Underemployment and Depressive Affect:
The Moderating Influence of Coping Styles

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Abstract

This study tested a model which predicted the relationship between underemployment and depressive affect as moderated by coping styles. A randomly selected community sample of 574 young adults completed a self-report employment status measure, the Underemployment Scale, the Center for Epidemiological Study Depression Scale, and the Coping Strategy Indicator. The interaction model was supported for men only. Results indicated that significant interactions between Perceived Job Requirements Underemployment by avoidance coping, and Subjective Underemployment by avoidance coping predicted depressive affect for men. Further, the same results were found even after controlling for prior depressive affect. Using the self-report employment status measure revealed significant group differences between unemployed and underemployed men. Underemployed men who utilized more support seeking coping strategies reported higher depressive affect than unemployed men. The interaction model was not supported for women even though women have consistently reported higher depressive affect rates. These results have implications for underemployment and depressive affect research and practical implications for assisting men who feel subjectively underemployed and need to find an appropriate strategy to cope with the situation.
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Introduction

There were three purposes of this study. The first was to develop a more adequate, multi-dimensional conceptualization of underemployment and to measure it. The second aim of this cross-sectional research was to examine the relationship between underemployment and depressive affect. The final aim of this investigation was to explore the moderating effect of different coping styles on the underemployment and depressive affect relationship. It was anticipated that a general understanding would emerge with regard to the effects of underemployment on the individual at the young adult stage of life. The next section briefly discusses some basic concepts of employment and work.

Basic Concepts of Employment and Work

Work has been defined as the exchange of a specific service in return for a wage or salary. This broad definition has been refined through the emergence of similar terms that are used to describe the process of work which includes employment, occupation, job, and vocation. The presence of multiple terms for the same concept can be considered an indication that ‘work’ is and has been studied in several disciplines with the terminology adjusted accordingly for each discipline. Although sociologists, economists and psychologists have all been interested in the area of employment and each has added to the general understanding of the concept, a basic definition of the term has emerged. Work is the “physical or mental effort directed towards doing or making something” (Hanks, et al., 1989, p. 1507). Most studies have focused upon work that is undertaken for economic reasons while excluding unpaid work like volunteer work, house work, and homework. In this study, the importance of work that is performed for economic reasons will be
examined.

Occupational position and status are a major part of an individual’s life. They symbolize economic achievement and accomplishment, depending on the level of prestige of a particular occupation. In addition, work is an important component of one’s identity and, it provides financial security for the present and future. Warr (1982), identified six benefits of paid employment which included, “the provision of money, activity, variety, temporal structure, social contacts, and a status and identity within society’s institutions and networks” (p. 7). The importance of these benefits should not be underestimated. First, earning an income ensures financial stability and can alleviate stress associated with receiving very little income. Second, work allows individuals to use their mental energy to express their ideas and creativity. Third, the individual may be able to learn and use a wide variety of technical equipment present in the workplace. Fourth, the structure of the work week enables individuals to organize their time accordingly between work and leisure activities. Warr (1982), also acknowledged the increased opportunity for social interaction in the workplace. The structure of many organizations enables social interaction among employees which provides the opportunity to tap into social support networks otherwise not available. Finally, workers may acquire personal identity and status within the organization with which they can identify and incorporate into their self-concept (Warr, 1982).

The positive influences discussed above must not overshadow the negative influences that are also associated with employment. Research has indicated that jobs that are tedious and repetitive may discourage motivation to be productive and may increase
levels of job dissatisfaction (Warr, 1982). Other negative consequences of employment which have been identified include having a heavy workload, bad working conditions, unclear job descriptions regarding work role, and interpersonal problems with coworkers (Warr, 1982). The literature on ‘occupational stress’ addresses these issues.

Although employment studies have addressed the benefits and consequences of employment, many psychologists, sociologists, and economists have directed their efforts to examining the effects of unemployment. The unemployment rate has been identified as a global indicator of problems that exist on a societal and/or economic level. Governments have used the unemployment rate as a method of determining the strength of the nation’s economy at certain points in time. High unemployment rates indicate the need for economic reform. Furthermore, high rates of unemployment appear to be indicative of the possibility that people are experiencing financial, familial, relationship and psychological problems. Studies have found unemployment to be related to lower levels of self-satisfaction (Stokes & Cochrane, 1984) and increases in levels of distress, depression, and anxiety (Kessler, Turner & House, 1988). Thus, numerous studies have shown that unemployment tends to produce negative effects for individuals (Warr & Jackson, 1985; Linn, Sadifer & Stein, 1985; Warr, Jackson & Banks, 1988).

Other individuals may be satisfactorily employed in terms of the level of work, responsibility, training, and salary. These individuals find their jobs personally fulfilling in that they are able to use their skills and the education that they have acquired. If a continuum were used to conceptualize the employment experience, at one end would be those individuals who are satisfactorily employed with regard to work load, responsibility,
training, and salary level, and at the opposite end of the continuum would be those who are involuntarily unemployed. The center of the continuum could be considered the area in which underemployed individuals would fall (Dooley & Prause, 1998). For these individuals, there are particular aspects of their jobs that they find unsatisfactory like salary, level of responsibility, and training opportunities.

A consensus on how to define underemployment has not emerged. Several disciplines have examined different aspects of underemployment and for this reason, sociology, psychology, and economics all have different ideas of what it is. For example, the field of economics tends to focus on objective indicators of underemployment including income and educational level. In contrast, psychology's definitions of underemployment considers the subjective experience including an individual's perceptions and emotions. The second problem preventing a precise definition of underemployment is the fact that researchers in a variety of disciplines have had tremendous difficulty measuring underemployment in the population. Concepts that cannot be easily measured seem also to be unpopular and researchers tend to lose interest in exploring these areas. Finally, the last problem relates to whether underemployment should be considered a unidimensional concept or a multidimensional concept. To sort out some of these problems, research from psychology, sociology, and economics was explored and what follows is a detailed discussion of the manner in which researchers have conceptualized underemployment and the measurement strategies used. In particular, attention will be directed towards the subjective experience of underemployment and the various subjective indicators that have been designed to measure it.
One approach to understanding the various aspects of underemployment would be to interpret the actual word itself. "Under - employment" could refer to being employed below a certain standard. This standard may be related to a certain income level, level of education, or level of skill match between the individual and that required by the job. Economists, for example, use level of income as the standard of underemployment. Level of income is related directly to level of education completed. If the financial rate of return for a particular level of schooling falls below the expected level, the individual would be considered underemployed, or overeducated (Rumberger, 1981). The term overeducation has been used synonymously with the term underemployment in the disciplines of economics and sociology.

In sociology, researchers have tended to focus on the mismatch between an individual's level of education and the general skill requirements of a particular job. The tool used most often is the General Educational Development (GED) Scale which ranges from levels 1 through 7 (Rumberger, 1979). This approach focuses on establishing the general skill level required for a particular job and the level of education necessary. Underemployment would occur if the individual had more education than was required for the job. Educationally inappropriate employment in this instance was mainly considered a problem for individuals with higher education like college or university since post-secondary education was considered to be preparation for professional careers (Richards, 1984). As job markets changed, college and university graduates were finding more and more that professional careers were reality for a minority of graduates and that a growing number were underemployed. Mismatch between educational level and general skill level
of a particular occupation was one method in which to capture the experience.

The aforementioned working definitions of underemployment are unidimensional, in that only one of a set of relevant aspects is considered. Each examines a single aspect of a concept that should be considered as being composed of several different elements. In contrast, Clogg and Sullivan (1983) conceptualized underemployment as a set of indicators including working part-time involuntarily, receiving low income, mismatch between educational attainment and job requirements, and being unemployed. A more detailed discussion will follow but the crucial consideration is that underemployment should be considered a multidimensional concept.

The above conceptualizations of underemployment focus on the objective measurement of underemployment. The individual’s subjective experience of the employment situation was not considered. Alternatively, perceptions of being underemployed could be another approach to conceptualizing underemployment. Regardless of whether one’s educational level exceeds the requirements of the job or whether level of income falls below the standard for that occupation, if the individual does not perceive the situation as underemployment then should this individual be classified as underemployed? For instance, in a difficult job market, individuals may feel grateful for having a job despite being qualified for better. Thus, underemployment could also be conceptualized as a purely subjective experience that cannot be directly gauged from objective markers. The strengths and weaknesses of objective and subjective indicators will be discussed with a particular focus on the subjective measurement of underemployment. Before conceptualizing the variables in the study it is important to
introduce the model being used.

**Introduction to the Model**

This research is based on a model that investigates the relationship between underemployment, depressive affect, and three coping styles which include avoidance coping, problem-solving coping, and support seeking coping. According to this model, underemployment is believed to be a significant predictor of depressive affect. The more underemployed an individual feels the higher the level of depressive affect expected. The model attempts to explain why this relationship exists by indicating that coping styles moderate the underemployment and depressive affect relationship.

Also in this model, underemployment is conceptualized as a multi-dimensional construct. Three subscales were created to capture the underemployment experience which include the Person-Job Mismatch subscale, the Subjective Underemployment subscale, and the Perceived Job Requirements subscale (Kambouris & Sadava, 1997). Person-Job Mismatch involves evaluating whether the job provides opportunities to use one’s education and skills on the job and to learn new things. Subjective Underemployment involves the individual expressing the need to take on more responsibility on the job, and working full-time instead of part-time hours. In essence, this subscale directly relates to the feeling of having the motivation and confidence to contribute more to one’s job but not being given the opportunity to do so. Finally, the Perceived Job Requirements subscale evaluates perceptions of what level of education and training is believed to be necessary to perform adequately at a particular job, and what skills and education individuals perceive they have for that job. Together the three
subscales provide an understanding of underemployment that includes the desire for more responsibility, more hours, opportunities for more training and learning while on the job, and the opportunity to use one's education and skills.

The model predicts that underemployment is related to depressive affect. Depressive affect is conceptualized as symptoms that include "depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, loss of appetite, and sleep disturbances" (Radloff, 1977, p.386). Literature that suggests a relationship between underemployment and depressive affect is extremely limited in that only two other studies have examined this relationship. A study by Beiser, Johnson and Turner (1993) investigated the effects of underemployment and depressive affect on the mental health of Southern Asian refugees coming to Canada. Although Beiser et al. (1993), did not find underemployment to increase the risk of depression for the refugees, the results are not generalizable because the sample consisted of a group of refugees who had to deal with several challenges as they settled into the Canadian way of living. Possible challenges include learning a new language, finding a place to live, and finding adequate medical care.

A second study by Winefield, Winefield, Tiggemann, and Goldney (1991), found that differences in employment status were related to differences in psychological well-being. The four groups in this study consisted of those who were satisfactorily employed, underemployed, unemployed, and students. Findings suggest the individuals who were classified as satisfactorily employed and students reported less depressive affect, higher self-esteem, and less negative mood than individuals who were unemployed and underemployed (Winefield et al., 1991).
As a result of such limited research in the area of underemployment and depressive affect, the model provides a rationale for why this relationship should exist. Jobs which do not match the aspirations and expectations of individuals, and which do not make use of the individual’s potential have been found to be psychologically distressing (Cassidy, 1994). An individual may interpret the current job situation as a direct reflection of personal worth and may feel entirely responsible for being underemployed. Thus, feeling depressed may be the result.

The model also predicts that the relationship between underemployment and depressive affect is moderated by an individual’s coping style. The three coping styles, support seeking coping, avoidance coping, and problem-solving coping are expected to influence the relationship between underemployment and depressive affect. In particular, an underemployed individual who predominantly uses avoidance strategies to cope, is expected to report higher depressive affect than individuals who report using the other two coping strategies. In contrast, if an underemployed individual reports using a greater number of problem-solving coping strategies, that person is less likely to report depressive affect than one who reports using very few problem-solving strategies. Finally, underemployed individuals who report using a greater number of support seeking coping strategies are expected to report less depressive affect. This latter prediction is related to evidence in the social support literature that indicates that support seeking coping strategies are predicted to buffer the effects of underemployment for the individual.

The three coping strategies used in this study have been widely discussed in the literature and have been found to be related to one’s adjustment and maladjustment to
stressful situations. Support seeking coping generally uses one’s social relationships to buffer stress. Problem-solving coping strategies involve taking a direct approach to deal with a situation, and avoidance coping involves ignoring or distracting attention away from a situation. Such strategies include daydreaming, occupying one’s time with alternative activities, and pretending that the problem or situation does not exist. With regard to depressive affect, it has been argued that certain coping strategies tend to be related to higher reported depressive affect. Depressed individuals tend to use more avoidance coping strategies and less problem-solving coping than individuals who are not depressed (Zeidner & Saklofske, 1996).

There are several aspects of the model that are distinct from previous research. First, the literature on underemployment is rather limited partly because of the lack of consensus in conceptualizing the concept. Thus, this research focused on the measurement and conceptualization of underemployment. Second, most research has used a uni-dimensional measure to capture underemployment in the general population (Rumberger, 1979; Burris, 1983; Zvonkovic, 1988). The model used in this study includes a multi-dimensional underemployment scale which was developed to measure the various aspects of underemployment. Third, there are only two existing studies in the literature that explore the relationship between depressive affect and underemployment (Beiser et al., 1993; Winefield et al., 1991). Although several studies indicate that further research should examine this relationship, few studies have done so. Finally, the use of coping styles as a moderator variable in which interactions are expected has not been directly examined in regard to underemployment and depressive affect.
In summary, in this research, underemployment is conceptualized as a multi-dimensional construct which is proposed to predict depressive affect. The model also suggests that coping style functions as a moderator variable which affects the relationship between underemployment and depressive affect. The following section presents a review of the literature in which each of the key variables used in the model, underemployment, depressive affect, and coping styles will be defined and then the links between these variables discussed. Further, the specific hypotheses to be tested in this study will be presented.

Conceptualizing Key Variables in the Model

I. Underemployment: The Objective Approach

Two different types of indicators, objective and subjective, exist to measure underemployment. The objective approach compares the employee’s background with the stated qualifications and requirements for a particular job including education, income, training, hours worked per week, and salary. Each objective indicator measures various aspects of a particular job that enables researchers to compare different individuals on the same variables. A critique of existing objective and subjective underemployment measures follows which examines the various ways underemployment has been conceptualized and the different instruments used to measure underemployment.

Utilization of Educational Skills (Rumberger, 1979)

Rumberger (1979) conducted a cross-sectional study to investigate whether, relative to high school graduates, the economic position of college graduates had deteriorated between 1969 and 1975. Deterioration of the college graduate’s economic
position was determined through two factors: the comparison of the individual's relative earnings during the two years under investigation, and the discrepancy between occupational position and the degree of skill utilization on the job. When relative earnings was used as the measure of economic position, college graduates were not expected to experience a deterioration (Rumberger, 1979). When economic position was measured by use of educational skills on the job, the position of college graduates was expected to worsen (Rumberger, 1979). Unfortunately, the use of relative earnings as a measure of economic position was limited in that it failed to incorporate any periodic fluctuations occurring in the labour market which may have affected earnings. During times of high demand, earnings for college graduates tend to be high, and during times of low demand the wages tend to be lower. A measure that fails to incorporate cyclical fluctuations portrays an inaccurate picture of the labour market. The second hypothesis measured economic position through the analysis of existing discrepancies between educational attainments of the individual and the skill requirements of the job (Rumberger, 1979). The method used to test the discrepancies between educational attainment of the individual and the skills required for the job captured one of the earlier attempts to measuring underemployment.

To determine the skill requirements for each occupation that participants held in both 1969 and 1975 survey groups, Rumberger adopted a procedure used in the April 1971 Current Population Survey (CPS) to assign a code for all occupations present in both surveys. A code from the Dictionary of Occupational Titles (DOT) was also assigned for each occupation. The DOT code indicated the skill requirements for a
particular job. From the DOT code a corresponding level from the General Education Development (GED) scale would be assigned. By cross-tabulating the occupation code from the CPS and the GED level generated from the DOT, Rumberger was able to determine the probability of holding a job with a certain GED level given the individual’s CPS occupation code (Rumberger, 1979). Next, Rumberger (1979), devised a series of equations to determine the individual’s level of overeducation.

The results of the study indicated that the economic position of college graduates did not decline when relative earnings was used as the method of comparison between the 1969 and 1975 sample groups. In contrast, overeducation, as measured by the discrepancy between the skill requirements of the job and the education of the individual, was evident for college graduates. In summary, the results indicated that when the economic position of college graduates in 1976 compared to 1969 were evaluated with regards to relative earnings, it appeared that their position did not deteriorate. When the measure of overeducation was used as the method of comparison than college graduates from 1976 appeared to be more overeducated then their 1969 counterparts and their economic position was considered to have declined.

Unfortunately, the overeducation measure used in the study was not without limitations. The first concern with the overeducation measure involved the failure to account for changes in job skill requirements over time (Rumberger, 1979). Skill requirements may increase or decrease depending on the occupation and degree of technological advancement incorporated into the occupation. Thus, some sort of mechanism for incorporating changes in skill requirements should be considered in
research on this issue. Rumberger (1979) has commented on this concern and has argued that change in skill requirements of an occupation during the time frame of his study would tend to be statistically nonsignificant and would not have influenced the results. However, with the current rapid rate of technological advancement and increasing numbers of people pursuing higher education, the changing demands of a particular occupation should be considered to avoid under or over reporting underemployment in the 1990's. For example, librarians today need skills in data management and information retrieval from data bases, skills which were virtually unknown twenty years ago.

A second limitation of Rumberger’s measure of overeducation involved individuals who were classified into the lowest educational category, or who possessed a level of education that was less than what was required for that occupation. In essence, these individuals were “undereducated” because their jobs required more education than they had completed (Rumberger, 1979). It is unlikely that Rumberger’s equation could adequately capture the experience of these individuals because he did not include job experience in the equations.

A third concern with Rumberger’s approach to the measurement of overeducation involves the lack of regard for the subjective experience of the individual in assessing overeducation. An individual’s perception about the employment experience may not coincide with the results obtained using the overeducation equation. An individual may not feel overeducated when the equation indicates otherwise, or vice versa.

Finally, the study focused on men and excluded women from the analysis. Women may follow different patterns with regard to the education they receive and the specific
type of jobs they tend to occupy. Both of these factors may contribute to different rates of overeducation for men and women and research must consider the female experience.

Rumberger’s objective approach to the measurement of overeducation demonstrated the problem with using a uni-dimensional measure which failed to adequately explain a multi-dimensional construct.

**Measurement of Overeducation (Burris, 1983)**

As noted above, Rumberger (1979) was interested in the economic position of college graduates as assessed through relative earnings and overeducation. Burris (1983) examined the effect of overeducation on a variety of worker attitudes including job satisfaction, political alienation, political leftism, and stratification ideology. What was of interest was the manner in which Burris (1983) defined, measured, and was able to approximate the prevalence of underemployment in the U.S. labour force. Burris (1983), operationalized overeducation as “a discrepancy between the education of the individual and the amount of education necessary for that particular occupation” (p. 454).

Therefore, individuals would be considered overeducated if their completed level of education exceeded the General Education Development score (GED), for that particular occupation.

Burris (1983) used a sample of 1534 participants taken from a United States National Survey Sample conducted in 1977-78, all of whom were employed on a full-time basis. The General Educational Development scale was once again used to measure overeducation as it was considered to be a direct approach to estimating the skill requirements of a job independent from the educational achievements of the worker.
To determine the GED level of skill requirements for a particular job, an average GED score was calculated for each occupational group and the skill requirement scores were then translated into the educational equivalent in years of school. Differences between the Rumberger (1979) and Burris (1983) GED scores were evident since different calculations were used to translate GED scores into educational requirements. An individual in one study which used the GED measure, could be considered overeducated for their occupation and in another study which applied a slightly different GED classification of years may not be considered overeducated. This discrepancy emphasizes the need for standardized calculation of GED levels across studies employing this measure. Regardless of this limitation some interesting results were generated from the study.

According to Burris, in 1977-78 approximately 21.7% of full-time workers were overeducated for their current positions and most of these individuals were not college graduates but participants who were in the middle levels of educational attainment (Burris, 1983). For participants who had 13-15 years of education, 37.7% were in occupations that did not require more than a high school education, and 30.9% of participants with 16 years of education were in occupations that did not require a college degree (Burris, 1983). Therefore, it was not the college graduates who experienced the highest levels of overeducation but high school graduates who, according to the GED, were in occupations requiring less education than they possessed. High rates of overeducation were similarly evident for individuals with one or more years of graduate training who tended to hold occupations that did not require specialized training beyond a college degree (Burris,
1983). This last finding may be related to the fewer job openings available for those with graduate training which force individuals to accept employment in occupations which fail to be commensurate with their education.

Gender differences were reported for the overall rate of overeducation with 22.7% of men experiencing overeducation and 20.1% of women (Burris, 1983). Several possibilities may exist for these gender differences. Burris (1983) suggested that female high school graduates tended to be employed in low-level white collar jobs that used skills taught in high school. On the other hand, male high school graduates had a higher tendency to be employed in unskilled, or semi-skilled occupations that did not use the skills learned in high school (Burris, 1983). Differences between men and women also existed at the college level with higher levels of overeducation for men having a Bachelor of Arts degree. Burris (1983), related this to higher rates of access to managerial positions for men which, although these positions were high in prestige, did not necessarily use the special skills acquired in college. Female college graduates were found to be employed in occupations that mandated a specific educational level before being hired. Such positions included social work, teaching, and several health related fields which had strict educational requirements for all entering into the occupation (Burris, 1983). A college education was the only educational level in which men had higher rates of overeducation. For all other educational levels women reported higher rates of overeducation than men (Burris, 1983).

Finally, the data indicated age differences in rates of overeducation when the GED was used as the only measure of overeducation. Younger workers were more likely to be
overeducated than older workers. The data showed that 27.4% of workers age 35 and under were overeducated compared to 16.3% of workers over the age of 35 (Burris, 1983). The difference between the age groups may be a reflection of the fact that young workers tended to be employed in jobs that were on the lower end of the career ladder before they were able to move up in their occupation. Similarly, the tendency for younger workers to be at the lower end of the career ladder coincided with a higher rate of overeducation for this age group. Age differences were found for all levels of educational attainment with the smallest difference between the two age groups for individuals who had 16 years of schooling. This finding contradicted the common notion that the rise in the rates of overeducation coincided with the rise in the number of college graduates (Burris, 1983). The results suggested that the trend towards overeducation does not occur because of the increase in the number of individuals attending college but was more the result of college graduates being unable to find occupations that used the skills they had acquired in college (Burris, 1983). The same can be said for individuals who pursued graduate training because in many instances, the rate of occupational return was fairly low when the educational level of graduate students was considered.

The results presented above illustrate the existence of overeducation but some reservations remain with using the GED as the single measure of overeducation. Some of the same limitations discussed with Rumberger (1979) also pertain to Burris (1983) but a few additional problems require discussion. First, a single measure item was inadequate for measuring a multi-dimensional construct. Overeducation was only one indicator of underemployment and more than likely other underemployment indicators will also be
present for the individual. In addition, the GED presented an estimated level of skill requirements necessary for an occupation and compared it to the individual’s educational attainment to determine overeducation. As was demonstrated in the comparison of GED levels in the Burris (1983) and Rumberger (1979) studies, different GED calculations lead to different rates of overeducation. To avoid this problem, it would be useful to use standardized GED levels in calculating overeducation.

A second limitation of using the GED was the assumption that an average GED score could be assigned to each occupational category, despite considerable variance within an occupation. For example, a high school guidance counselor and an addiction counselor are both considered counselors but each deals with different populations. An addiction counselor may spend more years in school but the GED is unable to distinguish between differences in skill requirements within the counseling occupation. Thus, educational requirements may be different within an occupation but the same GED score would be given to all participants in that occupational category (Burris, 1983). Therefore, the GED must, in some manner, take into account the variance within occupations.

Third, the GED failed to acknowledge the link between occupations. Certain jobs are stepping stones to higher skill and higher prestige occupations. In order to succeed, some time must be spent in these lower skilled jobs. Individuals may not feel overeducated if they believe that being in a lower skilled position is part of the job process that everyone goes through and things will change in time. In addition, and probably the most serious concern regarding the use of the GED to measure overeducation, was the
failure to incorporate subjective evaluations of the employment situation. Whether individuals considered themselves to be overeducated or not depends less on the objective measure of skill requirements of the job and educational level of the individual and more on a person’s perception of the employment situation. Certain individuals may fail to experience any negative consequences of overeducation even though objectively they possess more education than is necessary for an occupation. Others may have the required education but may feel underemployed because their personal aspirations and expectations are not satisfied in their job. This emphasizes the point that the GED is not the best possible method to explore underemployment because an individual’s skills may be underutilized objectively but the individual may fail to experience any dissonance in the employment situation.

Further, the GED failed to deal effectively with individuals who had less education than was required by the job but who felt overeducated because of the education that they had received through work experience. These individuals would not be objectively overeducated and the GED would fail to categorize them as such. The repercussions of this are that the rate of overeducation would be underestimated because it failed to consider education or training and skills acquired on the job. The above discussion of some of the limitations of using the General Educational Development (GED) scale highlight the need to depart from a single item measure to a multi-dimensional measurement approach to underemployment and the Labor Utilization Framework was designed with this purpose in mind.
The Labor Utilization Framework (Clogg & Sullivan, 1983)

The conceptual basis behind the Labor Utilization Framework (LUF) was founded on the notion that 'underemployment' presented itself as a small set of symptoms that included several conditions such as involuntary part-time work, working poverty, mismatch between educational attainment and employment requirements, and discouragement (Clogg & Sullivan, 1983). The LUF framework was applied to data from the U.S. Current Population Survey which covered a period of twelve-years (1969-1980). A detailed outline of the framework will be discussed in conjunction with some of the limitations and implications of the Labor Utilization Framework.

The LUF was comprised of six distinct categories that were created to analyze the employment experience. Four components dealt directly with various aspects of underemployment. The remaining components categorized individuals who were adequately employed, and those who were not currently members of the work force. The framework was hierarchically ordered and classified workers into mutually exclusive categories treating the different forms of underemployment in order of severity with the most severe form being "subunemployment".

The first category was termed subunemployment (S), and referred to the 'discouraged worker'. 'Discouraged workers' were individuals who were not currently employed and who had been unable to find work in the past year. Also, individuals who had been employed for only part of the year for various reasons were placed in this category. These individuals, for some reason, had stopped actively looking for work. The second category referred to unemployment (U). Individuals who were available to work
In a competitive market, firms are more likely to adopt innovative strategies and technologies. This can lead to increased productivity and efficiency. In general, a firm's competitive advantage is determined by its ability to innovate and adapt to market changes. This can be achieved through various means, such as research and development, strategic alliances, and mergers and acquisitions. Ultimately, a firm's success in a competitive market depends on its ability to continuously improve and stay ahead of its competitors.
and had participated in job seeking activity within the last month, and individuals who were waiting to be called back to a job from which they had been laid off were included in this category, as were individuals who anticipated starting a job in the next 30 days. This category was identical to the standard unemployment category used in general unemployment research. The third category was related to hours of work (H). This category included individuals who were employed part-time because full-time work was unavailable, or individuals who worked part-time because of economic reasons such as material shortages, repairs to plant equipment, termination, or start of a new job (Clogg & Sullivan, 1983). A work week of less than 35 hours was classified as part-time, and this standard was adapted by the LUF, the criterion also used by the U.S. Census Bureau to indicate part-time employment.

The fourth category was the low income category (I) which measured the "prevalence of work that does not produce adequate income for the individual worker" (Clogg & Sullivan, 1983, p. 121). This category was concerned with an individual’s work related income and not with any social subsidies or other income that the individual may have been receiving. Each individual’s work related income was calculated for the previous year because this was the only income information contained in the survey. Each individual’s income was compared to a "normative weekly wage which was equal to 1.25 times the Poverty Threshold for an urban male worker under the age of 65" (Clogg, Sullivan & Mutchler, 1986, p. 377). Any income figure below the Poverty Threshold would classify full-time workers in this category (Clogg & Sullivan, 1983).

The fifth category was termed mismatch (M), because the primary concern of the
category referred to possessing more education than the occupation required (Clogg & Sullivan, 1983). The mean number of educational years required for each occupation was calculated. Individuals were considered to be mismatched if they possessed the mean number of years of education plus one standard deviation (Clogg & Sullivan, 1983). The mean number of years of education for each particular occupation was calculated in 1970 and this figure was used as a benchmark figure for each of the succeeding twelve years to ensure reliability of measurement.

The final component was the adequate employment category (A) which indicated the absence of underemployment. Any individual who failed to experience any of the five preceding conditions would be adequately employed according to the LUF. Clogg and Sullivan (1983), considered the S, U, H, and I categories to be forms of economic underemployment and the M category to be distinct because although changes in the economy may affect the magnitude and composition of each of the four economic underemployment categories at any given point in time, the M category is not as closely connected to economic fluctuations.

The results of the study shed some light on the prevalence of underemployment between 1969 and 1980. The proportion of individuals who were adequately employed declined from 77.0% in 1969 to 67.4% in 1980 (Clogg & Sullivan, 1983). The most noticeable trend was found for the mismatch category which increased from 7.8% in 1969 to 14.2% in 1980 (Clogg & Sullivan, 1983). This seemed to indicate that there was an increase in the number of individuals with more education than required for the job relative to the number of jobs available for these individuals. When examining trends by sex, it
appeared that for the years of the study, the ratio of female to male rates remained stable, with the mismatch rate for females remaining at sixty percent the level of males (Clogg & Sullivan, 1983). Even though the composition of the labour force was changing with the inclusion of more women, the sex-underemployment relationship remained constant over the period of the study between 1969-1980.

Trends by age determined that the rate of mismatch increased for both old and young workers. In 1969, the rate of mismatch was 9.1% for the 20-34 age group and 7.1% for the 50-64 group and these rates increased in 1980 to 17.7% for the 20-34 group and 12.1% for the 50-64 group (Clogg & Sullivan, 1983). To attribute the rise in mismatch to a cohort phenomenon would be incorrect considering that those 20-34 years of age in 1969 would not be 50-64 in 1980. To ascertain that mismatch was a more prevalent concern for younger workers in the workforce would also be incorrect because the rate of mismatch rose for both young and old workers throughout the course of the study. Mismatch was a concern for both young and old workers and the M indicator was able to capture this.

Age differences also emerged for other LUF components. Throughout the course of the study, workers between the ages of 16-19 had the highest rates of S and U forms of underemployment and rates for the H component similar to those workers who were 65 years and older (Clogg & Sullivan, 1983). The I form was high among youth workers but the highest rates were found for workers in the 50-64 age group. For individuals between the ages of 20-34, high rates of unemployment and part-time employment were evident along with the highest rates of mismatch than any other age group. The 20-34 age group
had the greatest difficulty in "acquiring a full or part-time job (S, U, H), adequate income (I), and skill utilization (M)" (Clogg & Sullivan, 1983, p. 131). Between 1975 and 1980, approximately 37% of the 20-34 age group was underemployed in any or all of the underemployment components of the LUF. It appeared that individuals of any age were affected by some form of underemployment and young workers were not the only ones at risk.

The Labor Utilization Framework aimed to incorporate all employment problems under one measurement scale and to identify the presence of underemployment in the population under analysis. The framework was considered to be objective in nature. Although the LUF expanded the concept of underemployment to include various categories, several limitations to the LUF approach were evident.

The M component of the LUF was more complex than the definitions of other categories in the framework. Tipps and Gordon (1985) commented that the use of mean years of education plus one standard deviation, calculated in 1970, as the cutoff for determining mismatch was difficult to interpret because of its somewhat arbitrary definition. Changes in mean years of education for certain occupations and changes in skill requirements may have occurred over the course of the study and some mechanism or new calculations should have been incorporated to account for such changes. The use of 1970 as the benchmark for comparison was somewhat outdated and failed to incorporate the changes in educational requirements of particular occupations. Second, the LUF included unemployment as a form of underemployment in the hierarchy. The inclusion of unemployment in the LUF presents some concerns. Unemployment may be seen as a form
of inadequate skill utilization in which the individual fails to translate any skills and education to the job. To understand the consequences of underemployment, it is necessary for individuals to be employed. The bulk of the employment literature seems to indicate that unemployment and underemployment are different employment situations that should be studied separately.

Clogg and Sullivan (1983), failed to present a valid argument for their hierarchical approach to the various forms of underemployment and more clarification is needed. The LUF failed to deal with overlapping categories, and in fact, said very little about how individuals who fall into several categories should be dealt with. The hierarchical procedure starts at the top of the framework and works downwards to less severe forms of underemployment. For example, an individual may be classified as in both the low hours and low income category. The LUF would place this individual in the low hours of work category (H) because it appears higher up in the hierarchy then the low income category (I). This approach would appear to offer a quick fix solution to the problem with overlapping categories but, unfortunately, the framework fails to offer a rationale for why low hours of work would be considered a more severe form of underemployment than low income.

Finally, the S, U, and H components of the framework were related to the economic cycle more than other components. Accordingly, in times of a recession the S, U and H components would be high because job availability suffers in times of economic turmoil. Caution must be used when interpreting results because the LUF does not have a mechanism in place to account for such economic fluctuations. The LUF was an
improvement from previous objective indicators discussed because it constituted an attempt to include the various dimensions of underemployment under one measurement instrument. Unfortunately, placing individuals into mutually exclusive categories indicates that only a single aspect of underemployment affects the individual at one point in time. In fact, the individual may be affected by several aspects of underemployment including low hours and low income, and the LUF would not be able to convey this information adequately. Another issue relates to the exclusion of the underutilization of skills regardless of level of education. Skill utilization is important to the definition of underemployment because it identifies the presence of mismatch between the individual and the job. An individual may have skills that are not used on the job, and this may contribute to the experience of underemployment.

**Race, Sex and Underemployment (Tipps & Gordon, 1985)**

As a conceptual framework, the LUF made an attempt to measure the multiple dimensions of underemployment but some modification and expansion of the LUF were needed to address some of its limitations. Tipps and Gordon (1985), after reviewing existing measures of underemployment including the LUF, realized the need to develop indicators that would capture the various employment problems faced by women and members of minority groups. The literature demonstrated evidence that different employment problems affected and were experienced by men and women which required a more sensitive instrument. The new indicators created by Tipps and Gordon (1985) were concerned with three primary types of underemployment which focused on hours worked, skill mismatch, and income. The new indicators were designed for the purpose of
exploring intergroup differences among men, women, and members of minority groups. The rationale used by Tipps and Gordon (1985) was based on their understanding that members of minority groups and women, tended to suffer more underemployment and from different types of underemployment which existing measures were unable to demonstrate.

The first type of underemployment captured in the measure by Tipps and Gordon (1985) was underemployment through inadequate hours worked. Underemployment through inadequate hours worked had two subcategories. The first subcategory was called involuntary part-time employment which included all individuals who had worked less than 35 hours in the week preceding the survey. Individuals working less than 35 hours per week were asked to indicate reasons for this employment situation. Slack work, plant closures, material shortages, and inability to find full-time work were all conditions that defined the involuntary part-time category (Tipps & Gordon, 1985). This category was similar to the H (hours of work) category used in the LUF. The second subcategory for underemployment through inadequate hours was called intermittent unemployment during the year. Being unemployed for fifteen or more weeks throughout the year or being unemployed for three or more times in one year would constitute intermittent employment (Tipps & Gordon, 1985). This subcategory would ensure that individuals who were employed at the time of the study would be included here instead of being considered adequately employed. This category could be seen as a mechanism incorporated by Tipps and Gordon (1985) to ensure that individuals with unstable employment histories were not incorrectly viewed as adequately employed without
experiencing any employment problems.

The second type of underemployment was inadequate skill utilization, for which there were two subcategories. The first subcategory for inadequate skill utilization was called overeducation. The approach used by Rumberger (1979) was adapted and an individual was considered to be overeducated if educational attainment exceeded the requirements of the occupation (Tipps & Gordon, 1985). Using the GED described above, overeducation was indicated when individuals were employed in occupations that were not commensurate with their educational levels. For example, individuals would be considered overeducated if they had a college degree but were employed in an occupation that only required a high school diploma. Therefore, this indicator made an attempt to evaluate whether individuals had the ability to "transfer his or her educational attainment into a suitably comparable job" (Tipps & Gordon, 1985, p. 43). According to this definition of overeducation, it became evident that individuals who had less than high school education could not be overeducated. Because members of minority groups tended to have higher numbers of workers in this category than whites, members of minority groups would not be considered overeducated according to this definition (Tipps & Gordon, 1985). This problem was solved by standardizing level of education to avoid underrepresentation of a particular group, like members of minority groups, in the overeducation category.

The second subcategory for underemployment through inadequate skill utilization was working in a marginal job. Marginal jobs were defined as those that required minimal job-skills or training and limited room for career advancement (Tipps & Gordon, 1985).
In particular, marginal jobs were those that required "3 months or less of specific vocational training or experience" (Gordon, Hamilton, & Tipps, 1985, p. 8). Jobs found in this category included dishwasher, messenger, maid, and elevator operator (Tipps & Gordon, 1985).

Underemployment through low pay was the third type of underemployment. The first subcategory of this type of underemployment was termed 'absolute pay inadequacy' and examined family incomes and whether or not they were below the poverty line (Tipps & Gordon, 1985). This measure was included because it was assumed that families with incomes below the poverty line would have individuals experiencing employment difficulties. The second subcategory of pay inadequacy was termed low relative pay or relative pay deprivation. Workers were part of this category if "their earnings for the previous year were under half of FAIR.PAY" which was based on a regression equation that used a variety of predictors including average local earnings, weeks worked last year, hours worked in last year, years of education, age, GED score, and average amount of training required for the occupation to calculate the equation (Tipps & Gordon, 1985).

The model created by Tipps and Gordon (1985) measured three different types of underemployment: inadequate hours worked, inadequate skill utilization, and low pay. The model was applied to data from the 1980 March Current Population Survey which was a sample of approximately 147,000 individuals aged 14 years and over, conducted in the United States. The results for underemployment through inadequate hours indicated that for the involuntary part-time employment subcategory, white men had lower rates than men who were members of minority groups (Tipps & Gordon, 1985). Women
generally experienced this type of underemployment more often than their male counterparts (Tipps & Gordon, 1985). For the intermittent employment subcategory it was found that, in general, white women experienced this form of underemployment less often than men. Men who were members of minority groups experienced the highest rates of all.

For underemployment through inadequate skill utilization, the subcategory of overeducation indicated that women experienced this form of underemployment less often than men. The lowest rate of overeducation was for white women (Tipps & Gordon, 1985). Once again, men who were members of minority groups appeared to have the highest rates of overeducation demonstrating the problem experienced by male members of minority groups of finding jobs equivalent to their level of education. Women tended to experience overeducation less often than men, possibly because women appeared to be employed in traditional occupations like nursing and teaching which demanded certain educational requirements (Tipps & Gordon, 1985). The marginal jobs subcategory indicated that white men had the lowest rates of employment in marginal jobs in general, and rates for women were higher (Tipps & Gordon, 1985).

For underemployment through low pay, it was found that the subcategory of absolute pay inadequacy through family incomes was experienced less often than any other subcategory of underemployment. Women experienced lower rates than men in all groups except for black women who had higher rates. The second subcategory of pay inadequacy examined individual wages of which white men had the lowest rates. The highest rates were experienced by all women which presented rates double those of white men.
Although the Tipps and Gordon (1985) scale was created to measure underemployment for women and members of minority groups, some limitations exist with the scale. First, the marginal jobs index failed to consider that many individuals holding a job classified within this category may hold these jobs on a part-time basis while in school or as a second job on weekends. Although employed in these various jobs, these are not the occupations that they will necessarily hold for long periods of their lives. This points to the problem of failing to consider that some jobs are stepping stones to higher positions or a means to an end to get through school. It may be beneficial to incorporate more specific criteria for classifying individuals into this category. Second, the problem exists with the actual definition of underemployment. This involves the inclusion of the unemployment category in the underemployment measure. Individuals who are not employed probably should not be considered underemployed simply because they are not using their education and skills at a particular point in time. More likely, unemployment can and should be considered a different experience from underemployment.

Finally, a problem occurred in the manner in which information was obtained. The units of analysis were different for each index. For example, to measure intermittent employment the individual was asked to consider the previous year’s employment history whereas for involuntary part-time employment, the week prior to the survey was used as the time frame (Clogg et al., 1986). The researchers also standardized the education measure which, although considered a short-term solution for the different schooling experiences of women and members of minority groups, made it extremely difficult to compare these results to other studies that did not standardized the education measures.
A comparison between the Labour Utilization Framework (LUF) and the Tipps and Gordon (1985) scale was done, using the data from the 1980 Current Population Survey. Both scales had an unemployment category with the LUF reporting an unemployment rate 6.5% compared to 6.7% for the other scale (Tipps & Gordon, 1985). The rates for involuntary part-time employment were the same at a rate of 3.4% (Tipps & Gordon, 1985). Unlike the LUF, the Tipps and Gordon (1985) scale had an intermittent employment category which reported a rate of 5.4%. Differences existed between the LUF category of skill mismatch, defined as any individual with more education than was required for a particular occupation, and the Tipps and Gordon (1985) overeducation indicator which used the GED to measure the actual education needed for a job. The results of skill mismatch from the LUF were 14.2% compared to the overeducation category with a rate of 23.1% (Tipps & Gordon, 1985). Using the Tipps and Gordon (1985) category, more individuals were considered to be underemployed when the same data set was used. The marginal jobs category used by Tipps and Gordon (1985) was unique to their study and yielded a rate of 10.0% as was the inequitable pay category with a rate of 20.1% (Tipps & Gordon, 1985). Tipps and Gordon (1985) reported that the results in their study showed that women were affected more than men with regard to inequitable pay.

Finally, the poverty wages category used by Tipps and Gordon (1985) used family income rather than individual income which gave a rate of 2.5% compared to the low income category of the LUF with a rate of 7.3% (Tipps & Gordon, 1985). The LUF
looked at low individual income regardless of whether the family income was high. By using the same data set, the two scales defined the same category differently.

*An Extension of the Labour Utilization Framework (Clogg, Sullivan & Mutchler, 1986)*

The criticisms of the LUF that were presented by Tipps and Gordon (1985), propelled Clogg, Sullivan and Mutchler (1986) into modifying and extending the LUF with consideration of the limitations noted about the framework. The modified LUF had eleven categories which were hierarchically ordered to eliminate counting the same person in two or more categories. The categories, which were mutually exclusive, are as follows in ascending order: 1) Subunemployment (same category as in original LUF); 2) Unemployment by reason of quitting or job loss; 3) Unemployment by reason of layoff; 4) Unemployment, residual (categories number 2, 3, and 4 are equivalent to the original U category of the LUF); 5) Part-time employed by reason of no full-time work available; 6) Part-time for economic reasons (e.g., material shortages in plants). Categories 5 and 6 are equivalent to the H category in the original LUF; 7) Voluntary part-time workers; 8) Intermittent employment, for workers not already counted above in any category; 9) Low income underemployment; 10) Mismatch; 11) Adequately employed full-time workers. The last category was purposely placed at the end to ensure that all part-time workers would already have been counted (Clogg et al., 1986). Additionally, Clogg et al., (1986) placed the voluntary part-time worker category as number 7 because they wanted to ensure that categories numbered 8 through 11 would refer only to full-time workers. One of the reasons for the modification of the LUF, aside from addressing some of the framework’s limitations, was to examine temporal changes in the workforce. Clogg et al.,
(1986) created a scale that was sensitive to intergroup differences, addressed previously stated limitations, and examined temporal changes in underemployment.

The modified LUF was applied to 1980 and 1982 March data of the Current Population Survey which had been used with the original formulation of the LUF as well as by Tipps and Gordon (1985). These two years were chosen specifically to correspond to the major recession that was affecting the American labour force. Results that emerged with regard to male and female differences indicated that subunemployment was a larger problem for women than for men in both years with 1980 and 1982 (men 0.5%, 2.0% and women 1.1%, 2.4%, respectively) (Clogg et al., 1986). Unemployment due to quitting, job loss, or layoffs was a larger problem for men while women had higher rates of unemployment due to entering and re-entering the work force (Clogg et al., 1986). Women experienced higher rates of part-time work because no full-time work was available while similar rates for men and women were found for the part-time work category due to economic reasons (Clogg et al., 1986). Men had higher rates of intermittent employment while the low income and mismatch categories had similar rates to the original LUF version with women having higher rates of low income in both years and men experiencing higher levels of mismatch (Clogg et al., 1986).

Examination of temporal changes revealed that between the years 1980 and 1982, the rate of underemployment in all categories increased for men and women. The mismatch category showed a small decrease for men from 17.7% to 17.2% in 1980 and 1982 respectively (Clogg et al., 1986). This slight decrease may have been the result of the recession in which individuals were forced to put themselves in other categories of the
hierarchy which would then exclude them from the mismatch category (Clogg et al., 1986). Although the modified LUF categories gave a more detailed break down of the numerous ways an individual may be underemployed, it once again failed to consider the possibility of overlap. An individual can experience mismatch and low income at the same time and the modified LUF would not be able to adequately capture this situation. Individuals may be affected by more than one aspect of underemployment and the modified LUF did not consider this limitation when changes were being made to the framework. Additionally, although the modified LUF provides a detailed categorization of employment situations it does very little to further the understanding of underemployment. The criticisms brought forth by Tipps and Gordon (1985) appeared to have encouraged Clogg et al., (1986) to respond with a more elaborate framework that failed to advance the understanding of the underemployment concept since it only provided a more detailed breakdown of the previously existing mutually exclusive hierarchical LUF categories.

Underemployment as Income Loss (Zvonkovic, 1988)

Zvonkovic (1988) was interested in the relationship between income loss and individual and marital adjustment to the employment situation. Underemployment was measured using income level. An individual was considered to be underemployed if, in any of the five years preceding the study, there was a decrease of 20% or more in current annual earnings (Zvonkovic, 1988). The study looked at married couples, using the husband’s income as the standard with which to measure underemployment. The focus on the husband’s income was taken to ensure that any decrease in income was not related to a family event such as the birth of a child (Zvonkovic, 1988). How this measure differed
from other existing objective indicators was its exclusion of unemployed individuals from the study. The focus was directed instead to the psychological effects of underemployment relative to adequate and full employment (Zvonkovic, 1988). Unemployment was considered to be a separate employment concern.

Thus, in this study, underemployment was defined on the basis of income and looked at the psychological consequences of underemployment on the family. The sample consisted of 25 families in which the husband was underemployed, and 88 families whose income had remained relatively stable for the past five years (Zvonkovic, 1988). Results indicated that both husbands and wives who were considered underemployed were more dissatisfied with their financial situation than the fully employed couples. Also, increased levels of depression were reported for underemployed husbands. Husbands who had a high fear of success and who also blamed their wives for the financial situation were more depressed than husbands in fully employed couples (Zvonkovic, 1988).

Zvonkovic (1988) found that risk of depression for underemployed husbands was strongly related to attitudinal and attributional factors whereas risk for depression in continuously employed husbands was related to marital interaction factors (Zvonkovic, 1988). With regard to marital satisfaction, the results showed that underemployed couples were less satisfied with their marriages than fully employed couples (Zvonkovic, 1988). Thus, the results appeared to show that underemployment, defined as income loss, was accompanied by an increased risk for depression and dissatisfaction with marital interactions (Zvonkovic, 1988).

The results suggest some of the consequences of underemployment for married
couples. However, as important as these results may be, there were limitations to the underemployment measure used in the study. First, income loss is only one manner in which an individual can be classified as underemployed. As already discussed, underemployment should be considered as a multi-dimensional construct because there are different ways in which an individual can be underemployed. Second, the low number of couples in the underemployment category warrants caution when interpreting the results. Third, although a rationale was provided for the use of the husband’s income, there may have been families in which the wife was the main breadwinner and earned more than her husband. To account for this, an adjustment could have been made to include those couples in which the wife earned more and underemployment may have resulted from the wife’s loss of income. The results of this study were important to the understanding of the consequences of underemployment although the narrow definition failed to improve it's measurement.

II. Underemployment: Subjective Measures of Underemployment:

The previous discussion provided an overview and critique of existing objective underemployment indicators. Several limitations were found with these indicators. Also important to understanding underemployment is the individual’s subjective experience and the indicators that have been designed to measure it. The term subjective refers to the individual’s emotions and perceptions. Indicators of this nature include, but are not limited to, questions that pertain to the emotional consequences of the occupation on individuals, whether individuals believe their educational attainment exceeds the requirements of the job, and whether individuals believe that their skills are under-utilized.
Subjective indicators focus on identifying various components of the individual’s employment experience relevant to the individual. Psychologists have examined the psychological effects of underemployment on individuals through the use of subjective indicators (Jones-Johnson & Johnson, 1992; Burris, 1983; Staines & Quinn, 1979).

Perceptions about the job experience can provide useful information regarding an individual’s satisfaction or dissatisfaction with work. O’Brien (1986) states that there is evidence to support the notion that a relationship exists between employees’ judgements about their jobs and the actual objective job characteristics. He reported a high positive relationship between employee and expert job descriptions, a high positive relationship between objective task procedures and employees’ description of the job, and a relationship between the objective job attributes and outcomes such as job satisfaction. Subjective measures yield results that are reliable, and when underemployment exists, subjective self-report measures can provide accurate and precise information regarding the individual’s experience which the objective indicators may fail to detect. Thus, evidence is available to support the argument that an individual’s perceptions are related to an objective reality which, in turn, has psychological meaning for that individual (O’Brien, 1986). The meaning for the individual has psychological consequences which, for the most part, have been identified as being negative (O’Brien, 1986).

Jones-Johnson and Johnson (1992), conducted a study that examined the relationship between subjective underemployment and psychosocial stress. They noted that self-reports of subjective states cannot be wrong or inaccurate because, by definition, only an individual can accurately report how and what constitutes satisfaction, stress,
health, and anything else under investigation. Recent work has suggested that subjective reports are, in fact, “the products of need dispositions, cognitive capacities, and interpretive procedures used by the respondent to generate reports concerning internal states” (Jones-Johnson & Johnson, 1992, p. 16). Although errors in self-reports may occur for a variety of reasons including social desirability, the purpose of the subjective report is to describe the reality for that particular individual and only that individual can accurately report it. This is important because, as indicated above, one limitation of objective measures, is that individuals may have more education than their job requires but may not feel underemployed because they realize that their current job is a stepping stone to a higher position. Workers often understand they need to start at the bottom of the job market and work toward the top. For this reason, individuals may not feel underemployed at the time but would be classified as such using an objective measure.

Information obtained from subjective reports is useful because it is able to account for perceptions about the job and consider such factors as changes in job skills over time. In addition, subjective indicators consider more than just income level, level of education, and hours worked as contributing to the definition of underemployment. A limited number of studies have used subjective measures of underemployment and a review of these measures follows.

The Quality of Jobs Evaluated (Staines & Quinn, 1979)

In 1977, Staines and Quinn conducted a survey designed to measure the quality of employment as experienced by workers in the United States (Staines & Quinn, 1979). The areas of concern in the study included job satisfaction, intention to change jobs, life
satisfaction, as well as work-related problems such as income, fringe benefits, lack of control over work conditions, safety and health hazards, number of hours worked, and utilization of skills (Staines & Quinn, 1979). Questions regarding each work related area were measured by two methods. First, a single open ended question was presented to encourage the employee to communicate individual feelings freely. An example of a question was, "How satisfied would you say you are with your job?" (Staines & Quinn, 1979). This general question allowed respondents to include any comments they deemed relevant. The single open ended general question was then followed by a set of specific questions related to each area of concern (Staines & Quinn, 1979). In particular, the survey explored the issue of the utilization of skills and whether employees felt their jobs provided adequate opportunity to use their skills to the fullest potential. Results from this 1977 study were compared to a similar study that had been conducted in 1973 to examine changes in job satisfaction over time. Results from the study found that there was a decrease in level of job satisfaction between the years 1973 to 1977, as measured by the single item. Even further decline was noted for the specific questions regarding job satisfaction.

Another area of interest was number of hours worked. The hours considered to be a normal work week ranged from 35 to 44 and the general question regarding number of hours worked revealed a decline in the number of individuals working a normal work week between 1973 and 1977 (Staines & Quinn, 1979). The specific questions for hours worked revealed that particular problems like inadequate control over the number of hours an individual was able to work increased between 1973 and 1977 (Staines & Quinn,
The results for skill utilization showed a general decline in the extent to which employees thought their skills were being used to the fullest. Between 1973 and 1977, 36% of individuals considered their skills to be underutilized. This does not mean that an individual's skills were not being used at all on the job but, individuals believed they did not have the opportunity to use their skills to the fullest potential (Staines & Quinn, 1979). Overall, the study demonstrated that American workers experienced a decline in satisfaction in their jobs between 1973 and 1977. The researchers state that the results from their study could possibly be related to the rising expectations that employees had regarding their occupations and the role these expectations had in contributing to general life satisfaction (Staines & Quinn, 1979). The researchers were interested in examining the subjective experiences of workers as they related to various areas of satisfaction. The manner in which this was accomplished was through the use of single questions which were designed to encourage further elaboration from the employee.

Although the questions were created to explore issues of skill utilization, number of hours worked, and other work related issues, there are limitations with using a single question for each category. First, an employee may respond without understanding the question. Other questions were not available to ensure that the response the individual gave was consistent with what the individual was feeling. If the same question were asked in a variety of different ways, it would be possible to determine the consistency of the response. The second problem with using a single, open ended question relates to the difference in responses between the open ended general question and the closed ended
specific questions. Some differences in results between the two types of questions were found in that two different styles of questions generated different results. As well, the reliability of single-item variables is generally low. The next subjective indicator to measure underemployment was found in a study conducted by Burris (1983).

A Qualitative Approach to Underemployment (Burris, 1983)

Building on the study by Staines and Quinn (1979), Burris (1983) conducted a study of 32 low-level clerical workers in a large corporation to further explore some of the consequences of underemployment. In particular, Burris (1983) described underemployment as including unmet expectations and inability to advance further in one’s occupation. Clerical workers in a large corporation were chosen for the sample because it has been reported that subjective underemployment in the clerical sector is quite high (Bowles & Gintis, 1976; Brown, 1979). The basic question asked of all employees was phrased in the following manner, “Do you feel overqualified for your job?” (Burris, 1983). The results indicated that regardless of education level, feelings of overqualification were found with 60% of high school graduates, 60% of individuals with some college, and 92% of college graduates reporting that they believed they were overqualified for their jobs (Burris, 1983).

High school graduates felt overqualified because their potential was not being used fully and there were few opportunities to learn and grow on the job (Burris, 1983). College graduates expressed similar feelings but they also expressed their inability to use the skills and knowledge that they had acquired in college while on the job (Burris, 1983). Other concerns were related to job dissatisfaction, job turnover, and opportunity for
promotion. With regard to job dissatisfaction, college educated individuals were more likely to express their dissatisfaction with their jobs describing factors such as a lack of autonomy, incompetent supervision, and high workplace control (Burris, 1983). The issue of workplace control was a problem for all employees regardless of educational background (Burris, 1983). Burris (1983) found that employees with less than college education were more likely to blame themselves for being in an employment situation in which they could not use their skills to the fullest potential.

When Burris (1983) examined turnover rates she found that individuals with some college education reported having higher turnover rates. Employees with higher education believed their education entitled them to an occupation which at least used the skills they had acquired in college. Additionally, the college graduates reported having more negative feelings about their co-worker relationships (Burris, 1983). These employees reported feeling that other co-workers were suspicious of their higher education (Burris, 1983). In contrast, individuals with less than two years of college had more positive feelings about the co-worker relationships they had within the office (Burris, 1983).

Overall, it was found that the clerical workers in the study were frustrated by the lack of ability to learn and grow on the job and by the lack of opportunity to use the skills they had acquired from their education. Burris (1983) reported that all the participants, regardless of their educational level, felt overqualified and unable to advance in their current positions. From this finding, Burris (1983) concluded that underemployment consists of more than relative education level.

In Burris’ (1983) study, one general question was used to explore the issue of
underemployment. Reliance on one general question to capture the necessary information can be considered a limitation of the study. As with the Staines and Quinn's (1979) study, a single item question cannot adequately capture the various concerns that employees may have about their job. One question may, in fact, inhibit individuals from talking about all of their concerns. Underemployment is a complex issue and a single item question is inadequate to tap into the subjective experience of underemployment. The development of further subjective measures attempted to deal with the limitation of a single item measure by incorporating several questions to capture the multidimensional aspects of underemployment.

Subjective Underemployment and Psychosocial Stress (Jones-Johnson & Johnson, 1992)

Jones-Johnson and Johnson (1992), investigated the relationship between underemployment and psychosocial stress in a sample of 212 public utility employees. Perceptions of social support from family and friends and supervisor support were included because it was thought that they played a large role in influencing subjective underemployment. Subjective underemployment was assessed using four questions adopted from Shockey (1985): Would you say that you feel overeducated in your present job? Would you say that you feel overqualified in your present job? Do you have skills from your experience and training that you would like to be using in your work but can’t use on your present job? On your current job, would you say you feel underemployed? Each response was coded 1 if the response was yes and 0 for a no response (Jones-Johnson & Johnson, 1992). The answers from all four questions were then summed to create a subjective underemployment scale (Cronbach’s $\alpha = 0.75$) that ranged from 0 to 4
The results showed that there was a positive, significant relationship between perceived underemployment and the five indices of psychosocial stress: depression, frustration, hostility, psychosomatic stress, and insecurity (Jones-Johnson & Johnson, 1992). The more underemployed the individual felt, the higher were the levels of psychosocial stress, an effect which remained significant even when controlling for an individual's education, income, age, sex, and marital status (Jones-Johnson & Johnson, 1992). Although Jones-Johnson and Johnson (1992) hypothesized that social support would have a buffering effect on the relation between subjective underemployment and psychosocial stress, the results did not support this buffering hypothesis.

The one limitation of the study was that it only looked at one group of employees working in a U.S. government agency and therefore, the results may not generalize to individuals in other occupations. However, the results from this particular study demonstrated that the four questions could be converted into a subjective underemployment scale which was related to subjective stress. This represents progress from single-item indicators to a more complex multiple indicator approach. Our own research builds upon this work in developing a scale that taps the various dimensions of underemployment.

**Underemployment Scale (Kambouris & Sadava, 1997)**

The Underemployment Scale created for this study used a multi-dimensional approach to measuring underemployment. The scale was created by building on existing subjective underemployment measures such as those developed by Jones-Johnson and
Johnson (1992) and Shockey (1985). The Underemployment Scale consists of three subscales that were factor analytically derived from 18 individual items. Each subscale taps into a different dimension by asking individuals what their perceptions are about various aspects of their jobs. The scale avoids imposing standards against which individuals are compared. For example, income is not used as an indicator because it is believed that income fails to incorporate the inequalities between men and women and ethnic minorities who have tended to earn less than white males. The Underemployment Scale consists of three subscales each of which will be described in detail.

The first subscale is called Person-Job Mismatch and consists of the following three items: (a) My job provides me with opportunities to learn new things, (b) I feel that my job allows me to make use of my training, and (c) My talents are fully used in my job. This subscale focuses on the degree of congruence between the individual’s skills and training and the opportunity to use these skills on the job. If the individual believes that the job does not provide the opportunity for the use of his or her skills and training, person-job mismatch, one indicator of underemployment, is thought to exist. This underemployment subscale can be considered to be related to the many theories which underlie the Person-Environment Fit Model in which there is misfit between the “individual’s work style or ability level and the organizational requirements or job demands” (Gutierres, Saenz, & Green, 1994). The misfit experienced by the individual is expected to produce stress which may have consequences for the individual (e.g., depression, tension, and job dissatisfaction) (Gutierres et al., 1994).

The second subscale is called Subjective Underemployment. It consists of six
questions: (a) I feel qualified for a full-time job but can only find part-time work, (b) I have the motivation and energy to work more hours than I can get, (c) Because times are tough, I haven’t been able to find a steady job, (d) I have skills that I would like to be using in my job but I can’t, (e) With my experience, I could take on more responsibility than I’m given and, (f) I feel underemployed in my current job. Thus, the subjective experience of the individual with regard to their current job is taken into account in defining underemployment. In many instances, individuals work in part-time positions because full-time work is not available and not because they do not want to work. Also, jobs that do not give the individual enough responsibility or are not challenging enough for the individual are aspects of underemployment.

The third subscale is termed Perceived Job Requirements. This subscale examines individuals’ perceptions and expectations about their current job. O’Brien (1986) suggests that unrealized expectations about one’s occupation can produce effects on the individual which are related to mental health, work performance and behaviour. This subscale was created to try to understand the individual’s job perceptions. The items comprising this subscale were: (a) When you applied for the job, what level of education did your employers expect you to have, (b) How much education do you think is needed for your job, (c) When you applied for the job, how much training did your employers expect you to have, (d) How much training do you think is needed for your job, (e) My formal education overqualifies me for this job, (f) With my education and training, I feel qualified for a much better job than the one I have. The more unrealized expectations about job requirements and the general nature of the job, the more underemployment the
individual is thought to be experiencing. Taken together, the three subscales are believed to measure the various dimensions of underemployment. The higher the subscale scores, the more extreme is the individual’s level of underemployment. A more detailed analysis of the factor loadings and reliability of the scale is provided in the method section.

To summarize, the review of existing objective and subjective underemployment measures has increased our understanding of the conceptualization of underemployment. For the purposes of this research, underemployment is understood to be a multi-dimensional construct that is best tapped through a subjective measure that examines an individual’s perception and personal understanding of underemployment. Subjective measures are sufficient indicators of underemployment.

III. Depression and Depressive Affect

Researchers’ interest in the study of depression is evidenced by the sheer volume of journal articles devoted to the topic. As a result, a number of different theories have emerged which offer explanations for the occurrence of depression including biological, cognitive, and psychosocial theories. Each theory has added to the understanding of depression and depressive affect while at the same time raising some important questions. In this study, depressive affect will be focused upon but, before proceeding some important considerations need to be discussed.

First, the distinction must be made between major depression or clinical depression and depressive affect. The diagnosis of major depression or clinical depression is made when an individual meets certain diagnostic criteria outlined in the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition
(1994). Core signs and symptoms include depressed mood, a decreased interest in activities, significant weight loss, insomnia, fatigue, feelings of worthlessness or excessive guilt, decreased ability to concentrate, and thoughts of death. The individual must experience at least five or more of the symptoms over a two week period in order to be diagnosed as having major depression. The symptoms cannot be the result of drugs, any medical condition, grief, or bereavement. When the diagnosis has been made for major depression, some type of treatment is sought which may include medications and/or some form of counselling.

The most consistent finding relating to clinical depression is that women tend to have a substantially higher rate than men (e.g., Weissman & Klerman, 1977). Joiner Jr. and Blalock (1995) note that women have an incidence rate of clinical depression and depressive symptoms which is two to three times higher than men. According to the DSM-IV (1994), the lifetime risk for major depression ranges from 10% to 25% for women and 5% to 12% for men. A similar finding of gender differences also emerges for depressive affect.

The difference between clinical depression and depressive affect may be in the manner in which the individual is affected. The manifestation of clinical depression involves more than the presence of depressed mood and includes severe impairment in the social or occupational aspects of the individual’s life. Further, for a diagnosis of major depression, some symptoms must be objectively observed by others as well as subjectively reported by the individual, whereas the experience of depressive affect is obtained through self-report of the individual only.
The focus of this study deals with general population depressive affect, particularly depressed mood, in relation to underemployment. Depressive affect has been found to be consistently related to unemployment and more recently to underemployment (Feather & Barber, 1983; Reynolds & Gilbert, 1991; Winefield et al., 1991). Feather and Barber (1983) noted that depressive affect occurs in everyday life and is not “an infrequent reaction to stressful situations” (p. 186). When individuals fail to meet their aspirations and expectations, depressive affect may be indicated as a consequence (Feather & Barber, 1983). In their study, it was noted that when individuals were faced with being unable to attain a certain occupational goal, like working in a certain position, frustrated work motivation and depressive affect were reported.

Underemployment has been linked to poorer general mental health (Feldman & Turnley, 1995). In particular, underemployment has been found to be positively correlated with depressive affect (O’Brien, 1986). The assumption behind this finding relates to the discouragement of failing to achieve one’s occupational goals produces negative attitudes and feelings, one of which is depressive affect.

In summary, depressive affect was described as depressed mood and was the focus in this study. The literature suggests that a relationship exists between underemployment and depressive affect. Unrealized expectations and aspirations related to an individual’s occupation may promote negative emotions and cognitions which may result in the experience of depressive affect. This study used a scale that measured depressive symptomatology in the general population with a particular emphasis on depressed mood (Radloff, 1977).
IV. Coping

Coping has been defined as “the person’s constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the person’s resources” (Lazarus & Folkman, 1984, p.993). From this definition, coping can be viewed as an individual’s effort to maintain psychological adjustment and avoid distress. The following discussion will highlight and clarify some of the current issues and controversies that can be found in the coping literature.

In order to understand the relationship between coping and adaptive and maladaptive functioning, it is necessary to outline how coping has been categorized. Individuals may rely on two general coping strategies, approach coping and avoidance coping. Approach coping includes such efforts as problem-solving and seeking information and also seeking support from others (Holahan, Moos & Schaefer, 1996). Approach coping is also referred to as problem-focused coping in which direct action is taken to alleviate or minimize the stressor in the environment. Avoidance coping is the second general coping strategy discussed most often in the literature. Avoidance coping may include such actions as denial or withdrawal and has been “generally associated with psychological distress” (Holahan et al., 1996). Avoidance coping is also referred to as emotion-focused coping which includes self-preoccupation, fantasy, and activities related to affect regulation (Holahan et al., 1996). Holahan et al., (1996) have proposed four basic categories of coping which include both approach and avoidance coping strategies as well as incorporating cognitive and behavioural efforts. As a result, the four categories include cognitive-approach, behavioural-approach, cognitive-avoidance, and behavioural-
avoidance. The cognitive-approach category includes such actions as thinking of different ways to deal with the problem, and reappraising the situation from a positive perspective. The behavioural-approach category includes taking direct action to alleviate or minimize the stressor and seeking support and guidance. The cognitive-avoidance category includes such actions as trying to forget the stressful situation and losing hope that things would ever return back to the way they were. The behavioural-avoidance category includes such actions as looking for new activities to remove oneself from the stressful situation and allowing for emotional discharge (Holahan et al., 1996). It is from these categories that the coping strategies used in this study were adapted.

In our study, coping was classified into three categories: problem-solving, seeking social support, and avoidance. The problem-solving category, or problem-focused coping, includes any effort that is directed toward solving or minimizing the effects of the stressful situation (Holahan et al., 1996). Seeking social support is a strategy that individuals use to find support in others around them to assist in dealing with the problem and any emotions that may arise. The final coping category used in this study is avoidance coping, which includes such strategies as wishful thinking, overt efforts to deny the situation, and self-distraction to assist the individual to avoid or forget the stressor (Zeidner & Saklofske, 1996). Thus, three categories of coping were measured and each individual in the study reported three coping scores. Individuals could report using one type of coping strategy more often but, could also report using the other two strategies. This method enforces the notion that just because an individual tends to use one coping style regularly, it does not mean that the other coping strategies are never used. Some controversy exists
in the literature as to whether coping should be viewed as a dispositional style or whether it can be considered a process, and a brief review of the literature will highlight the major arguments on this issue.

There are several studies that argue for a dispositional style of coping and those that emphasize coping as a process. In the literature, this distinction is often referred to as the interindividual (dispositional or trait approach) and the intra-individual (specific coping styles used in different situations) approach to coping (Parker & Endler, 1996). The literature is vast and not always consistent, and for this reason, researchers have not been able to combine the two approaches to arrive at a more comprehensive understanding of coping.

The interindividual approach examines "habitual coping strategies that are used by an individual across different types of stressful situations" (Parker & Endler, 1996, p.11). Support for an interindividual approach to coping is derived from test-retest studies of coping measures which reveal that individual coping is stable over time (Holahan & Moos, 1987; Amirkhan, 1990). For example, the Coping Strategy Indicator developed by Amirkhan (1990) and used in this study, found test-retest values to be: 0.83 and 0.77 for the problem-solving scale, 0.80 and 0.86 for the support seeking scale, 0.82 and 0.79 for the avoidance coping scale over 4 to 8 weeks of his study (Amirkhan, 1990). The samples were community members and university students and the coping style used tended to be consistent over the course of the study. Further evidence is provided by Carver, Scheier, and Weintraub (1989), who support the notion that a habitual way of coping with stressful situations can be influential when an individual encounters a new situation. In some
instances an individual may only know how to use a certain coping strategy that has been useful in previous situations.

The intraindividual approach to coping focuses on the particular coping strategies used in a variety of different situations. This approach "assumes that individuals have a repertoire of coping options available to them from which they can build what they believe to be the most effective strategy, depending on the nature of the situation" (Parker & Endler, 1996, p. 12). In this approach, coping is viewed as a process in which the coping strategy used will vary across situations for the same person. Some studies have found that individuals use different coping strategies across situations and others have reported inconsistent results. The controversy remains in the literature as to which approach best conceptualizes coping. Instead of focusing on one approach, several researchers have focused on the transactional theory of stress and coping in which "coping changes over time in response to changing objective demands and subjective appraisals of the person-situation interaction" (Porter & Stone, 1996, p.133). Coping, in this regard, is viewed as being a stable pattern although situational factors could change the coping style. Thus, individuals are viewed as having their own particular coping style which they rely on in a variety of situations but, this style may change as a function of the situation or circumstances.

Aside from considering the interindividual and the intraindividual approach to coping, it is important to explore the research for the consequences of using a particular coping style. There is a substantial amount of research which indicates that problem-focused coping tends to predict positive adaptation and outcomes (Compas, Malcarne &
Fondacaro, 1988; Mitchell, Cronkite & Moos, 1983). For instance, in a study by Parkes (1990), it was found that problem-focused coping was adaptive for managing work stress. The individuals who used problem-focused coping strategies were found to have better general health than those who used other coping strategies (Parkes, 1990). Several other studies have reported that problem-focused coping is significantly predictive of adaptive functioning (Bhagat, Allie & Ford, 1991; Headey & Wearing, 1990; Mitchell, Cronkite & Moos, 1983).

In contrast, avoidance coping has been found to be related to distress and maladaptive functioning (Holahan et al., 1996). It has been reported that avoidance coping is correlated with depression due to the use of strategies such as self-blame, worrying, and venting negative emotions. Windle and Windle (1996) found that avoidance coping was positively related to depression and to alcohol problems in a sample of adolescents. Other studies report similar negative outcomes with avoidance coping (Rohde, Lewinsohn, Tilson & Seeley, 1990; Smith, Patterson & Grant, 1990).

Seeking social support has been found to have positive psychological effects when the support comes from individuals who are socially similar and who are facing the same stressful situation (Thoits, 1986). Thoits (1986) considers social support as a form of coping assistance in which individuals receive support in order to manage stress. This support may come in the form of reinterpreting the stressful situation so that it appears less threatening, and may include tangible support such as providing money for a financial crisis or empathy and understanding during a stressful period. The qualification is that the support comes from someone else other than the individual experiencing the stressor. For
example, a study by Parkes (1990) found that student nurses who received support from their supervisors were able to use more approach coping to deal with serious work related problems. Social support provided guidance and served to buffer the stressful situation, promoting more adaptive functioning.

Aside from the different effects that result from using the three coping strategies, gender differences in the choice of coping strategy have also been reported in some studies although the results have been mixed. Some studies report that women, in general, tend to use more social support seeking strategies than men and that men use more problem-focused coping than women. Other studies report that men use more avoidance coping than women in certain situations. Caution should be used when interpreting these gender differences since further research must be conducted to reach more conclusive results.

In summary, there are a variety of coping strategies that individuals may use to deal with stressful situations. This study used three coping strategies that have been widely discussed in the literature: problem-solving coping, support seeking coping, and avoidance coping. The Coping Strategy Indicator (Amirkhan, 1990) was the measure used because it provided scores for all three coping strategies indicating that an individual could use all three but have greater reliance on one particular type of coping strategy.

**Literature Relevant to the Links Among the Variables in the Model**

In the above sections, each of the key variables was conceptualized and some issues and controversies in the literature were presented. In the next section, the relationships amongst the three key variables are presented with literature to support the model. First, the relationship between employment status and depressive affect will be
explored. A review of the literature exploring the connection between coping and depressive affect will follow and a look at the relationship amongst the three key variables—underemployment, depressive affect, and coping styles—will conclude the section along with a review of the hypotheses of the study.

I. Employment Status and Depressive Affect

Research on the effects of unemployment on psychological health indicates that individuals who become unemployed tend to experience a decrease in psychological well-being (Jackson & Warr, 1984; Dressler, 1986; Winefield et al., 1991; Dew, Bromet & Penkower, 1992). The results from studies that explore non-psychiatric depression in unemployed community samples demonstrate that depression levels increase following unemployment. Linn, Sandifer, and Stein (1985), found that unemployment had an adverse effect on psychological function “with the unemployed becoming more anxious, depressed, and concerned with bodily symptoms than those who continued to work” (p. 504). The researchers controlled for any preexisting psychological symptoms or conditions and attributed the decrease in psychological functioning to becoming unemployed.

In a community sample of 492 individuals, Kessler, House, and Turner (1987), found that those who were unemployed were more likely to score higher on the measures of depression, anxiety, and physical health than employed individuals. The study explored whether these psychological and physical problems were higher in the unemployed who had perceived that they had lost their jobs through some fault of their own. The unemployed who believed they were responsible were found to report higher levels of
health problems including depression and anxiety than those who did not report job loss due to some fault of their own. The researchers comment that "perceptions of fault affect adjustment to stress, and those who impute characterologic self-blame experience more extreme emotional reactions than those who do not see themselves at fault" (Kessler et al., 1987, p.57). Thus, self-blame for one's unemployment may increase the health effects of losing one's job.

Age has also been extensively studied in the unemployment literature as a variable that affects psychological outcomes. A curvilinear relationship has been found to exist between unemployment and mental health as a function of age in several studies (Warr & Jackson, 1984; Warr & Jackson, 1985; Hepworth, 1980). This curvilinear relationship seems to hold that men between the ages of 20 to 59 show more deterioration in mental health following unemployment than those younger and older (Warr & Jackson, 1984). Several explanations have been offered to explain this outcome. For example, role responsibilities may be different for men younger than 20 and over 59 years of age. In the event of unemployment, teenagers may still be living at home with their parents and are able to survive financially. Men over 59 years are close to the age of retirement and tend to have the financial resources to support themselves even though unemployed (Warr, Jackson & Banks, 1988). Those between 20 to 59 years of age have been found to have more financial responsibilities and to view their work role as more salient to their identity which may contribute to higher levels of psychological ill health. These results tend to hold true for men. The few studies conducted on unemployed women have not found similar age effects. Further research is needed.
Any Job is Better Than No Job (Jahoda, 1982)

Jahoda (1982) has argued in the literature that employment provides many more benefits than negative outcomes. The benefits or 'latent functions' to which she refers include social interaction, a positive identity, time structure of the day, and a constant income. This argument suggests that being employed in any job is preferred to being unemployed and that "underemployment is much more akin to satisfactory employment than to unemployment in its psychological impact on young adults (Feldman & Turnley, 1995).

The previous section provided evidence for the negative effects of unemployment on mental health. Elevated levels of anxiety and depression have been reported by unemployed individuals. These findings are constant even when variables such as age and gender are controlled for. It is now necessary to explore whether the same relationship exists between underemployment and depressive affect and whether there is evidence to support Jahoda’s (1982) claim that any employment situation is better than not being employed. Specifically, there is only one study in which underemployment and depressive affect are related and this study contradicts Jahoda’s (1982) argument.

A longitudinal study conducted by Winefield et al. (1991) of 483 young adults in South Australia explored the psychological effects of employment status. A comparison of individuals who were satisfactorily employed, underemployed, unemployed, or full-time students revealed that the satisfactorily employed and full-time students reported better psychological health than the underemployed, and the unemployed groups (Winefield et al., 1991). Psychological health was measured using Rosenberg’s Self-Esteem and Depressive Affect Scales, a negative mood scale, and an internal-external locus of control
scale. Depressive affect and negative mood were lower in the satisfied and student groups. The researchers suggested that the results show that young adults who are dissatisfied with their employment situation lose the psychological benefits reported by the student and satisfied employment groups (Winefield et al., 1991). Thus, it can be noted that individuals who were unemployed and those who reported being dissatisfied with their employment reported experiencing the same negative psychological effects.

The question arises as to what specific aspect of the employment situation can be attributed to the differences between the groups. O’Brien (1986), suggests that the use of one’s skills, task variety, and personal control are important explanatory variables. Jobs which offer limited opportunity to use one’s skills and education contribute to a negative employment experience. In addition, the perception of not using one’s skills and education compared to the perceived demands of the job leads to poor psychological health, and in some instances, physical health is affected (Coburn, 1975). Coburn (1975) found that individuals who perceived themselves to be underutilized reported lower well-being compared to those who were satisfactorily employed.

Another study that examined the relationship between unemployment, underemployment, and depressive affect was conducted using refugees from Southeast Asia who had migrated to Canada. It was found that underemployment did not negatively affect the mental health of these refugees. Beiser et al. (1993) reported that, when underemployment was conceptualized as the incongruence between an individual’s education and previous occupation in Southeast Asia compared to the refugee’s current occupation after migration to Canada, no significant relationship emerged between
underemployment and depressive affect. These results should be interpreted with caution as there are several confounding variables, including the experience of settling in a new country, which may result in the underreporting of symptoms (Beiser et al., 1993).

In summary, being underemployed was found to have similar negative effects on mental health as being unemployed. Reports of higher levels of depressive affect have been documented for the underemployed and unemployed when compared with the satisfactorily employed group (Winefield et al., 1991). Evidence shows that Jahoda’s argument that any job is better than no job is losing validity and support. Given the limited research, it is important to examine the relationship between underemployment and depressive affect further.

II. Coping and Depressive Affect

It has been reported that depressed individuals are more likely to use avoidance and emotional coping strategies rather than problem-solving strategies (Zeidner & Saklofske, 1996). A comparison of university students found that those who scored high on the Beck Depression Inventory had a preference for emotion-focused coping compared to students who were not depressed (Zeidner & Saklofske, 1996). Aside from the increased use of emotion-focused coping and avoidance coping, depressed individuals have been found to use fewer problem-focused coping strategies (Zeidner & Saklofske, 1996; Zeidner, 1994). It has been suggested that the use and effectiveness of coping strategies may be related to the features of depression like depressed mood and a strong desire towards self-preoccupation (Endler & Parker, 1990), negative views about one’s ability to solve problems, and a greater tendency to not feel in control of both good or bad
outcomes of a situation (Mirowsky & Ross, 1990). Thus, depressive affect has been connected to particular coping styles with more emotional-focused coping and avoidance strategies used by individuals who report feeling depressed. However, the relationship between coping and depressed mood is not as simple and direct as previously stated. Nevertheless, for the purposes of this study it is important to understand that there is a relationship between feeling depressed and the types of coping strategies used in stressful situations.

III. Underemployment, Depressive Affect, and Coping

The present discussion will now focus on the moderating role of coping in the underemployment and depressive affect relationship. Certain coping styles have been found to buffer or influence the relation between stress and the outcome that would have otherwise resulted. A study by Kessler et al. (1988), which explored the effects of unemployment on health, found that social support, self-concept, and coping all had moderating effects on the relationship. Three indicators of mental health included scales for anxiety, depression, and somatization. The sample was divided into three groups which included the currently unemployed (at time of study), previously unemployed (unemployed right before the study but now working), and the employed. The data analysis showed that social support, self-concept, and coping all had a moderating effect on the impact of unemployment (Kessler et al., 1988). Two types of coping were explored in this study including cognitive coping and financial coping (i.e., steps taken to adapt to the financial consequences of unemployment). In particular, the use of public assistance was a financial coping strategy that had a significant effect on reducing physical
illness, and the ability to avoid intrusive thoughts helped the individual deal with anxiety (Kessler et al., 1988). Thus, both forms of coping influenced the impact of unemployment.

A study by Cooper, Russell, Skinner, Frone and Mudar (1992), examined the relationship between stress and alcohol consumption and the moderating effects of gender, coping, and alcohol expectancies on the relationship. The study assumed that active, problem-focused coping was generally adaptive for individuals and this form of coping would buffer the stress-alcohol relationship (Cooper et al., 1992). They also assumed that avoidant coping strategies for dealing with negative emotions were maladaptive and would affect the relationship between stress and alcohol use (Cooper et al., 1992). The results indicated that coping style did have an effect on drinking. It was found that avoidance coping strategies resulted in drinking more alcohol by men but not for women.

Another study by Parkes (1990), tested the hypothesis that active, problem-focused coping would moderate the relationship between work stress and mental health outcomes. The sample consisted of 157 teachers in training. Cognitive and behavioural coping strategies were measured using a scale developed by Lazarus and his colleagues (Lazarus & Folkman, 1984), which asked individuals to think of one stressful work situation and to answer the questions with this encounter in mind. Other indicators included perceived work demand, perceived social support available for work related stress, and mental health measured using the General Health Questionnaire. The results indicated that direct coping (problem-focused coping) had a moderating relationship between perceived environmental stressors and GHQ scores (Parkes, 1990). An
interactive relationship existed between perceived work demands and work support in predicting scores on the GHQ. Those who had high levels of direct coping had low GHQ scores “regardless of the levels of perceived work demand and work support; conversely, for those who reported low levels of direct coping, high work demand and low work support were both directly and independently associated with greater distress” (Parkes, 1990, p.406). In general, the results were indicative of the impact that an individual’s coping efforts have on alleviating work related stress.

Other research focuses on the relationship between employment status, psychological health, and coping strategies. Cassidy (1994), explored the relation between psychological health and employment status as related to the use of cognitive appraisal and coping. He used recent college graduates as his sample group and divided them into two groups, individuals who were employed (particularly those graduates who were in jobs that they did not want to be in) and those who were unemployed. Significant differences were found between the two groups. Employed individuals reported higher levels of somatization such as difficulty sleeping and feeling weak, higher levels of anxiety, and lower levels of self-esteem (Cassidy, 1994). Also, the employed group perceived themselves experiencing more stress than the unemployed group (Cassidy, 1994). According to Cassidy (1994), in this sample the employed graduates were significantly worse off than the unemployed graduates with regard to levels of somatization, anxiety, self-esteem and stress. Significant differences between the two groups of graduates were not found for depression. This finding fails to support the notion that unemployed graduates are psychologically worse off than employed graduates (Cassidy, 1994). The
lack of significant differences between the two groups on depression may have been a function of the coping strategies that were used by these two groups.

It was reported that two of the problem-solving dimensions, creative problem-solving and approach style were significantly different for the two groups (Cassidy, 1994). The unemployed group was found to be “more creative and to approach and tackle their problems more” (Cassidy, 1994, p.391). The unemployed group was found to have cognitive coping styles that made them more resistant to the stress from their situation (Cassidy, 1994). Thus, the unemployed were not significantly worse off than the employed groups with regard to the psychological distress they reported. Rather, those who were employed in jobs that they did not want to be in were found to experience more stress and to use fewer problem-solving strategies to alleviate their stress. Cassidy (1994) suggests that being in a job that does not match one’s aspirations is stressful and that “it may be psychologically better to remain unemployed and hopeful” (p.393).

The study by Cassidy (1994) supports the interactive model used in this study in which coping styles are regarded as moderator variables which affect the relationship between underemployment and depressive affect. The subjective appraisal of being underemployed occurs from a combination of indicators including: jobs in which there is the lack of opportunity to learn new things and to use one’s education and skills, having the confidence and motivation to take on more responsibility than is given, wanting to work full-time hours but only being able to work part-time hours, having unrealized expectations and aspirations with regard to using training and education, and wanting a better position than is currently available for the individual. Evidence is available that
suggests that the various dimensions of underemployment are related to a variety of responses that include dissatisfaction, high absenteeism and turnover, lower productivity, and a deterioration of physical and mental health (Rumberger, 1981). The relation between depressive affect and underemployment is the focus of this model with coping styles influencing the underemployment and depressive affect relationship. An outline of the hypotheses is presented below.

The model predicts a direct relationship between underemployment and depressive affect when the Underemployment Scale is used as the measure of underemployment. Support for this first hypothesis was found in a study by Winefield et al. (1991), which suggested that individuals who were underemployed had significantly higher levels of depressive affect when compared to individuals who were satisfactorily employed. Further, it has been suggested that for new graduates, failure to find satisfactory employment may “lead to ‘learned helplessness’ (Seligman, 1975) which results in their experiencing lower self-esteem, increased depression, and decreased feelings of control over their lives” (Feldman & Turnley, 1995, p.694). Therefore, it was hypothesized that underemployment would be directly related to depressive affect.

The second hypothesis was based on literature indicating a relationship between coping styles and depressive affect. The use of avoidant coping strategies has been found to significantly predict an increase in the reporting of depressive symptoms (Rohde et al., 1990). The use of avoidant coping strategies has been found to increase an individual’s vulnerability to future depression (Rohde et al., 1990). Evidence also indicates that greater reliance on problem-focused coping strategies relative to all coping strategies used
by an individual has been connected to reduced depression (Mitchell et al., 1983). The use of support seeking coping strategies being effective in buffering the effects of stressful situations can be found in the literature regarding social support and the stress buffering hypothesis. With regard to depressive affect, greater reliance on support seeking strategies should be associated with less depressive affect. Thus, the three coping styles in this study should be related to depressive affect, with greater use of avoidance coping strategies related to higher levels of depressive affect, and greater use of problem-solving and/or support seeking strategies associated with less depressive affect.

The third hypothesis predicts that coping styles will moderate the relationship between underemployment and depressive affect. In order to interpret this interactive model, main effects of underemployment and coping styles will be statistically controlled and then the interactions interpreted. Several interactions are expected to be significant and each will be presented individually. First, for high levels of underemployment, low levels of problem-solving are expected to predict high depressive affect. For high levels of underemployment, high levels of problem-solving are not expected to predict depressive affect. Second, for high levels of underemployment, high levels of avoidance coping are expected to predict high levels of depressive affect whereas low levels of avoidance coping are not. Third, high levels of underemployment and low levels of support seeking coping are expected to predict high levels of depressive affect. For high levels of underemployment, high levels of support seeking coping are not expected to predict depressive affect.

The above hypotheses are based on a cross-sectional analysis of the model. Data
are also available to control for depressive affect at time 1. Depressive affect scores are available for 1991 and 1996 data points which will enable the model to examine the effects of change in depression scores as a result of underemployment and coping style. By controlling for chronic depressive affect the relationship between underemployment and depressive affect as a function of coping style will not be influenced by constantly feeling depressed.

It is also hypothesized that the same predictions will result when a self-report measure of employment status is used. Instead of using the underemployment scale, self categorizations of one’s employment status will be used. Three groups will be compared which will include those who are full-time and satisfactorily employed, those who classify themselves as underemployed, and those that report being unemployed. It is hypothesized that the comparison between the unemployed and the underemployed should yield significantly different results. Those who classify themselves as underemployed, and have high levels of avoidance coping will have high levels of depressive affect. Unemployed individuals who use high levels of avoidance coping will have high levels of depressive affect but, the level of depressive affect will be lower than the underemployed group. Underemployed individuals with low problem-solving will have high levels of depressive affect whereas those with high problem-solving will have low levels of depressive affect. Unemployed individuals with low problem-solving will have high levels of depressive affect whereas those with high problem-solving will report low levels of depressive affect. The underemployed are expected to have significantly higher levels of depressive affect than the unemployed when comparing low levels of problem-solving.
For support seeking, underemployed individuals who are high in support seeking will have low levels of depressive affect whereas those with low levels of support seeking coping will have high levels of depressive affect. Unemployed individuals who are high in support seeking coping will have low levels of depressive affect and those who are low in support seeking will have high levels of depressive affect. The underemployed are expected to have significantly higher levels of depressive affect with low levels of support seeking coping when compared to the unemployed.

To summarize, the general hypotheses of this study were: 1. Underemployment would be associated with depressive affect. 2. The three coping styles would account for significant variability in depressive affect such that greater use of avoidance coping strategies, low levels of problem-solving coping, and low levels of support seeking coping would be associated with higher levels of depressive affect. 3. The moderator variable, coping styles, would interact with underemployment to predict depressive affect. The relationship between underemployment and depressive affect would be expected to be stronger for individuals who use high avoidance coping strategies, or who use few problem-solving coping strategies. Also, the relationship between underemployment and depressive affect should be stronger for individuals who use few support seeking strategies in comparison to those who report using several support seeking coping strategies. 4. Controlling for prior depressive affect, current depressive affect would be associated with underemployment as a function of coping styles. 5. Higher levels of depressive affect would be found among the underemployed than the unemployed, as a function of coping style.
Method

Participants and Procedures

All data were obtained from a larger longitudinal study, the Niagara Young Adult Health Study (NYAHS). A random digit dialing process was used to locate individuals in the Niagara region. The first phase of the study was conducted in 1991 with 843 individuals completing the questionnaire. For phase two of the study, conducted in the spring/summer of 1996, the sample was re-contacted to participate. From the original sample, 730 participants were contacted. Of these, 13 withdrew after the initial contact, 3 were deceased, 49 withdrew after receiving the questionnaire, and 91 questionnaires were not returned. These numbers indicate a sample retention rate of 68%. Thus, longitudinal data were available for 574 participants of which 338 were female (59%) and 236 were male (41%).

Participants in phase 2 of the study which was conducted in 1996, were between the ages of 22 and 39 (M=31 years). Marital status for phase 2 of the study consisted of 59% were married; 16.2% were single; 17.3% were in a serious relationship; and 7.5% were either separated or divorced. Most of the sample (98.6%) were Canadian citizens. With regard to employment status at phase 2 of the study, 46.4% reported being employed full-time and satisfied; 20.9% reported being underemployed (58 men, 57 women); 9.4% were unemployed (22 men, 30 women); 1.8% reported being in school full-time; 1.1% were in school part-time; and, 9.3% were full-time homemakers. Mean income level was between $10,000 and $19,999 with 20.7% reporting this income category; 22.6%
reported earning between $20,000 and $29,000; 16% earned between $30,000 and $39,000; 16.6% earned more than $40,000. In addition, 9.9% reported an income level between $5,000 and $9,999; and 14.2% reported earning less than $5,000.

Participants were asked to fill out a questionnaire composed of a variety of scales. In return for completing the questionnaire, each participant was paid $20.00. Confidentiality was assured at all stages of the study with participants acknowledging their right to withdraw from the study at any given time without penalty.

**Measures**

**Employment Status**

Employment status was obtained through a self-report measure. Current employment status at time of the study was obtained by having participants select from a variety of possibilities (See Appendix A for the entire scale). Three employment status groups were used in this study composed of the following employment categories. Satisfactorily employed consisted of individuals who selected any of the three possibilities including: employed full-time and generally satisfied, employed part-time and also have a full-time job, and self-employed full-time. The unemployed employment status group consisted of individuals who reported being in any of the five following categories including: employed part-time but currently laid off and called in from time to time, unemployed and looking for work, unemployed and no longer looking for work (discouraged), unemployed due to temporary layoff, and unemployed due to indefinite layoff. The underemployed employment status category consisted of individuals in the following categories: employed full-time and looking for a better job, and employed part-
time and looking for full-time work.

Underemployment Scale (Kambouris and Sadava, 1997).

An exploratory factor analysis was conducted with the time 2 data in order to create a subjective underemployment scale. See Appendix B for individual items of the scale. Principal axis factor extraction was used in an attempt to extract as many factors as possible from a group of 18 items which were derived from the existing literature. Each item was rated on a seven point scale with 1 indicating “completely disagree” and 7 indicating “completely agree”. In addition, the participants could also answer “does not apply to me” for any of the questions. Items which pointed to the lack of use of education, training, and skills were considered to be negative in nature and a higher score for these questions suggested the individual was underemployed. Any positively worded items were reverse scored.

Three factors emerged with eigenvalues greater than one, accounting for 49.9% of the variance. The oblique rotation was used to derive the three factors because it was expected that the three factors would be correlated. All items with loadings of 0.40 and higher were included in the analysis with three main factors emerging (see Table 1). According to Tabachnick and Fidell (1989), it is acceptable to interpret any factor loading of 0.30 and higher to derive reliable factor clusters. It was decided that a more conservative factor loading cutoff of 0.40 would be used to assist in the interpretation of factors. By using a more stringent cutoff point, better delineation of the factors would emerge and elimination of double loading of items on more than one factor would result. Pairwise deletion was used to deal with missing data in the factor analysis.
The factor labelled Person-Job Mismatch underemployment was concerned with whether the job provided the opportunity to learn new things and make use of the employee’s training. This dimension is similar to the Person-Environment fit model that proposes a relationship between the characteristics of the person (i.e., abilities) and characteristics of the environment (i.e., the work setting) (Caplan, 1988). Person-Job Mismatch is the perception of incongruence between skills and the opportunity to use these skills on the job.

The second factor obtained was termed Subjective Underemployment. This factor concerned perceptions of wanting more responsibility, having the motivation and energy to work more hours, and wanting more than just a part-time job but being unable to find one because of the current job market. Feelings of underemployment were the central theme of this factor.

Perceived Job Requirements underemployment was the assigned label for the third factor obtained. The main focus of this factor was the congruence between how much training and education the employee perceives the job to require, and the employee’s perceptions of what level of training and education the employer expects. This factor was sensitive to the expectations that individuals had about their jobs.

Reliability analysis of each factor produced high Cronbach’s alpha’s: Person-Job Mismatch, 0.82, Subjective Underemployment, 0.83, Perceived Job Requirements, 0.88. The three factors were used as subscales in the measurement of underemployment. Each subscale was summed and a mean calculated for use in the hierarchical multiple regression analyses of the model.
The Center for Epidemiological Study Depression Scale (CES-D) (Radloff, 1977).

The CES-D is a 20 item self-report scale that was designed to measure depressive symptoms in the general population (Radloff, 1977) (See Appendix C for the entire scale). Most statements were worded negatively with a higher score indicating greater depressive affect. Questions that were positively worded were reversed scored. For each statement participants used a four point scale with 1 indicating "rarely or never" and 4 indicating "most or all the time". The scores were summed and the mean was computed to arrive at a depression score for each participant. Radloff (1977) offers numerous studies which demonstrate the validity and internal consistency of the CES-D in general and patient populations. Coefficient alpha, in the general population, was reported at 0.85 (Radloff, 1977).

Coping Strategy Indicator (Amirkhan, 1990)

The Coping Strategy Indicator (Amirkhan, 1990), was a factor analytically derived measure of various coping strategies used by individuals (See Appendix D for entire scale). Three main strategies emerged which were represented by three subscales: problem-solving, avoidance behaviour, and support seeking behaviour (Amirkhan, 1990). Problem solving coping items included trying to alleviate the problem, and trying different ways to solve the problem until one worked (Amirkhan, 1990). The avoidance coping subscale included such items as avoiding being with people, and daydreaming about better times (Amirkhan, 1990). Support seeking coping items included talking to people about the situation, and asking for advice to try to change the situation (Amirkhan, 1990).
Table 1. Factor Loadings and Eigenvalues for Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Eigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1 - Person-Job Mismatch</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.555</td>
</tr>
<tr>
<td>My job provides me with opportunities to learn new things</td>
<td>.633</td>
<td>-.006</td>
<td>-.174</td>
<td>-.053</td>
<td></td>
</tr>
<tr>
<td>I feel that my job allows me to make use of my training</td>
<td>.711</td>
<td>-.139</td>
<td>-.131</td>
<td>.085</td>
<td></td>
</tr>
<tr>
<td>My talents are fully used in my job</td>
<td>.838</td>
<td>-.020</td>
<td>-.004</td>
<td>-.034</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 2 - Subjective Underemployment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.368</td>
</tr>
<tr>
<td>I have skills that I would like to be using in my job but can’t</td>
<td>.386</td>
<td>.406</td>
<td>-.003</td>
<td>-.043</td>
<td></td>
</tr>
<tr>
<td>With my experience, I could take on more responsibility than I’m given</td>
<td>.258</td>
<td>.403</td>
<td>-.046</td>
<td>-.132</td>
<td></td>
</tr>
<tr>
<td>I feel underemployed in my current job</td>
<td>.379</td>
<td>.465</td>
<td>-.068</td>
<td>.115</td>
<td></td>
</tr>
<tr>
<td>I feel qualified for a full-time job but can only find part-time work</td>
<td>-.226</td>
<td>.877</td>
<td>-.146</td>
<td>-.043</td>
<td></td>
</tr>
<tr>
<td>I have the motivation and energy to work more hours than I can get</td>
<td>-.113</td>
<td>.707</td>
<td>-.008</td>
<td>.111</td>
<td></td>
</tr>
<tr>
<td>Because times are tough, I haven’t been able to find a steady job</td>
<td>-.001</td>
<td>.769</td>
<td>.211</td>
<td>.094</td>
<td></td>
</tr>
<tr>
<td><strong>Factor 3 - Perceived Job Requirements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.038</td>
</tr>
<tr>
<td>When you applied for the job, what education did your employers expect you to have?</td>
<td>.018</td>
<td>.060</td>
<td>.861</td>
<td>-.219</td>
<td></td>
</tr>
<tr>
<td>How much education do you think is needed for your job?</td>
<td>.355</td>
<td>-.028</td>
<td>.634</td>
<td>.097</td>
<td></td>
</tr>
<tr>
<td>When you applied for the job, how much training did your employers expect you to have?</td>
<td>-.169</td>
<td>-.095</td>
<td>.819</td>
<td>-.185</td>
<td></td>
</tr>
<tr>
<td>How much training do you think is needed for your job?</td>
<td>.193</td>
<td>.032</td>
<td>.470</td>
<td>.121</td>
<td></td>
</tr>
<tr>
<td>My formal education overqualifies me for this job</td>
<td>.110</td>
<td>.101</td>
<td>.545</td>
<td>.304</td>
<td></td>
</tr>
<tr>
<td>With my education and training, I feel qualified for a much better job than the one I have</td>
<td>.208</td>
<td>.287</td>
<td>.414</td>
<td>.128</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Factor loadings that have been bolded indicate the items that compose each of the three subscales.
Possible range of scores was 1 to 3 with 1 indicating the individual did not use that particular coping strategy, and 3 indicating high use of a particular coping strategy. Each subscale was summed and a mean was calculated with higher scores indicating greater use of the coping strategy. In the sample reported by Amirkhan (1990), Cronbach’s alpha was 0.89 for problem-solving, 0.93 for support seeking behaviour, and 0.84 for avoidance behaviours, with good internal consistency and construct validity also reported (Amirkhan, 1990).
Results

The results will be presented in the following manner. First, descriptive statistics including means, standard deviations, and correlations between all the variables used in the study will be discussed. The results of the model building phase will follow along with the cross-sectional analyses of the model. The final set of analyses will be based on the use of self-report employment status categories to test the model. All data analyses were done using SPSS software, version 6.1. The means and standard deviations for all the variables in the model are presented in Table 2.

Means and standard deviations were calculated separately for men and women to determine whether there were sex differences for any of the variables. Mean scores indicated moderate levels of all three underemployment dimensions with no significant differences between men and women. Sex differences existed for depressive affect at both time 1 and time 2 data points with men reporting lower levels of depressive affect than women. The depressive affect means in this study correspond to those obtained in other population studies and are lower than those obtained in clinical samples (Radloff, 1977). Mean scores indicated moderate use of all coping strategies with women reporting greater use of avoidance coping strategies, and support seeking strategies than men. A similar finding of sex differences was reported in a study by Bhagat et al. (1991).

Correlations Among the Variables

Table 3 presents the correlations among the variables for the entire sample. Table 4 presents the correlations for men and women separately. The three underemployment
null
Table 2. Means, standard deviations, and t-tests for the entire sample, men, and women.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Entire Sample</th>
<th>Men</th>
<th>Women</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M  SD  n</td>
<td>M  SD  n</td>
<td>M  SD  n</td>
<td>t  p</td>
</tr>
<tr>
<td>Subjective Underemployment</td>
<td>4.08 1.50 450</td>
<td>4.16 1.50 208</td>
<td>4.02 1.50 242</td>
<td>0.95 0.34</td>
</tr>
<tr>
<td>Perceived Job Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underemployment</td>
<td>3.96 1.49 453</td>
<td>4.07 1.51 211</td>
<td>3.86 1.46 242</td>
<td>1.50 0.14</td>
</tr>
<tr>
<td>Person-Job Mismatch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underemployment</td>
<td>3.22 1.86 430</td>
<td>3.20 1.84 205</td>
<td>3.25 1.88 225</td>
<td>-0.24 0.81</td>
</tr>
<tr>
<td>Depressive affect -time 1</td>
<td>1.82 0.44 571</td>
<td>1.71 0.38 235</td>
<td>1.90 0.45 336</td>
<td>-5.43 0.00</td>
</tr>
<tr>
<td>Depressive affect -time 2</td>
<td>1.89 0.57 573</td>
<td>1.75 0.50 235</td>
<td>1.99 0.60 338</td>
<td>-5.36 0.00</td>
</tr>
<tr>
<td>Problem Solving Coping</td>
<td>2.40 0.37 565</td>
<td>2.43 0.36 229</td>
<td>2.39 0.38 336</td>
<td>1.38 0.17</td>
</tr>
<tr>
<td>Support Seeking Coping</td>
<td>2.17 0.49 564</td>
<td>1.98 0.46 229</td>
<td>2.30 0.46 335</td>
<td>-8.31 0.00</td>
</tr>
<tr>
<td>Avoidance Coping</td>
<td>1.67 0.40 563</td>
<td>1.63 0.38 228</td>
<td>1.70 0.41 335</td>
<td>-1.94 0.05</td>
</tr>
</tbody>
</table>

dimensions were correlated sharing between 12% to 25% of the variance. This suggests that each underemployment dimension measured a different aspect but the three dimensions were not mutually exclusive from one another. Individuals could report experiencing any or all of the three underemployment dimensions. The general pattern of relationship for the three coping styles indicated that greater use of problem-solving was related to less use of avoidance coping strategies, and more use of support seeking
strategies. Depressive affect scores at time 1 and time 2 were significantly related.

Table 3. Correlations among the variables in the study.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depressive affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- time 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Depressive affect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- time 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Person-Job Mismatch Underemployment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.14***</td>
<td>.15***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Perceived Job Requirements Underemployment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.12**</td>
<td>.13***</td>
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<td>7. Problem Solving Coping</td>
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<td>.01</td>
<td>.07</td>
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<tr>
<td>8. Avoidance Coping</td>
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<td></td>
<td>.38***</td>
<td>.53***</td>
<td>.10*</td>
<td>.12**</td>
<td>.18***</td>
<td>.01</td>
<td>-.12***</td>
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</table>

Note. n's differ as a function of the total number of individuals who completed each item. *p<0.05, **p<0.01, ***p<0.001.

Significant correlations for the entire sample were found between the predictors and criterion variables. From Table 3, it is evident that all three underemployment dimensions were moderately related to depressive affect at time 2. The strongest
relationship was between Subjective Underemployment and depressive affect. Thus, underemployment was significantly related to depressive affect in that the more underemployed an individual felt the higher the level of depressive affect reported. All three underemployment dimensions were related to depressive affect at time 1. Reporting depressive affect five years earlier was significantly related to reporting high levels of all three underemployment dimensions. Significant relationships emerged between depressive affect at time 2 and various coping styles. As expected, greater use of avoidance coping strategies was positively related to high levels of depressive affect. In addition, use of fewer problem-solving strategies was related to higher levels of depressive affect for the sample but depressive affect was unrelated to support seeking coping.

Relationships between coping styles and the various dimensions of underemployment were also found. In particular, high use of avoidance coping strategies was associated with higher underemployment scores for all three dimensions, Person-Job Mismatch, Perceived Job Requirements, and Subjective Underemployment. Also, use of fewer problem-solving strategies was related to higher levels of Person-Job Mismatch underemployment.

Table 4 presents the correlations separately for men and women. The three underemployment dimensions were correlated for both men and women suggesting that each factor measured a different aspect of underemployment but were not mutually exclusive from one another. The relationships between the three coping styles indicated that for men, greater use of problem-solving was related to use of less avoidance coping, and use of more support seeking strategies. For women, greater use of problem-solving
Table 4. Correlations among the variables in the study presented separately for men and women.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>8</th>
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<td></td>
<td></td>
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<tr>
<td></td>
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<td>0.46***</td>
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<td>0.18**</td>
<td>0.24***</td>
<td>0.09</td>
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<td>0.32***</td>
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</tr>
<tr>
<td>-time 2</td>
<td>0.53***</td>
<td>--</td>
<td>0.25***</td>
<td>0.28***</td>
<td>0.30***</td>
<td>0.04</td>
<td>-0.23***</td>
<td>0.48***</td>
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<td></td>
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<tr>
<td>Underemployment</td>
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<td>0.08</td>
<td>--</td>
<td>0.50***</td>
<td>0.46***</td>
<td>-0.02</td>
<td>-0.12</td>
<td>0.15*</td>
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<td>4. Perceived Job</td>
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<td>0.05</td>
<td>0.50***</td>
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<td>0.48***</td>
<td>-0.03</td>
<td>-0.04</td>
<td>0.19**</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Underemployment</td>
<td>0.18**</td>
<td>0.14*</td>
<td>0.29***</td>
<td>0.35***</td>
<td>--</td>
<td>0.01</td>
<td>-0.03</td>
<td>0.26***</td>
</tr>
<tr>
<td>6. Support Seeking</td>
<td>0.23***</td>
<td>-0.03</td>
<td>0.01</td>
<td>-0.03</td>
<td>0.04</td>
<td>-0.03</td>
<td>--</td>
<td>0.23***</td>
</tr>
<tr>
<td>Coping</td>
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<tr>
<td>7. Problem Solving</td>
<td>-0.14*</td>
<td>-0.10</td>
<td>-0.12*</td>
<td>-0.13*</td>
<td>0.05</td>
<td>0.14*</td>
<td>0.15**</td>
<td>--</td>
</tr>
<tr>
<td>Coping</td>
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<td></td>
</tr>
<tr>
<td>8. Avoidance Coping</td>
<td>0.41***</td>
<td>0.55***</td>
<td>0.06</td>
<td>0.07</td>
<td>0.14*</td>
<td>-0.01</td>
<td>-0.11**</td>
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</tr>
</tbody>
</table>

Note. Values above the diagonal represent results for men and values below the diagonal are the results for women. n's differ as a function of the total number of participants who completed each item.

strategies was related to less use of avoidance coping strategies and to more support seeking strategies. That is, the pattern was similar for both men and women.

All three underemployment factors were related to depressive affect at time 2 for men but, only Subjective Underemployment was significantly related to depressive affect at time 2 for women. Significant relationships between depressive affect at time 2 and
various coping styles were found. For men, greater use of avoidance coping strategies were positively related to high levels of depressive affect at time 2. In addition, use of fewer problem-solving strategies was related to higher levels of depressive affect, but not for support seeking coping strategies. The same results were found for women.

Relationships between coping styles and the various dimensions of underemployment were found. For men, the use of avoidance coping strategies was related to higher scores on all three underemployment dimensions. For women, the use of avoidance coping strategies was related to higher scores on Subjective Underemployment but, women who used fewer problem-solving strategies reported higher Person-Job Mismatch underemployment.

Model Building Phase

A model building phase was conducted to test for the possibility that the relations between the predictor and criterion variables were non-linear. The model that was presented earlier anticipated that the predictors (three dimensions of underemployment), the moderator variable (coping style), and the interactions between them would significantly predict depressive affect. Both two-way and three-way interactions were tested. Although sex differences were not predicted by this model, there was the possibility that sex could interact with either the predictor or moderator variable to predict variance in depressive affect and therefore, the model building phase was used to explore this possibility. A significance level of 0.05 was used to determine which variables would be kept in the model. Therefore, the model building phase was used to reduce the number
of variables to be included in the model to preserve degrees of freedom (Cohen & Cohen, 1983). Table 5 presents the results of the model building phase.

Main effects for sex, underemployment, and coping styles were entered as a set and were found to be significant predictors of depressive affect. Overall, none of the two way interactions were found to be significant. When non-linear aspects of underemployment were entered, they were found to be non-significant. The three-way interactions yielded an overall F change that was significant. Individual t-tests revealed that three of the three-way interactions were significant which included the following, Subjective Underemployment by sex by avoidance coping (t (360)=2.71, p=0.00), Perceived Job Requirements Underemployment by sex by avoidance coping (t (360)=2.43, p=0.01), and Person-Job Mismatch by sex by support seeking coping (t (360)=2.01, p=0.04). A residuals analysis was conducted to test the adequacy of the model building phase. The residuals were normally distributed indicating the model was adequate in describing the data.

To summarize, the model building phase was necessary to ensure that non-linear aspects of the predictor were not influencing the results, and to test for two and three-way interactions to determine if they were significant. The model predicted main effects for underemployment and coping styles as well as significant interactions between the two variables. The model building phase indicated that three of the three-way interactions were significant in addition to the main effects. In the three-way interactions, sex interacted significantly with all three-way interactions. Therefore, on the basis of the
Table 5. Results for the model building phase to test for interactions and non-linear components for the variables in the model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2_{\text{change}}$</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
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<td>1. Sex</td>
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<td>Underemployment Subscales</td>
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<tr>
<td>Coping Styles</td>
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<td>2. Sex by Underemployment</td>
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<td></td>
<td></td>
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<tr>
<td>Sex by Coping Styles</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Underemployment by Coping</td>
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<td>15,372</td>
<td>0.90</td>
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<td>3. Underemployment Squared</td>
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<td>3,369</td>
<td>0.98</td>
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<tr>
<td>4. Underemployment by Sex by Coping</td>
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<td>9,360</td>
<td>2.27</td>
<td>0.02</td>
</tr>
<tr>
<td>Overall Model</td>
<td>$R^2=0.40$</td>
<td>34,360</td>
<td>6.99</td>
<td>0.00</td>
</tr>
</tbody>
</table>

original model that was predicted, underemployment predicting depressive affect as a function of coping style, was run separately for men and women. Thus, the model building phase, adopting a 0.05 significance level for inclusion into the model, was used to eliminate the non-linear terms from the analysis and establish the need to run the analyses separately for men and women.

**Testing the Model**

A model was tested in this study in which the relationship between underemployment and depressive affect, moderated by coping styles, was examined. Hierarchical multiple regression analyses were conducted to control for spurious or confounding relationships and to enter variables according to their proposed causal
priority (Cohen & Cohen, 1983). Hierarchical analysis of the model was carried out in the following way. First, the three underemployment dimensions were entered as a set because, according to Baron and Kenny (1986), predictors must be entered before the moderator variable. Second, the moderator variables, coping styles, were entered as a set (Baron & Kenny, 1986). Finally, all two-way interactions were entered simultaneously. The protected-t strategy was used to reduce the possibility of making a Type I error (Cohen & Cohen, 1983). If the overall F test for each step of the analysis was not significant, individual t-tests were not examined (Cohen & Cohen, 1983). Tables 6 and 7 present a summary of the hierarchical analysis of the model for men and women, respectively.

Table 6 indicates that the overall model was significant for men in this sample. Main effects for the set of underemployment scales were obtained, although t-tests indicated that none of the subscales individually accounted for variability in depressive affect. Main effects for problem-solving coping, and avoidance coping scales were significant. Problem-solving coping uniquely accounted for 2% ($r^2=0.02$) of the variability indicating that use of fewer problem-solving strategies was associated with higher reports of depressive affect. For avoidance coping strategies, 14% ($r^2=0.14$) of the variability in depressive affect was accounted for by the use of greater avoidance coping strategies. When the two-way interactions were entered as a set, they were found to be significant. Individual t-tests indicated that the interaction between Perceived Job Requirements and avoidance coping accounted for 2% ($r^2=0.02$) of the variability in depressive affect. In addition, the interaction between Subjective Underemployment and
avoidance coping uniquely accounted for 1% ($r^2=0.01$) of the variability in the criterion variable. Thus, two of the two-way interactions were significant for men in this sample.

To summarize, for men, the set of underemployment scales significantly predicted higher levels of depressive affect. Main effects were found for coping styles with higher levels of depressive affect reported by men who used a greater number of avoidance coping strategies, and fewer problem-solving strategies. Hypotheses regarding interactions were supported for men in that the relationship between underemployment and depressive affect was stronger for men who used a greater number of avoidance coping strategies than those who used fewer. This was found to be significant for Perceived Job Requirements underemployment, and for Subjective Underemployment. These interactions are presented in Figures 1 and 2.

The interactions were plotted using the final regression equations, to calculate the various points on the graph. All final regression equations can be found in Appendix E. All variables in the equation were included with the mean of each variable multiplied by its regression coefficient. For Perceived Job Requirements and avoidance coping, low, medium and high scores were determined by using the mean as the medium score. To determine the low score, the mean minus one standard deviation was calculated, and a high score was calculated by adding one standard deviation to the mean. The low, medium, and high scores were substituted appropriately into each equation and nine equations were calculated to plot Figure 1.
Table 6. Hierarchical regression results for men in which underemployment, coping styles, and their interactions were used to predict depressive affect at time 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>R²</th>
<th>R² Change</th>
<th>F</th>
<th>df</th>
<th>p</th>
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<td>PJR</td>
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<td>SU</td>
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<td>0.12</td>
<td>8.74</td>
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<tr>
<td>PJM by Problem Solving</td>
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</tr>
<tr>
<td>PJM by Support Seeking</td>
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<tr>
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<td>9,173</td>
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</table>

Overall Model: 0.37 6.84 15,173 0.00

Note. *p<0.05, **p<0.001. PJM, Person-Job Mismatch Underemployment; PJR, Perceived Job Requirements Underemployment; SU, Subjective Underemployment.
Figure 1. Significant interaction between Perceived Job Requirements underemployment (PJR) and avoidance coping predicting time 2 depressive affect for men.

The form of the interaction indicated that the highest level of depressive affect was reported by men who used greater avoidance coping strategies, and experienced high Perceived Job Requirement underemployment. An increase in level of depressive affect was found for men who used few avoidance coping strategies, and reported high Perceived Job Requirement underemployment. This finding was contrary to what was predicted.

The graph of the interaction between Subjective Underemployment and avoidance
coping predicting depressive affect for men is presented in Figure 2. The same procedure that was used to plot Figure 1 was used to plot the points on Figure 2. Values were obtained in the manner described above using the final regression equations and the mean, plus and minus one standard deviation to calculate the high, medium and low scores for avoidance coping and Subjective Underemployment.

It is evident, from Figure 2, that men who reported feeling high levels of Subjective Underemployment, and who reported using many avoidance coping strategies reported higher depressive affect than men who reported feeling high Subjective Underemployment but used fewer avoidance coping strategies. The interaction occurs as a result of the men who report high Subjective Underemployment and use of many avoidance coping strategies. These men reported higher depressive affect levels than men who reported using less avoidance coping strategies. Therefore, for men, the interaction between Subjective Underemployment and avoidance coping was indicative of depressive affect.

The same analysis of the model was run for women. Table 7 presents the results of the analysis in which the overall model was found to be significant. Main effects for underemployment were not significant. Main effects for coping styles were significant with individual t-tests indicating avoidance coping strategies were significant in predicting depressive affect. Unique variability accounted for by avoidance coping was 29% ($r^2=0.29$). None of the interactions were significant. A residuals analysis revealed that, overall, the residuals approached a normal distribution indicating the model was adequate in describing the data.
In summary, main effects for underemployment were found for men but not for women. Only the three underemployment scales, as a set, predicted depressive affect for men. Main effects for coping were found for men and women with high levels of avoidance coping predicting high levels of depressive affect. Also, use of few problem-solving strategies predicted high levels of depressive affect for men, but not for women. Use of few support seeking strategies did not significantly predict depressive affect for either men or women. Interactions as a set were significant for men only, indicating a moderating model. Perceived Job Requirements underemployment by avoidance coping was predictive of depressive affect in that higher levels of Perceived Job Requirements
Table 7. Hierarchical regression results for women in which underemployment, coping styles, and their interactions were used to predict depressive affect at time 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>$R^2$ Change</th>
<th>$R^2$</th>
<th>F</th>
<th>df</th>
<th>p</th>
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<td>0.02</td>
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<td>0.36</td>
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<tr>
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<td>0.34</td>
<td>32.19</td>
<td>3, 199</td>
<td>0.00</td>
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</tr>
<tr>
<td>PJM by Problem Solving</td>
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</tr>
<tr>
<td>PJM by Support Seeking</td>
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</tr>
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</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>SU by Avoidance</td>
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<tr>
<td>SU by Problem Solving</td>
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</tr>
<tr>
<td>SU by Support Seeking</td>
<td>0.00</td>
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<td>0.36</td>
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Note. PJM, Person-Job Mismatch Underemployment; PJR, Perceived Job Requirements Underemployment; SU, Subjective Underemployment. *p<0.001.
underemployment reported, and high avoidance coping strategies predicted higher levels of depressive affect. The same relationship was found for Subjective Underemployment and avoidance coping. The higher the Subjective Underemployment and use of greater avoidance coping, the higher the level of depressive affect. Interactions were not significant for women.

**Controlling for Time 1 Depressive Affect**

In this set of analyses, depressive affect scores at time 1 were statistically controlled to determine how current employment status related to depressive affect. Tables 8 and 9 present the results for men and women, respectively. When depressive affect at time 1 was entered on the first step, it was found to be significant, accounting for 22% (sr²=0.22) of the variability in depressive affect at time 2 (see Table 8). Main effects for the underemployment scales, as a set, were significant but individual t-tests indicated that none of the underemployment dimensions individually accounted for variability in the criterion variable. Main effects for coping styles were found, with problem-solving coping uniquely accounting for 2% (sr²=0.02), and avoidance coping uniquely accounting for 8% (sr²=0.08) of the variability in depressive affect.

The greater the use of avoidance coping strategies, and the fewer problem-solving strategies used, the higher was the level of depressive affect for men. The two-way interactions as a group were found to be significant. However, individual t-tests indicated that only the interactions between Perceived Job Requirements Underemployment and
Table 8. Controlling for time 1 depressive affect, hierarchical regression results for men in which underemployment, coping styles, and their interactions were used to predict depressive affect at time 2.

<table>
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<tr>
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<th>R^2</th>
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Table 8. continued

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</table>

Overall Model: 0.54 6.01 31, 157 0.00

Note. PJM, Person-Job Mismatch Underemployment; PJR, Perceived Job Requirements Underemployment; SU, Subjective Underemployment; Dep 1, Depression at time 1. *p<0.05, **p<0.01, ***p<0.001.
avoidance coping and between Subjective Underemployment and avoidance coping were significant each accounting for 1% of the variability in depressive affect. Three-way interactions as a set were not significant. A residuals analysis revealed the overall pattern of residuals approached a normal distribution indicating the model was adequate in describing the data. The significant interactions are presented in Figures 3 and 4.

In Figure 3, the form of the interaction indicates that higher depressive affect was reported by men who used several avoidance coping strategies and experienced high
Perceived Job Requirements underemployment compared to men who used few avoidance strategies. Men who reported low Perceived Job Requirements underemployment, and who used a greater number of avoidance coping strategies reported greater depressive affect than men who used fewer avoidance coping strategies. Thus, for men, the more Perceived Job Requirements underemployment they experienced, and greater use of avoidance coping strategies, the more depressive affect reported.

In Figure 4, the more Subjective Underemployment that was reported, and greater use of avoidance coping strategies, the higher the levels of depressive affect than for men who reported using few avoidance coping strategies. For low levels of Subjective Underemployment and high levels of avoidance coping, high levels of depressive affect were reported when compared to men who used fewer avoidance coping strategies. Men who reported medium avoidance coping strategies, and high Subjective Underemployment, reported lower depressive affect than men who used either low or high avoidance coping. It was possible that these men found that not completely avoiding the issue was beneficial in helping to decrease depressive affect for them. Thus, men who used a greater number of avoidance coping strategies and experienced high Subjective Underemployment, reported higher levels of depressive affect than men who said they used a medium number of avoidance coping strategies.

Table 9 presents the results for women. The overall model was found to be significant. Time 1 depressive affect was entered on the first step, accounting for 29% ($r^2=0.29$) of the variability in time 2 depressive affect. Main effects for underemployment were non-significant. Main effects for coping styles were significant with avoidance
coping uniquely accounting for 17% ($r^2=0.17$) of the variability in depressive affect.

None of the interactions were significant. A residuals analysis revealed the overall pattern of residuals approached a normal distribution indicating the model was adequate in describing the data.

To summarize, when controlling for time 1 depressive affect, a significant relationship between underemployment and depressive affect, as moderated by coping styles was found for men but not for women. The interactions between Subjective Underemployment and avoidance coping, and between Perceived Job Requirements and
Table 9. Controlling for time 1 depressive affect, results for women in which underemployment, coping styles, and their interactions were used to predict depressive affect at time 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
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<th>$R^2$ Change</th>
<th>F</th>
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<td>0.29</td>
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<td>0.29</td>
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<tr>
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<tr>
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<tr>
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Overall Model: 0.50 5.81 30, 173 0.00

**Note.** PJM, Person-Job Mismatch Underemployment; PJR, Perceived Job Requirements Underemployment; SU, Subjective Underemployment; Dep 1, Depression at time 1. *p<0.001.

avoidance coping predicted higher depressive affect for men only. For women, only coping main effects were significant in predicting time 2 depressive affect with greater use of avoidance coping predicting higher depressive affect.

**Testing the Model Using a Self-Report Employment Status Measure**

The final set of analyses were concerned with group comparisons between the underemployed, the unemployed, and the satisfactorily employed. A self-report
employment status measure was used in which participants could categorize themselves according to their interpretation of their employment situation. It has been suggested that being underemployed is preferable to being unemployed. The aim of this set of analyses was to investigate whether there was support for this argument. To test the effects of self-report employment status, two dummy variables were created using orthogonal contrast coding (Cohen & Cohen, 1983). The first comparison was between groups that were satisfactorily employed, and the unemployed and underemployed taken together. The second comparison was between the unemployed, and the underemployed groups. Before the analysis was run, analysis of variance was performed to identify group differences on any of the variables in the model but particularly on coping styles. Table 10 provides a summary of the ANOVA results.

Of particular importance are the differences in means for avoidance and support seeking coping. Gender main effects were evident such that the means for avoidance and support seeking coping were significantly different for men and women (i.e., women more likely to use avoidance and support seeking strategies). In addition, there was a sex by employment status interaction effect which indicated differences in support seeking coping across the three employment groups as a function of sex. After identifying the group differences in coping styles, the analysis for the model using the self-report employment status measure was run for men and women separately. Table 11 and 12 present the results for men and women, respectively.
Table 10. Summary of results of the 3 X 2 (sex by employment status) ANOVA of coping strategies, underemployment scales, and depressive affect.

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</tbody>
</table>

Note. PJM, Person-Job Mismatch underemployment; PJR, Perceived Job Requirements underemployment; SU, Subjective Underemployment; Dep. Affect, Depressive Affect.

For men, the overall model was significant, predicting 35% of the variability in depressive affect. Group comparisons, as a set, were significant with the comparison between the satisfactorily employed versus the unemployed and underemployed significantly accounting for 5% ($r^2=0.05$) of the variability in depressive affect. Main effects for all three coping styles were present with avoidance coping, problem-solving coping, and support seeking accounting for 20% ($r^2=0.20$), 3% ($r^2=0.03$) and 2%
Table 11. Hierarchical regression results for men in which self-report employment status, coping styles, and their interactions were used to predict depressive affect at time 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>$R^2$ Change</th>
<th>$R^2$</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Un_Undr2</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satemp2</td>
<td>-0.07**</td>
<td>0.05</td>
<td>0.05</td>
<td>5.07</td>
<td>2, 198</td>
<td>0.01</td>
</tr>
<tr>
<td>2. Avoidance Coping</td>
<td>0.56***</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>-0.22**</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Support Seeking</td>
<td>0.14*</td>
<td>0.26</td>
<td>0.30</td>
<td>23.89</td>
<td>3, 195</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Un_Undr2 by Avoidance</td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Un_Undr2 by Problem Solving</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Un_Undr2 by Support Seeking</td>
<td>-0.33**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Satemp2 by Avoidance</td>
<td>-0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satemp2 by Problem Solving</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satemp2 by Support Seeking</td>
<td>0.02</td>
<td>0.05</td>
<td>0.35</td>
<td>2.34</td>
<td>6, 189</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Overall Model: 0.35 9.35 11, 189 0.00

Note. Un_Undr2, categorical variable in which contrast coding was used to compare the unemployed and the underemployed; Satemp2, categorical variable in which contrast coding was used to compare the satisfactorily employed with the unemployed and the underemployed. *p<0.05, **p<0.01, ***p<0.001.
Figure 5. Significant interaction between unemployed and underemployed men by support seeking coping predicting depressive affect for men.

\( \sigma^2=0.02 \) of the variability in depressive affect, respectively. Finally, the two-way interactions as a set were significant. Individual t-tests indicated that only the interaction between the group comparison underemployed versus unemployed by support seeking coping was significant accounting for 2% \( \sigma^2=0.02 \) of the variability in depressive affect. A residuals analysis indicated that the overall pattern of the residuals was normally distributed and the model was adequate in describing the data. The interaction is plotted in Figure 5.

Figure 5 indicates that underemployed men who used a greater number of support seeking coping strategies reported higher levels of depressive affect than men who were unemployed and who used a high number of support seeking coping strategies. The
opposite results occurred when few support seeking coping strategies were used. Men who were unemployed and used few support seeking strategies reported higher levels of depressive affect than underemployed men who used fewer support seeking strategies. Thus, for underemployed men, using several support seeking coping strategies appeared to be detrimental in that they reported higher depressive affect whereas for unemployed men, support seeking strategies appeared to be beneficial in that less depressive affect was reported.

Table 12 presents the results for women in the sample. The overall model was significant in predicting variability in depressive affect. The employment status group comparisons were not significant. Main effects for coping style were found with avoidance coping uniquely predicting 27% (sr^2=0.27) of the variability in depressive affect in that greater use of avoidance coping strategies predicted higher depressive affect. None of the interactions were significant. A residuals analysis indicated that the overall pattern of residuals was normally distributed allowing for the conclusion that the model was adequate in describing the data.

To summarize, when making group comparisons using self-report employment status categories, coping styles were found to moderate the relationship between employment status and depressive affect for men only. Particularly, greater use of support seeking strategies by underemployed men predicted higher depressive affect than for unemployed men who similarly used a greater number of support seeking strategies.
Table 12. Hierarchical regression results for women in which self-report employment status, coping styles, and their interactions were used to predict depressive affect at time 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
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<th>R² F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
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<td>0.02</td>
<td>2.03</td>
<td>2, 201</td>
<td>0.13</td>
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<tr>
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<td>0.02</td>
<td>2.03</td>
<td>2, 201</td>
<td>0.13</td>
</tr>
<tr>
<td>2. Avoidance Coping</td>
<td>0.78*</td>
<td>0.29</td>
<td>27.51</td>
<td>3, 198</td>
<td>0.00</td>
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<td>0.31</td>
<td>27.51</td>
<td>3, 198</td>
<td>0.00</td>
</tr>
<tr>
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<td>0.31</td>
<td>27.51</td>
<td>3, 198</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Un_Undr2 by Avoidance</td>
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<td>0.33</td>
<td>1.06</td>
<td>6, 192</td>
<td>0.39</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Un_Undr2 by Support Seeking</td>
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<td></td>
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</tr>
<tr>
<td>Satemp2 by Avoidance</td>
<td>0.04</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Satemp2 by Problem Solving</td>
<td>-0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satemp2 by Support Seeking</td>
<td>0.05</td>
<td>0.02</td>
<td>1.06</td>
<td>6, 192</td>
<td>0.39</td>
</tr>
<tr>
<td>Overall Model:</td>
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<td>8.61</td>
<td>11, 192</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Un_Undr2, categorical variable in which contrast coding was used to compare the unemployed and the underemployed; Satemp2, categorical variable in which contrast coding was used to compare the satisfactorily employed with the unemployed and the underemployed. *p<0.001.
The opposite results were found for the use of few support seeking strategies in that unemployed men who used fewer support seeking strategies reported higher depressive affect than underemployed men using few support seeking strategies. Significant interactions were not found for women in this sample. The only consistent finding for women was related to the use of greater avoidance coping strategies which predicted higher levels of depressive affect.
Discussion

Underemployment has been found to be related to such negative outcomes as increased depressive affect (Winefield et al., 1991), lower self-esteem (Kalleberg & Sorensen, 1973) and lower levels of productivity (Rumberger, 1981). In addition, coping has been suggested to moderate the relationship between underemployment and depressive affect. It was hypothesized that reports of high underemployment and the increased use of avoidance coping strategies would result in increased reports of depressive affect. Alternatively, reports of high underemployment and the use of more problem-solving coping strategies was predicted to be related to less depressive affect. Finally, reports of high levels of underemployment and use of few support seeking coping strategies was expected to predict depressive affect. Therefore, this study proposed an interactive relationship between underemployment and coping styles which would predict depressive affect.

Additionally, the model was also analyzed by controlling for time 1 depressive affect to control for chronic depressive affect. Finally, a self-report employment status measure was used to test the model and group comparisons were made to determine if there were significant differences in depressive affect between the satisfactorily employed, the unemployed, and the underemployed, as a function of coping styles.

The first hypothesis predicted a relationship between underemployment and depressive affect. Results indicate that women reported higher levels of depressive affect than men at both time 1 and time 2 (see Table 2). This finding is consistent with literature that states women tend to report higher rates of clinical depression and depressive affect.
(Rosenfield, 1980). When examining the relationship between depressive affect and underemployment, a significant relationship was found for men only, regardless of higher levels of depressive affect for women. These findings are consistent with previous research which suggest underemployment to be related to such negative outcomes as increased depression, and lower self-esteem (Feldman & Turnley, 1995). Underemployment did not predict depressive affect for women.

Why was underemployment associated with depressive affect for men only? The results show that the particular aspects of underemployment that were measured in this study had an effect on men in that the three underemployment subscales, as a set, predicted depressive affect. This was a consistent finding when the model was tested cross-sectionally, when time 1 depressive affect was controlled for, and when the self-report employment status measure was used. This relationship could possibly be explained by the literature which suggests sex roles may help explain the underemployment and depressive affect relationship for men and women.

Traditionally, the work role was associated for a large part with the male role (Mutchler, 1987). Women were traditionally found to place less emphasis on the work role and to focus on family and child responsibilities. Although times have changed and women are entering the workforce at an increasing rate, the possibility still remains that men and women have different expectations about their work role and what it means to them. It has been suggested that women may have lower expectations about their employment situation because of fewer opportunities in the workforce, although opportunities for women have improved, compared to men.
In addition, it is possible that women are less likely to be judged socially by their occupation than men are. Women have other roles which they may strongly identify with and which they may get depressed about. As a result, it is possible that employment problems may not depress women as they do men. Women get depressed by other things whereas men have been found to place particular importance on the work role and their occupational goals (McCreary & Sadava, 1995).

It is important to mention that, although the data do not demonstrate a relationship between underemployment and depressive affect, it is not to say that women do not get depressed about their underemployment. It is possible that the dimensions of underemployment which were measured in this study were not prevalent for women. Women may experience other dimensions of underemployment which may be related to depressive affect. Further discussion of this issue will occur later on.

The second hypothesis in this study predicted main effects for coping styles such that greater use of avoidance coping would predict depressive affect as would either low levels of problem-solving or low levels of support seeking coping strategies. High levels of avoidance coping predicted depressive affect for both men and women. This was found to be true when the model was analyzed cross-sectionally, when time 1 depressive affect was controlled for, and when the self-report employment status measure was used. This finding is consistent with previous research, suggesting the use of avoidant coping strategies is related to an increase in the reporting of depressive symptoms (Rohde et al., 1990), and with psychological distress (Holahan et al., 1996).

Why did avoidance coping strategies predict depressive affect for men and
women? It is possible that using avoidance strategies may help alleviate stress by avoiding or distracting attention away from the problem in the short-term but may have long-term consequences such as higher incidence of depressive affect. Studies have found depressed individuals more likely to use avoidance or emotion focused strategies than problem-focused strategies (Zeidner & Saklofske, 1996). One reason could be that individuals who report being depressed are not able to focus on a problem when confronted with a stressful situation so they avoid it (Endler & Parker, 1990).

Main effects for problem-solving coping were also found. Low problem-solving strategies predicted depressive affect for men. Mean differences were not significant between men and women which indicates that the data do not support the notion that men use more problem-solving than women. Again, caution needs to be used when interpreting gender differences in coping as results have been inconsistent. Low levels of problem-solving predicted high depressive affect for men only. The fact that low problem-solving coping predicted depressive affect supports previous findings which note depressed individuals tend to rely on fewer problem-solving strategies (Zeidner & Saklofske, 1996).

A possible explanation for this finding could be that for men in this sample, direct problem-solving was an adaptive strategy to alleviate stress. Trying to improve or change stress in an employment situation may enable the individual to focus on being productive and efficient rather than on trying to cope with stressful work issues. When this strategy was not used, a consequence was higher reports of depressive affect. Thus, for men in this sample, using few problem-solving strategies was ineffective and resulted in higher
Finally, main effects for support seeking coping strategies were not found for both men and women. Use of few support seeking coping strategies was not related to depressive affect. This was true regardless of the differences in support seeking coping evident for men and women with women reporting higher levels.

The third hypothesis predicted an interactive model in which underemployment as a function of coping styles was expected to predict depressive affect. The interactive model was significant for men but not for women. The interaction between Perceived Job Requirements and avoidance coping was significant such that high Perceived Job Requirements and high levels of avoidance coping predicted high levels of depressive affect. The Perceived Job Requirements subscale focused on expectations individuals had about their jobs with regards to levels of education and skills required. If individuals perceived their education and training to be more than was required, underemployment was indicated. These particular perceptions, coupled with the use of avoidance coping predicted depressive affect. Strategies such as, daydreaming, avoiding people in general, watching television, and identifying with characters in movies and novels were found to be ineffective in dealing with underemployment. In fact, more depressive affect was reported in situations where high avoidance coping was used.

For Perceived Job Requirements underemployment, using several avoidance coping strategies were found to be ineffective for men in the sample. When expectations and perceptions about the job are incongruent with what the individual wants and expects, avoiding these conflicting thoughts was not effective for men. There was also a rise in
depressive affect for men who reported using few avoidance coping strategies but experienced high Perceived Job Requirements underemployment. This rise in depressive affect was contrary to what was predicted by the model. A possible explanation for this rise in depressive affect for men who used few avoidance coping strategies was that whatever other coping strategy these men used was also ineffective in dealing with underemployment.

A second interaction was also significant. Subjective Underemployment by avoidance coping was found to predict depressive affect for men only. Subjective Underemployment included feeling confident to take on more responsibility, wanting a full-time job but only being able to get a part-time job, and having skills that were not being fully used on the job. This dimension of underemployment coupled with avoidant coping strategies predicted depressive affect. Avoiding these particular aspects of underemployment was not an effective coping strategy. Both of these interactions support the model that was predicted.

The fourth hypothesis predicted the interactive model would be significant even when time 1 depressive affect was controlled for. The model was significant for men. This set of analyses were included because by controlling for prior depressive affect, the relationship between underemployment and depressive affect was still found to exist. The same form of the interaction was evident for the Perceived Job Requirements underemployment and avoidance coping as in the cross-sectional analysis. For the Subjective Underemployment and avoidance coping interaction, the form of the interaction indicated that higher levels of depressive affect were reported for individuals who used
either high or low levels of avoidance coping. The lowest depressive affect was found for those men who reported using a medium level of avoidance. Finding a balance between completely ignoring the situation or directly focusing on the problem was found to be very effective for these men.

This finding is an excellent demonstration of the importance of situations and the coping reactions they elicit, some of which are appropriate and some are not. Avoidance coping was found to be generally ineffective for the men in this sample but when a balance or medium use of these strategies was used they were found to be the most effective, and the lowest levels of depressive affect were reported. It is possible that for these men, to avoid dealing with underemployment issues in the short-term may be beneficial in that it allows individuals to analyze the situation and deal with it more effectively once they fully understand what underemployment means to them.

The fifth hypothesis predicted differences among the three employment status categories and depressive affect as a function of coping styles. The three employment status categories were from the self-report employment status measure. Results indicated that underemployed men who used high support seeking coping, reported higher depressive affect than unemployed men who also used high support seeking coping strategies. The opposite was found when few support seeking coping strategies were used in that unemployed men reported greater depressive affect than underemployed men. This finding contradicts the stress buffering effects of support seeking coping strategies because for underemployed men, high support seeking predicted depressive affect. The support seeking strategies that were included in the coping measure were based on strategies that
involved confiding in friends and talking about the problem. These types of strategies were found to have a negative effect on underemployed men in that use of such strategies was related to depressive affect. This finding contradicts the literature that suggests support seeking coping tends to buffer stress in order to promote more adaptive functioning (Holahan et al., 1996).

Possible explanations for this interaction could be that when unemployed men do not seek support from their family and friends, they are not buffered from the reality of their employment situation. Alternatively, underemployed men who do use high support seeking strategies may not receive the kind of support that would appear to help them deal with being underemployed. Thus, support seeking strategies do not buffer the effects of underemployment and do in fact appear to be a detrimental coping strategy when examining the underemployment and depressive affect relationship.

A further possible explanation focuses on the role of blame. Being unemployed tends to be related to the state of the economy rather than on the skills and education of the individual. When times are tough, it is harder to find a job and it appears that less blame is placed on individuals as being responsible because it is a phenomenon affecting several individuals. Alternatively, underemployed individuals can be seen as being the ones to blame for their current situation because, they chose to acquire a certain educational level and specific skill level. They pursued further education and as a result they were unable to find a job commensurate with their education. Seeking support would not provide the guidance and comfort needed because others may be unsympathetic to the situation. Therefore, being underemployed may be just as bad if not worse than being
unemployed with regard to depressive affect.

There was evidence to contradict Jahoda’s argument that being underemployed was better than being unemployed. Significant interactions were found for the comparison between the underemployed and the unemployed and support seeking coping. The results indicated that high levels of support seeking coping predicted higher levels of depressive affect for the underemployed than the unemployed indicating that being underemployed is not a better alternative than unemployment. The results support Cassidy’s (1994) argument that being unemployed may be psychologically better than being in a job in which one feels underemployed. Not meeting one’s aspirations and constantly being unable to use one’s skills and education has consequences in the long run.

Significant interactions were not found for women in this study indicating that coping did not interact with the various underemployment dimensions to predict depressive affect. Several explanations may possibly explain this finding. The three underemployment subscales that were developed attempted to focus on a multi-dimensional conceptualization of underemployment instead of the traditional uni-dimensional approach. Considering main effects for underemployment were not found, women may experience different dimensions of underemployment that are not similar to the ones men report experiencing. It has been noted that a large proportion of jobs that women tend to hold require a certain educational and skill attainment before entry into the profession. As such, Person-Job Mismatch underemployment may not be as large of an issue as income. Lower income levels for women may be considered a dimension of underemployment that may predict depressive affect. In addition, another dimension that
may be more relevant for women may be lack of opportunity to move forward in one’s occupation. This could be seen as a form of underemployment more prevalent for women in that it may take longer to get promoted. Thus, it is possible that the dimensions of underemployment measured in this study do not predict depressive affect as a function of coping styles because women experience underemployment differently. This limitation of the study will be discussed later on.

To summarize, the model predicted in this study was supported for men only. This was found when the model was tested cross-sectionally, when controlling for time 1 depressive affect, and when using a self-report employment status measure. The model was not found to be significant for women and possible explanations have been provided.

The findings of this thesis provide significant contributions to the existing literature. First, a multi-dimensional conceptualization of underemployment was developed to improve existing measures and provide support for the use of subjective measures as being a reliable instrument for measuring underemployment. A critique of existing measures provided the background for the development of the three subjective underemployment dimensions. The three dimensions were not mutually exclusive and could be experienced simultaneously which was an improvement from existing measures. Thus, the use of a multi-dimensional subjective measure was a step forward in the underemployment literature.

The findings of this study contribute to the existing literature in that the relationship between underemployment and depressive affect as a function of coping style has not been studied directly. Two studies have examined the underemployment and
depressive affect relationship and in particular, one of those studies examined the relationship in refugees to Canada. No study has yet explored the relationship as moderated by coping style which in itself makes the study unique. The finding that the interactive model was significant for men and not for women has theoretical and practical implications.

Theoretically the findings have implications for the literature supporting sex differences in depressive affect. Underemployed men in this sample reported higher levels of depressive affect as a function of coping style, than women did. In addition, evidence exists to support the moderating influence of coping styles for men only. Avoidance coping was found to be an ineffective strategy to deal with underemployment, adding to the existing literature that discusses the association of avoidance coping and negative outcomes like depressive affect and physical illness (Holahan et al., 1996).

Practical implications of the findings of this study are related to possible counseling needs for underemployed individuals. Since a significant relationship was found to exist between underemployed men and depressive affect, it may become necessary to provide support which understands underemployment and is empathetic to the situation. The focus of this empathetic support should be directed at the coping strategy chosen to deal with underemployment. Avoidant coping strategies were found to predict depressive affect. Further examination of the effects of different coping styles needs to be examined to determine the most effective way to deal with underemployment to avoid feeling depressed about it.

Another practical implication of the findings of the study relates to the evidence
that suggests that being underemployed may not be better than being unemployed in terms of depressive affect. For underemployed men who reported using a greater number of support seeking coping strategies, higher depressive affect was reported than men who were unemployed and reported using high support seeking strategies. This suggests that unemployment is not the only employment situation that may be related to adverse consequences and coupled with support seeking coping, the outcome may be similar to being unemployed in terms of depressive affect. Thus, attention needs to be paid to the underemployed in addition to the unemployed when considering the consequences of the situation.

The results of this study also have consequences and implications for the economy in general. First, it is important to acknowledge that the unemployment rate is not the only indicator of how well individuals are doing with regard to their jobs. Rates of underemployment need to be known as a relationship between underemployment and depressive affect, and more recently health in general has been found (Sadava, S.W., O'Connor, R., and McCreary, D.R., 1999). In addition, as was reported, for men, being underemployed in addition to using avoidance coping strategies, was related to higher levels of depressive affect. More needs to be done to assist individuals who see themselves as underemployed to prevent the negative effects that have been found to exist. Underemployment needs to become more than just a topic studied in the academic world and needs to be dealt with on a practical level to benefit anyone feeling underemployed.

To conclude, the model proposed in this study was supported in that the interactive relationship between underemployment and coping styles was found to predict
depressive affect for men, but not for women. The interaction between Perceived Job Requirements Underemployment and avoidance coping and the interaction between Subjective Underemployment and avoidance coping predicted depressive affect for men. These results contribute to the existing literature in that they provide a clear understanding of the multi-dimensional concept of underemployment and the relationship between these dimensions, depressive affect, and coping styles.

Limitations of the Study

As with all studies, limitations exist that need to be addressed. Although some longitudinal data was available for the sample, the majority of analyses were based on cross-sectional data. As a result, cross-sectional data precludes direct inferences that underemployment causes depressive affect. A more conclusive picture could have been drawn if longitudinal data was available for all variables in the study. Another limitation was that several of the measures used in the study were part of a larger investigation and there was no opportunity to design measures specifically for this model. The scales used in this study were restricted to the ones that were already available from the larger Niagara Young Adult Health Study. A more detailed examination of the underemployment measure is required to develop a further understanding, in particular, for women. In addition, the model proposed that a subjective measure to underemployment was more informative than an objective measure. A combination of both objective and subjective indicators may be necessary to describe how underemployment is experienced by women.
Advantages of the Study

This study used a multi-dimensional approach to underemployment in that a single indicator item was not found to be sensitive enough to measure underemployment. Three dimensions were presented to further our understanding of the underemployment and depressive affect relationship. The creation of the current underemployment measure provides the groundwork for further development of the conceptualization of underemployment.

In addition to using the underemployment scales that were created, a self-report employment status measure was used to analyze the same model. It was possible to determine whether the results were consistent when using the two different employment measures. Finally, a young community sample of individuals establishing their occupational and career patterns that will extend throughout the working life was used instead of a student sample. By exploring underemployment in the general population, results would appear to be more generalizable.

Future Considerations

Underemployment research is still in the early stages. Although the underemployment measure used in this study was an important step in understanding the various dimensions of underemployment, a detailed look at how women experience underemployment is needed. What dimensions are significant for women that may not hold true for men? In addition, a combination of subjective and objective measures may provide a closer look at the underemployment phenomenon.

The study focused on three coping styles that were found to be used extensively in
the literature. Further research needs to incorporate additional coping strategies that may
effect the underemployment and depressive affect relationship. It may be beneficial to
view coping as a process in which the strategies used vary as a function of the particular
situation the individual encounters. What was not included in this study was the influence
of situational factors that may influence the underemployment, coping, and depressive
affect relationship. Factors that have been suggested include controllability of the work
situation, and perceptions of control and decision making latitude (Cartwright & Cooper,
1996). Future research should consider such factors.

To conclude, the model predicted in the study was supported for men, but not for
women. These results are important in that they shed some light on an employment
situation. Underemployment may have consequences for men as was evident in this
study. These results could be used by counselors and agencies that deal with new
graduates to help them identify their feelings of underemployment, and try to cope
effectively. In addition, these findings could benefit employers by making the link between
unsatisfactory employment and consequences like depressive affect for men. Although
results were not found to be significant for women, it does not mean that women do not
experience underemployment. Women may experience underemployment differently and
further research needs to address this.
References


Self-Report Employment Status Measure

We are interested in your employment status **right now** and on **each** of the **six** dates listed below on the right. Each date is a **column**. Go down each column and fill in your employment status using the categories on the left. We have tried to pick dates that you will remember (Canada Day and New Years Day). Remember to **choose on employment status for EACH date**.

<table>
<thead>
<tr>
<th></th>
<th>NOW</th>
<th>JULY 1</th>
<th>JAN. 1</th>
<th>JULY 1</th>
<th>JAN. 1</th>
<th>JULY 1</th>
<th>JAN. 1</th>
</tr>
</thead>
</table>

**EMPLOYED FULL-TIME**

and generally satisfied.............................. O O O O O O O

but looking for a better job....................... O O O O O O O

**EMPLOYED PART-TIME**

and looking for full-time work....................... O O O O O O O

not looking for full-time because of family........ O O O O O O O

not looking for full-time because of school........ O O O O O O O

just prefer shorter hours............................ O O O O O O O

laid off but called in from time to time.......... O O O O O O O
and also have full-time
job............................................O........O........O........O........O........O........O

SELF-EMPLOYED, IN BUSINESS/PROFESSION
full-time............................................O........O........O........O........O........O........O
part-time............................................O........O........O........O........O........O........O

UNEMPLOYED
and looking for
work............................................O........O........O........O........O........O........O
not interested in looking for
work............................................O........O........O........O........O........O........O
no longer looking
(discouraged)....................................O........O........O........O........O........O........O
due to temporary
layoff............................................O........O........O........O........O........O........O
due to indefinite
layoff............................................O........O........O........O........O........O........O

IN EDUCATION OR TRAINING PROGRAM
(e.g., high school, university, college, apprenticeship, job training program)
full-time, also
working............................................O........O........O........O........O........O........O
full-time, not
working............................................O........O........O........O........O........O........O
part-time, also
working............................................O........O........O........O........O........O........O
<table>
<thead>
<tr>
<th>NOW</th>
<th>JULY 1</th>
<th>JAN.1</th>
<th>JULY 1</th>
<th>JAN.1</th>
<th>JULY 1</th>
<th>JAN.1</th>
</tr>
</thead>
</table>

part-time, not working

and working in the summer

**FULL-TIME**

**HOMEMAKER**

**OTHER**

Satisfactorily employed category consisted of individuals who responded they now were:
- Employed full-time and generally satisfied.
- Employed part-time and also have a full-time job.
- Self employed in business/profession full-time.

Unemployed category consisted of individuals who responded they now were:
- Employed part-time and laid off but called in from time to time.
- Unemployed and looking for work.
- Unemployed and not longer looking (discouraged).
- Unemployed due to temporary layoff.
- Unemployed due to indefinite layoff.

Underemployed category consisted of individuals who responded they now were:
- Employed full-time but looking for a better job.
- Employed part-time and looking for full-time work.
Underemployment Scale

Please tell us about the extent to which you agree or disagree with each of the following statements.

<table>
<thead>
<tr>
<th>Agree Completely</th>
<th>Agree Somewhat</th>
<th>Agree Slightly</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Disagree Slightly</td>
<td>Disagree Somewhat</td>
<td>Disagree Completely</td>
<td>Does Not Apply</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
<td>O</td>
</tr>
</tbody>
</table>

1. My formal education overqualifies me for this job

2. I feel that my job allows me to make use of my training

3. With my education and training, I feel qualified for a much better job than the one I have

4. Because of recent advances in technology (e.g., computers), my job doesn’t require someone with my training anymore

5. I do not feel overeducated in my present job
6. I feel qualified for a full-time job but can only find part-time work

7 6 5 4 3 2 1 . O

7. I have the motivation and energy to work more hours than I can get

7 6 5 4 3 2 1 . O

8. Because times are tough, I haven’t been able to find a steady job

7 6 5 4 3 2 1 . O

9. My talents are fully used in my job

7 6 5 4 3 2 1 . O

10. I have skills that I would like to be using in my job but I can’t

7 6 5 4 3 2 1 . O

11. With my experience, I could take on more responsibility than I’m given

7 6 5 4 3 2 1 . O

12. My job provides me with opportunities to learn new things

7 6 5 4 3 2 1 . O

13. I feel underemployed in my current job

7 6 5 4 3 2 1 . O
14. I wish my job required less skill than it does

```
7 6 5 4 3 2 1
```

Please tell us about the education and training that your employers expected you to have when you first started your current job. We are also interested in how much training and education you think is necessary.

<table>
<thead>
<tr>
<th>A Lot</th>
<th>Somewhat</th>
<th>A Little</th>
<th>About What</th>
</tr>
</thead>
<tbody>
<tr>
<td>More</td>
<td>More</td>
<td>More</td>
<td>I Have</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A Little</th>
<th>Somewhat</th>
<th>A Lot</th>
<th>Does Not</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less</td>
<td>Less</td>
<td>Less</td>
<td>Apply</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
<td>O</td>
</tr>
</tbody>
</table>

15. When you applied for the job, what level of education did your employers expect you to have?

```
7 6 5 4 3 2 1 O
```

16. How much education do you think is needed for your job?

```
7 6 5 4 3 2 1 O
```

17. When you applied for the job, how much training did your employers expect you to have?

```
7 6 5 4 3 2 1 O
```
18. How much training do you think is needed for your job?

| 7 | 6 | 5 | 4 | 3 | 2 | 1 | O |

Items which were reversed scored include 2, 5, 9, 12, 15, 16, 17, 18.

Person-Job Mismatch Underemployment subscale consisted of items 2, 9, 12.

Subjective Underemployment subscale consisted of items 6, 7, 8, 10, 11.

Perceived Job Requirements Underemployment subscale consisted of items 1, 3, 15, 16, 17.
Center for Epidemiological Study's Depression Scale (CES-D)

Below is a list of the ways you might have felt. Please indicate how often you have felt that way lately.

1=Rarely or never  2=Some or a little of the time  3=Occasionally or a moderate amount of time  4=Most or all of the time

1. I was bothered by things that don’t usually bother me.

   1  2  3  4

2. I did not feel like eating; my appetite was poor.

   1  2  3  4

3. I felt like I could not shake off the blues, even with help from my family or friends.

   1  2  3  4

4. I felt like I was just as good as other people.

   1  2  3  4

5. I had trouble keeping my mind on what I was doing.

   1  2  3  4

6. I felt depressed.

   1  2  3  4
7. I felt that everything I did was an effort.

8. I felt hopeful about the future.

9. I thought my life had been a failure.

10. I felt fearful.

11. My sleep was restless.

12. I was happy.

13. I talked less than usual.


15. People were unfriendly.
16. I enjoyed life.

17. I had crying spells.

18. I felt sad.

19. I felt that people dislike me.

20. I could not “get going”.

Items which were reversed scored: 2, 8, 12, 16.
Coping Scale

Different people have different ways of reacting to things. We are interested in how you have handled problems that were important to you and which may have caused you to worry. How much of each of these did you use in handling those problems?

1. Tried to solve the problem

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

2. Confided your fears and worries to a friend

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

3. Avoided being with people in general

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

4. Tried to carefully plan a course of action rather than acting on impulse

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

5. Sought reassurance from people who know you best

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

6. Daydreamed about better times

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

7. Brainstormed all possible solutions before deciding what to do

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>
8. Talked to people about the situation because talking about it helps you feel better

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

9. Wished that people would just leave you alone

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

10. Set some goals for yourself to deal with the situation

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

11. Accepted sympathy and understanding from friends who had the same problem

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

12. Identified with characters in novels, movies or on TV

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

13. Tried different ways to solve the problem until you found one that worked

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

14. Went to a friend for advice on how to change the situation

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>

15. Watched television more than usual

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
</tr>
</thead>
</table>
The following coding was used for the scale. 
1=not at all, 2=a little, 3= a lot.

Problem-solving coping consisted of the following items: 1, 4, 7, 10, 13.

Support seeking coping consisted of the following items: 2, 5, 8, 11, 14.

Avoidance coping consisted of the following items: 3, 6, 9, 12, 15.
APPENDIX E
Calculations Used to Plot Interactions

Figure 1 - Perceived Job Requirements (PJR) by Avoidance Coping for Men

Low PJR = 4.079 - 1.551 = 2.53
Medium PJR = 4.079 = 4.08
High PJR = 4.079 + 1.551 = 5.63

Low PJR and Low Avoidance:

\[-0.57 + (0.27) (3.27) + (0.49) (2.53) +
(-0.24) (4.12) + (0.37) (1.98) + (0.20) (2.44) + (0.44) (1.63) +
(-0.08) (3.27 x 1.98) + (-0.08) (3.27 x 2.44) + (0.07) (3.27 x 1.63) + (0.01) (2.53 x 1.98) +
(-0.09) (2.53 x 2.44) + (-0.09) (2.53 x 1.63) + (-0.01) (4.12 x 1.98) + (0.04) (4.12 x 2.44) +
(0.12) (4.12 x 1.63)\]

\[= (-0.57) + (0.88) + (1.24) + (-0.99) + (0.73) + (0.49) + (0.55) + (-0.52) + (-0.64) + (0.29) + (0.05) +
(-0.56) + (-0.51) + (-0.08) + (0.40) + (0.62)\]

\[= 1.38\]

Low PJR and Medium Avoidance:

\[-0.57 + (0.27) (3.27) + (0.49) (2.53) +
(-0.24) (4.12) + (0.37) (1.98) + (0.20) (2.44) + (0.44) (1.63) +
(-0.08) (3.27 x 1.98) + (-0.08) (3.27 x 2.44) + (0.07) (3.27 x 1.63) + (0.01) (2.53 x 1.98) +
(-0.09) (2.53 x 2.44) + (-0.09) (2.53 x 1.63) + (-0.01) (4.12 x 1.98) + (0.04) (4.12 x 2.44) +
(0.12) (4.12 x 1.63)\]

\[= (-0.57) + (0.88) + (1.24) + (-0.99) + (0.73) + (0.49) + (0.72) + (-0.52) + (-0.64) + (0.37) + (0.05) +
(-0.56) + (-0.66) + (-0.08) + (0.40) + (0.81)\]

\[= 1.67\]

Low PJR and High Avoidance:

\[-0.57 + (0.27) (3.27) + (0.49) (2.53) +
(-0.24) (4.12) + (0.37) (1.98) + (0.20) (2.44) + (0.44) (2.00) +
(-0.08) (3.27 x 1.98) + (-0.08) (3.27 x 2.44) + (0.07) (3.27 x 2.00) + (0.01) (2.53 x 1.98) +
(-0.09) (2.53 x 2.44) + (-0.09) (2.53 x 2.00) + (-0.01) (4.12 x 1.98) + (0.04) (4.12 x 2.44) +
(0.12) (4.12 x 2.00)\]
\[\begin{align*}
\text{Medium PJR and Low Avoidance:} \\
&= (-0.57) + (0.27)(3.27) + (0.49)(4.08) + \\
&\quad (-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) + \\
&\quad (-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.63) + (0.01)(4.08 \times 1.98) + \\
&\quad (-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.63) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + \\
&\quad (0.12)(4.12 \times 1.63) \\
&= (-0.57) + (0.88) + (2.00) + (-0.99) + (0.73) + (0.49) + (0.55) + (-0.52) + (-0.64) + (0.29) + (0.08) + \\
&\quad (-0.90) + (-0.82) + (-0.08) + (0.40) + (0.62) \\
&= 1.52
\end{align*}\]

\[\begin{align*}
\text{Medium PJR and Medium Avoidance:} \\
&= (-0.57) + (0.27)(3.27) + (0.49)(4.08) + \\
&\quad (-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) + \\
&\quad (-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.63) + (0.01)(4.08 \times 1.98) + \\
&\quad (-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.63) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + \\
&\quad (0.12)(4.12 \times 1.63) \\
&= (-0.57) + (0.88) + (2.00) + (-0.99) + (0.73) + (0.49) + (0.72) + (-0.52) + (-0.64) + (0.37) + (0.08) + \\
&\quad (-0.90) + (-1.06) + (-0.08) + (0.40) + (0.81) \\
&= 1.72
\end{align*}\]

\[\begin{align*}
\text{Medium PJR and High Avoidance:} \\
&= (-0.57) + (0.27)(3.27) + (0.49)(4.08) + \\
&\quad (-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(2.00) + \\
&\quad (-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 2.00) + (0.01)(4.08 \times 1.98) + \\
&\quad (-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 2.00) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + \\
&\quad (0.12)(4.12 \times 2.00) \\
&= (-0.57) + (0.88) + (2.00) + (-0.99) + (0.73) + (0.49) + (0.88) + (-0.52) + (-0.64) + (0.46) + (0.08) + \\
&\quad (-0.90) + (-1.31) + (-0.08) + (0.40) + (0.99) \\
&= 1.90
\end{align*}\]
High PJR and Low Avoidance:

\[-0.57 + (0.27)(3.27) + (0.49)(5.63) + \\
(-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.26) + \\
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.26) + (0.01)(5.63 \times 1.98) + \\
(-0.09)(5.63 \times 2.44) + (-0.16)(5.63 \times 1.26) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + \\
(0.12)(4.12 \times 1.26)\]

\[-0.57 + 0.88 + 2.76 + (-0.99) + (0.73) + (0.49) + (0.55) + (-0.52) + (-0.64) + (0.29) + (0.11) + \\
(-1.24) + (-1.14) + (-0.08) + (0.40) + (0.62)\]

\[= 1.65\]

High PJR and Medium Avoidance:

\[-0.57 + (0.27)(3.27) + (0.49)(5.63) + \\
(-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) + \\
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.63) + (0.01)(5.63 \times 1.98) + \\
(-0.09)(5.63 \times 2.44) + (-0.16)(5.63 \times 1.63) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + \\
(0.12)(4.12 \times 1.63)\]

\[-0.57 + 0.88 + 2.76 + (-0.99) + (0.73) + (0.49) + (0.72) + (-0.52) + (-0.64) + (0.37) + (0.11) + \\
(-1.24) + (-1.47) + (-0.08) + (0.40) + (0.81)\]

\[= 1.76\]

High PJR and High Avoidance:

\[-0.57 + (0.27)(3.27) + (0.49)(5.63) + \\
(-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(2.00) + \\
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 2.00) + (0.01)(5.63 \times 1.98) + \\
(-0.09)(5.63 \times 2.44) + (-0.16)(5.63 \times 2.00) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + \\
(0.12)(4.12 \times 2.00)\]

\[-0.57 + 0.88 + 2.76 + (-0.99) + (0.73) + (0.49) + (0.88) + (-0.52) + (-0.64) + (0.46) + (0.11) + \\
(-1.24) + (-1.80) + (-0.08) + (0.40) + (0.99)\]

\[= 1.86\]
Subjective Underemployment (SU) by Avoidance Coping for Men

Low SU = 4.116 - 1.491 = 2.63
Medium SU = 4.116 = 4.12
High SU = 4.116 + 1.491 = 5.61

Low Avoidance = 1.630 - 0.372 = 1.26
Medium Avoidance = 1.630 = 1.63
High Avoidance = 1.630 + 0.372 = 2.00

Low SU and Low Avoidance:

\[-0.57 + (0.27)(3.27) + (0.49)(4.08) +
-0.24(2.63) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.26) +
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.26) + (0.01)(4.08 \times 1.98) +
(-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.26) + (-0.01)(2.63 \times 1.98) + (0.04)(2.63 \times 2.44) +
(0.12)(2.63 \times 1.26)
\]

\[= (-0.57) + (0.88) + (2.00) + (-0.63) + (0.73) + (0.49) + (0.55) + (-0.52) + (-0.64) + (0.29) + (0.08) +
(-0.90) + (-0.82) + (-0.05) + (0.26) + (0.40)
\]

\[= 1.55
\]

Low SU and Medium Avoidance:

\[-0.57 + (0.27)(3.27) + (0.49)(4.08) +
-0.24(2.63) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) +
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.63) + (0.01)(4.08 \times 1.98) +
(-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.63) + (-0.01)(2.63 \times 1.98) + (0.04)(2.63 \times 2.44) +
(0.12)(2.63 \times 1.63)
\]

\[= (-0.57) + (0.88) + (2.00) + (-0.63) + (0.73) + (0.49) + (0.72) + (-0.52) + (-0.64) + (0.37) + (0.08) +
(-0.90) + (-1.06) + (-0.05) + (0.26) + (0.51)
\]

\[= 1.67
\]

Low SU and High Avoidance:

\[-0.57 + (0.27)(3.27) + (0.49)(4.08) +
-0.24(2.63) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(2.00) +
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 2.00) + (0.01)(4.08 \times 1.98) +
(-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 2.00) + (-0.01)(2.63 \times 1.98) + (0.04)(2.63 \times 2.44) +
(0.12)(2.63 \times 2.00)
\]
\[ (-0.57) + (0.88) + (2.00) + (-0.63) + (0.73) + (0.49) + (0.88) + (-0.52) + (-0.64) + (0.46) + (0.08) + (-0.90) + (-1.31) + (-0.05) + (0.26) + (0.63) \]

= 1.79

Medium SU and Low Avoidance:

\[ (-0.57) + (0.27)(3.27) + (0.49)(4.08) + (-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) + (-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.26) + (0.01)(4.08 \times 1.98) + (-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.26) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + (0.12)(4.12 \times 1.26) \]

= (-0.57) + (0.88) + (2.00) + (-0.99) + (0.73) + (0.49) + (0.55) + (-0.52) + (-0.64) + (0.29) + (0.08) + (-0.90) + (-0.82) + (-0.08) + (0.40) + (0.62)

= 1.52

Medium SU and Medium Avoidance:

\[ (-0.57) + (0.27)(3.27) + (0.49)(4.08) + (-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) + (-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.26) + (0.01)(4.08 \times 1.98) + (-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.26) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + (0.12)(4.12 \times 1.26) \]

= (-0.57) + (0.88) + (2.00) + (-0.99) + (0.73) + (0.49) + (0.72) + (-0.52) + (-0.64) + (0.37) + (0.08) + (-0.90) + (-1.06) + (-0.08) + (0.40) + (0.81)

= 1.72

Medium SU and High Avoidance:

\[ (-0.57) + (0.27)(3.27) + (0.49)(4.08) + (-0.24)(4.12) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(2.00) + (-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 2.00) + (0.01)(4.08 \times 1.98) + (-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 2.00) + (-0.01)(4.12 \times 1.98) + (0.04)(4.12 \times 2.44) + (0.12)(4.12 \times 2.00) \]

= (-0.57) + (0.88) + (2.00) + (-0.99) + (0.73) + (0.49) + (0.88) + (-0.52) + (-0.64) + (0.46) + (0.08) + (-0.90) + (-1.31) + (-0.08) + (0.40) + (0.99)

= 1.90
High SU and Low Avoidance:

\[ (-0.57) + (0.27)(3.27) + (0.49)(4.08) + \\
(-0.24)(5.61) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.26) + \\
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.26) + (0.01)(4.08 \times 1.98) + \\
(-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.26) + (-0.01)(5.61 \times 1.98) + (0.04)(5.61 \times 2.44) + \\
(0.12)(5.61 \times 1.26) \]

\[ = (-0.57) + (0.27)(3.27) + (0.49)(4.08) + (0.73)(0.49) + (0.55) + (-0.52) + (-0.64) + (0.29) + (0.08) + \\
(-0.90) + (-0.82) + (-0.11) + (0.55) + (0.85) \]

\[ = 1.51 \]

High SU and Medium Avoidance:

\[ (-0.57) + (0.27)(3.27) + (0.49)(4.08) + \\
(-0.24)(5.61) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(1.63) + \\
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 1.63) + (0.01)(4.08 \times 1.98) + \\
(-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 1.63) + (-0.01)(5.61 \times 1.98) + (0.04)(5.61 \times 2.44) + \\
(0.12)(5.61 \times 1.63) \]

\[ = (-0.57) + (0.27)(3.27) + (0.49)(4.08) + (2.00)(-1.35) + (0.73)(0.49) + (0.72) + (-0.52) + (-0.64) + (0.37) + (0.08) + \\
(-0.90) + (-1.06) + (-0.11) + (0.55) + (1.10) \]

\[ = 1.77 \]

High SU and High Avoidance:

\[ (-0.57) + (0.27)(3.27) + (0.49)(4.08) + \\
(-0.24)(5.61) + (0.37)(1.98) + (0.20)(2.44) + (0.44)(2.00) + \\
(-0.08)(3.27 \times 1.98) + (-0.08)(3.27 \times 2.44) + (0.07)(3.27 \times 2.00) + (0.01)(4.08 \times 1.98) + \\
(-0.09)(4.08 \times 2.44) + (-0.16)(4.08 \times 2.00) + (-0.01)(5.61 \times 1.98) + (0.04)(5.61 \times 2.44) + \\
(0.12)(5.61 \times 2.00) \]

\[ = (-0.57) + (0.27)(3.27) + (0.49)(4.08) + (2.00)(-1.35) + (0.73)(0.49) + (0.88) + (-0.52) + (-0.64) + (0.46) + (0.08) + \\
(-0.90) + (-1.31) + (-0.11) + (0.55) + (1.35) \]

\[ = 2.02 \]
Figure 3 - Perceived Job Requirements (PJR) by Avoidance Coping for Men

Low PJR = 4.079 - 1.551 = 2.53  Low Avoidance = 1.630 - 0.372 = 1.26
Medium PJR = 4.079 = 4.08  Medium Avoidance = 1.630 = 1.63
High PJR = 4.079 + 1.551 = 5.63  High Avoidance = 1.630 + 0.372 = 2.00

Low PJR and Low Avoidance:

\((6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(2.53) + (-0.81)(4.12) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(1.26) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 1.26) + (0.79)(2.53 \times 1.98) + (-0.32)(2.53 \times 2.44) + (0.09)(2.53 \times 1.26) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) + (-0.46)(4.12 \times 1.26) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 2.53) + (0.59)(1.69 \times 4.12) + (1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.26) + (0.21)(1.69 \times 3.27 \times 1.98) + (0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 1.26) + (-0.46)(1.69 \times 2.53 \times 1.98) + (0.12)(1.69 \times 2.53 \times 2.44) + (-0.13)(1.69 \times 2.53 \times 1.26) + (-0.10)(1.69 \times 4.12 \times 1.98) + (-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 1.26)

= (6.85) + (-8.52) + (3.63) + (-2.29) + (-3.34) + (-5.23) + (-2.71) + (1.61) + (-2.65) + (-0.80) + (0.45) + (3.94) + (-1.97) + (0.29) + (0.57) + (5.43) + (-2.39) + (-3.43) + (3.62) + (4.11) + (6.56) + (4.04) + (-1.24) + (2.30) + (0.40) + (0.35) + (-3.88) + (1.25) + (-0.70) + (-1.38) + (-5.78) + (2.72)

= 1.81

Low PJR and Medium Avoidance:

\((6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(2.53) + (-0.81)(4.12) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(1.63) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 1.63) + (0.79)(2.53 \times 1.98) + (-0.32)(2.53 \times 2.44) + (0.09)(2.53 \times 1.63) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) + (-0.46)(4.12 \times 1.63) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 2.53) + (0.59)(1.69 \times 4.12) + (1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.63) + (0.21)(1.69 \times 3.27 \times 1.98) + (0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 1.63) + (-0.46)(1.69 \times 2.53 \times 1.98) + (0.12)(1.69 \times 2.53 \times 2.44) + (-0.13)(1.69 \times 2.53 \times 1.63) + (-0.10)(1.69 \times 4.12 \times 1.98) + (-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 1.63)

= (6.85) + (-8.52) + (3.63) + (-2.29) + (-3.34) + (-5.23) + (-2.71) + (2.09) + (-2.65) + (-0.80) + (0.59) + (3.94) + (-1.97) + (0.37) + (0.57) + (5.43) + (-3.09) + (-3.43) + (3.62) + (4.11) + (6.56) + (4.04) + (-1.60) + (2.30) + (0.40) + (0.45) + (-3.88) + (1.25) + (-0.90) + (-1.38) + (-5.78) + (3.52)

= 2.15
Low PJR and High Avoidance:

\[ = (6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(2.53) + (-0.81)(4.12) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(2.00) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 2.00) + (0.79)(2.53 \times 1.98) + (-0.32)(2.53 \times 2.44) + (0.09)(2.53 \times 2.00) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) + (-0.46)(4.12 \times 2.00) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 2.53) + (0.59)(1.69 \times 4.12) + (1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 2.00) + (0.21)(1.69 \times 3.27 \times 1.98) + (0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 2.00) + (-0.46)(1.69 \times 2.53 \times 1.98) + (0.12)(1.69 \times 2.53 \times 2.44) + (-0.13)(1.69 \times 2.53 \times 2.00) + (-0.10)(1.69 \times 4.12 \times 1.98) + (-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 2.00) \]

\[ = (6.85) + (-8.52) + (3.63) + (-2.29) + (-3.34) + (-5.23) + (-2.71) + (2.56) + (-2.65) + (-0.80) + (0.72) + (3.94) + (-1.97) + (0.45) + (0.57) + (5.43) + (-3.79) + (-3.43) + (3.62) + (4.11) + (6.56) + (4.04) + (-1.96) + (2.30) + (0.40) + (0.55) + (-3.88) + (1.25) + (-1.11) + (-1.38) + (-5.78) + (4.32) \]

\[ = 2.46 \]

Medium PJR and Low Avoidance:

\[ = (6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(4.12) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(1.26) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 1.26) + (0.79)(4.08 \times 1.98) + (-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 1.26) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) + (-0.46)(4.12 \times 1.26) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 4.12) + (1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.26) + (0.21)(1.69 \times 3.27 \times 1.98) + (0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 1.26) + (-0.46)(1.69 \times 4.08 \times 1.98) + (0.12)(1.69 \times 4.08 \times 2.44) + (-0.13)(1.69 \times 4.08 \times 1.26) + (-0.10)(1.69 \times 4.12 \times 1.98) + (-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 1.26) \]

\[ = (6.85) + (-8.52) + (3.63) + (-3.71) + (-3.34) + (-5.23) + (-2.71) + (1.61) + (-2.65) + (-0.80) + (0.45) + (6.38) + (-3.19) + (0.46) + (0.57) + (5.43) + (-2.39) + (-3.43) + (5.86) + (4.11) + (6.56) + (4.04) + (-1.24) + (2.30) + (0.40) + (0.35) + (-6.28) + (2.02) + (-1.13) + (-1.38) + (-5.78) + (2.72) \]

\[ = 1.96 \]
Medium PJR and Medium Avoidance:

\[(6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(4.12) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(1.63) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 1.63) + (0.79)(4.08 \times 1.98) +
\]
\[(-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 1.63) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) +
\] 
\[(-0.46)(4.12 \times 1.63) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 4.12) +
\]
\[(1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.63) + (0.21)(1.69 \times 3.27 \times 1.98) +
\]
\[(0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 2.00) + (-0.46)(1.69 \times 4.08 \times 1.98) +
\]
\[(0.12)(1.69 \times 4.08 \times 2.44) + (-0.13)(1.69 \times 4.08 \times 1.63) + (-0.10)(1.69 \times 4.12 \times 1.98) +
\]
\[(-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 1.63)\]

= 2.23

Medium PJR and High Avoidance:

\[(6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(4.12) + (-2.64)(1.98) +
\]
\[(-1.11)(2.44) + (1.28)(2.00) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 2.00) + (0.79)(4.08 \times 1.98) +
\]
\[(-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 2.00) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) +
\]
\[(-0.46)(4.12 \times 2.00) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 4.12) +
\]
\[(1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 2.00) + (0.21)(1.69 \times 3.27 \times 1.98) +
\]
\[(0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 2.00) + (-0.46)(1.69 \times 4.08 \times 1.98) +
\]
\[(0.12)(1.69 \times 4.08 \times 2.44) + (-0.13)(1.69 \times 4.08 \times 2.00) + (-0.10)(1.69 \times 4.12 \times 1.98) +
\]
\[(-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 2.00)\]

= 2.47
High PJR and Low Avoidance:

\[
(6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(5.63) + (-0.81)(4.12) + (-2.64)(1.98) + \\
(-1.11)(2.44) + (1.28)(1.26) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 1.26) + (0.79)(5.63 \times 1.98) + \\
(-0.32)(5.63 \times 2.44) + (0.09)(5.63 \times 1.26) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) + \\
(-0.46)(4.12 \times 1.26) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 5.63) + (0.59)(1.69 \times 4.12) + \\
(1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.63) + (0.21)(1.69 \times 3.27 \times 1.98) + \\
(0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 1.63) + (-0.46)(1.69 \times 5.63 \times 1.98) + \\
(0.12)(1.69 \times 5.63 \times 2.44) + (-0.13)(1.69 \times 5.63 \times 1.63) + (-0.10)(1.69 \times 4.12 \times 1.98) + \\
(-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 1.63)
\]

\[= 2.13\]

High PJR and Medium Avoidance:

\[
(6.85) + (-8.52)(3.63) + (-5.13)(-3.34) + (-5.23)(-2.71) + (1.61)(-2.65) + (-0.80)(0.45) + \\
(8.82)(-4.40) + (0.64)(0.57) + (5.43)(-2.39) + (-3.43)(8.10) + (4.11)(6.56) + (4.04) + \\
(-1.24)(2.30) + (0.40)(0.35) + (-8.68)(2.79) + (-1.56)(-1.38) + (-5.78) + (2.72)
\]

\[= 2.32\]
High PJR and High Avoidance:

\[ = (6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(5.63) + (-0.81)(4.12) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(2.00) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 2.00) + (0.79)(5.63 \times 1.98) + (-0.32)(5.63 \times 2.44) + (0.09)(5.63 \times 2.00) + (0.07)(4.12 \times 1.98) + (0.54)(4.12 \times 2.44) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 5.63) + (0.59)(1.69 \times 4.12) + (1.96)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 2.00) + (0.21)(1.69 \times 3.27 \times 1.98) + (0.03)(1.69 \times 3.27 \times 2.44) + (0.05)(1.69 \times 3.27 \times 2.00) + (-0.46)(1.69 \times 5.63 \times 1.98) + (0.12)(1.69 \times 5.63 \times 2.44) + (-0.13)(1.69 \times 5.63 \times 2.00) + (-0.10)(1.69 \times 4.12 \times 1.98) + (-0.34)(1.69 \times 4.12 \times 2.44) + (0.31)(1.69 \times 4.12 \times 2.00) \]

= 2.49

Figure 4 - Subjective Underemployment (SU) by Avoidance Coping for Men

Low SU = 4.116 - 1.491 = 2.63
Low Avoidance = 1.630 - 0.372 = 1.26

Medium SU = 4.116 - 4.12
Medium Avoidance = 1.630 = 1.63

High SU = 4.116 + 1.491 = 5.61
High Avoidance = 1.630 + 0.372 = 2.00

Low SU and Low Avoidance:

\[ = (6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(2.63) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(1.26) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.11)(3.27 \times 1.26) + (0.78)(4.08 \times 1.98) + (-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 1.26) + (0.07)(2.63 \times 1.98) + (0.54)(2.63 \times 2.44) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 2.63) + (1.95)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.26) + (0.05)(1.69 \times 3.27 \times 1.26) + (0.03)(1.69 \times 3.27 \times 2.44) + (0.21)(1.69 \times 3.27 \times 1.98) + (-0.13)(1.69 \times 4.08 \times 1.26) + (0.12)(1.69 \times 4.08 \times 2.44) + (-0.46)(1.69 \times 4.08 \times 1.98) + (0.31)(1.69 \times 2.63 \times 1.26) + (-0.34)(1.69 \times 2.63 \times 2.44) + (-0.10)(1.69 \times 2.63 \times 1.98) \]

= (6.85) + (-8.52) + (4.38) + (-3.71) + (-2.13) + (-5.23) + (-2.71) + (1.61) + (-2.65) + (-0.80) + (0.04) + (6.30) + (-3.19) + (0.46) + (0.36) + (3.47) + (-1.52) + (-3.43) + (5.86) + (2.62) + (6.53) + (4.04) + (-1.24) + (0.35) + (0.40) + (2.30) + (-1.13) + (2.02) + (-6.28) + (1.74) + (-3.69) + (-0.88)
Low SU and Medium Avoidance:

\[(6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(2.63) + (-2.64)(1.98) + \\
(-1.11)(2.44) + (1.28)(1.63) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.01)(3.27 \times \\
1.63) + (0.78)(4.08 \times 1.98) + \\
(-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 1.63) + (0.07)(2.63 \times 1.98) + (0.54)(2.63 \times 2.44) + \\
(-0.46)(2.63 \times 1.63) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 2.63) + \\
(1.95)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.63) + (0.05)(1.69 \times 3.27 \times 1.63) + \\
(0.03)(1.69 \times 3.27 \times 2.44) + (0.21)(1.69 \times 3.27 \times 1.98) + (-0.13)(1.69 \times 4.08 \times 1.63) + \\
(0.12)(1.69 \times 4.08 \times 2.44) + (-0.46)(1.69 \times 4.08 \times 1.98) + (0.31)(1.69 \times 2.63 \times 1.63) + \\
(-0.34)(1.69 \times 2.63 \times 2.44) + (0.10)(1.69 \times 2.63 \times 1.98)
\]

= 2.22

Low SU and High Avoidance:

\[(6.85) + (-8.52)(4.38) + (-3.71) + (-2.13) + (-5.23) + (-2.71) + (2.09) + (-2.65) + (-0.80) + (0.05) + \\
(6.30) + (-3.19) + (0.60) + (0.36) + (3.47) + (-1.97) + (-3.43) + (5.86) + (2.62) + (6.53) + (4.04) + \\
(-1.60) + (0.45) + (0.40) + (2.30) + (-1.46) + (2.02) + (-6.28) + (2.25) + (-3.69) + (-0.88)
\]

= 2.33

Low SU and High Avoidance:

\[(6.85) + (-8.52)(4.38) + (-3.71) + (-2.13) + (-5.23) + (-2.71) + (2.09) + (-2.65) + (-0.80) + (0.07) + \\
(6.30) + (-3.19) + (0.73) + (0.36) + (3.47) + (-2.42) + (-3.43) + (5.86) + (2.62) + (6.53) + (4.04) + \\
(-1.96) + (0.55) + (0.40) + (2.30) + (-1.79) + (2.02) + (-6.28) + (2.76) + (-3.69) + (-0.88)
\]

= 2.48
Medium SU and Low Avoidance:

\[\begin{align*}
&=(6.85)+(-5.04)(1.69)+(1.11)(3.27)+(-0.91)(4.08)+(-0.81)(4.12)+(-2.64)(1.98)+
&\quad(-1.11)(2.44)+(1.28)(1.26)+(-0.41)(3.27 \times 1.98)+(-0.10)(3.27 \times 2.44)+(0.01)(3.27 \times 1.26)+
&\quad(0.78)(4.08 \times 1.98)+
&\quad(-0.32)(4.08 \times 2.44)+(0.09)(4.08 \times 1.26)+(0.07)(4.12 \times 1.98)+(0.54)(4.12 \times 2.44)+
&\quad(-0.46)(4.12 \times 1.26)+(-0.62)(1.69 \times 3.27)+(-0.85)(1.69 \times 4.08)+(0.05)(1.69 \times 4.12)+
&\quad(1.95)(1.69 \times 1.98)+(0.05)(1.69 \times 4.44)+(-0.58)(1.69 \times 1.26)+(1.69 \times 3.27 \times 1.98)+
&\quad(0.03)(1.69 \times 3.27 \times 1.26)+(0.21)(1.69 \times 4.08 \times 1.98)+(-0.13)(1.69 \times 4.08 \times 1.26)+
&\quad(0.12)(1.69 \times 4.08 \times 2.44)+(-0.46)(1.69 \times 4.08 \times 1.98)+(0.31)(1.69 \times 4.12 \times 1.63)+
&\quad(-0.34)(1.69 \times 4.12 \times 2.44)+(-0.10)(1.69 \times 4.12 \times 1.98)
\end{align*}\]

\[=2.19\]

Medium SU and Medium Avoidance:

\[\begin{align*}
&=(6.85)+(-5.04)(1.69)+(1.11)(3.27)+(-0.91)(4.08)+(-0.81)(4.12)+(-2.64)(1.98)+
&\quad(-1.11)(2.44)+(1.28)(1.26)+(-0.41)(3.27 \times 1.98)+(-0.10)(3.27 \times 2.44)+(0.01)(3.27 \times 1.26)+
&\quad(0.78)(4.08 \times 1.98)+
&\quad(-0.32)(4.08 \times 2.44)+(0.09)(4.08 \times 1.63)+(0.07)(4.12 \times 1.98)+(0.54)(4.12 \times 2.44)+
&\quad(-0.46)(4.12 \times 1.63)+(-0.62)(1.69 \times 3.27)+(-0.85)(1.69 \times 4.08)+(0.05)(1.69 \times 4.12)+
&\quad(1.95)(1.69 \times 1.98)+(0.05)(1.69 \times 4.44)+(-0.58)(1.69 \times 1.26)+(1.69 \times 3.27 \times 1.98)+
&\quad(0.03)(1.69 \times 3.27 \times 1.26)+(0.21)(1.69 \times 4.08 \times 1.98)+(-0.13)(1.69 \times 4.08 \times 1.26)+
&\quad(0.12)(1.69 \times 4.08 \times 2.44)+(-0.46)(1.69 \times 4.08 \times 1.98)+(0.31)(1.69 \times 4.12 \times 1.63)+
&\quad(-0.34)(1.69 \times 4.12 \times 2.44)+(-0.10)(1.69 \times 4.12 \times 1.98)
\end{align*}\]

\[=2.33\]
Medium SU and High Avoidance:

\[(6.85)+(-5.04)(1.69)+(1.11)(3.27)+(-0.91)(4.08)+(-0.81)(4.12)+(-2.64)(1.98)+
(-1.11)(2.44)+(1.28)(2.00)+(-0.41)(3.27 \times 1.98)+(-0.10)(3.27 \times 2.44)+(0.01)(3.27 \times 2.00)+(0.78)(4.08 \times 1.98)+
(-0.32)(4.08 \times 2.44)+(0.09)(4.08 \times 2.00)+(0.07)(4.12 \times 1.98)+(0.54)(4.12 \times 2.44)+
(-0.46)(4.12 \times 2.00)+(-0.62)(1.69 \times 3.27)+(0.85)(1.69 \times 4.08)+(0.59)(1.69 \times 2.63)+
(1.95)(1.69 \times 1.98)+(0.98)(1.69 \times 2.44)+(-0.58)(1.69 \times 2.00)+(0.05)(1.69 \times 3.27 \times 2.00)+
(0.03)(1.69 \times 3.27 \times 2.44)+(0.21)(1.69 \times 3.27 \times 1.98)+(-0.13)(1.69 \times 4.08 \times 2.00)+
(0.12)(1.69 \times 4.08 \times 2.44)+(-0.46)(1.69 \times 4.08 \times 1.98)+(0.31)(1.69 \times 4.12 \times 2.00)+
(-0.34)(1.69 \times 4.12 \times 2.44)+(-0.10)(1.69 \times 4.12 \times 1.98)
\]

\[=2.45\]

High SU and Low Avoidance:

\[(6.85)+(-8.52)+(4.38)+(-3.71)+(-3.34)+(-5.23)+(-2.71)+(2.56)+(-2.65)+(-0.80)+(0.07)+
(6.30)+(-3.19)+(0.73)+(0.57)+(5.43)+(-3.80)+(-3.43)+(5.86)+(4.11)+(6.53)+(4.04)+
(-1.96)+(0.55)+(0.40)+(2.30)+(-1.79)+(2.02)+(-6.28)+(4.32)+(-5.78)+(-1.38)
\]

\[=2.18\]
High SU and Medium Avoidance:

\[= (6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(5.61) + (-2.64)(1.98) + (-1.11)(2.44) + (1.28)(1.63) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.01)(3.27 \times 1.63) + (0.78)(4.08 \times 1.98) + \\
(-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 1.63) + (0.07)(5.61 \times 1.98) + (0.54)(5.61 \times 2.44) + \\
(-0.46)(5.61 \times 1.63) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 5.61) + \\
(1.95)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 1.63) + (0.05)(1.69 \times 3.27 \times 1.63) + \\
(0.03)(1.69 \times 3.27 \times 2.44) + (0.21)(1.69 \times 3.27 \times 1.98) + (-0.13)(1.69 \times 4.08 \times 1.63) + \\
(0.12)(1.69 \times 4.08 \times 2.44) + (0.46)(1.69 \times 4.08 \times 1.98) + (0.31)(1.69 \times 5.61 \times 1.63) + \\
(-0.34)(1.69 \times 5.61 \times 2.44) + (-0.10)(1.69 \times 5.61 \times 1.98)\]

\[= (6.85) + (-8.52) + (4.38) + (-3.71) + (-4.54) + (-5.23) + (-2.71) + (2.09) + (-2.65) + (-0.80) + (0.05) + \\
(6.30) + (-3.19) + (0.60) + (0.78) + (7.39) + (-4.21) + (-3.43) + (5.86) + (5.59) + (6.53) + (4.04) + \\
(-1.60) + (0.45) + (0.04) + (2.30) + (-1.46) + (2.02) + (-6.28) + (4.79) + (-7.87) + (-1.88)\]

\[= 1.98\]

High SU and High Avoidance:

\[= (6.85) + (-5.04)(1.69) + (1.11)(3.27) + (-0.91)(4.08) + (-0.81)(5.61) + (-2.64)(1.98) + \\
(-1.11)(2.44) + (1.28)(2.00) + (-0.41)(3.27 \times 1.98) + (-0.10)(3.27 \times 2.44) + (0.01)(3.27 \times 2.00) + (0.78)(4.08 \times 1.98) + \\
(-0.32)(4.08 \times 2.44) + (0.09)(4.08 \times 2.00) + (0.07)(5.61 \times 1.98) + (0.54)(5.61 \times 2.44) + \\
(-0.46)(5.61 \times 2.00) + (-0.62)(1.69 \times 3.27) + (0.85)(1.69 \times 4.08) + (0.59)(1.69 \times 5.61) + \\
(1.95)(1.69 \times 1.98) + (0.98)(1.69 \times 2.44) + (-0.58)(1.69 \times 2.00) + (0.05)(1.69 \times 3.27 \times 2.00) + \\
(0.03)(1.69 \times 3.27 \times 2.44) + (0.21)(1.69 \times 3.27 \times 1.98) + (-0.13)(1.69 \times 4.08 \times 2.00) + \\
(0.12)(1.69 \times 4.08 \times 2.44) + (0.46)(1.69 \times 4.08 \times 1.98) + (0.31)(1.69 \times 5.61 \times 2.00) + \\
(-0.34)(1.69 \times 5.61 \times 2.44) + (-0.10)(1.69 \times 5.61 \times 1.98)\]

\[= (6.85) + (-8.52) + (4.38) + (-3.71) + (-4.54) + (-5.23) + (-2.71) + (2.56) + (-2.65) + (-0.80) + (0.07) + \\
(6.30) + (-3.19) + (0.73) + (0.78) + (7.39) + (-5.16) + (-3.43) + (5.59) + (5.86) + (6.53) + (4.04) + \\
(-1.96) + (0.55) + (0.40) + (2.30) + (-1.79) + (2.02) + (-6.28) + (5.89) + (-7.87) + (-1.88)\]

\[= 2.52\]
Figure 5 - Unemployed vs Underemployed by Support Seeking Coping for Men

Unemployed = 1
Underemployed = -1

Unemployed and Low Support Seeking:

\[=1.08+(-0.12)(0.84)+(-0.16)(1)+(0.08)(1.52)+(-0.21)(2.41)+(0.63)(1.61)+(0.02)(0.84 \times 1.52)+(0.04)(0.84 \times 2.41)+(-0.05)(0.84 \times 1.61)+(-0.33)(1 \times 1.52)+(0.24)(1 \times 2.41)+(0.16)(1 \times 1.01)\]

\[=1.08+(-0.10)+(-0.16)+(0.12)+(-0.51)+(1.01)+(0.03)+(0.08)+(-0.07)+(-0.50)+(0.58)+(0.16)\]

\[=1.72\]

Unemployed and Medium Support Seeking:

\[=1.08+(-0.12)(0.84)+(-0.16)(1)+(0.08)(1.96)+(-0.21)(2.41)+(0.63)(1.61)+(0.02)(0.84 \times 1.96)+(0.04)(0.84 \times 2.41)+(-0.05)(0.84 \times 1.61)+(-0.33)(1 \times 1.96)+(0.24)(1 \times 2.41)+(0.16)(1 \times 1.01)\]

\[=1.08+(-0.10)+(-0.16)+(0.16)+(-0.51)+(1.01)+(0.03)+(0.08)+(-0.07)+(-0.65)+(0.58)+(0.16)\]

\[=1.61\]

Unemployed and High Support Seeking:

\[=1.08+(-0.12)(0.84)+(-0.16)(1)+(0.08)(2.40)+(-0.21)(2.41)+(0.63)(1.61)+(0.02)(0.84 \times 2.40)+(0.04)(0.84 \times 2.41)+(-0.05)(0.84 \times 1.61)+(-0.33)(1 \times 2.40)+(0.24)(1 \times 2.41)+(0.16)(1 \times 1.01)\]

\[=1.08+(-0.10)+(-0.16)+(0.19)+(-0.51)+(1.01)+(0.04)+(0.08)+(-0.07)+(-0.79)+(0.58)+(0.16)\]

\[=1.51\]
Underemployed and Low Support Seeking:

\[=1.08+(-0.12)(0.84)+(-0.16)(-1)+(0.08)(1.52)+(-0.21)(2.41)+(0.63)(1.61)+(0.02)(0.84 \times 1.52)+(0.04)(0.84 \times 2.41)+(-0.05)(0.84 \times 1.61)+(-0.33)(-1 \times 1.52)+(0.24)(-1 \times 2.41)+(0.16)(-1 \times 1.01)\]

\[=1.08+(-0.10)+(-0.16)+(0.12)+(-0.51)+(1.01)+(0.03)+(0.08)+(-0.07)+(0.50)+(-0.58)+(-0.16)\]

\[=1.56\]

Underemployed and Medium Support Seeking Coping:

\[=1.08+(-0.12)(0.84)+(-0.16)(-1)+(0.08)(1.96)+(-0.21)(2.41)+(0.63)(1.61)+(0.02)(0.84 \times 1.96)+(0.04)(0.84 \times 2.41)+(-0.05)(0.84 \times 1.61)+(-0.33)(-1 \times 1.96)+(0.24)(-1 \times 2.41)+(0.16)(-1 \times 1.01)\]

\[=1.08+(-0.10)+(-0.16)+(0.16)+(-0.51)+(1.01)+(0.03)+(0.08)+(-0.07)+(0.65)+(-0.58)+(-0.16)\]

\[=1.75\]

Underemployed and High Support Seeking Coping:

\[=1.08+(-0.12)(0.84)+(-0.16)(-1)+(0.08)(2.40)+(-0.21)(2.41)+(0.63)(1.61)+(0.02)(0.84 \times 2.40)+(0.04)(0.84 \times 2.41)+(-0.05)(0.84 \times 1.61)+(-0.33)(-1 \times 2.40)+(0.24)(-1 \times 2.41)+(0.16)(-1 \times 1.01)\]

\[=1.08+(-0.10)+(-0.16)+(0.19)+(-0.51)+(1.01)+(0.04)+(0.08)+(-0.07)+(0.79)+(-0.58)+(-0.16)\]

\[=1.93\]