by Jarvis (1983), that although many positive claims have been made regarding andragogy, it is not a theory, but a philosophy. Although it might be a philosophy, others (Day and Baskett, 1982) have given support to Knowles' work. Both Day and Baskett feel that andragogy is an educational ideology which has gained popularity in the adult learning arena. It is humanistic and this is clearly noted in Knowles' work. "It also focuses upon the self-directed learner and emphasises the place of the self in the learning process, which is very significant to learning theory" (Jarvis 1983, p. 101). Knowles' theory - although there are weaknesses - has been accepted by many and contains some important concepts that are imperative to teaching adults.

Knowles, along with Freire and Gagne, gives a humanistic

approach to the theory of adult learning. Knowles, like Gagne, specifies areas of his theory which will be more suited for teaching children as opposed to teaching adults. Both authors feel that the adult has a more problem-solving, problem-centered approach to learning than children. Knowles and Gagne recognize that the adult becomes more of a problem-solver because of maturity and life experiences.

The controversy related to Knowles' work of andragogy versus pedagogy is somewhat similar to Mezirow's four levels of reflection which tend to occur in childhood. The last three levels of his theory tend to occur in adolescence and adulthood. This would suggest that Mezirow's transformational perspective of adult learning should be of importance to adult educators just as much as Knowles' work.

It is also apparent that Knowles' theory is in keeping with Rogers' view of self-direction. They both feel that if the individual is self-directed, he/she is then motivated to learn.

Some differences among the theorists were alluded to earlier as each theorist was discussed. For example, Cross's model takes a holistic view of the self, while Mezirow and Freire look more at the socio-cultural

dimensions. Knowles and Tough give a more humanistic view, while Rogers gives a more humanistic psychological view of adult learning.

After a discussion of these theorists along with the similarities and differences, it now leaves one with the task of determining which theory is most appropriate as a framework for the study of college students. There is no generalized theory of adult learning, but it has been cited by Flaherty (1971), that all human behaviours are learned and that all learning results in a change of behaviour. She goes on further to discuss the possibility of bringing the concept of "fluid intelligence" and "crystalized intelligence" together to form a theory. Fluid intelligence deals with the influence of biological factors on intelligence such as heredity or injury to brain structures. Crystalized intelligence deals with knowledge gained through past experiences and the ability to use them for problem-solving.

Since it is now clear that there is no generalized theory of adult learning, one has to decide which theory to use as part of a conceptual framework. Knowles' theory of adult learning will be used in this study based on the following: It deals with self-direction and motivation; it demonstrates a humanistic approach to the individual, recognizing the

self-esteem and self-worth of the individual. The individual can be actively involved in her own learning by setting learning objectives and being involved in self-evaluation. Finally, the Mohawk College School of Nursing, on which this study is based, uses Knowles' theory as a part of its model for self-directed learning.

Theories of Stress

Stress, as described by Selye (1956), is a non-specific response of the body to a real or perceived threat to the body or self. Selye divided the response to stress into three stages: first, the alarm response in which hormones secreted by the adrenal cortex rushes into the blood stream; second, the stage of resistance or adaptation when the individual has a build-up of hormones which will allow the person to cope or adapt to the effects of the stimulus. Third, the stage of exhaustion when the individual is unable to cope with the alarm reaction and therefore dies. The response was described by Selye as the General Adaptation Syndrome (GAS).

The non-specificity of the stress response purported by Selye in his theory has been the subject of some controversy. Mason (1971), found that the non-specificity of the pituitary-adrenocortical activity to stress response was not as broad as suggested by Selye. Others, on the other hand, who agree with Selye's theory could say that Mason did not have conclusive evidence to disagree with Selye's theory. Before one can test the non-specificity idea of stress, one should be able to induce stress within the individual with some certainty (Mikhail 1981). Not all demands to the individual are stressful. For some individuals, a situation might be extremely stressful, while

for another individual the same situation might only evoke slight stress.

Stress as a specific syndrome was not supported by other studies. Lacey (1967), was unable to support the idea brought about by Selye that an activation syndrome which involves autonomic and hormonal stress reaction exists. Lacey was able to report that during stress the response varied depending on the nature of the stress and the response of the individual to such stress. Lacey feels that stress is not manifested by a single syndrome - the General Adaptation Syndrome - but by a multiple of patterns which are determined by the situation and the individual's response to it (Lacey 1967). Furthermore, the focus of Selye's theory deals with the adaptive reaction of the body to deal with stress: the General Adaptation Syndrome. It would appear that Selye's theory should be a theory of adaptation and not a theory of stress (Mikhail 1981). His theory only deals with the biochemical or the physiological aspect of the individual.

Lazarus (1966), in his theory of stress, discusses the psychological aspects. Lazarus feels that the individual undergoes stress when the demands of the environment exceeds the resources the individual has to master them. Lazarus supports the idea that psychological stress depends on the

transaction between the individual and his environment. He also reported that "stress is a collective term for the phenomena that produces anxiety, fear, and anger and psychological disorder" (Lee 1987, p. 372)

If one should, therefore, consider the theories of stress discussed by Selye and Lazarus, they seem to be both complementary. "Psychological stress theory outlines the condition which determines the evocation of stress, while Selye's theory describes its form" (Mikhail 1981, p. 14). Thus, to combine both theories of stress gives a different definition to the word. The holistic definition of stress is "a state which arises from an actual or perceived demand-capability imbalance in the organism's vital adjustment action and which is partially manifested by a non-specific response" (Mikhail 1981, p. 14). This new definition encompasses both the physiological and the psychological views of stress.

Spielberger (1966), developed a State-Trait theory of anxiety. He described state anxiety as a current feeling of physical and emotional uneasiness. It is a transitory condition which varies with intensity and fluctuates over time in response to the degree of stress. Trait anxiety examines the proneness of the individual to stress.

Spielberger, like Lazarus, suggests that the word "stress" can be used interchangeably. Spielberger uses such words as "threat" and "anxiety" to mean the same as stress. The response to a non-threatening situation could be stressful for some individuals, while the same situation is not perceived as stressful to another. If the individual perceives the situation as stressful, then there will be an elevation in state anxiety. State anxiety would be low in the individual who does not perceive the situation as stressful. Individuals with high trait anxiety usually view a great number of situations as dangerous and, therefore, respond causing an increase in state anxiety. On the other hand, the individual with low trait anxiety might react to the same situation in such a way as to cause a decrease in state anxiety.

Spielberger's theory of stress and Knowles' theory of adult learning were used as a framework for this study. As noted earlier, the adult learner has many characteristics, of which one is stress. Lewin (1948), in his field theory of learning, made some observations between stress and learning. He made reference to the fact that the housewife is mainly searching; she is groping, beset with fears and anxieties which inhibit learning (Kidd 1978). It is interesting to note that there is a relationship between field theory as applied to learning and the speculations of Selye regarding stress.

Research On Stress

The research studies which are discussed here make reference to stress, anxiety, worry, or tension. As was stated earlier, "stress" will be used interchangeably with the term "anxiety".

The areas of research which will be specifically discussed in this section are: stress related to academic performance and grade point average, support system and role of wife and mother.

Stress Related to Academic Performance and Grade Point Average

Yerkes and Dodson (1908), have done the earliest works related to anxiety and academic performance. Since that time, researchers continue to find a negative correlation between academic performance and many anxiety measures. For example, McKeachie, Pollie, and Speisman (1955), gave half of a group of students answer sheets with spaces in which the students could write anything they wish during a test. The other half of the students were given standard answer sheets with no area to make comments. The students who were given extra space on the answer sheets for comments obtained higher marks than those students who were given standard answer sheets. Thus, it would appear that when students were given a chance to write their comments on paper it was used as an adaptive measure in decreasing anxiety, hence

allowing for less stress on their cognitive abilities.

Based on McKeachie's work, Sarason and Mandler (1952), developed a Test Anxiety Questionnaire (TAQ) on attitudes and experiences in three different kinds of testing situations. These testing situations were in the areas of individual intelligence tests, group intelligence tests, and course examinations. The researchers demonstrated that subjects (Ss) who scored high on the measures of anxiety (HA) had very low aptitude examination scores and, therefore, had a lower predicted grade average than did the Ss who scored low on the measures of test anxiety (LA). It was also noted in the study that the HA group earned higher actual grade averages than LA.

Because the subjects with high anxiety earned a higher grade average than those of lower anxiety, one would wonder if the high anxiety caused increased arousal to improve performance initially; but further increase in arousal may have caused poor performance. Such a performance then would give credence to the Yerkes-Dodson law (1908). The law by Yerkes-Dodson (1908), states that arousal can cause an inverted U function in which an individual can function very well under stress or anxiety; but if the individual is under stress for a long period of time, then the good performance abates.

The Sarason-Mandler study was performed in a private university where the students are of middle to upper socio-economic class and anxiety would be associated with academic performance. All the students would be expected to do well academically, so one wonders if the Saranson-Mandler Study could be generalized to other populations.

A study was also done by Grooms and Endler (1960), in which they examined the effects of anxiety and aptitude on academic achievement. Ninety-one male university students were divided according to their levels of anxiety into three groups: high anxiety (HA), medium anxiety (MA), and low anxiety (LA). The classification into such groups was dependent on the score achieved by doing the Test Anxiety Questionnaire (TAQ) formulated by Saranson-Mandler (1952). The result of the study showed that there was no significant difference between individuals with low anxiety or high anxiety on the aptitude measure (The Penn State Aptitude Exam) used in the study. There was also a negative correlation between test anxiety scores and aptitude measure. The researchers were quick to add, though, that test anxiety could be viewed as a "modifier variable" which promotes the prediction of the actual grade averages from aptitude test results. It was also found from the study that there was no direct relationship between test anxiety and academic achievement.

Covington and Omelich (1987), further examined anxiety related to academic performance. They did a study in which they looked at the anxiety-blockage hypothesis. The researchers gave a series of multichoice quizzes throughout the semester in Psychology to 189 college students. Each quiz consisted of six easy and six difficult questions. One day after the first quiz students were given the same test items as they had on the first day, and were asked to rate them from easy to most difficult on a five point Likert-type scale. Students were given unlimited time to work on the retest quiz. Students were asked to record their stress level and compare it to the first quiz and it was recorded to be lower.

The result of the study done by Covington and Omelich showed that anxiety can inhibit learning, but there is no conclusive evidence to show that anxiety causes poor performance which can lead to failure. "Naturally, such beliefs may be attractive as a means of defensive posturing to preserve a sense of competency in the event of a failure" (Covington and Omelich, 1987, p.398).

At this juncture, there is clear research evidence to support the notion that stress, anxiety, worry, or tension can interfere with the individual's academic performance, but not to the point of failure. Individuals with high

anxiety show some interference with recall when under stress more so than individuals of low anxiety. Some exploration of the state-trait anxiety construct (Spielberger, Gorsuch, and Luschene, 1970) might help to clarify some concerns regarding the innate and/or situational factors which may cause anxiety.

Stress Related to Support System - Role of Wife and Mother

Support system for the individual can decrease stress, while the lack of support can increase stress. A study done by Rice (1979), examined the Support System of sixty females who were married and currently living with their husbands. The study took place in a large midwestern university in the Continuing Education Counselling Centre. The subjects for the study had sought and received continuing education counselling at the same university. The subjects all completed a fifteen item questionnaire which was scored on a six point Likert Scale. The above procedure measured "emotional" support system. The "present instrumental" support system was assessed by asking the number of hours their spouses presently spent in helping them with each of the following areas: household tasks, childcare, and social responsibilities. The final area, "projected instrumental" support, measured the number of hours the wives expected their husbands to help them if they returned to work or school.

The subjects were divided in two groups. One group consisted of those who had traditional sex role orientation, and the other group of those who possessed non-traditional sex role orientation. Brogan and Krutner (1976), define sex role orientation as perceptions of behaviour that are appropriate to gender. Sex role orientation could, therefore, include division of labour in marriage, position for women in decision making and power structure, and traditional and non-traditional employment of men and women. It is apparent, therefore, that some women, although they return to school, will still see their role as one who must take care of the home and family. The result of the survey, therefore, might be based on the values that these women still hold about definite sex roles.

The results of the study showed that the non-traditional sex role orientation group would obtain a greater degree of emotional, present instrumental, and projected spousal support than the traditional sex role orientation group. One might want to further discuss the result of the study as it relates to stress. It is evident at this point that the traditional wives have ingrained in their thought processes certain roles and responsibilities, and for them to move away from such beliefs to return to school would cause stress for them and their spouses. On the other hand, the non-traditional wives would receive support from their

spouses that would aid in relieving stress and promoting increased self-esteem among the women because they have returned to school.

Sources other than spousal support were identified by the subjects who took part in the study. Three quarters (45) rated themselves as the primary source of support in their idea to return to school, while six individuals listed their husbands as the primary source. The second most frequent, was husbands or a female friend, and the third was divided among husbands, children, and a group of friends.

In the study done by Heins, Fahey and Leiden (1984), they looked at the fear of failure stress among medical, law, psychology, and chemistry students (as discussed previously in this paper) they also examined sources of support among the above-mentioned graduate students.

The graduate students were asked to identify at least three sources of help (counsellor, parents or family, spouse or significant other, religious advisor, professional therapist, classmate, professor, or no one) they would seek out for assistance in areas of academic problems, money problems, problems with spouse or significant other, and worry about future career goals. The result of the study showed that all four groups of graduate students chose the

first response to be that of spouse or significant other, second to be classmates for the law and psychology students, while medical and chemistry students chose parents and family. Third was the classmates for medical students, while psychology students chose professors and the law and chemistry students chose parents and family.

It is evident, therefore, that there is some stress related to support systems. The female student returning to school identified stressors related to sex role changes as it relates to household responsibilities and caring for husband and children. The stressors might be positive or negative depending on the perception of the woman as it relates to traditional or non-traditional role of a wife. The graduate students in medicine, law, psychology, and chemistry also identified areas of stress in their lives and have made choices as to whom they would seek out when they need support. It is clear from the research studies that the support of spouse or significant others is highly rated and recognized among the subjects. Classmates (peer) support has also been identified to be of great importance.

Research on Self-Direction

There has been growing research in the area of self-direction for learning. Self-directed learning is a concern in both mandatory and voluntary systems of continuing

education, such as health care business, and management.

Clark and Dickinson (1976), in their study, explored the extent of participation of nurses in self-directed and other-directed learning through continuing education courses, workshops, and conferences. The authors also investigated the nurses' participation in self-planned and self-managed learning situations such as reading and audio-visual resources (self-directed learning activities).

The sample was taken from a population of 1,240 nurses from five general hospitals in the Greater Vancouver area of British Columbia. The nurses were employed either full-time or part-time. The sample was selected using the stratified random sample method. There were 220 usable responses (88%) obtained for the study. A four-part questionnaire was used which comprised 22 questions. Eleven of the questions were classified by 15 continuing nursing-educators as self-directed and the other eleven questions as other-directed. The questions were arranged randomly to minimize any response biases. Each of the 220 nurses surveyed had participated in at least one of the 22 continuing education classes within that year.

The results of the survey indicate a significantly ($p < .01$) positive relationship between learning orientation

and total participation (self-directed or other-directed). A significantly ($p < .05$) positive relationship also existed between occupational orientation and self-directed participation. This showed that nurses who are more motivated to increase their occupational status and prestige are more apt to engage themselves in self-direction for learning. There was also a significantly ($p < .01$) positive relationship between interactive orientation scores and participation scores in total between the self-directed and other-directed learning activities.

From the study, therefore, it was evident that nurses participate to some degree in continuing education. Nurses showed that they prefer to participate more in self-directed than other-directed activities. This shows that nurses are autonomous either by choice or it was bestowed upon them because of the nature of the profession.

A research study done by Savoie (1979), as her dissertation, investigated predictors of success in continuing nursing education courses. The courses required at least 50% self-direction in at least two of three sections of the teaching-learning process. The study was done in Toronto using 152 Registered Nurses as subjects who were enrolled in one of seven continuing education courses.

An information questionnaire and Guglielmino's Self-Directed Learning Readiness Scale (1977) were utilized. Success in the course for each nurse was identified by a percent grade.

The results of the study indicate a positive relationship ($p < .001$) between course grade and self-directed learning readiness. There was also a positive relationship between course grade and concept of self as a self-directed learner. The nurses in the study demonstrated self-direction and autonomy in order to gain further knowledge in their chosen field.

Skaggs (1981), in her dissertation, collected data about the Registered Nurse as a self-learner. She explored the relationship between the Registered Nurse in self-directed learning, loci of control, and readiness for self-directed learning measures.

A random selection of 200 Texas Registered Nurses were surveyed by mail. One hundred and eight (56%) of the nurses responded to the questionnaire. Data were collected by use of Guglielmino's Self-Directed Learning Readiness Scale. Levenson's Powerful Other, and Chance Scales: Self-Directed Learning Activity Survey; and Biographical Data form.

The results of the study indicate a direct positive relationship ($p < .008$) between hours devoted to self-directed learning and scores on Guglielmino's Self-Directed Learning Readiness Scale. However, the hours spent in self-directed learning did not correlate with locus measures. There are other results of the survey which will not be discussed at this time which relate to Levenson's scale and the Biographical Data.

From this study, it is evident that nurses have the self-direction for learning. As stated by Cooper (1978), the need for self-directed learning in nursing is clear. To some degree, if progress is to be made in nursing, then the profession depends on self-directed learning. Nursing covers a large area of practice which involves a large number of people, and nursing practice is always changing. Thus, nurses are preparing themselves to face the challenge and changes by having self-direction in learning.

Brockett (1985), did a survey in which he explored the relationships between the readiness for self-directed learning and perceived role satisfaction. He randomly selected a sample from the population of two residential settings in Syracuse, New York. Total independence is stressed in one of the residences which is an adult long-term care facility. Housekeeping services are looked after

by workers. The other, a public housing complex, is occupied mainly by senior citizens. Sixty-four residents who were about 60 years of age participated in the study.

Two instruments were used to collect data. Guglielmino's Self-Directed Learning Readiness Scale (SDLRS) and Salamon-Conte Life Satisfaction in the Elderly Scale (SCLSES). Some of the participants got assistance and direction in filling out the questionnaire because of considerations such as poor vision, poor reading skills, or the inability to write because of arthritis in the fingers which inhibited manual dexterity.

The results of the survey indicate a statistically significant ($p < .05$) positive relationship between self-directed readiness and life satisfaction. The results suggest that if an individual is high in self-directed readiness, then the person is also high in life satisfaction, while one who is low in self-direction is also low in life satisfaction. However, Brockett's result did not show a strong correlation coefficient ($r^2 = .058$) for the latter. It would appear, therefore, that although not all learners are self-directed, they still feel comfortable and at ease with their achievements in life.

Another study was done by Reynolds (1985), as a doctoral

dissertation. He explored the relationship between part-time students' perception of self-directed learning readiness and their reasons for participation in college education. Ninety-five part-time students from Onondago Community College took part in the study. Mean age of the group was 35.17 years and over 65% of the subjects were female. The instruments used in the study were Guglielmino's (1977) Self-Directed Learning Readiness Scale (SDLRS) and the Education Participation Scale (EPS).

The results of the study indicate a significant ($p < .05$) positive relationship between motivation of cognitive interest and self-directed learning readiness. The study also indicated that females are significantly ($p < .01$) more ready for self-directed learning than males and identified their primary interest for participation in part-time study as their desire to learn.

One would wonder at this time why females show a greater interest in being self-directed learners than males. One factor to be considered here is that females are now becoming more motivated because more are joining or rejoining the work force. For some females, their children are now grown and they have a feeling of emptiness and, therefore, choose learning as a motivating force to build their self-esteem. To return to school gives them a sense

of pride and a feeling of control of their lives.

Taylor (1986), did a survey in which she explored the perspective of her peers in a self-directed course. She felt that self-directed learning was more complex than what one might think. Taylor felt that discussions held over the years about self-directed learning, adult learning, or independent learning did not seem to fully represent her experience as an adult learner.

The research study was done among eight subjects who were involved in a self-directed learning course. The individuals had many years of education and training in such professions as education, social work, library science, nutrition, and counselling before enrolling in the course.

At the outset of the course, the participants were informed that the course was based on self-direction and that each individual had to do a learning contract to identify what they wanted to gain from the course and what strategies they would utilize to achieve their goals.

The result of the survey was based on reports from the learners themselves. Individuals in the study reported a feeling of shock, confusion, and ambivalence. The participants were interviewed on a weekly basis by two researchers throughout the course and once after the course

was completed. Participants were asked to describe their experiences at each weekly session and the information was taped and later transcribed unedited.

The participants in the study were learning how to deal with self-direction but they described to the researcher the transition they were going through in order to become self-directed learners.

Taylor observed from her study that in order for anyone to gain self-direction, the individual goes through four phases. During the first stage the individual goes into the learning environment in a state of equilibrium. As the individual tries to gather information as to what is taking place, there is a stage of transition in which there is disconformation of what is taking place. The second phase is one of disorientation. The individual then begins to doubt his/her abilities and seeks to find out what is the problem by exploration of what is going on, and tries to seek clarification from within the self or through others. In the third phase the individual tries to reorient the self by reflecting on what has taken place in the learning environment. During the final phase the individual is able to share the experience with others and once again return to a state of equilibrium.

The phases identified here are critical stages for self-direction in learning and each individual in the study was able to go through the phases at their own pace. As demonstrated by Taylor on a graph, one subject, during the thirteen week course, was in the stage of disorientation for the first eight and one-half weeks and by the end of the course only reached the exploration stage. Of the eight subjects in the study, only three got to the equilibrium phase, while four were at the stage of exploration by the end of the thirteen weeks. One subject dropped out of the course.

Taylor, in her study, felt that self-directed learning is much more involved than what is seen on the surface. There are areas which are neglected in the literature which are of vital importance to anyone who participates in self-directed learning. There are such areas as emotionality, intuition, rational quality, and politics. With emotionality, Taylor makes reference to the fact that the individual who is engaged in self-directed learning feels that something is lost because there is no clear direction-no blueprint. This gives one the feeling of uncertainty which can lead to decreased self-confidence and decreased self-esteem. Knowles (1970), acknowledges that learning is an internal process controlled by the learner and engaging his/her whole being - including intellectual, emotional, and

physiological functions. Taylor feels that much more discussion of what Knowles really meant should have been elaborated upon in the literature.

Intuition is another area which Taylor felt needed more attention as it relates to self-direction. Intuition is a way of learning but not necessarily a criterion for self-directed learning. In self-directed learning the individual has no frame of reference, thus one has to draw upon intuition to assist in formulating goals and objectives to articulate a learning contract.

Another area of concern to Taylor is the lack of discussion in the literature as it relates to the rational quality of learning for self-direction. During the exploration phase of self-directed learning, the individual is becoming more attuned to what is taking place. The individual is in a collaborative effort with others and has gained insight by sharing his/her thoughts with others. At this time, the individual has gained confidence and satisfaction which might not be evident to the observer. It is, therefore, evident that self-direction for learning is not a "solo flight" but one that needs a lot of collaborative relationships.

The final area of concern in Taylor's discussion of self-

directed learning which she felt is missing in the literature is the politics of learning for self-direction. The learner is in relationship to the instructor, and during this time the locus of responsibility and authority is transformed and redefined from being external to the learner to being an integral part of the inner self of the learner. A clear understanding of the role of the authority and control of the learner becomes the pivotal point in self-directed learning. Here Taylor and Brookfield share similar ideas about their belief in self-directed learning.

It is evident, therefore, from Taylor's research and discussion that there are different phases and stages through which an individual goes to gain self-direction in learning. She identified missing links through her work which she felt are crucial in understanding the individual who is involved in self-directed learning. She felt that the authors involved in self-directed learning neglected to bring these factors more clearly into focus.

Research on Self-Direction Among Student Nurses

Self-direction in nursing education is being used in the Diploma and Baccalaureate nursing programs in some nursing schools in Canada and the United States. The nursing student is being prepared to meet the challenges of nursing

after graduation by being a self-directed learner.

Martens (1981), from Columbus, Ohio did a study in which she explored student nurses' response toward self-directed approach to learning. The student nurses wrote contracts which helped them to assume responsibility for their own learning in their senior level courses. The written contracts identified learning objectives, resources and strategies for learning, evidence of accomplishment, and criteria for evaluation. Students learned in a one-to-one relationship with a nurse preceptor, who guided the student clinically on a daily basis. The nurse preceptor would be one who was employed by the affiliating agency or institution.

In order for Martens (1981), to evaluate the self-directed approach to learning, two questionnaires were developed. One was given to the preceptor, and the other to the student nurse. Forty students (55%) and 53 preceptors (74%) responded to the survey. Among the students who responded to the questionnaire, 34 felt satisfied in developing their own learning contracts, and 38 stated that the learning contract helped to clarify their learning needs. Four students were not pleased with the contract because they felt that it was time consuming. Thirty-three students stated that the contract gave them greater control over their own learning; it was not teacher driven. Thirty-

eight (95%) said that the contract helped them to explain their learning needs to the preceptors.

Most preceptors felt that the learning contracts helped them to be more prepared to assist the students in their identified learning needs. The contracts gave direction as they were easy to follow. Only five preceptors felt that the learning contract was a waste of time.

Marten's Survey, although it could not be replicated because of lack of details and adequate statistical treatment, did demonstrate some good points. The majority of the student nurses were pleased that by doing their own learning contracts they became more self-directed. Their learning needs were made known to the nurse preceptors, who were more prepared to assist them in what they, as student nurses, wanted to learn.

Another study related to self-directed learning was done by Box (1982), in which she determined the differences within and between groups in self-directed learning readiness. She also determined the relationship of self-directed learning readiness with age, sex, and cumulative grade point average.

The study was done among first and second level nursing students and graduates of the Tulsa Junior College Associate

Degree Nursing Program in Tulsa, Oklahoma. The study consisted of 477 subjects, and the instrument used was Guglielmino's Self-Directed Learning Readiness Scale. The 58 item, self-reporting Likert-type questionnaire was done on campus for the level one and level two students, while the graduates responded to the questionnaire by mail.

The result of the study showed no significant differences within and between groups in self-directed learning readiness. There was no significant difference found on self-directed learning readiness between age groups and sex. Box further found in the study a significant relationship between self-directed learning readiness scores and cumulative grade point averages. It can be concluded, therefore, that the nursing students and graduates of Tulsa Community College who had high grade point averages were highly motivated and, therefore, were very much more self-directed in learning.

Further study done by Wiley (1983), explored the effects of a process-oriented, self-directed project and the effects of preference for structure on the self-directed learning readiness of baccalaureate nursing students. The sample was chosen from junior nursing students ($N = 104$) who were enrolled in a second semester nursing course. The nursing students were divided into a control group ($N = 50$) which did

not conduct the self-directed learning (SDL) project and an experimental group (N = 54) which did conduct the SDL project. The instruments used were Guglielmino's (1977) Self-Directed Learning Readiness Scale (SDLRS) and Inventory of Beliefs (IOB) (Stern, Stern and Bloom 1956).

The results of the study show that self-directed process did not result in an overall gain in self-directed learning readiness (SDLR) of the students. An explanation of the results lies in the fact as suggested by Rogers (1969), that a longer treatment period is necessary for students to become adjusted to the self-directed mode. Another explanation is that the nursing students were now in their second semester of the nursing program and by then had learned how to direct their learning without being formally taught the self-directed process. This explanation was supported by the fact that although the experimental group gained an average of 6.0 points in their SDL readiness, the controlled group gained an average of 4.8 points without conducting a SDL project. Although the result of the latter group could be due to the regression effect, there is clear evidence which suggests that the use of learning labs and learning modules may increase students SDL readiness.

It was also concluded from Wiley's study that there was an interaction preference for structure and the experience

of an SDL project. The students who preferred low structure and no experience in a SDL project seemed to gain in SDL readiness. Although there was no conclusive evidence, the result of the data suggests that students who preferred high structure and who experienced a SDL project appeared not to benefit from the SDL readiness. The students who were of high structure could have been annoyed by a low structured learning situation.

Research on Stress Among Student Nurses

Nursing students are expected to demonstrate a high level of responsibility and accountability in their work to all patients in their care. Nursing instructors, in the past, have given student nurses a double message. "We have said: be independent; be risk takers; be change agents; be self-directed in your learning; never make a mistake; there is no room for errors in nursing" (Blainey, 1980, p.33). By giving the student such a message, this increases her level of anxiety and stress. The student nurse finds herself in a stressful situation of trying to be "Miss Perfect". Along with the stress, she is an adult learner with many characteristic features which have to be taken into account. The adult learner is also expected to be self-directed because of her deep psychological desire.

A study done by Garrett (1976), identified, categorized,

and compared experiences which were stressful to student nurses who were completing their first, second, and senior levels of college study. The sample consisted of 111 student nurses who were enrolled in a four-year National League for Nursing accredited collegiate program, affiliated with a State supported medical complex. Garrett utilized the Critical Incident Technique (CIT) developed by Flanagan (1954), and used by Fox and Diamond (1965), in their stress-satisfaction study.

The result of the study showed that the clinical experience was most stressful for student nurses. This represented the dominant theme as the largest frequency of total sample responses involved in the broad category of clinical area. Stressful experiences were largely identified in the subcategory of academic pressures of examinations, papers, schedules, and homework.

In making a comparison of the cross academic levels, it was noted that the greatest responses of first year nursing students involved the clinical area as most stressful, while the junior and senior responses involved personal and academic areas respectively. In the personal column of the inventory, boyfriend problems and concerns about family and/or marriage were major concerns in that category. Within the clinical area, the most stressful experiences

were centred around physical care for the patients and interpersonal relationships with the clinical instructors.

Garrett recommended that more study should be done in this area and, in the future, the stressful situations should be ranked in order of priority so that a better analysis can be done. She also suggests that an additional classification of subjects be made to include married or single. It was found that personal stressful experiences among married students vary.

Another study done by Sobol (1978), explored the relationship between self-actualization and the baccalaureate nursing student's response to stress. She obtained a sample of 144 senior nursing students from four Baccalaureate Schools of Nursing in the New York area. Levels of self-actualization and state and trait anxiety were measured at a time designated to be low in stress and at two other times that were designated as high in stress. Low stress time was established as the week prior to the beginning of a clinical experience, and the time designated as high stress period is the hour prior to a final examination. Instruments used for the study were Shastrom's (1974) Personal Orientation Inventory and the Spielberger State-Trait Anxiety Inventory (1966).

Three hypothesis were formulated, and the outcome of the study supported significant results ($p < .05$), confirming the prediction that level of self-actualization is a factor in determining the individual's perception in evaluating events as stressful. Sobol recommended that further studies are needed in order to generalize the findings in this study looking at nursing students whose characteristic, geographical local, and academic conditions differ from the ones in this study.

Carter (1982), in her work, identified that there was a myth concerning the amount of stress that the female nursing student undergoes as opposed to her female counterpart in other courses of study at the University or College level. Carter did a study in order to dispel some of the myth. Carter wanted to ascertain whether or not there are differences in experienced stress and coping styles between young adult women graduating from College either in nursing or in the liberal arts.

The sample included 103 female nursing students and 103 female liberal arts students. The sample was taken from three baccalaureate schools of nursing and one private undergraduate college of liberal arts for women in a metropolitan area. For the study, four instruments were utilized. First was a ninety-item checklist (SCL-90R) which

measures psychological dimensions such as obsessive-compulsion, anxiety, and psychoticism. Second was the social network index, and the third was a forty-two item coping scale and also a drug survey sheet which had sixteen categories.

The results of the survey showed that for emotional distress both the female nursing students and the female liberal arts students were similar except for psychoticism symptom dimension which was significantly higher ($p < .05$) for the female liberal arts students. Female nursing students depended on their children ($p < .01$) more than the female liberal arts students. The nursing students depended significantly more on friends away from school ($p < .03$) while the liberal arts students depended more on friends at school. These findings are consistent with the social network index, in that the female liberal arts students depended on dormitory counsellors and college administrators more than the female nursing students. Drug use was reported low for both groups.

On the whole, the emotional stress and coping styles for senior baccalaureate nursing students in the study were more alike than different. "This should help to begin to dispel some of the myth related to nursing students" (Carter 1982, p.252) Nursing programs, nursing students, and nursing

faculty are no longer isolated from all the changes occurring in relation to women as it was once perceived to be. Nurses are becoming more assertive and are expected to take their rightful place in society.

Summary

It is evident that there are many theories of adult learning and theories of stress. There is no generalized theory of adult learning but they do show some similarities and differences. Theories of stress as stated by Lazarus (1966), and Selye (1956), both compliment each other. When the theories of Lazarus and Selye are combined, their work seems to give a different definition to the word "stress". Mikhail (1981), gives a holistic definition of the word which encompasses both the physiological and the psychological views of stress. Stress, as stated by Spielberger (1966), can be used interchangeably with threat and anxiety; thus he developed a state-trait theory of anxiety. There are other variables in the life of the adult learner which can lead to stress. These could be stress related to academic performance and grade point average, and stress related to support system. Based on Knowles' theory of adult learning and Spielberger's theory of state-trait anxiety, the purpose of this study is to further investigate the relationship between degrees of self-directed learning readiness and stress among the adult learner in a first and second year diploma nursing program at a community college.

CHAPTER THREE

METHODOLOGY

Overview

In this chapter, the following areas will be discussed: a description of the research method, the research design, and selection of subjects. Other areas include the instruments, data collection procedure, data processing, and statistical analysis. Finally, the potential weaknesses and limitations of the study will be discussed.

Research Design

The research design is correlational. The study is to determine the relationship between the degree of self-directed learning readiness and stress among student nurses. The design is non-experimental consisting of dependent and independent variables. The dependent variable is self-directed learning readiness, while the independent variables are stress, age, grade point average, and grade completed at any educational institution.

Hypothesis: 1. There is a significant relationship between self-directed learning readiness and stress among nursing students.

Sub-Hypothesis: 1(a) There is no difference in the

relationship between self-directed learning readiness and stress between first year nursing students and second year nursing students.

Sub-Hypothesis: 1(b) There is no difference in the relationship between self-directed learning readiness and stress between first year nursing students at the main campus and first year nursing students at the satellite campus.

Sub-Hypothesis: 1(c) There is no difference in the relationship between self-directed learning readiness and stress between level two nursing students at the main campus and level two nursing students at the satellite campus.

Sub-Hypothesis: 1(d) There is no difference in the relationship between self-directed learning readiness and stress between the nursing students at the main campus and the nursing students at the satellite campus.

Selection of Subjects

In order to gain access to selecting the subjects, meetings and discussions were held regarding the proposal. The proposal for the study was presented to selected administrative heads. Based on the organizational chart within the college, the proposal was presented to the chairs of the Nursing Department and the dean of the satellite campus. The proposal was also presented to the Education and Research Department within the college. The ethics committee, chaired by the associate dean of Health Care was

also given a copy of the proposal, after it was discussed with the Chairs. The three administrative heads in the Nursing Department were informed and they, in turn, discussed it with the coordinators and their respective team. Support for the study mounted, and permission was granted by the Ethics Committee to proceed with the study (Appendix 1).

The study population consisted of female nursing students who were enrolled in level one and level two of the Nursing Program at a community college in Ontario.

A simple random sample of 126 students was chosen for the study. Permission was granted to obtain the students' identification numbers through the college computer system, and the numbers were used to choose the sample. The level one students chosen had completed at least one semester in the nursing program; this means that they started the program in September of 1989. Both the main campus and the satellite campus accept students in September, but the main campus also accepts students in January of each year. The students who were accepted at the main campus in January of 1990 were excluded from the study since they only started into the program about two weeks prior to the collection of the data. The sample for the level two nursing students was taken from students who were in semester three, four, or

five of the nursing program. A semester consists of three months, so that means that the level two student nurses in the sample have been in the nursing program for nine months, twelve months, or fifteen months.

The subjects in the study are of various backgrounds. Some students live at home with their parents while others move into the area, close to the main or satellite campus. Some students are single, and are living alone, or sharing an apartment; while others are married, with or without children. For others, their children are now grown, and these students feel that they need to do something for "the self", therefore, they decide to return to school.

All the level one and level two nursing students at the satellite campuses were informed about the study at the same time in a large classroom. At the main campus the students were informed in small groups; because of scheduling, it would have been very difficult to meet them all in a large group. At the information session all students were told about the purpose of the study and that their participation in the study was voluntary. A letter was given to each student to further reinforce what they were told at the information session (Appendix 2). Students were reassured that information collected was confidential and that they should not write their names on the sheets given.

Information would be made available as group data, and copies of the study would be kept at the campus libraries for their perusal.

Of the 126 students chosen, 108 completed questionnaires and information sheets were returned. Of the amount returned, eight had missing data, therefore, 100 completed questionnaires and information sheets were computed.

Instruments

State-Trait Anxiety Inventory

As one of the instruments for this study, the State-Trait Anxiety Inventory (STAI) (Appendix 3) was chosen to measure anxiety. The instrument was developed by Spielberger, Gorsuch, and Lushene (1970).

The State-Trait Anxiety Inventory is a two-part questionnaire consisting of twenty items each, which measure state and trait anxiety. In order to measure state anxiety, twenty items assess "how you feel right now" at this point in time. The other twenty questions assess trait anxiety as to "how you generally feel". Subjects rate themselves on a four point Likert Scale. State anxiety, or stress, measures the amount of anxiety a person perceives when confronted with a stimulus. The stimulus to be dealt with here is the

self-directedness which nurses are expected to possess being adults, the ability to think on their feet, and to be good at problem solving and decision making. Trait anxiety measures how the individual feels generally, or what could be classified under normal conditions.

Reliability

Spielberger, Gorsuch, and Lushene (1970), reported that the reliability of the anxiety scale ranged from .83 to .92.

Dreger (1978), in his critical review of the State-Trait Anxiety Questionnaire, stated that the instrument showed a high degree of reliability. The test was administered to 374 high school juniors, 982 college freshmen, 484 college students enrolled in an Introductory Psychology course, 461 male neuropsychiatric patients, 161 general medical and surgical patients, and 212 prisoners. Norms were presented separately for males and females. Test-retest reliabilities were reported and the high reliabilities (.84 and .76) suggest that the instrument is consistently measuring state and trait anxiety. Alpha reliability coefficients for the normative samples (high school juniors, college freshmen, and Introductory Psychology students) range from .82 to .92 for state scores and .86 to .92 for trait scores.

Validity

Spielberger, Gorsuch, and Lushene (1970), obtained

validity for the State-Trait Anxiety Inventory by giving the questionnaire to 197 undergraduate students under stressful and non-stressful conditions. Validity for trait scores was estimated by correlating the scores with the Manifest Anxiety Scale, and Affect Adjective Check List. Among 126 college women, coefficients were .75, .80, and .52 respectively Dreger (1978).

Katin (1978), in his review of the State-Trait Anxiety Questionnaire, stated that the validity of the instrument has been demonstrated in many studies.

Criticism and Support

Dreger (1978), questioned whether or not the trait scores of the State-Trait Anxiety Questionnaire are related to everyday reality or other measures related to such reality. Dreger further cited that although much research has agreed upon the high validity of the STAI, they cannot be viewed as basic validity studies. The authors of the STAI do, however, provide data from their standardization samples which showed (by Dreger's calculations) that the trait scores are related to real life situations.

On the whole Dreger (1978), feels that the STAI is one of the best instruments which is a standard measure of anxiety. It is a popular test and much reference has been made to its

validity and reliability in the literature. "For instruments of its type it appears to be deservedly popular, in that the reliabilities are nearly as high as one would expect for intelligence scales; it demonstrates expected differences among groups of persons; and its state form generates non-random factor structures when used over time" (Dreger, 1978, p. 1095). The only major fault which Dreger sees with the STAI is its "openness to faking", and that the simplicity of the test will encourage untrained users to rate its validity and reliability on a higher plain.

Katin (1978), in his critical review of the STAI, stated that the use of the questionnaire has been widespread and there is more ongoing research of the STAI than any other anxiety inventory commercially available. The majority of the research tends to postulate that the questionnaire indicates a clear distinction between state and trait anxiety which proved useful for both researchers and clinicians. Katin also cited that "the STAI scale represents a relatively efficient, reliable, and valid way to assess individual differences in both anxiety-proneness and phenomenological experience of anxiety in normal as well as in patient populations" (Katin, 1978, p. 1096).

Self-Directed Learning Readiness Scale

The Self-Directed Learning Readiness Scale (SDLRS)

(Appendix 4) was developed by Guglielmino in 1977. The SDLRS is a self-administered questionnaire with 58 items on a five-point Likert type-scale. The scale is designed so that individuals can assess their skills and attitudes as it relates to self-directed learning. The instrument was developed through a three-round Delphi survey of 14 individuals who are recognized as experts in the field of self-directed learning (Guglielmino 1977). Such experts in the field of adult education included Chickering, Coolican, Houle, Knowles, and Tough (Field 1989). Factor analysis of the instrument revealed the presence of eight factors which are openness to learning opportunities, self-concept as an effective learner, initiative and independence in learning, informed acceptance of responsibility for one's own learning, love of learning, creativity, future orientation, and ability to use basic skills and problem solving skills (Brockett 1985).

Reliability

After revision of the SDLRS, the instrument was administered to 307 persons in Georgia, Vermont, and Canada, and a reliability coefficient of .87 (Cronbach Alpha) was established (Guglielmino 1977). In a study done by Brockett, (1985) he also found the reliability coefficient of the SDLRS to be .87 (Cronbach Alpha).

In a study done by Wiley (1983), she also used the SDLRS as one of her instruments. In her investigation an internal reliability was calculated using the Cronbach Alpha procedure as was done by Guglielmino. The calculated reliability coefficient as recorded by Wiley was .91, indicating a high internal consistency.

It is evident, therefore, that there is a high degree of reliability for the SDLRS. The most recent data analysis is the Pearson split-half reliability (N=3151) which was .94 (Guglielmino, 1989).

Validity

In order to establish the construct validity of the SDLRS, Guglielmino (1977), used three methods: review of the literature, survey of authorities, and an eight-point factor analysis. By use of the modified Delphi technique in a three-round survey of 14 SDL authorities, she asked them to name and rate the characteristics they saw which were of benefit for self-directed learning including abilities, attitudes, and personality characteristics. Among the experts there were a consensus of opinion as reported by Guglielmino. A scale was then developed and tested. Item analysis and factor analysis were used during the item revision.

Long and Agyekum (1983), attested to the validity of the SDLRS. In a sample of 136 black and white students from two southern colleges, Long and Agyekum examined the SDLRS and other factors by utilizing a multitrait - multifactor approach. They concluded that their findings showed support for the validity of the SDLRS; however, because some inconsistency existed between SDLRS scores and faculty rating of each student, the researchers suggest that additional validation studies of the SDLRS be done for future research. This suggestion was also made by Guglielmino (1977), in her description of the SDLRS.

An interesting study done by Mourad and Torrance (1979), provided an analysis of the 58 items within the SDLRS. The study examined the eight-point factor analysis as set out by Guglielmino (1977). A significant correlation between SDLRS and teacher rating was found. Thus, Mourad and Torrance expressed support of the validity of the SDLRS. It is, therefore, clear that other researchers have tested the validity of the SDLRS which are independent of Guglielmino's own work.

About 17 studies have been done which specifically investigate the validity of the SDLRS. A recent meta-analysis of 29 studies using the scales add to its validity,

and reveal positive relationships with self-directed learning activity (.27), autonomy (.22), and growth orientation (.22), and negative relationship with dependence (.12) (McCune, Guglielmino, and Garcia, 1989).

Criticism and Support

Brockett (1983b, 1985), in his critique of the SDLRS, questioned the use of the scale "when exploring beyond the parameters of an institutionally oriented view of self-directed learning" (1983b, p.17) and for adults of low formal, educational attainment. Brockett's concerns will have no impact on the writer's study, since the sample was taken from students in an educational institution who have achieved a high school diploma or equivalent, in order to enter the Nursing Program.

Guglielmino, in response to Brockett's criticism, has now developed a SDLRS version for subjects with lower reading level and lower level of English mastery. The SDLRS -ABE has less than 58 items, a low reading level and "easy to understand" sentence structure.

Field (1989), has been very critical of the SDLRS especially because of the negative items in the questionnaire: for example, "Difficult study doesn't bother me if I am interested in the subject" (item 14) and "I

don't like dealing with questions where there is not one right answer" (item 29). Guglielmino points out that the items are not negative items, but are negatively phrased items. As a matter of clarity she will now refer to the items as reverse items (Guglielmino 1989).

It was further pointed out that the use of reverse items has been a concern for years. It is also stated that subjects can develop a response set when all of the items in a self-report instrument are written in a positive way. (Guglielmino 1989).

On the whole, there is significant support for the SDLRS. "There is strong evidence for the reliability and validity of the SDLRS. While it may not be a perfect measurement tool, it is the best that we have in this area of study" (Long and Agyekum 1988 p. 264).

Data Collection Procedure.

Data collection was done outside of class time. Most faculty members were very cooperative by setting up appointments so that one could meet with students at both campuses. Many faculty members volunteered their time to be debriefed regarding the procedure so that they could assist with the data collection, especially at the main campus. Data collection at the satellite campus was much easier to

obtain because of a smaller student population.

Each student was asked to complete the SDLRS and the STAI. They were again reminded that their participation was voluntary.

Because the nursing program at the college being studied is based on the Self-Directed Learning approach, it was not difficult to introduce the SDLRS as a learning style questionnaire (as stated by Guglielmino) to the students. The STAI was introduced as a self-evaluation questionnaire which examined the participant's stress level under stressful periods (state anxiety) and non-stressful periods (trait anxiety). Students were reminded not to put their names on the questionnaires.

The directions to filling out both the SDLRS and the STAI were clearly written, but someone was available - either a faculty volunteer or the writer - to assist in answering any questions regarding any of the instruments.

The students were also asked to complete an information sheet. Information was requested pertaining to level in the nursing program and at which campus, age, marital status, number of children, and their ages. Further questions included whether or not the subject was living with parents or away from parents, grade completed and grade point average, years out of school, working full time or part

time, any experience working in the health care field, and support among peers and outside of college (Appendix 5).

Data Analysis

The analysis is based on quantitative data. The data which are parametric, are analyzed by standard scales and the statistical model is a correlational relationship between the degree of self-directed learning readiness and stress.

The data were analyzed using (1) frequency responses to each item, (2) breakdown by demographics, (3) means and standard deviation, and (4) Pearson product moment correlation between self-directed learning readiness and stress. All data were analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis was presented in graphs and tables, and these will be discussed in Chapter Four. Further discussion of the analysis will also relate to the research question and direct reference to what has been stated in the review of the literature.

Limitations

Limitation of the study could be that data collection was done at different times during the day. Some students completed the questionnaire prior to class time, while others completed it after class or after a clinical

experience. Such a variation might change the result: especially of the STAI scale. Other variables such as poor performance in class or in the clinical area prior to completing the questionnaire could affect the results of the survey.

As was discussed earlier, a critique of the STAI questionnaire indicated that it could be open to faking. If this is the case, then the instrument does not allow for a true evaluation of anxiety among the student nurses.

The random sample technique was used to collect the data by using the student's identification number. Responses were voluntary and the response rate was excellent - 79%. Although the response was high, the results cannot be generalized across the college because not all programs have such a high admission criteria for their students. However, the results of the survey could be generalized among student nurses of a similar population to the one studied.

CHAPTER FOUR

RESULTS

Introduction

In this chapter, the results of the study will be presented by looking at the means and standard deviations and Pearson correlation co-efficients. The frequency distributions of other variables will be discussed. The final section deals with the research testing for the hypothesis and sub-hypotheses.

Means and Standard Deviations

For the total sample as seen in Table 1, the mean age of the students is 23.9 with a standard deviation of 6.1. For the nursing students in level one, Table 2 shows that the mean age is 23.6 with a standard deviation of 6.0. The level one students are close to the mean and standard deviation of the total sample. Table 3 shows age of the level two nursing students. The mean age of 24.2 is somewhat higher than that of the level one nursing students and the total sample as would be expected, but the standard deviation of 6.3 is in keeping with that of the total sample as the level one nursing students.

The grade completed by the total sample is 12.5 with a standard deviation of 0.8. Grade point average (GPA) for the same group shows 75.6 with a standard deviation of 6.9. The level one students, as seen in Table 2, show a similar

grade completion of 12.5 as that of the total sample with a standard deviation a bit higher of 1.1. GPA for the level one students is 75.7 which is similar to the total sample, but shows a slightly higher standard deviation of 7.1. The level two students in the sample, as described in Table 3, show a grade completion of 12.6 with a standard deviation of 0.5. GPA shows a mean of 75.7 with a standard deviation of 6.7. All figures shown here for the level two students are quite similar to the total sample except the standard deviation of 0.5 for the grade completed among the level two students, where there is a slightly higher score of 0.8 for the total sample.

The SDLRS of the total sample of the nursing students has a mean of 222.2 with a standard deviation of 24.0. As recorded by Guglielmino, the author of the SDLRS, the mean score was 214 with a standard deviation of 25.9. It is evident, therefore, that the mean score of the SDLRS for the nursing students in the sample is higher than that of the standard mean set by Guglielmino and the standard deviation falls below hers (25.9).

Among all the different groups of the nursing students studied the mean for SDLRS (Tables One to Nine) was much higher than what has been stated by Guglielmino. The standard deviation for all the groups were less than what

was found from Guglielmino's work.

The final area to be discussed in Tables 1 to 3 is that of state-trait anxiety. As seen from Table 1, the total sample shows a mean for state anxiety (s-anxiety) as 54.3 with a standard deviation of 11.4. For trait anxiety (t-anxiety) the total sample show a mean of 51.7 with a standard deviation of 8.9. Among the level one nursing students in Table 2, s-anxiety show a mean of 54.8 with a standard deviation of 10.6, and for t-anxiety shows a mean of 51.1 with a standard deviation of 8.2. The total sample for s-anxiety show a lower mean but a higher standard deviation than the level one nursing students. The t-anxiety for the total sample mean and the standard deviation are higher than that of the level one nursing students in the sample. The level two nursing students show in table 3 a mean for s-anxiety to be 53.8 with a standard deviation of 12.2. The t-anxiety shows a mean of 52.4 with a standard deviation of 9.7. The mean for s-anxiety for the total sample is higher than that of the level two nursing students but the standard deviation of 11.4 for the total sample is lower than for the level two students of 12.2. The t-anxiety for the total sample and the standard deviation are lower than that of the level two nursing students.

Table 1

Means and Standard Deviations
of Independent and Dependent Variables
for Total Sample of Nursing Students

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	23.9	6.1
Grade Completed	12.5	0.8
GPA	75.6	6.9
SDLRS	222.2	24.0
STAI(1) S-Anxiety	54.3	11.4
STAI(2) T-Anxiety	51.7	8.9

N = 100

Table 2

Means and Standard Deviations
of Independent and Dependent Variables
for Sample of Level One Nursing Students

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	23.6	6.0
Grade Completed	12.5	1.1
GPA	75.7	7.1
SDLRS	221.4	25.7
STAI(1) S-Anxiety	54.8	10.6
STAI(2) T-Anxiety	51.1	8.2

N = 50

Table 3

Means and Standard Deviations
of Independent and Dependent Variables
for Sample of Level Two Nursing Students

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	24.2	6.3
Grade Completed	12.6	0.5
GPA	75.7	6.7
SDLRS	223.0	22.3
STAI(1) S-Anxiety	53.8	12.2
STAI(2) T-Anxiety	52.4	9.7

N = 50

The findings at the main campus shown in Table 4 indicate that the mean age of the nursing students at that campus is 22.7, with a standard deviation of 4.8. There is quite a difference in Table 5 for the mean age of the nursing students at the satellite campus. At the satellite campus the mean age is 25.0 with a standard deviation of 7.0. This is the highest mean and standard deviation noted so far. These figures exceed those of the total sample (23.9 for the mean, and 6.1 for the standard deviation).

Tables 4 and 5 describe the grade completed and the GPA for the nursing students at the main campus and for those at the satellite campus. The grade completed for the students at the main campus as described in Table 4 is 12.7 with a standard deviation of 0.9. This is slightly higher than for the students at the satellite campus. As described in Table 5, the students at the satellite campus show a grade completion of 12.4 with a standard deviation of 0.8. The grade completed for the group at the main campus is slightly higher than the total sample (12.5). The standard deviations for both the main campus and the total sample are almost the same. The group at the satellite campus show figures similar to that of the total sample group as it relates to grade completed and GPA.

The nursing students at the main campus as shown in Table 4 have a s-anxiety mean of 54.6 with a standard deviation of 11.4. The t-anxiety mean is 51.3 with a standard deviation of 9.4. These scores as compared to the total sample are quite close except the standard deviation for the s-anxiety for the total sample which is 8.9, while that for the students at the main campus is 9.4. The students at the satellite campus as shown in Table 5, have a mean and standard deviation quite close to the total sample for s-anxiety. The t-anxiety mean for the students at the satellite campus is 52.2 with a standard deviation of 8.6. When compared to the total sample the t-anxiety mean is lower than that of the students at the satellite campus, but the standard deviation for the total sample is more than that of the students at the satellite campus which is 8.6.

Table 4
Means and Standard Deviations
of Independent and Dependent Variables
for Sample of Nursing Students at the Main Campus

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	22.7	4.8
Grade Completed	12.7	0.9
GPA	76.1	6.3
SDLRS	221.4	22.8
STAI(1) S-Anxiety	54.6	11.8
STAI(2) T-Anxiety	51.3	9.4

N = 50

Table 5
Means and Standard Deviations
of Independent and Dependent Variables
for Sample of Nursing Students at the Satellite Campus

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	25.0	7.0
Grade Completed	12.4	0.8
GPA	75.2	7.5
SDLRS	223.0	25.4
STAI(1) S-Anxiety	54.0	11.5
STAI(2) T-Anxiety	52.2	8.6

N = 50

Tables 6 and 7 show the mean and standard deviations for age among the level one nursing students. As seen in Table 6, the level one nursing students at the main campus have a mean age of 22.8 with a standard deviation of 6.2. Table 7, on the other hand, shows a higher mean for age of 24.4 among the level one nursing students at the satellite campus but a lower standard deviation of 5.8. The mean age for the level one nursing students at the main campus is less than the total sample mean, but the standard deviation for both samples is similar. The mean age for the level one nursing students at the satellite campus is higher than the total sample mean, but the standard deviation for the level one nursing students is lower than that of the total sample.

The level one students at the main campus, as seen in Table 6, show a mean grade completed of 12.9 with a standard deviation of 1.2. The level one students at the satellite campus show, in Table 7, a grade completed mean of 12.0 with a standard deviation of 0.9. As compared with the total sample, the level one students at the main campus, show a grade completed mean slightly higher than the total sample of 12.5, and a higher standard deviation of 1.2 as compared to the total sample of 0.8. GPA mean for the level ones at the main campus is 76.6 with a standard deviation of 6.1. The GPA mean for the level ones at the satellite campus is 74.6 with a standard deviation of 8.0. In comparison with

the total sample, the level ones at the main campus show a GPA mean higher than the total sample, but the standard deviation is less than that of the total sample. The level ones at the satellite campus, on the other hand, show a lower GPA mean than the total sample, but a higher standard deviation of 8.0 as compared to the total sample of 6.9.

The level one students at the main campus, as shown in Table 6, have a s-anxiety mean of 55.1 which is higher than the total sample mean, but the standard deviation of 10.8 is less than the standard deviation for the total sample of 11.4. The mean and standard deviation for t-anxiety for the level one students at the main campus is similar to the scores of the total sample. The level one students at the satellite campus, as seen in Table 7, have a mean of 54.5 with a standard deviation of 10.6 for s-anxiety and a mean of 50.8 with a standard deviation of 8.0 for t-anxiety. When compared to the total sample, s-anxiety for the level one students at the satellite campus have a similar mean, but the standard deviation for the s-anxiety of the total sample is higher than that of the level one nursing students at the satellite campus. Both the mean and standard deviation for t-anxiety are higher for the total sample than that of the level one students at the satellite campus.

Table 6

Means and Standard Deviations
of Independent and Dependent Variables
for Sample of Level One Nursing Students at the Main Campus

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	22.8	6.2
Grade Completed	12.9	1.2
GPA	76.6	6.1
SDLRS	221.9	23.7
STAI(1) S-Anxiety	55.1	10.8
STAI(2) T-Anxiety	51.4	8.5

N = 25

Table 7

Means and Standard Deviations
of Independent and Dependent Variables for Sample
of Level One Nursing Students at the Satellite Campus

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	24.4	5.8
Grade Completed	12.0	0.9
GPA	74.6	8.0
SDLRS	220.8	28.2
STAI(1) S-Anxiety	54.5	10.6
STAI(2) T-Anxiety	50.8	8.0

N = 25

At both campuses, the level two nursing students' mean age, and standard deviation are represented in Tables 8 and 9. The level two students at the main campus have a mean age of 22.7 with a standard deviation of 3.2. The level two nursing students at the satellite campus show a mean age of 25.6 with a standard deviation of 8.0. Both the mean and standard deviation for the level two nursing students at the main campus are less than the total sample, while the mean and standard deviation of the level two students at the satellite campus show scores in both areas to be higher than that of the total sample.

The level two students at the main campus, as seen in Table 8, and the level two students at the satellite campus as shown in Table 9 have identical mean scores for grade completed and standard deviation (12.6 with a standard deviation of 0.5). The grade completed mean for the level two students at both campuses is similar to that of the total sample mean. The standard deviation for the total sample is a bit higher than that of the two groups of level two students. The G.P.A. mean for the level two students at the main campus is 75.6 with a standard deviation of 6.5, while the level two students at the satellite campus have a G.P.A. mean of 75.8 with a standard deviation of 7.1. The G.P.A. mean scores of the two groups of level two students are quite similar or close to the total sample mean. The

standard deviation of the two groups of level two students differ somewhat from that of the total sample. The standard deviation of the G.P.A. for the total sample is 6.9 while the score for the level two students at the main campus is 6.5 and the level two at the satellite campus is 7.1

The level two nursing students at the main campus, as shown in Table 8, have a mean for s-anxiety of 54.1 with a standard deviation of 12.2. The mean score for s-anxiety is slightly higher for the total sample of 54.3, but the standard deviation for the total sample is lower than that of the level two students at the main campus. The t-anxiety mean for the level two nursing students at the main campus is lower than the total sample. The standard deviation for t-anxiety as seen for the level two students at the main campus is 10.3. This is much higher than the standard deviations for t-anxiety of 8.9 for the total sample.

The level two students at the satellite campus, as seen in Table 9, show a mean of 53.5 for s-anxiety with a standard deviation of 12.4. This mean is lower than that of the total sample but the standard deviation of 12.4 is higher than the total sample mean of 11.4. The t-anxiety mean for the level two nursing students at the satellite campus has a score of 53.5 with a standard deviation of 9.0. These two figures are higher than the mean and standard deviation of the t-anxiety scores for the total sample.

Table 8

Means and Standard Deviations
of Independent and Dependent Variables
for Sample of Level Two Nursing Students at the Main Campus

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	22.7	3.2
Grade Completed	12.6	0.5
GPA	75.6	6.5
SDLRS	220.8	22.4
STAI(1) S-Anxiety	54.1	12.2 -
STAI(2) T-Anxiety	51.0	10.3

N = 25

Table 9

Means and Standard Deviations
of Independent and Dependent Variables for Sample
of Level Two Nursing Students at the Satellite Campus

DESCRIPTIVE STATISTICS		
Variables	Mean	S.D.
Age	25.6	8.0
Grade Completed	12.6	0.5
GPA	75.8	7.1
SDLRS	225.3	22.6
STAI(1) S-Anxiety	53.5	12.4
STAI(2) T-Anxiety	53.5	9.0

N = 25

Frequencies of Responses

For the study, other variables were considered which may have an impact. Frequencies of responses as seen in Table 10 were collected for the total sample in the study. Tables 11 and 12 show responses of the level one and level two nursing students respectively. Tables 13 and 14 show the responses of the nursing students at the main campus and the satellite campus respectively. Tables 15 and 16 show the responses of the level one nursing students at the main campus and level one nursing students at the satellite campus. Tables 17 and 18 show the responses of the level two nursing students at the main campus and level two nursing students at the satellite campus respectively.

As seen in Table 10 for the total sample, 23% of the students surveyed are married and 2% are separated or divorced. There are 43 children among the students with 37% under five years old. Forty-seven percent of the students still live at home with their parents. About 50% of the students work part-time, and 53% have had experience in the health care field.

Forty-five percent of the students feel that they get very good support from their peers while 29% get excellent support. A similar 45% feel that they get very good support from outside the college while 34% feel that they get

excellent support. Tables 11 to 18 can be referred to for frequency responses for groups according to campus and level in the program.

Pearson Correlation Coefficient

The correlation between self-directed learning readiness and stress was examined as seen in Table 19. One must be reminded here that stress and anxiety were already established as terms that will be used interchangeably. As seen for the total sample, there is a negative correlation between trait anxiety and self-directed learning readiness ($r = - .280$) for the nursing students.

There is a negative correlation between trait anxiety ($r = - .406$) and SDLR for the nursing students in level one. By examination of the results for the level one nursing students by campus, it was noted that the level one nursing students at the satellite campus (campus two) show a high negative correlation between trait anxiety and SDLR ($r = - .606$).

The level two students at the main campus, on the other hand, show a moderate negative correlation between state anxiety and self-directed learning readiness ($r = - .524$).

Table 10
Frequencies of Responses and Percentage for other Variables
for Total Sample

N=100		
Other Variables	Frequency	%
1. <u>Marital Status</u>		
Single	74	75
Married	23	23
Separated/Divorced	2	2
No Response	1	-
2. Number of Children	43	-
3. Children < 5 years old	16	37
4. Children > 5 years old	27	63
5. Nursing Students Living with Parents	47	47
6. <u>Years of College Completed</u>		
< 1 year	39	39
1 - 5 years	61	61
7. <u>Years out of School</u>		
< 1 year	52	52
1 - 5 years	24	24
6 - 10 years	12	12
11 - 20 years	8	8
> 21 years	4	4
8. Work Part-time	48	48
9. Work Full-time	1	1
10. Experience in Health Care Field	53	53
11. <u>Support System Among Peers</u>		
Excellent	29	29
Very Good	45	45
Good	19	19
Fair	7	7
Poor	-	
12. <u>Support System Outside College</u>		
Excellent	34	34
Very Good	45	45
Good	15	15
Fair	5	5
Poor	1	1

Table 11
Frequencies of Responses and Percentage for other Variables
for the Level One Nursing Students

N= 50

<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	36	72
Married	12	24
Separated/Divorced	2	4
No Response	-	-
2. Number of Children	24	-
3. Children < 5 years old	7	29
4. Children > 5 years old	17	71
5. Nursing Students Living with Parents	21	42
6. <u>Years of College Completed</u>		
< 1 year	30	60
1 - 5 years	20	40
7. <u>Years out of School</u>		
< 1 year	23	46
1 - 5 years	11	22
6 - 10 years	9	18
11 - 20 years	5	10
> 21 years	2	4
8. Work Part-time	26	
9. Work Full-time	-	
10. Experience in Health Care Field	29	58
11. <u>Support System Among Peers</u>		
Excellent	15	30
Very Good	21	42
Good	12	22
Fair	3	6
Poor	-	
12. <u>Support System Outside College</u>		
Excellent	19	38
Very Good	22	44
Good	6	12
Fair	3	6
Poor	-	

Table 12
Frequencies of Responses and Percentage for other Variables
for the Level Two Nursing Students

N= 50		
<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	38	78
Married	11	22
Separated/Divorced	-	-
No Response	1	-
2. Number of Children	19	-
3. Children < 5 years old	9	47
4. Children > 5 years old	10	53
5. Nursing Students Living with Parents	26	72
6. <u>Years of College Completed</u>		
< 1 year	9	18
1 - 5 years	41	82
7. <u>Years out of School</u>		
< 1 year	29	58
1 - 5 years	13	26
6 - 10 years	3	6
11 - 20 years	3	6
> 21 years	2	4
8. Work Part-time	26	52
9. Work Full-time	1	2
10. Experience in Health Care Field	24	48
11. <u>Support System Among Peers</u>		
Excellent	14	28
Very Good	24	48
Good	8	16
Fair	4	8
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	15	30
Very Good	23	46
Good	9	18
Fair	2	4
Poor	1	2

Table 13
Frequencies of Responses and Percentage for other Variables
for the Nursing Students at the Main Campus

N= 50		
<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	41	82
Married	8	16
Separated/Divorced	1	2
No Response	-	-
2. Number of Children	12	-
3. Children < 5 years old	3	25
4. Children > 5 years old	9	75
5. Nursing Students Living with Parents	22	44
6. <u>Years of College Completed</u>		
< 1 year	17	34
1 - 5 years	33	66
7. <u>Years out of School</u>		
< 1 year	33	66
1 - 5 years	11	22
6 - 10 years	2	4
11 - 20 years	2	4
> 21 years	2	4
8. Work Part-time	28	56
9. Work Full-time	1	2
10. Experience in Health Care Field	26	52
11. <u>Support System Among Peers</u>		
Excellent	10	20
Very Good	25	50
Good	10	20
Fair	5	10
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	15	30
Very Good	26	52
Good	8	16
Fair	1	2
Poor	-	-

Table 14
Frequencies of Responses and Percentage for other Variables
for the Nursing Students at the Satellite Campus

N= 50

<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	33	62
Married	15	31
Separated/Divorced	1	2
No Response	1	-
2. Number of Children	31	-
3. Children < 5 years old	13	42
4. Children > 5 years old	18	58
5. Nursing Students Living with Parents	25	50
6. <u>Years of College Completed</u>		
< 1 year	22	44
1 - 5 years	28	56
7. <u>Years out of School</u>		
< 1 year	19	38
1 - 5 years	13	26
6 - 10 years	10	20
11 - 20 years	6	12
> 21 years	2	4
8. Work Part-time	24	48
9. Work Full-time	-	
10. Experience in Health Care Field	27	54
11. <u>Support System Among Peers</u>		
Excellent	19	38
Very Good	20	40
Good	9	18
Fair	2	4
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	19	38
Very Good	19	38
Good	7	14
Fair	4	8
Poor	1	2

Table 15
Frequencies of Responses and Percentage for other Variables
for the Level One Nursing Students at the Main Campus

N= 25

<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	21	84
Married	3	12
Separated/Divorced	1	4
No Response	-	-
2. Number of Children	7	-
3. Children < 5 years old	2	29
4. Children > 5 years old	5	71
5. Nursing Students Living with Parents	9	36
6. <u>Years of College Completed</u>		
< 1 year	13	52
1 - 5 years	12	48
7. <u>Years out of School</u>		
< 1 year	16	64
1 - 5 years	4	16
6 - 10 years	2	8
11 - 20 years	1	4
> 21 years	2	8
8. Work Part-time	14	56
9. Work Full-time	-	-
10. Experience in Health Care Field	15	60
11. <u>Support System Among Peers</u>		
Excellent	6	24
Very Good	10	40
Good	6	24
Fair	3	12
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	9	36
Very Good	11	44
Good	4	16
Fair	1	4
Poor	-	-

Table 16
Frequencies of Responses and Percentage for other Variables
for the Level One Nursing Students at the Satellite Campus

N= 25		
<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	15	60
Married	9	36
Separated/Divorced	1	4
No Response	-	-
2. Number of Children	17	-
3. Children < 5 years old	7	41
4. Children > 5 years old	10	59
5. Nursing Students Living with Parents	12	48
6. <u>Years of College Completed</u>		
< 1 year	17	68
1 - 5 years	8	32
7. <u>Years out of School</u>		
< 1 year	7	28
1 - 5 years	7	28
6 - 10 years	7	28
11 - 20 years	4	16
> 21 years	-	-
8. Work Part-time	12	48
9. Work Full-time	-	-
10. Experience in Health Care Field	14	56
11. <u>Support System Among Peers</u>		
Excellent	9	36
Very Good	11	44
Good	5	20
Fair	-	-
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	10	40
Very Good	11	44
Good	2	8
Fair	2	8
Poor	-	-

Table 17
Frequencies of Responses and Percentage for other Variables
for the Level Two Nursing Students at the Main Campus

N= 25

<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	20	80
Married	5	20
Separated/Divorced	-	-
No Response	-	-
2. Number of Children	5	-
3. Children < 5 years old	3	60
4. Children > 5 years old	2	40
5. Nursing Students Living with Parents	13	52
6. <u>Years of College Completed</u>		
< 1 year	4	16
1 - 5 years	21	84
7. <u>Years out of School</u>		
< 1 year	17	68
1 - 5 years	7	28
6 - 10 years	1	4
11 - 20 years	-	-
> 21 years	-	-
8. Work Part-time	14	56
9. Work Full-time	1	4
10. Experience in Health Care Field	11	44
11. <u>Support System Among Peers</u>		
Excellent	4	16
Very Good	15	60
Good	4	16
Fair	2	8
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	6	24
Very Good	15	60
Good	4	16
Fair	-	-
Poor	-	-

Table 18
Frequencies of Responses and Percentage for other Variables
for the Level Two Nursing Students at the Satellite Campus

N= 25		
<u>Other Variables</u>	<u>Frequency</u>	<u>%</u>
1. <u>Marital Status</u>		
Single	18	75
Married	6	25
Separated/Divorced	-	-
No Response	1	-
2. Number of Children	14	-
3. Children < 5 years old	6	43
4. Children > 5 years old	8	57
5. Nursing Students Living with Parents	13	52
6. <u>Years of College Completed</u>		
< 1 year	5	20
1 - 5 years	20	80
7. <u>Years out of School</u>		
< 1 year	12	48
1 - 5 years	6	24
6 - 10 years	3	12
11 - 20 years	2	8
> 21 years	2	8
8. Work Part-time	12	48
9. Work Full-time	-	-
10. Experience in Health Care Field	13	52
11. <u>Support System Among Peers</u>		
Excellent	10	40
Very Good	9	36
Good	4	16
Fair	2	8
Poor	-	-
12. <u>Support System Outside College</u>		
Excellent	9	36
Very Good	8	32
Good	5	20
Fair	2	8
Poor	1	4

Table 19

Correlation between SDLRS and Anxiety

Variables	Anxiety	r
Total Sample	STAI (1)	-.248
	STAI (2)	-.280*
Level 1	STAI (1)	-.254
	STAI (2)	-.406*
Level 2	STAI (1)	-.242
	STAI (2)	-.173
Level 1 Campus 1 (Main Campus)	STAI (1)	-.001
	STAI (2)	-.178
Level 1 Campus 2 (Satellite Campus)	STAI (1)	-.502
	STAI (2)	-.606*
Level 2 Campus 1 (Main Campus)	STAI (1)	-.524*
	STAI (2)	-.322
Level 2 Campus 2 (Satellite Campus)	STAI (1)	-.008
	STAI (2)	-.079
Campus 1 (Main Campus)	STAI (1)	-.252
	STAI (2)	-.250
Campus 2 (Satellite Campus)	STAI (1)	-.245
	STAI (2)	-.322

* p < .01

STAI (1) - state-anxiety
 STAI (2) - trait-anxiety

Findings of Hypothesis One

Hypothesis one states:

1. There is a significant relationship between self-directed learning readiness and stress among nursing students.

As seen in Table 1, the mean score for the total sample for SDLR is 222.2 with a standard deviation of 24. Guglielmino (1977), reported a mean of 214, with a standard deviation of 25.59. This means that the total sample for the nursing students having a higher mean than 214 and a standard deviation within range, is in keeping with Guglielmino's results.

The trait anxiety mean for the total sample of the nursing students is 51.7 with a standard deviation of 8.9 as seen in Table 1. These results are moderate but lower than the state anxiety score.

As stated by Spielberger (1966), state anxiety is a current feeling of physical and emotional uneasiness. It is a transitory condition which fluctuates and varies in intensity depending on the degree of stress. Trait anxiety, on the other hand, is the general process of the individual to react under any type of stressful situation.

The nursing students in the sample show a significant negative correlation ($r = - .280$) between trait anxiety and SDLR. There is no significant correlation between state anxiety and SDLR.

Hypothesis One was partially supported.

Findings of Hypothesis One (a)

Hypothesis One (a) states:

1.(a) There is no difference in the relationship between self-directed learning readiness and stress between first year nursing students and second year nursing students.

Among the level one students, as shown in Table 2, the mean for SDLR is 221.4 which is higher than the mean of 214 as stated by Guglielmino. The standard deviation is 25.7 which is slightly higher than Guglielmino's of 25.59. The t-anxiety score is moderate at 51.1 with a standard deviation of 8.2. For the level one students when these scores are compared to the level two nursing students in Table 3, the mean for SDLR is 223.0 which is higher than that of the level one students. The standard deviation for the level two students is 22.3 which is lower than that of the level one students which is 25.7. The t-anxiety mean is 52.4 with a standard deviation of 9.7. The t-anxiety mean score is higher than that of the level one students also

with a higher standard deviation.

As shown in Table 19, the level one students show a moderate negative correlation ($r = - .406$) between SDLR and trait anxiety. The level two students, in comparison, do not show a significant relationship between SDLR and anxiety. It would appear that as SDLRS increased as seen for the level two students, the level of anxiety decreased as seen in Table 19.

Sub-hypothesis One (a) was partially supported.

Findings of Hypothesis One (b)

Hypothesis One (b) states:

1.(b) There is no difference in the relationship between self-directed learning readiness and stress between first year nursing students at the main campus and first year nursing students at the satellite campus.

The mean for SDLR for the level one students at the main campus, as seen in Table 6, is 221.9 with a standard deviation of 23.7. The results of the level one students at the satellite campus, as shown in Table 7, have a SDLR mean of 220.8 with a standard deviation of 28.2. The mean for the two groups for SDLRS for the level one students at both campuses is much higher than the mean of 214 suggested by

Guglielmino. The level one students at the satellite campus show a wider margin for standard deviation than Guglielmino's of 25.59.

As seen in Table 19, the level one students at the main campus do not show a significant relationship between SDLRS and anxiety: unlike the level one students at the satellite campus, who show a significantly high negative correlation ($r = - .606$) between SDLRS and t-anxiety.

It should also be noted that the t-anxiety mean for the level one students at the satellite campus is 50.8 with a standard deviation of 8.0. The t-anxiety mean for the level one students at the main campus is 51.4 with a standard deviation of 8.5. The level one students at the satellite campus show a lower mean than their counterparts at the main campus.

Sub-hypothesis One (b) was partially supported.

Findings of Hypothesis One (c)

Hypothesis One (c) states:

1.(c) There is no difference in the relationship between self-directed learning readiness and stress between level two nursing students at the main campus and level two nursing students at the satellite campus.

The level two nursing students at the main campus show, in Table 8, a mean for SDLR as 220.8 with a standard deviation of 22.4. The level two nursing students at the satellite campus show in Table 9 a mean for SDLR as 225.3 with a standard deviation of 22.6. These means are higher than the mean shown by Guglielmino, and these standard deviations are in keeping with that of the SDLRS done by Guglielmino.

The s-anxiety mean score for the level two students at the main campus is 54.1 with a standard deviation of 12.2. The mean s-anxiety score for the level two students at the satellite campus is 53.5 with a standard deviation of 12.4. The mean s-anxiety score for the main campus for level two is higher than the satellite campus, but the standard deviation for the main campus is slightly lower than for the satellite campus.

As seen in Table 19, the level two nursing students at the main campus show a significantly negative correlation ($r = -.524$) between SDLRS and s-anxiety. The correlation between SDLRS and stress for the level two nursing students at the satellite campus is not significant.

Sub-hypothesis One (c) was partially supported.

Findings of Hypothesis One (d)

Hypothesis One (d) states:

1.(d) There is no difference in the relationship between self-directed learning readiness and stress between the nursing students at the main campus and the nursing students at the satellite campus.

The nursing students at the main campus show, in Table 4, a mean for SDLR of 221.4 with a standard deviation of 22.8. The nursing students at the satellite campus show, in Table 5, a mean for SDLR of 223.0 with a standard deviation of 25.4. As compared to Guglielmino's scale, the SDLR scores for these groups studied are higher than that of the Guglielmino score of 214. The standard deviations above are in keeping with 25.59 found by Guglielmino. The s-anxiety and the t-anxiety scores for the students at the main campus and the satellite campus show that the means and standard deviations are comparable to the ones discussed thus far. Table 19 shows that there is no significant correlation between SDLRS and stress for the nursing students at the main campus and for the nursing students at the satellite campus.

Sub-hypothesis One(d) has been supported.

Conclusion

The result of the correlation between SDLR and stress was presented for the hypothesis and sub-hypotheses.

The main hypothesis was partially supported as there is a relationship between SDLR and stress (trait anxiety) among the nursing students. The sub-hypothesis 1(d) was supported because there was no significant relationship between SDLR and stress between the nursing students at the main campus and the satellite campus.

Sub-hypothesis One(a), One(b), and One(c) were partially supported in that level two nursing students, level one nursing students at the main campus, and level two nursing students at the satellite campus did not show a significance in the relationship between SDLR and stress. Findings of the analyses will be discussed further in Chapter Five.

CHAPTER FIVE

DISCUSSION

Introduction

The purpose of the study was to ascertain the relationship between the degree of self-directed learning readiness and stress among the adult learner in a first and second year diploma nursing program. This chapter will give a summary of the findings, specific aspects of the findings as they relate to theory and previous research, practical implications of the study, implications for administration, and implication for future research.

Summary of the Findings

The relationship between SDLR and stress among nursing students was partially supported. Although the relationship was modestly negative, it was significant. There was no finding to support that there is no difference in SDLR between level one nursing students and level two nursing students.

The level one students at the satellite campus show a high negative correlation between SDLR and stress while the results for the level one students at the main campus were not significant.

The level two students at the main campus show a moderately negative relationship between SDLR and stress.

The level two students at the satellite campus, on the other hand, show a result which was not significant. The prediction that there was no difference between students at the main campus and the satellite campus was substantiated.

Specific Aspects of the Findings

Hypothesis One suggested that there is a significant relationship between self-directed learning readiness and stress among nursing students. The hypothesis was partially supported in that there is a negative correlation between SDLR and t-anxiety. Trait anxiety measures the proneness of the individual to stress.

The results of the total sample for the nursing students show a mean score for SDLR as being average. As seen in Figure 1, 64% of the students in the total sample fell above the mean established by Guglielmino. This means that the students are likely to be successful in situations requiring independence. The s-anxiety and t-anxiety scores for the group were moderate, which shows that the students were not highly stressed.

In trying to integrate the theoretical perspective of the review of the literature, it was noted that motivation plays a key role in self-directed learning. Cross (1986), Freire (1971), Gagne (1977), Knowles (1978), Mezirow (1978), and

Rogers (1969), all discussed that self-directed learners are motivated and will, therefore, seek out new learning opportunities. Stress, therefore, has been noted from this study to be a negative variable for SDLR.

A research study was done by Martens (1981), to evaluate nursing students' self-directed approach to learning. She found that by use of a learning contract, the majority of nursing students reported that they were satisfied in being able to have control over their own learning; it was not teacher driven. Martens' study, therefore, supports the notion that if students are involved in self-directed learning, then they can be less stressful individuals. Four students in Martens' study were not in favour of the learning contract, and, as stated by Guglielmino (1977), not all individuals will be happy, prepared, or ready for self-directed learning. For these individuals an alternate mode of learning will prove to be more beneficial.

Hypothesis One(a) suggested that there is no difference in the relationship between self-directed learning readiness and stress between first year nursing students and second year nursing students. This hypothesis was partially supported in that there is no significant relationship between SDLR and stress for the level two nursing students, but for the level one nursing students there is a modestly

negative relationship between SDLR and t-anxiety. The mean score for SDLR for the level one nursing students is lower than that of the level two nursing students. The standard deviation for the level one nursing students is higher than the level two nursing students. Although both mean scores are above the mean set by Guglielmino, it would appear that the level two nursing students are more prepared for SDLR than the level one students. Figure 2 shows that 64% of the level one nursing students fall above Guglielmino's stated mean of 214, while 67% of the level two students shown in Figure 3 fall above the same mean.

Although the level one nursing students show a readiness for self-directed learning, the significance of the negative stress as it correlates with SDLR needs some discussion. As stated by Rogers (1969), the students might need a longer treatment period which is necessary in order to become adjusted to the self-directed mode. Because the students are in level one, they are still showing some degree of stress that can slightly inhibit their performance. Brundage and Mackeracher (1980), suggest that when stress becomes unmanageable the individual will go through different phases until finally reaching a stage of depression and apathy.

Figure 1.

Graph of SDLRS for Total Sample of
Nursing Students

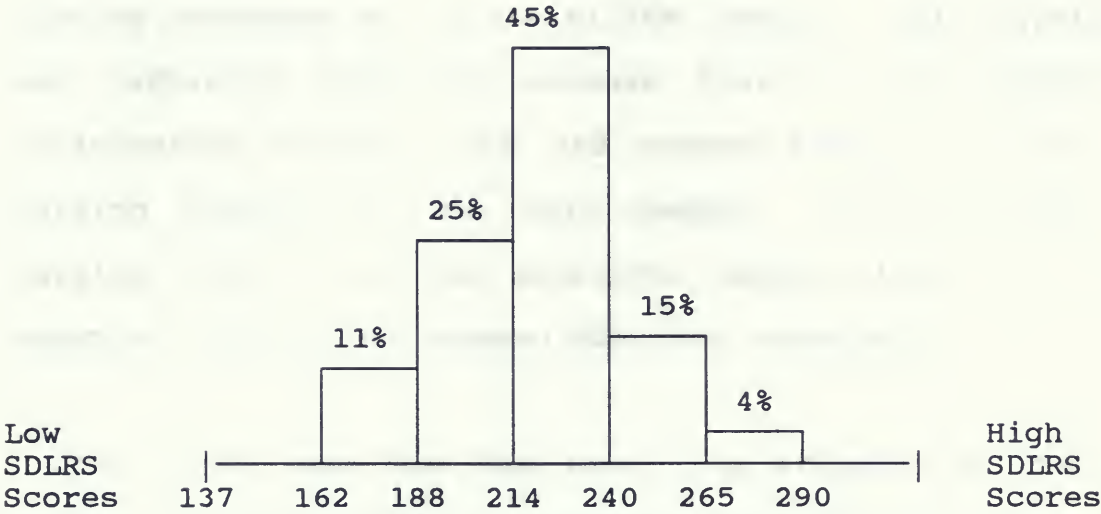
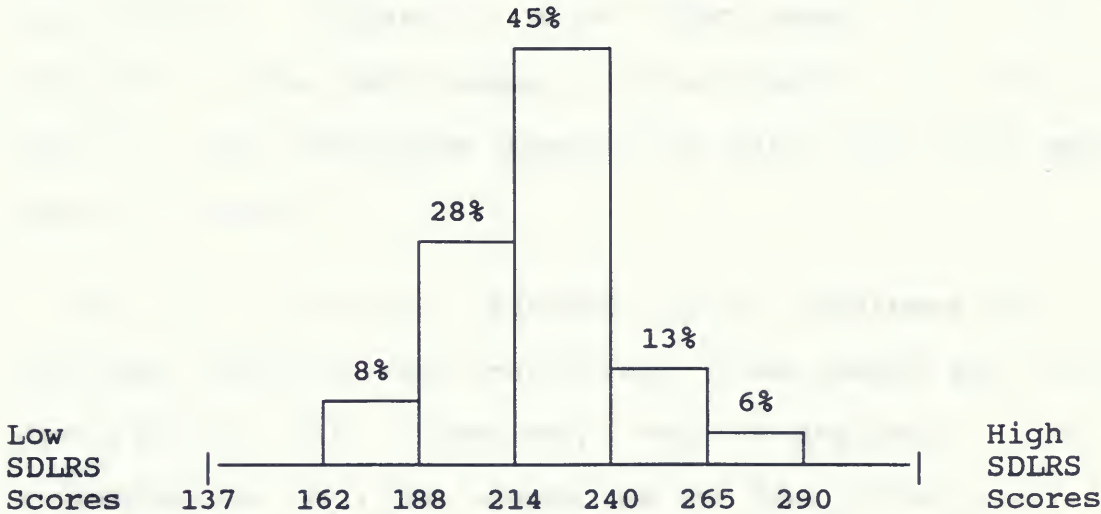


Figure 2.

Graph of SDLRS Scores for Level One
Nursing Students



Hypothesis One(b) suggested that there is no difference in the relationship between SDLR and stress between first year nursing students at the main campus and first year nursing students at the satellite campus. This hypothesis was partially supported because there is no significant relationship between SDLR and stress among the level one nursing students at the main campus. For the level one nursing students at the satellite campus, there is a high negative correlation between SDLR and t-anxiety.

The SDLRS mean for the level one students at the main campus is 221.9 with a standard deviation of 23.7. The SDLRS mean for the level one students at the satellite campus is 220.8 with a standard deviation of 28.2. The SDLRS mean for both groups is higher than the mean set by Guglielmino, but the mean of 28.2 for the level one students at the satellite campus is higher than 25.59 as set by Guglielmino. Figure 4 shows that among the level one students at the main campus, 63% are above the mean of 214 while at the satellite campus 61% fall above the mean as shown in Figure 5.

The two groups of students show readiness for self-directed learning with relatively close means and standard deviations for s-anxiety and t-anxiety. Further investigation will be sought as to the difference in the relationship between SDLRS and stress for the level one

Figure 3.

Graph of SDLRS Scores for Level Two Nursing Students

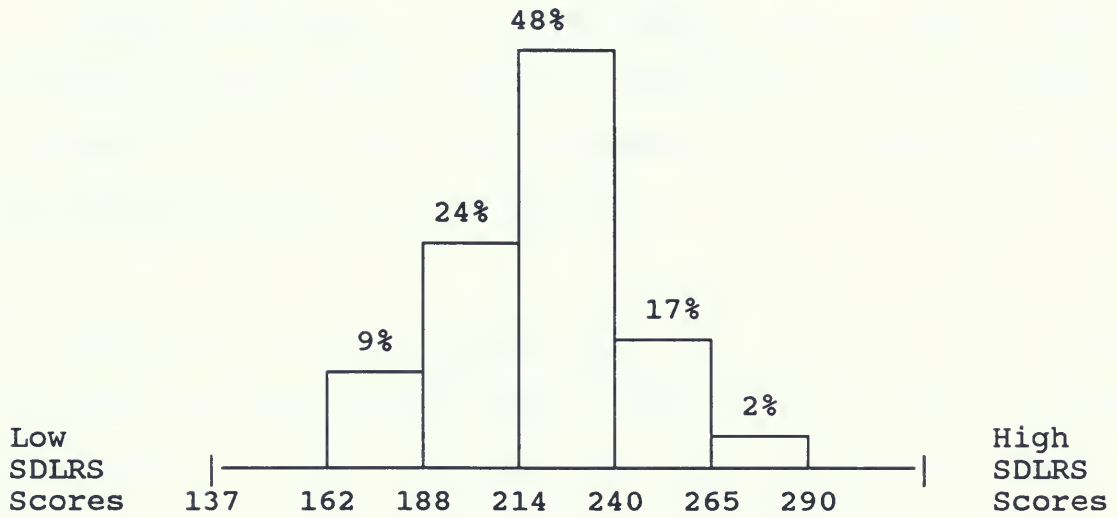
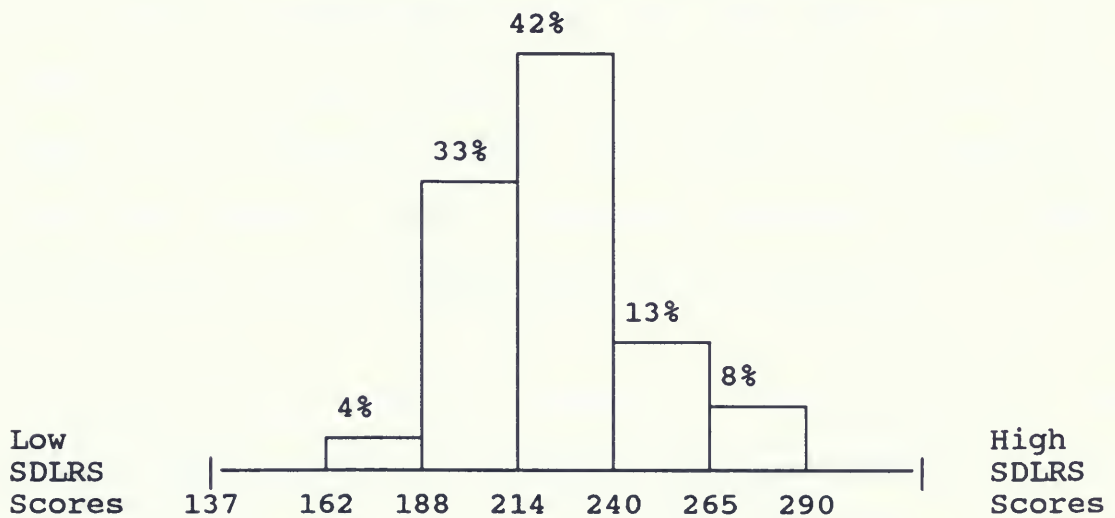


Figure 4.

Graph of SDLRS Scores for Level One Nursing Students at the Main Campus



students at the main campus, and the level one students at the satellite campus.

Other variables to be considered which could have an impact on the high negative correlation between SDLR and stress for the level one students at the satellite campus will be discussed at this point.

The Grade Point Average (GPA) for the level one students at the satellite campus show a mean of 74.6 with a standard deviation of 8.0. The GPA for the level one students is higher with a mean of 76.6 and a standard deviation of 6.1. These two groups are, therefore, comparable.

Previous studies have been done by Box (1982), which show that there is a high correlation between SDLR and GPA among first and second level students at Tulsa Community College. The negative relationship between SDLR and stress for the level one nursing students at the satellite campus does not seem to be related to GPA. The level one students at the satellite campus do show t-anxiety proneness which seems to be the major factor among that specific group.

Because the level one students at the satellite campus show a high negative correlation between SDLRS and stress, one would wonder if there is a U function taking place. The

U function relates to the Yerkes-Dodson law (1908). The law states that arousal can cause an inverted U function causing the individual to function well under stress, but if the individual is under stress for a long period of time then the good performance abates. Thus, it would appear that the negative anxiety shown by the level one students might have an impact on GPA at a later time. The students can become lethargic and lose interest in self-directed learning.

Other variables to be considered are years out of school, and support system among peers. The level one students at the satellite campus show in Table 16 (Chapter Four) that 44% of the students have been out of school for over six years and maybe are not yet ready for SDL. Table 16 also shows that 80% get very good to excellent support among peers and that 84% get very good to excellent support outside of college. As compared to the level one students at the main campus, years out of school, as seen in Table 15, represent 20% who have been out of school for over six years. Support from peers show very good to excellent (64%) and outside college also very good to excellent (80%). These two variables, years out of school and peer support, could be factors which might affect the high negative correlation between SDLR and stress for the level one students at the satellite campus. Peer support is greater at the satellite campus for the level ones. The level ones at the main campus

are not as supportive to their peers and this could affect learning at some point in time.

Hypothesis One(c) suggested that there was no difference in the relationship between SDLR and stress between level two nursing students at the main campus and level two nursing students at the satellite campus. This hypothesis was partially supported in that there is no significant relationship between SDLR and stress among the level two nursing students at the satellite campus but, for the level two nursing students at the main campus, there is a high negative correlation between SDLR and state anxiety. S-anxiety measures the current feeling of physical and emotional uneasiness.

Figure 6 shows that 65% of the level two nursing students at the main campus fall above Guglielmino's SDLR mean of 214, and Figure 7 shows that 69% of the level two students at the satellite campus fall above the same mean. Both groups, therefore, show a readiness for self-direction in learning.

One of the factors which could cause a negative relationship between SDLR and stress for the level two nursing students at the main campus could be that the sample was chosen from a wider range of students who are in different semesters of the nursing program. The sample at

Figure 5.

Graph of SDLRS Scores for Level One
Nursing Students at the Satellite Campus

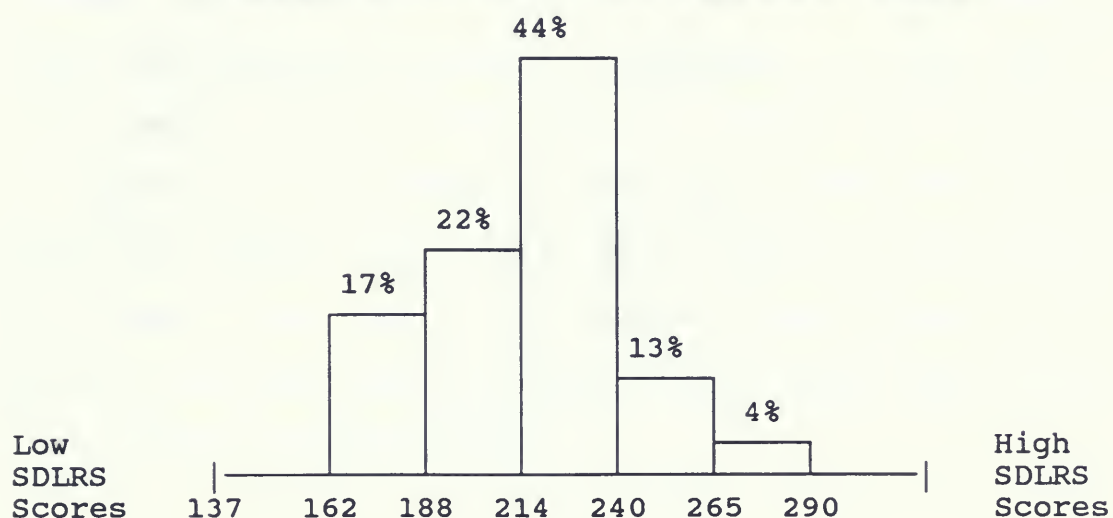
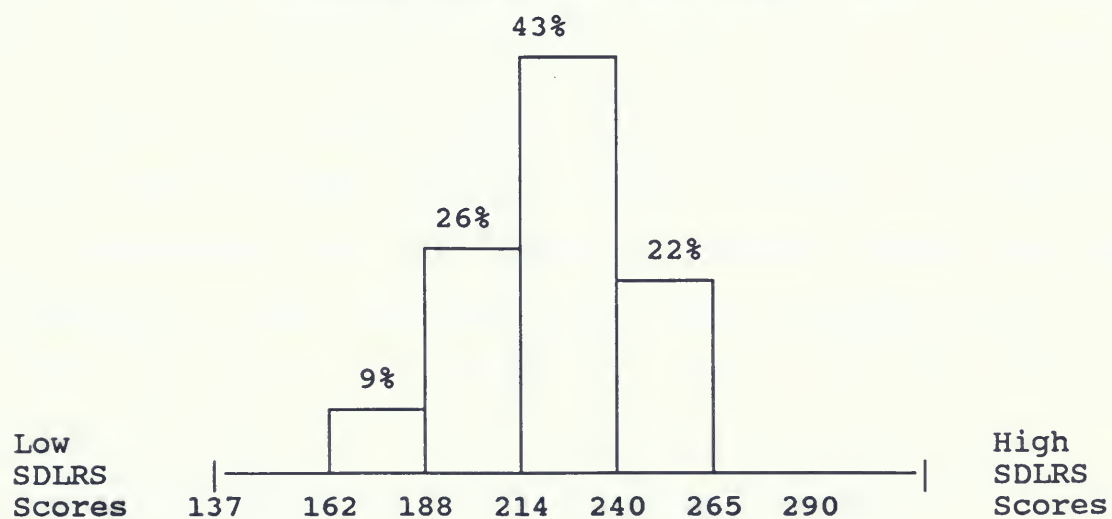


Figure 6.

Graph of SDLRS for Level Two
Nursing Students at the Main Campus



the satellite campus was chosen from level two nursing students who all started the SDL program at the same time. Because the satellite campus is a smaller campus, there is only one intake of students in September of each year. The main campus, on the other hand, is larger and has an intake in January and September of each year: hence the difference among the groups which could be a factor in the results of the study. The level two students could either be in the two and one-half year stream, or the three year stream of the program at either campus.

Both groups of level two students show that they have very good support systems outside of college and among peers, so this does not pose a problem for the level two nursing students at the main campus nor the satellite campus. It would appear that as the students in level two at the main campus move to the point where they are expected to face the challenge of being risk takers, they withdraw. As stated by Blainey (1980), nursing instructors in the past have given student nurses a double message. "We have said be independent; be risk takers; be charge agents; be self-directed in your learning; never make a mistake; there is no room for error in nursing" (p. 33). Is it, therefore, possible that the strong negative correlation between SDLR and stress among the level two nursing students at the main campus is related to "burn out". This means that the

student comes to the learning environment with lots of motivation and enthusiasm but eventually finds that she becomes exhausted because of the workload at school, at home and her community involvement.

Hypothesis One(d) suggested that there is no difference in the relationship between SDLR and stress between the nursing students at the main campus and the nursing students at the satellite campus. This hypothesis was supported in that there was no difference in the relationship between SDLR and stress between the nursing students at the main campus and those at the satellite campus.

From Figure 8, 64% of the level one and level two nursing students at the main campus show a readiness for self-direction while those at the satellite campus in Figure 9 show a readiness of 65%. The anxiety scores for both groups of students show a modest mean.

The admission criteria is standard for all students entering the program. This includes GPA, a math test, and a group interview. The students are also informed prior to seeking admission to the nursing program that it is based on self-directed learning.

Figure 7.

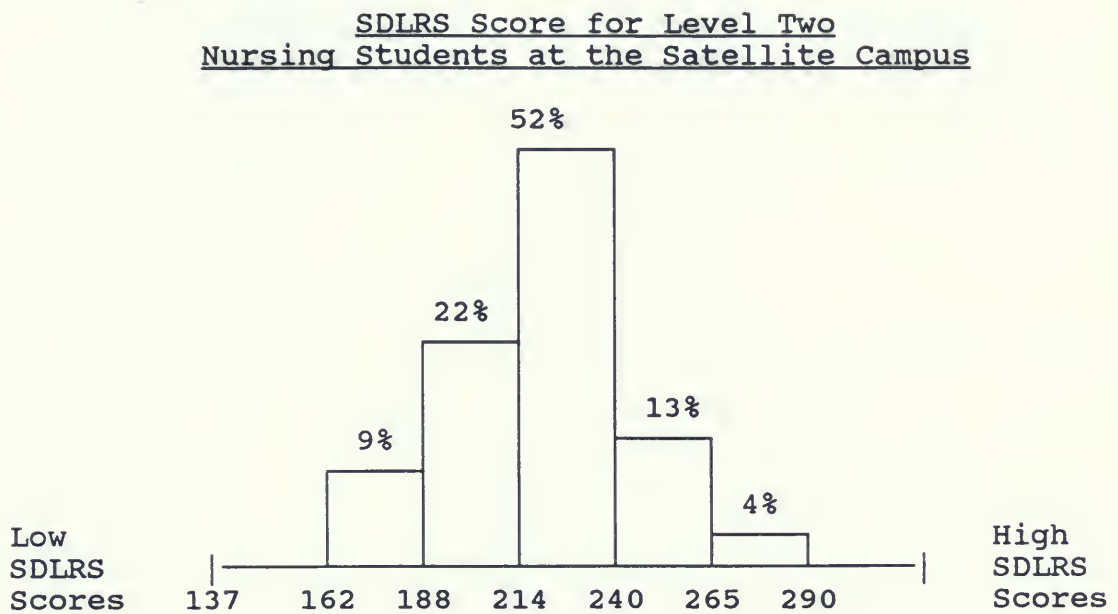


Figure 8.

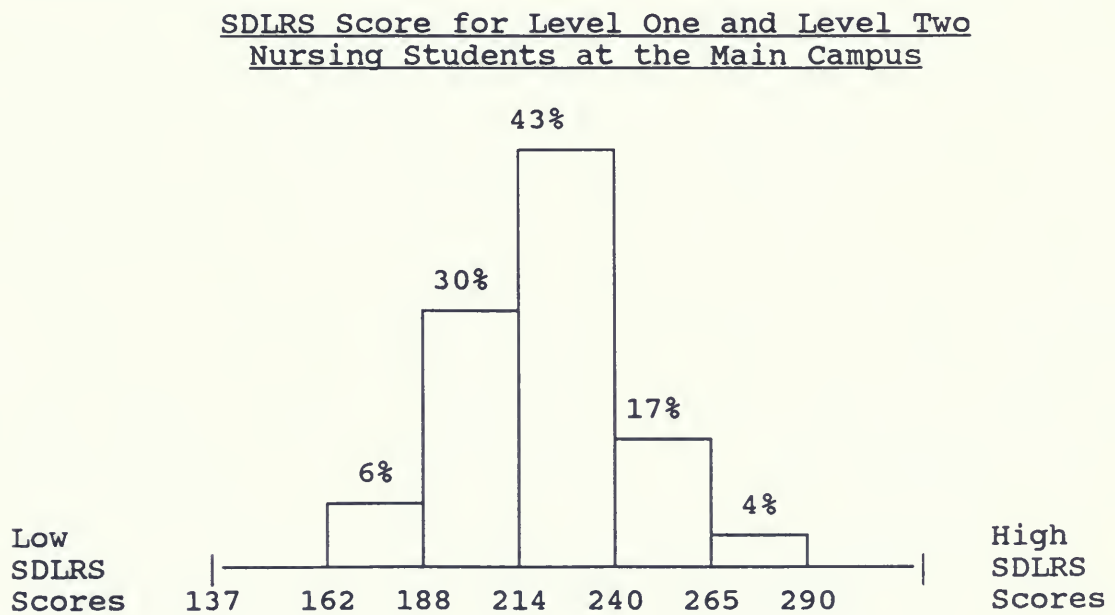
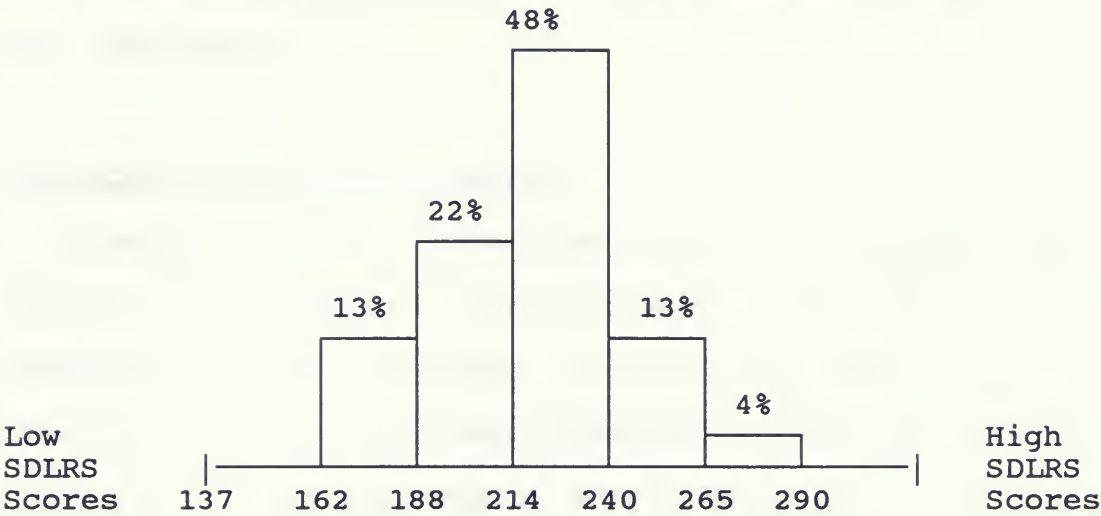


Figure 9.

SDLRS Score for Level One and Level Two
Nursing Students at the Satellite Campus



Practical Implications of the Study

The practical implications of the study are twofold. These include implications for the learner as well as for the instructor.

Implications for the Learner

Knowles (1978), stated that as the individual matures, there is a change in self-concept, therefore, the adult becomes more self-directed. The learner, therefore, has the inherent ability to be self-directed. From the total sample studied 64% of the students show readiness for self-directed learning with a negative degree of stress.

Among the level one students 64% show readiness for self-directed learning while the level two students show 67%. This shows that after one year in the nursing program the degree of SDLR score can improve. This is encouraging for students who feel that they will have difficulty coping in the program.

As for the 36% of students who fell below the mean score for SDLR, another mode of learning style could prove beneficial. For these students in the program, they can benefit more by attending small group discussions with the instructor, or meeting with the instructor on a one-to-one basis, or attending structured classes. Although some might

argue that with a self-directed learning program, structured classes should not be held, it has been suggested that "planning only facilitates learning; the degree to which the learner participates in that planning depends on the characteristic of the audience" (Cranton, 1989, p.53). It is apparent, therefore, that the students who are not self-directed could plan with the instructor approaches as how to direct the learning.

More frequent contacts with the instructor will give those students the needed structure and guidance. Although most adults are self-directed, one will find that when some adults are in the learning environment they resort to dependent, childlike behaviour (Brundage & Mackeracher, 1980). This behaviour conflicts with their deep psychological need to be self-directing, and can lead to internal conflict.

Implications for the Instructor

The instructor, after a few weeks of contact with the students, will soon find out that some students are self-directed learners and others are not. The instructor will now have to take into account one's teaching style and the learning style of a mixed group. The instructor, being a facilitator of adult learning, will try to match the teaching to the needs of the students. Some students who

are high on the self-directed learning scale will need less time with the instructor while others who are low, will need to see the instructor more often. The instructor has to be aware of when to give more room for independence to the self-directed students and more time for direction to less self-directed students.

The instructor will also have to be aware that some students who are not self-directed may lose interest in class, or become hostile and aggressive because they feel that the instructor is not teaching them anything.

The instructor has to be acutely aware that the learners in the classroom are adults and that there are many other variables such as family, finances, and fear of failure which can interfere with the stress level of the individual. Cross (1986), in her theory of adult learning, discusses the chain of response (COR) model that one goes through in order to be involved in adult learning. The focal point of her model deals with opportunities and barriers. If there are barriers, the instructor in most cases will recognize changes in the students. These changes can lead to decreasing motivation to learn which leads to mounting anxiety, and eventually, withdrawal.

Implications for Administration

From the results of the study it is evident that the administration of the college will have to play a major role if changes have to be made regarding the delivery of the nursing program.

It is evident among the student group studied (although they are all in a self-directed program), that some student show a readiness for self-direction in learning while others do not score well in that area. Does this mean that the students who do not score well are in the wrong program? Can they, over time, be taught to be self-directed? One would not agree that these students are in the wrong program, but administration needs to make available time to encourage more self-direction. As stated in the literature, not all students can be self-directed. It has also been stated by Cooper (1978), that the need for self-directed learning in nursing is clear. If progress is to be made in nursing, then the profession depends on self-directed learning. Students who are not self-directed learners can be taught over time. If possible, more teaching hours could be allotted to these students which might increase the retention of the students in the program. If students feel that they cannot "keep up" to the rest of their peers in SDL, they will leave the program.

Implications for Future Research

Further research in the area of SDLR and stress is encouraged using an experimental design.

It would be worthwhile to do further investigation, since Taylor (1979), found that SDLR is more than what meets the eye. She reported from a study that participants experienced a feeling of shock, confusion and ambivalence regarding SDL. To become self-directed one goes through different phases and stages. Taylor also found that the people who were involved in SDL feel that something is lost because there is no blueprint to guide them.

Further research is encouraged to investigate the relationship between the degree of stress and self-directed learning readiness among the pregraduate nursing students. At the pregraduate level, the students are expected to be more self-directed because they do not have a nursing instructor over their shoulders at all times. The pregraduate nurses are active participants on the health care team and work quite closely with the charge nurse and the staff on the units. The pregraduates are expected to be more responsible, more reliable, and more self-directed in preparation for the Registered Nurses' roles.

Summary

It has always been said that the nursing students are under stress to do well. The role of the student nurses is a difficult one because they are always told that they have lives at stake so they cannot afford to make an error. The student nurses must have a sound theoretical base. Such strong theory base will allow them to integrate theory with practice more effectively in the clinical settings.

This study began, therefore, by observing the students' performance in the classroom, but more so in the clinical area, and found that some students were under stress. Students would verbalize that they did not have enough time to get their work done. Although the program is self-directed, there were students who could not keep to deadlines. Thus, the purpose of the study was to investigate the relationship between the degree of SDLR and stress among the adult learner in a first and second year diploma nursing program at a community college.

Chapter One gave an introduction of the problem, rationale, and a glossary of terms.

Chapter Two gave a review of the literature which included theories of adult learning, theoretical framework for stress, research on stress, research on self-directed

learning, and research on nursing students as it deals with stress and self-directed learning. Based on the review of the literature, a hypothesis was developed with four sub-hypothesis.

Chapter Three described the research method, research design, selection of subjects, the instruments, data collection procedure, data analysis, and limitations of the study.

Chapter Four showed the results of the analysis of the statistics. This includes mean and standard deviation, frequency of responses, Pearson correlation coefficient and hypothesis testing.

The final chapter discussed a summary of the findings, specific aspects of the findings as it relates to theory and previous research, practical implications of the study, implications for administration, and implications for future research. At present there are some teachers who have recognized the need to give classroom instructions while others feel that the nursing program is self-directed and do not see the need for classroom lectures. It is apparent from the research that some students in the program are self-directed learners while others are not. It is hoped that if students are to continue to do well in the program,

then administration will have to sanction other modes of program delivery to students who are not self-directed or to offer more time for instruction to those students. Students, if willing, can be taught how to be self-directed learners but this will obviously need collaboration between students and instructors. Students are encouraged to seek assistance and utilize the instructor's time that is made available.

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MOHAWK COLLEGE OF APPLIED ARTS AND TECHNOLOGY

M E M O R A N D U M

TO: Elene Witter
Professor
Department of Nursing
Brantford Campus

FROM: Associate Dean of Health Care

Date: July 30, 1990

Re: Research Study for Thesis

This memorandum will confirm my approval for you to conduct your study according to the proposal submitted.

Confidentiality related to student response is essential. Also, students participate only on a voluntary basis.

I look forward to receiving a copy of your study which will be placed in the library at Chedoke.

/hb


DOROTHY LAMBETH

APPENDIX II

1989

Dear Students:

I am seeking your cooperation in completing a Demographic Data Sheet and two short questionnaires. It is hoped that the data collected will help me to identify the relationship between the degree of self-directed learning and stress among the adult learner in the first and second year of a Diploma Nursing Program at Mohawk College. The data collected will be helpful to me in doing a thesis towards Masters of Education through Brock University.

Participation in this study is voluntary. The completed data sheet and questionnaires will be strictly confidential, but group data will be reported. Please do not write your name on these sheets.

The results of the study will be made available to you in the Fall of 1990. A copy of the thesis will be at the Chedoke Health Science Library and the Brantford Nursing Campus Library.

By completing the Demographic Data Sheet and the two questionnaires you have consented to participation in the study.

Thank-you very much, and your help is greatly appreciated.

Sincerely,



Elene L. Witter

A P P E N D I X I I I
SELF-EVALUATION QUESTIONNAIRE

Developed by Charles D. Spielberger
in collaboration with
R. L. Gorsuch, R. Lushene, P. R. Vagg, and G. A. Jacobs

STAI Form Y-1

Name _____ Date _____ S _____
Age _____ Sex: M _____ F _____ T _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel *right now*, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

NOT AT ALL
SOMEWHAT
MODERATELY SO
VERY MUCH SO

- | | | | | |
|--|---|---|---|---|
| 1. I feel calm | ① | ② | ③ | ④ |
| 2. I feel secure | ① | ② | ③ | ④ |
| 3. I am tense | ① | ② | ③ | ④ |
| 4. I feel strained | ① | ② | ③ | ④ |
| 5. I feel at ease | ① | ② | ③ | ④ |
| 6. I feel upset | ① | ② | ③ | ④ |
| 7. I am presently worrying over possible misfortunes | ① | ② | ③ | ④ |
| 8. I feel satisfied | ① | ② | ③ | ④ |
| 9. I feel frightened | ① | ② | ③ | ④ |
| 10. I feel comfortable | ① | ② | ③ | ④ |
| 11. I feel self-confident | ① | ② | ③ | ④ |
| 12. I feel nervous | ① | ② | ③ | ④ |
| 13. I am jittery | ① | ② | ③ | ④ |
| 14. I feel indecisive | ① | ② | ③ | ④ |
| 15. I am relaxed | ① | ② | ③ | ④ |
| 16. I feel content | ① | ② | ③ | ④ |
| 17. I am worried | ① | ② | ③ | ④ |
| 18. I feel confused | ① | ② | ③ | ④ |
| 19. I feel steady | ① | ② | ③ | ④ |
| 20. I feel pleasant | ① | ② | ③ | ④ |



Consulting Psychologists Press
577 College Avenue, Palo Alto, California 94306

SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name _____ Date _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

ALMOST NEVER
SOMETIMES
OFTEN
ALMOST ALWAYS

- | | | | | |
|--|---|---|---|---|
| 21. I feel pleasant | ① | ② | ③ | ④ |
| 22. I feel nervous and restless | ① | ② | ③ | ④ |
| 23. I feel satisfied with myself | ① | ② | ③ | ④ |
| 24. I wish I could be as happy as others seem to be | ① | ② | ③ | ④ |
| 25. I feel like a failure | ① | ② | ③ | ④ |
| 26. I feel rested | ① | ② | ③ | ④ |
| 27. I am "calm, cool, and collected" | ① | ② | ③ | ④ |
| 28. I feel that difficulties are piling up so that I cannot overcome them | ① | ② | ③ | ④ |
| 29. I worry too much over something that really doesn't matter | ① | ② | ③ | ④ |
| 30. I am happy | ① | ② | ③ | ④ |
| 31. I have disturbing thoughts | ① | ② | ③ | ④ |
| 32. I lack self-confidence | ① | ② | ③ | ④ |
| 33. I feel secure | ① | ② | ③ | ④ |
| 34. I make decisions easily | ① | ② | ③ | ④ |
| 35. I feel inadequate | ① | ② | ③ | ④ |
| 36. I am content | ① | ② | ③ | ④ |
| 37. Some unimportant thought runs through my mind and bothers me | ① | ② | ③ | ④ |
| 38. I take disappointments so keenly that I can't put them out of my
mind | ① | ② | ③ | ④ |
| 39. I am a steady person | ① | ② | ③ | ④ |
| 40. I get in a state of tension or turmoil as I think over my recent concerns
and interests | ① | ② | ③ | ④ |

A P P E N D I X I V

SDLRS-A

Name _____ Sex _____ Birthdate _____
 Date of Testing _____ Location of Testing _____

QUESTIONNAIRE

INSTRUCTIONS: This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and circle the number of the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item, however. Your first reaction to the question will usually be the most accurate.

RESPONSES

ITEMS:

1. I'm looking forward to learning as long as I'm living.
2. I know what I want to learn.
3. When I see something that I don't understand, I stay away from it.
4. If there is something I want to learn, I can figure out a way to learn it.
5. I love to learn.
6. It takes me a while to get started on new projects.
7. In a classroom, I expect the teacher to tell all class members exactly what to do at all times.
8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.
9. I don't work very well on my own.

	<i>Almost never true of me; I hardly ever feel this way.</i>	<i>Not often true of me; I feel this way less than half the time.</i>	<i>Sometimes true of me; I feel this way about half the time.</i>	<i>Usually true of me; I feel this way more than half the time.</i>	<i>Almost always true of me; there are very few times when I don't feel this way.</i>
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	1	2	3	4	5
5	1	2	3	4	5
6	1	2	3	4	5
7	1	2	3	4	5
8	1	2	3	4	5
9	1	2	3	4	5

	<i>Almost never true of me; I hardly ever feel this way.</i>	<i>Not often true of me; I feel this way less than half the time.</i>	<i>Sometimes true of me; I feel this way about half the time.</i>	<i>Usually true of me; I feel this way more than half the time.</i>	<i>Almost always true of me; there are very few times when I don't feel this way</i>
10. If I discover a need for information that I don't have, I know where to go to get it.	1	2	3	4	5
11. I can learn things on my own better than most people.	1	2	3	4	5
12. Even if I have a great idea, I can't seem to develop a plan for making it work.	1	2	3	4	5
13. In a learning experience, I prefer to take part in deciding what will be learned and how.	1	2	3	4	5
14. Difficult study doesn't bother me if I'm interested in something.	1	2	3	4	5
15. No one but me is truly responsible for what I learn.	1	2	3	4	5
16. I can tell whether I'm learning something well or not.	1	2	3	4	5
17. There are so many things I want to learn that I wish that there were more hours in a day.	1	2	3	4	5
18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.	1	2	3	4	5
19. Understanding what I read is a problem for me.	1	2	3	4	5
20. If I don't learn, it's not my fault.	1	2	3	4	5
21. I know when I need to learn more about something.	1	2	3	4	5
22. If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.	1	2	3	4	5
23. I think libraries are boring places.	1	2	3	4	5
24. The people I admire most are always learning new things.	1	2	3	4	5

	<i>Almost never true of me; I hardly ever feel this way.</i>	<i>Not often true of me; I feel this way less than half the time.</i>	<i>Sometimes true of me; I feel this way about half the time.</i>	<i>Usually true of me; I feel this way more than half the time.</i>	<i>Almost always true of me; there are very few times when I don't feel this way</i>
25. I can think of many different ways to learn about a new topic.	1	2	3	4	5
26. I try to relate what I am learning to my long-term goals.	1	2	3	4	5
27. I am capable of learning for myself almost anything I might need to know.	1	2	3	4	5
28. I really enjoy tracking down the answer to a question.	1	2	3	4	5
29. I don't like dealing with questions where there is not one right answer.	1	2	3	4	5
30. I have a lot of curiosity about things.	1	2	3	4	5
31. I'll be glad when I'm finished learning.	1	2	3	4	5
32. I'm not as interested in learning as some other people seem to be.	1	2	3	4	5
33. I don't have any problem with basic study skills.	1	2	3	4	5
34. I like to try new things, even if I'm not sure how they will turn out.	1	2	3	4	5
35. I don't like it when people who really know what they're doing point out mistakes that I am making.	1	2	3	4	5
36. I'm good at thinking of unusual ways to do things.	1	2	3	4	5
37. I like to think about the future.	1	2	3	4	5
38. I'm better than most people are at trying to find out the things I need to know.	1	2	3	4	5
39. I think of problems as challenges, not stopsigns.	1	2	3	4	5
40. I can make myself do what I think I should.	1	2	3	4	5

	<i>Almost never true of me; I hardly ever feel this way.</i>	<i>Not often true of me; I feel this way less than half the time.</i>	<i>Sometimes true of me; I feel this way about half the time.</i>	<i>Usually true of me; I feel this way more than half the time.</i>	<i>Almost always true of me; there are very few times when I don't feel this way.</i>
41. I'm happy with the way I investigate problems.	1	2	3	4	5
42. I become a leader in group learning situations.	1	2	3	4	5
43. I enjoy discussing ideas.	1	2	3	4	5
44. I don't like challenging learning situations.	1	2	3	4	5
45. I have a strong desire to learn new things.	1	2	3	4	5
46. The more I learn, the more exciting the world becomes.	1	2	3	4	5
47. Learning is fun.	1	2	3	4	5
48. It's better to stick with the learning methods that we know will work instead of always trying new ones.	1	2	3	4	5
49. I want to learn more so that I can keep growing as a person.	1	2	3	4	5
50. I am responsible for my learning — no one else is.	1	2	3	4	5
51. Learning how to learn is important to me.	1	2	3	4	5
52. I will never be too old to learn new things.	1	2	3	4	5
53. Constant learning is a bore.	1	2	3	4	5
54. Learning is a tool for life.	1	2	3	4	5
55. I learn several new things on my own each year.	1	2	3	4	5
56. Learning doesn't make any difference in my life.	1	2	3	4	5
57. I am an effective learner in the classroom and on my own.	1	2	3	4	5
58. Learners are leaders.	1	2	3	4	5

APPENDIX VPLEASE COMPLETE THIS INFORMATION SHEET:PLEASE CIRCLE THE APPROPRIATE ANSWER

- | | | |
|---|--|----------------------------------|
| 1. Stage in Nursing Program | Level 1 | Level 2 |
| 2. Campus | Chedoke | Brantford |
| 3. Age | _____ | |
| 4. Marital Status - | Single | Married Separated Divorced |
| 5. Number of children | _____ | |
| 6. Ages of children | _____ | |
| 7. Are you living with parents? | Yes | No |
| 8. What grade did you complete in Highschool? | _____ | |
| 9. Grade point average on leaving Highschool? | _____ | |
| 10. Number of years at College or University? | <u>Complete</u> | <u>Incomplete</u> |
| 11. How many years have you been out of School? | _____ | |
| 12. Do you have a Part-Time job at present? | Yes | No |
| 13. Do you have a Full-Time job at present? | Yes | No |
| 14. Have you had any previous experience working/assisting in the Healthcare field? | Yes | No |
| If yes, in what capacity? | _____ | |
| 15. How can you rate your support system among peers? | Excellent / Very Good / Good / Fair / Poor | |
| 16. How can you rate your support system outside College? | Excellent / Very Good / Good / Fair / Poor | |

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