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Alcohol Consumption Patterns, Death Attitudes, And Personal Meaning Among College Women

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**ALCOHOL CONSUMPTION PATTERNS, DEATH ATTITUDES,
AND PERSONAL MEANING AMONG COLLEGE WOMEN**

A Dissertation

Presented to

The School of Graduate Studies

Department of Counseling Psychology

Indiana State University

Terre Haute, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Christopher H. Nolan

August 2000

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APPROVAL SHEET

The dissertation of Christopher Hugh Nolan, Contribution to the School of Graduate Studies, Indiana State University, Series III, Number 799, under the title *Alcohol Consumption Patterns, Death Attitudes, and Personal Meaning Among College Women* is approved as partial fulfillment of the requirements for the Doctor of Philosophy Degree.

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ABSTRACT

Viktor Frankl's logotherapy proposes that personal meaning in life and the attitudes people hold toward their own subjective mortality play important mediating roles in the way individuals choose to view and conduct their lives. The purpose of this study was to test the effectiveness of Frankl's existential model in explaining problem drinking among college women by determining whether there are group differences in personal meaning and death attitudes as a function of alcohol consumption patterns. The sample consisted of 154 college women whose patterns of alcohol consumption allowed for participant classification into one of three groups: (a) non-drinkers ($n = 40$), (b) non-problem drinkers ($n = 57$), and (c) problem drinkers ($n = 57$). Measures of personal meaning and death attitudes were obtained for each group using the Personal Meaning Profile (PMP) and Death Attitude Profile-Revised (DAP-R).

Results from two MANOVAs and an ANOVA revealed no statistically significant group differences on any of the eight PMP and five DAP-R subscales. Results from a stepwise discriminate function analysis revealed that a discriminant function composed solely of the Religion factor of the PMP was the most efficient in discriminating between the criterion groups. However, only about nine percent of the variance in the dependent variable, group membership, was explained by differences in the PMP Religion factor.

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In light of the fact that the current study is an investigation of the roles of personal meaning and death attitudes in mediating life choices, I cannot help but reflect upon the significance of Viktor Frankl's work as it has applied to my own existence. Although my journey of a thousand miles began with my acceptance into the Counseling Psychology program at Indiana State University, this particular journey has not been an easy one: Many unforeseen and uncontrollable life circumstances along the way have forced me to examine my own life meaning and attitudes toward death. I would like to take this opportunity to express my gratitude to several individuals who have helped me stay the course even when quitting seemed like a reasonable and, at times, desirable option.

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Someone once said that our greatest glory is not in having never fallen, but in rising once we have. Throughout the course of my long journey I have indeed fallen, and more than once. However, with the loving assistance of my many friends and family, I have been able to get up time and time again. I am now proud to say that, as *this* journey finally comes to an end, I welcome the next.

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Chapter 1

INTRODUCTION

Since the national study by Straus and Bacon in 1949 (Straus & Bacon, 1953), researchers have explored and documented the alcohol consumption patterns of college and university students. However, alcohol use and the associated behavioral problems among college students continue to be a problem of alarming proportions (Bennett, Miller, & Woodall, 1999; Presley, Meilman, & Lyster, 1994; Schuckit, Klein, Twitchell, & Springer, 1994; U. S. Department of Health and Human Services [USDHHS], 1990). Despite creative and well-intended efforts by educators and health-care providers to reduce this longstanding problematic behavior, research fails to indicate that alcohol abuse is on the decline (Bennett et al., 1999; Engs, Diebold, & Hanson, 1996; Schuckit et al., 1994; Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994).

In a national survey of 17,096 students at 140 four-year colleges, Wechsler and his colleagues (1998) reported that 43% of college students engage in binge drinking, defined as the consumption of five or more alcoholic drinks in one sitting; 21% of the students do so on a frequent basis. Presley and his colleagues (1994) surveyed 58,625 students across 800 campuses as part of the national Core Alcohol and Drug Survey and reported that 42% of the respondents had binged during the two weeks preceding the

survey; 18.5% of them had binged on three or more occasions. Based on a comprehensive review of the literature since 1980, Prendergast (1994) concluded that, although approximately 90% of college students drink alcohol at least once per year, between 20% and 40% drink “at high levels that would be associated with various [alcohol-related] problems” (p.110). It was concluded that a significant number of college students abuse alcohol and are at risk for developing alcohol-related health and behavioral problems. Although most students do not drink at high frequencies and/or in large quantities (Bennett et al., 1999; Meilman, Presley, & Cashin, 1997; Prendergast, 1994), even low levels of alcohol consumption among college students cannot be dismissed as non-problematic, especially given the acute nature of the problems typically associated with this young population such as intoxication, accidents, and assaults (Prendergast, 1994; Werch, Gorman, & Marty, 1987).

Strong positive relationships have been established between frequency and quantity of alcohol consumption and undesirable behaviors and negative consequences among college students. Specifically, researchers have consistently reported abusive alcohol consumption patterns in college students to be highly correlated with poor academic performance (Engs et al., 1996; Presley et al., 1994), unsafe sexual activity (Anderson & Mathieu, 1996; Meilman, 1993) and rape (Abbey, 1991; Engs et al., 1996; Koss & Dinero, 1989), driving while under the influence (Engs et al., 1996; Sarvela, Taylor, Drolet, & Newcomb, 1988), impaired social relationships (Engs et al., 1996; Kozicki, 1982), and suicide attempts and completions (Rivinus, 1990).

The negative consequences related to drinking among college students are not limited nor restricted to the individual consumer of the alcohol. Individuals in the

immediate environment who come into contact with the abuser are often negatively impacted as well (Bennett et al., 1999; Finn, 1996). The “secondary” consequences of alcohol abuse vary in severity and may range from minor annoyances (e.g., having one’s sleep or studying interrupted by the behavior of the problem drinker) to actual criminal victimization (e.g., being the victim of physical or sexual assault) perpetrated by the impaired consumer of alcohol (Wechsler et al., 1994).

In consideration of the toll that problem drinking levies against the individual consumers of alcohol as well as those in the larger campus community, college and university officials have identified alcohol abuse as a serious problem on campuses (Carnegie Foundation for the Advancement of Teaching [CFAT], 1990; Reisberg, 1998). The evidence of a relationship between abusive alcohol consumption among college students and acute problems has stimulated college educators, administrators, and health-care providers to find effective ways to confront this national health and social problem. The consensus among college and university personnel is that prevention and early alcohol intervention strategies hold the most promise for reducing problem drinking among college students.

The World Health Organization (WHO) defines early alcohol intervention as “a pro-active technique which aims to identify persons with hazardous or harmful alcohol consumption before [italics added] dependence and serious harm have occurred, and to provide brief therapy, typically at the point of first contact” (Saunders, Aasland, Babor, De La Fuente, & Grant, 1993, p. 791). Although hazardous consumption of alcohol places the drinker at risk for physical and/or psychological harm (Edwards, Arif, & Hodgson, 1981), the WHO defines *harmful* alcohol consumption in terms of the actual

presence of physical or psychological problems (WHO, 1992). If successful reduction of alcohol abuse among college students is to become a reality, more effective and strategic prevention and early alcohol intervention programs are required (Engs et al., 1996; Gonzalez, 1993-1994; Prendergast, 1994, Steenbarger, 1998). Since most college drinkers are young, have not yet developed dependency, and have not yet experienced the physical symptoms associated with chronic abuse such as tissue damage/loss, organ failure, and neurological impairment, accurate prediction and detection of the hazardous and harmful drinkers (collectively referred to, hereafter, as problem drinkers) are critical to the success of program efforts.

Because problem drinking continues to cause adverse academic, behavioral, and health consequences among college students, effective prevention and early intervention strategies need to be developed and implemented to reduce this widespread behavior. However, the relative success of programming efforts is contingent on the application of empirically derived data regarding the variables or factors associated with problem drinking (Engs et al. 1996; Prendergast, 1994; McKee, 1996; Vogler, Webber, Rasor, Bartz, & Levesque, 1994). The empirical identification of the biological, psychological, and sociological factors which contribute to the development and maintenance of problem drinking is important if university personnel are to be successful in abating problem drinking through their prevention and early intervention efforts (Engs et al., 1996; Gonzalez, 1993-1994; McKee, 1996; Prendergast, 1994, Steenbarger, 1998).

Although much is known about the incidence, prevalence, and negative consequences of problem drinking among university students, the specific causes of this behavior remain unclear. However, researchers have at least abandoned the notion that a

single and identifiable cause can explain the development and maintenance of problem drinking and alcohol dependency (Blane & Leonard, 1999; National Institute on Alcohol Abuse and Alcoholism, 1990). The acceptance among researchers of a multifactorial system of causality, one which subsumes the causal influences of biological, psychological, emotional, and sociological factors, has superseded adherence to a belief in a single determinant of alcohol abuse.

In regard to college drinking, the recognition of a multiplicity of causal influences (Schlaadt & Shannon, 1990) has led to the empirical determination of emotional, psychological, and sociological factors related to problem drinking within this population. Researchers studying college drinking have reported important differences between groups of alcohol consumers on demographic, psychological, and social measures. Factors which tend to discriminate problem drinkers from non-problem drinkers include, but are not limited to, the following: external locus of control (Sadava & Pak, 1993), high trait anxiety and anxiety sensitivity (Brooks, Walfish, Stenmark, & Canger, 1981; Stewart & Zeitlin, 1995), demographic variables such as race, socioeconomic status, and college residency status (Engs et al., 1996; Schall, Kemeny, & Maltzman, 1992), high sensation seeking (McCarty & Kaye, 1984; Ratliff & Burkhardt, 1984), stronger alcohol expectancies (Lundahl, Davis, Adesso, & Lukas, 1997; Thombs, 1993; Wood, Sher, & Strathman, 1996), poorer self-management skills (McKee, 1996), social context (Beck, Thombs, Mahoney, & Fingar, 1995; Thombs, Beck, & Mahoney, 1993), emotion-focused coping strategies (Evans & Dunn, 1995; Karwacki, Stephanie, & Bradley, 1996), and lower self-esteem (Corbin, McNair, & Carter, 1996; Walitzer & Sher, 1996).

Although not explored in many of the above studies, there is evidence to suggest that gender is an important mediating variable in the relationships between some of these factors and problem drinking (Beck et al., 1995; Gleason, 1994; Ricciardelli & Williams, 1997; Stewart & Zeitlin, 1995). For example, Corbin et al. (1996) observed a strong inverse relationship between global self-esteem and problem drinking, although this finding applied only to women. Among men, as alcohol consumption increased, self-esteem increased as well. The researchers speculated that differences in sex-roles and self-deception by men to justify their substance abuse may account for the observed differences.

In another study, Thombs (1993) extended the work of Goldman, Brown, and Christiansen (1987) in identifying differentially discriminating properties of alcohol expectancies. Although problem drinkers of both sexes held stronger beliefs than non-problem drinkers in regard to the outcomes they expected to achieve from their drinking, different alcohol expectancies were found between the male and female problem drinkers. Whereas the male problem drinkers were strongly motivated by the alcohol expectancies of euphoria, social pleasure, and stress reduction, female problem drinkers were expecting the alcohol to make them feel more excited, powerful, and generally better about themselves.

The Corbin et al. (1996) and Thombs (1993) studies not only extended the research on identifying factors which discriminate problem drinkers from non-problem drinkers in the college setting, but provided strong evidence that gender differences exist within the problem drinking group as well. Results from these and other studies (e.g., Neve, Drop, Lemmens, & Swinkels, 1996; Ricciardelli & Williams, 1997; Spigner,

Hawkins, & Loren, 1993) highlight the fact that the problem drinking population is not a single homogeneous group of college students, a finding that has important implications for the development and implementation of effective primary prevention and early intervention programs.

If university men and women drink and abuse alcohol for different reasons, then massive, unfocused, and non-gender-specific approaches to prevention and intervention will surely miss their mark by ignoring the mediating role of gender in problem drinking. There is a mounting consensus among researchers that truly effective prevention and early intervention strategies necessitate the incorporation of empirically-derived data regarding the specific factors associated with problem drinking among identified at-risk college subgroups (Bennett et al., 1999; Engs et al., 1996; Gonzalez, 1993; McKee, 1996; Prendergast, 1994). Problem drinking women represent one such at-risk subgroup within the larger campus population.

Problem drinking among university women deserves increased attention by researchers, educators, and health-care providers (Gleason, 1994, McCreary, Newcomb, & Sadava, 1999). Although male college students drink more frequently, consume larger quantities of alcohol, and experience more negative consequences related to their drinking than their female counterparts, problem drinking does exist among university women (Engs et al., 1996; Meilman et al., 1997; Prendergast, 1994; Wechsler et al., 1998). Over the last 25 years, the number of women who drink heavily has increased and, according to Wechsler and Isaac (1992), the number of college women getting drunk more than doubled between 1977 and 1992. Although college women experience fewer negative consequences from alcohol abuse than men, the types of problems that threaten

problem drinking women (e.g., depression, impaired interpersonal relationships, physical and sexual assault, and unwanted pregnancy) are destructive to their health and general well-being (Abbey, 1991; Perkins, 1992; Prendergast, 1994).

The need for the accurate identification of the factors associated with problem drinking among women is further intensified by a consistent finding that women are particularly susceptible to adverse health effects of problem drinking. Because of a lower percentage of body water, higher percentage of body fat, and lower levels of gastric ADH, an enzyme in the lining of the stomach that contributes to alcohol degradation, women develop higher blood alcohol concentrations than males at given doses of alcohol (Frezza et al., 1990; Jones & Jones, 1976). This differential response of women to alcohol may exacerbate the alcohol's functional impact on important target tissues, most notably the liver, which in turn may explain why women abusers are more prone to alcohol-related health problems such as liver disease than similar male abusers (Lex, 1991; York & Welte, 1994). These research findings help explain why mortality rates of alcohol abusing women are not only higher than those of male abusers (Gavaler, 1982), but two to three times higher than those of non-abusing women (Morgan & Sherlock, 1977).

Women may be at greater risk for developing life-threatening health problems related to problem drinking; therefore, early detection and intervention efforts with this particular subgroup are important (Seppä, Löf, Sinclair, & Sillanaukee, 1994). The need for the identification of factors associated with problem drinking among women is intensified by the fact that women, more so than men, easily hide their problem drinking when seeking professional assistance: When seeking services for alcohol abuse, women tend to report psychiatric symptoms instead (Seppä, Koivula, & Sillanaukee, 1992).

Purpose of the Study

The central roles of personal meaning and death attitudes in mediating life choices are at the heart of Viktor Frankl's (1962, 1965, 1969, 1978) existential theory, and the purpose of this study was to test this model in a college population by determining whether these factors are related to problem drinking among university women. Frankl's theory of meaning analysis, also known as logotherapy, holds that mental health is a by-product of authentic and meaningful living. Individuals who experience little or no personal meaning in life are likely to experience existential frustration and subsequently turn to unhealthy and maladaptive life behaviors, such as substance abuse (Frankl, 1978). Although numerous researchers have reported an inverse relationship between life meaning and indices of psychological distress and psychopathology (e.g., Crumbaugh, 1968; Lester & Badro, 1992; McShane, Lawless, & Noonan, 1991; Wong, 1998; Yalom, 1980), the relationship between meaning in life and problem drinking among college students remains unclear.

Existential theory also proposes that the attitudes people hold toward death affect the ways in which they choose to view and conduct their lives (Frankl, 1965, 1978; Feifel, 1959, 1990). Frankl believed that acceptance of one's own mortality is a necessary precondition to authentic and meaningful living. The death attitudes of intense fear, avoidance, and belief in death as a welcomed alternative to painful living are all antithetical to personal meaning and psychological well-being (Gesser, Wong, & Reker, 1987-1988; Kübler-Ross, 1969; Neimeyer & Van Brunt, 1995; Ray & Najman, 1974; Wong, Reker, & Gesser, 1994; Yalom, 1980). Given that alcohol abuse among young adults may serve as a buffer against problems in reaching a healthy acceptance of one's

subjective mortality, differences in death attitudes should exist between varied groups of alcohol consumers. Although numerous biological, psychological, and sociological factors have been linked with problem drinking in college, there have been no published research studies on the mediating roles of personal meaning and death attitudes in the alcohol consumption patterns of college women, and the relationships therefore remain unclear among this group.

It was believed that the results from this study would have important implications for university personnel by identifying existential factors associated with problem drinking among university women. Specifically, it was believed that information derived from this study could be incorporated into strategic, gender-specific prevention and early intervention programs designed to reduce alcohol consumption to non-hazardous levels *before* academic, behavioral, and health problems develop. For example, if problem drinking among university women was found to be associated with high fear of death, specific courses or psychoeducational programs could be offered to help them come to accept their mortality not only as a condition of life, but as a prerequisite to meaningful living. Counselors in university counseling centers could include or adopt an existential focus on death fear in their approach to the treatment of alcohol-related cases. Similarly, if problem drinking was found to be associated with a restricted range of meaning seeking, it was proposed that university programs could be developed to stimulate women's meaning seeking from a broader range of sources. Counselors adopting a meaning-centered approach could help their female problem-drinking clients identify, explore, and transcend the internal and external barriers to successful meaning seeking and life fulfillment.

Statement of the Problem

In this study, data regarding the existential variables of personal meaning and death attitudes were collected among college women in order to answer the question: Are there group differences in death attitudes and personal meaning as a function of alcohol consumption patterns? Specifically, three groups of college women, namely, non-drinkers, non-problem drinkers, and problem drinkers, were assessed on psychometric measures of death attitudes and personal meaning to determine if differences between the groups could be explained by these factors. Anchored to Frankl's existential theory (1962, 1969, 1978), it was hypothesized that problem drinking among university women would be positively related to death avoidance, death fear, and a belief in death as a welcomed alternative to a painful existence. It was also hypothesized that problem drinking would be negatively related to personal meaning, in terms of both degree as well as breadth.

Delimitations

Generalizations of the findings of the study are restricted to women enrolled in universities of similar size and with comparable socio-cultural, economic, and geographical characteristics. The study investigated the role of personal meaning and death attitudes in mediating healthy and unhealthy human behavior and not the psychology of women, per se. Problem drinking among college women as the unit of analysis represents one way to empirically test the existential model espoused by Frankl (1962, 1969, 1978).

Definition of Terms

Several terms used in this study could be subject to alternate interpretations. In order to reduce the potential for any ambiguity related to the terminology used in the study, major terms are operationally defined below.

Alcohol Consumption Patterns

Non-drinker. Participants whose total score on the Alcohol Use Disorders Identification Test (AUDIT; Babor, De La Fuente, Saunders, & Grant, 1989) equaled zero were classified as a non-drinkers. Non-drinkers can be viewed as those who have not consumed alcohol within the past twelve months.

Non-problem drinker. Participants whose total AUDIT score was less than eight were classified as non-problem drinkers. Non-problem drinkers can be viewed as those who consume alcohol in a manner that places them at lower risk for the development of alcohol-related problems.

Problem drinker. Participants whose total AUDIT score was eight or above were classified as a problem drinkers. Thus, the problem drinkers in this study consisted of both hazardous and harmful consumers of alcohol as both types of users comprise the at-risk drinking classification outlined by the World Health Organization.

Personal Meaning

Degree of personal meaning. Operationally, the degree of personal meaning was defined as the individual's total score on the Personal Meaning Profile (PMP; Wong, 1998), a recently developed psychometric instrument which measures the degree of

personal meaning in respondents' lives, as well as the sources of their individual meaning seeking. The higher the Total PMP, the closer the individual's life approximates an ideally meaningful life, and thus the greater the degree of personal meaning experienced by the individual.

Sources of personal meaning. The sources of personal meaning or the "specific domains wherein individuals seek and experience personal meaning" (Wong, 1998, p. 134) were operationally defined by the individual's mean scores on the seven PMP subscales. Mean scale scores of 5.0 and higher indicate specific domains wherein the individual seeks and experiences a significant amount of personal meaning. In contrast, mean scale scores of 2.0 and lower indicate specific domains wherein the individual seeks and experiences little or no personal meaning. An ideally meaningful life is one that allows the individual to experience meaning and purpose in life from a broad array of internal and external sources, including such domains as faith, life tasks, personal projects, and relationships with others (Wong, 1998).

Death Attitudes

Death fear. Operationally, the degree of death fear was defined as an individual's mean score on the Fear of Death subscale of the Death Attitude Profile-Revised (DAP-R; Wong et al., 1994). The higher the respondent's mean Fear of Death score, the greater the degree of fear experienced by him or her in relation to subjective mortality. In regard to the current study, fear of death, which "consists of painful feelings characterized by *alarm, consternation, dread, and expectation of danger*" (Charmaz, 1980, p.84), refers only to the state of death (i.e., the threat of nonbeing) and not the process of dying.

Death avoidance. Death avoidance was operationally defined as an individual's mean score on the Death Avoidance subscale of the DAP-R (Wong et al., 1994). The higher the mean Death Avoidance score, the more the individual attempts to avoid thoughts, feelings, and behaviors associated with the state of death.

Approach acceptance. Approach acceptance was operationally defined as an individual's mean score on the Approach Acceptance subscale of the DAP-R (Wong et al., 1994). The higher the mean Approach Acceptance score, the stronger the respondent's belief that death is a positive event which ultimately holds the promise of everlasting peace and happiness.

Escape acceptance. Operationally, escape acceptance was defined as an individual's mean score on the Escape Acceptance subscale of the DAP-R (Wong et al., 1994). The higher the mean Escape Acceptance score, the stronger the respondent's belief that death represents relief from pain and suffering.

Neutral acceptance. Operationally, neutral acceptance was defined as an individual's mean score on the Neutral Acceptance subscale of the DAP-R (Wong et al., 1994). The higher the mean Neutral Acceptance score, the greater the likelihood that the respondent is able to confront death as an inescapable reality of life and subsequently experience a positive affective reaction to this cognizance. According to Frankl's model, individuals who hold this type of psychologically adaptive death orientation are more likely to find meaning and purpose in life.

Assumptions

The study was based on the assumptions listed below.

1. Participants possessed the reading ability and comprehension skills necessary to understand all instructions and accurately complete the demographic questionnaire and research instruments.
2. Participants completed all instruments in the specific order they were presented in the research packet.
3. Participants completed all instruments in a frank manner.

Limitations

The results of this proposed study were subject to the following limitations:

1. The descriptive and correlational part of the study does not allow for statements of causality.
2. Similarly, the study was cross-sectional in its design and therefore did not allow for the measurement of individuals' alcohol consumption patterns, attitudes toward death, and personal meaning across time.
3. Selection bias may have existed in the study. Since it is not known how many individuals elected to not participate in the study and for what reasons they chose this course of action, nonparticipants and participants may have differed in some discernable way. For example, it is possible that those who were extremely fearful and/or avoidant of death elected to not participate in the study as a function of intense thoughts and feelings related to their subjective mortality.
4. The AUDIT, PMP, and DAP-R are all self-report measures. The inherent limitations of self-report instruments therefore apply.
5. Due to variability in the group testing environments, extraneous forces may

have impacted participant responses to the measures. During a few of the larger group administrations, some of the participants appeared to engage in chatter with their classmates while completing the instruments, and therefore may not have devoted complete attention to the tasks at hand. In one instance, it was later discovered after data analysis that the participants during one large group administration completed the instruments just prior to taking an examination for their course. It is therefore possible that their attention was focused elsewhere during completion of the instruments.

Chapter 2

REVIEW OF LITERATURE

This chapter provides information regarding existential theory and a review of the research studies related to two of its core constructs, personal meaning and death attitudes. Since this study sought to determine if existential theory as a model could explain problem drinking among college women, studies which have specifically addressed the relationships between personal meaning, death attitudes, and substance abuse are presented and discussed.

The Existential Model of Viktor Frankl

Embodied by theorists and practitioners such as Viktor Frankl (1962, 1965, 1969, 1978), Salvatore Maddi (1967), Irving Yalom (1980), and Rollo May (1953, 1961), existential psychology is not a fully developed and unified theory of personality per se, but rather a blending of philosophical, theological, humanistic, and psychotherapeutic approaches to the study of how individuals confront and work through specific core concerns and conflicts at the root of human *existence*. Frankl's (1962, 1965, 1969, 1978, 1985) existential model of meaning analysis is governed by several assumptions about human behavior and functioning, two of which served as the focus of this study. One

relates to life meaningfulness (personal meaning) and the other relates to the ultimate concern of personal mortality (death attitudes).

Personal Meaning

In contrast to the prevailing personality theories of the early 20th century which emphasized instinctual pleasure (Freud, 1923/1961) and the will toward power (Adler, 1927), Frankl (1962) believed that the “striving to find a meaning in one’s life is the primary motivational force in man [sic]” (p. 103). From this existentialist perspective, everything we do in life, including engagement in psychologically unhealthy behaviors, is ultimately an attempt to find meaning and purpose.

Although he emphasized that the quest for personal meaning is highly idiosyncratic, Frankl (1962) believed that meaning in life is discovered through creative, experiential, and attitudinal means. Self-transcendence is of central importance to meaning seeking: Life is conferred with personal meaning only when we transcend the self through giving to the world by way of achievement and accomplishment (creative), receiving from the world through appreciation and concern for others and nature (experiential), and confronting unavoidable suffering and the transitoriness of life (attitudinal). For Frankl (1967), the hedonistic pursuit of pleasure and happiness leads to emptiness in that “pleasure is a byproduct or side effect of the fulfillment of our strivings, but is destroyed and spoiled to the extent to which it is made a goal or target. . . . The will to pleasure mistakes the effect for the end” (p. 6).

Personal meaning is an overarching construct that subsumes each individual’s unique thoughts, feelings, motivational processes, relationships with others, and personal

qualities as they relate to his or her own existence (Wong, 1998). This existential construct broadly refers to the degree to which an individual perceives his or her life to be filled with coherence, value, significance, and purpose (Frankl, 1962, 1969; Yalom, 1980). Drawing from the existentialist perspectives held by Frankl, Yalom, Maddi, and others, Reker and Wong (1988) defined personal meaning as “. . . the cognizance of order, coherence, and purpose in one’s existence, the pursuit and attainment of worthwhile goals, and an accompanying sense of fulfillment” (p. 221).

Stimulated by Frankl’s existential propositions, Wong and colleagues (Reker & Wong, 1988; Wong, 1989, 1998) tested their conceptual analysis of personal meaning and determined that the construct consists of five interrelated components: (a) cognitive, (b) motivational, (c) affective, (d) relational, and (e) personal. The cognitive component refers to the thoughts and beliefs one has in terms of his or her own life and the world in which he or she exists. The motivational component refers to inner drives related to goal striving and goal attainment. The affective component refers to emotions and feelings related to contentment and fulfillment in life, and the relational component refers to the interconnections between the individual and others, including the larger communities. The personal component of meaning consists of each individual’s unique inner qualities and personality attributes such as inquisitiveness, self-acceptance, creativity, and openness to experience. This personal component also refers to the individual’s relative status in life (e.g., financial security, freedom from oppression). Together, these five interrelated components comprise what is collectively known and experienced as personal meaning (Wong, 1998).

Influenced by his personal experiences as a psychiatrist and survivor of Nazi

concentration camps during World War II, Frankl became convinced that at the heart of the human condition is a capacity as well as a responsibility for the individual transcendence of biologically and situationally determined barriers to meaningful living. Frankl further held that when our efforts toward seeking and experiencing life meaning and purpose are blocked, or otherwise thwarted, an existential frustration follows which, in turn, either “motivates the individual to strive harder to discover meaning or, alternatively, opens the door to noögenic (existential) neurosis” (Hutzell, 1988, p. 89). According to Frankl (1962, 1978, 1985) and other leading existentialists such as Maddi (1967), this noögenic or existential neurosis is a pathological condition, one characterized by aimlessness, fatalism, conformism, and fanaticism (Gould, 1993). The failure of the self to find meaning in life engenders within the individual a deep sense of frustration and despair which often results in psychopathology and self-destruction. According to Frankl’s logotherapy, meaninglessness or a lack of purpose in life ultimately leads individuals toward maladaptive coping and psychological distress. Conversely, meaning in life serves as an important mediator in the physical and psychological well-being of each individual and “enables us to make sense of our existence despite guilt, suffering, injustice, seeming chaos, and the inevitability of death” (Gould, 1993, p. xii).

Researchers have explored the relationship between meaning in life and perceived physical and psychological well-being and, consistent with Frankl’s contentions, results from studies indicate that personal meaning is positively related to various indices of physical and psychological well-being. In a comprehensive review of published studies which have employed the most widely used measure of meaning and purpose in life, the Purpose in Life Ttest (PIL; Crumbaugh & Maholick, 1964, 1969), Yalom (1980) reported

that high PIL scores are positively related to the following: sexual adjustment, membership in organized groups, commitment to some cause, a positive world view, goal orientation, deeply held religious beliefs, greater clarity regarding career goals, self-transcendent goals, and involvement in sports and hobbies. Nackord (1983) reported high PIL scores to be predictive of academic success in college while Viswanathan (1996) reported PIL scores to be highly correlated with internal locus of control among physicians. Shek (1995) administered a translated Chinese version of the PIL (C-PIL; Shek, 1992) to 500 undergraduate Chinese student volunteers and reported total C-PIL scores to be positively related to self-esteem, existential well-being, and life satisfaction. Taken together, these results are consistent with Frankl's contention that purpose and meaning in life are important in psychological adjustment (1962, 1978, 1985). In addition, results from studies provide support for Wong's (1998) assertion that an ideally meaningful life is one wherein individuals seek and experience personal meaning from a wide range of sources including religion, intimacy, self-transcendence, relationships, and achievement.

Yalom (1980) also cited studies which have indicated strong negative relationships between PIL (Crumbaugh & Maholick, 1964, 1969) scores and residence in ghetto neighborhoods, adolescent delinquency and high school substance abuse, inpatient and outpatient mental illness, African- and Mexican-American minority status, sexual maladjustment, and high valuing of hedonism, excitation, and comfort. Low PIL scores strongly relate to adolescent shoplifting (McShane et al., 1991), higher levels of depression (Lester & Badro, 1992), adult criminality (Black & Gregson, 1973; Reker, 1977), occupational burnout among mental health professionals (Yiu-kee & So-kum

Tang, 1995), and current as well as previous suicidal ideation (Lester & Badro, 1992). Shek (1995) reported low scores of the Chinese version of the PIL to be positively related to general psychiatric symptoms, trait anxiety, depressive symptoms, and hopelessness. Among undergraduate students, Sappington and Kelly (1995) reported that low PIL scores are positively related to self-perceived anger problems. Rutkowski (1993) suggested that excessive gambling may be a function of noögenic or existential neurosis. Taken together, these findings provide support for Frankl's logotherapy and suggest that maladaptive behaviors such as shoplifting, gambling, and suicide may be expressions of a form of existential frustration, a condition that arises when the will to meaning is blocked or thwarted (Frankl, 1962).

Although the results of these studies provide support for Frankl's existential contention that personal meaning is strongly related to various indices of physical and psychological well-being and negatively related to psychological distress and psychopathology, the findings may be somewhat limited, however, primarily because of the instrument employed to measure the personal meaning construct. Yalom's (1980) review highlighted several studies in which Crumbaugh and Maholick's PIL (1964, 1969) test was criticized for the following reasons: unclear methods of item selection, ambiguous item wording, and cultural bias. Braun and Dolmino (1978) faulted the instrument for being heavily value laden and highly loaded in social desirability. Dyck (1987) reported the instrument to be nothing more than an indirect measure of depression while Waisberg and Porter (1994) suggested that the PIL may "measure a more superficial version" (p. 61) of the meaning construct proposed by Frankl. Of particular relevance to the current investigation of degree and sources of personal meaning is

Harlow and Newcomb's (1990) suggestion that a single scale for the measurement of personal meaning, such as the PIL test, is inadequate because of the multifaceted nature of the construct. These concerns regarding the psychometric properties of the PIL have led researchers to conclude that the instrument should not be the first choice for the measurement of personal meaning (Debats, 1998; Yalom, 1980; Zika & Chamberlain, 1992).

Additional support for Frankl's logotherapy is provided by the recent work of researchers who have investigated the correlates of personal meaning by using instruments other than Crumbaugh and Maholick's (1964, 1969) PIL test. Zika and Chamberlain (1992) explored levels of personal meaning among two demographically different samples at risk for lowered well-being: unemployed mothers of young children and elderly men and women. Consistent with existential theory, psychological well-being for both groups was found to be significantly and positively related to meaning in life as measured by Battista and Almond's Life Regard Index (LRI; 1973), Antonovsky's Sense of Coherence Scale (SOC; 1983), and the PIL test.

In the 1998 validation studies of the Personal Meaning Profile (PMP; Wong, 1998), personal meaning was determined to be negatively related to scores on the Beck Depression Inventory (Beck, 1987) and positively related to physical and psychological well-being as measured by the Perceived Well-Being Scale (Reker & Wong, 1984). Wong's research went beyond simply measuring the magnitude or degree of life meaning among varied age groups by measuring individual sources of personal meaning as well.

Through a series of factor analyses of lay people's narratives of what constitutes an ideally meaningful life, Wong (1998) identified seven possible sources of personal

meaning: (a) achievement, (b) relationships, (c) religion, (d) self-transcendence, (e) self-acceptance, (f) intimacy, and (g) fair treatment. These “seven royal roads for meaning seeking” (Wong, 1998, p. 131) correspond with the cognitive, motivational, affective, relational, and personal components that collectively comprise the life meaning construct (Reker & Wong, 1988; Wong, 1989, 1998) originally proposed by Frankl (1962, 1965, 1978). Consistent with existential thought, hedonistic pursuits were not identified as a significant source of personal meaning, a finding that lends support to Frankl’s contention that happiness is a byproduct of meaningful living and not the reverse. Results from several qualitative studies on personal meaning have provided additional support for the existential position that personal meaning is derived from and enhanced by a variety of individual sources (e.g., Ebersole, 1998; O’Connor & Chamberlain, 1996; Reker & Wong, 1988; Wong, 1998).

Frankl’s (1962) belief that life meaning is enhanced through the attitudes individuals hold toward unavoidable suffering has influenced research on stress and coping (Zika & Chamberlain, 1992). His personal experience as a prisoner in Nazi concentration camps solidified his belief that humans have both the capacity and responsibility to transcend conditions of pain and suffering, and that a failure or unwillingness to do so can lead to psychological distress, illness, and even death. According to Frankl, the key to surviving extremely negative life circumstances lies in the quest for meaning. Support for the mediating effects of personal meaning on coping behaviors has been provided by several researchers (e.g., Heatherton & Nichols, 1994; Meyer & Taylor, 1986; Taylor, 1983; Thompson & Janigian, 1988) who have determined that successful coping is a function of perceiving negative life events, such as rape and

cancer, as serving some higher meaning or purpose.

In summary, the literature on personal meaning reveals a consistent pattern of results in support of Frankl's existential model: Personal meaning is positively related to physical and psychological well-being and negatively related to psychological distress and maladaptive coping. Although the PIL (Crumbaugh & Maholick, 1964, 1969) has been the overwhelming choice for the measurement of life purpose and meaning (Yalom, 1980; Zika & Chamberlain, 1992), there is a need for contemporary researchers to abandon this convenient yet psychometrically limited instrument in favor of newer instruments which may provide a wider range of application and general usefulness. Based on the literature review, researchers need to expand beyond investigating only the magnitude or degree of meaning in life to include a focal shift toward individual sources of personal meaning and their relationships to mental health outcomes (Ebersole, 1998; Wong, 1998; Zika & Chamberlain, 1992).

Death Attitudes

A second core tenet undergirding Frankl's existential model is that meaning in life is mediated by individual attitudes toward pain, suffering, and death. According to Frankl (1962, 1965, 1978), acceptance of one's subjective mortality is a necessary precondition to finding meaning and purpose in life, and "though the physicality of death destroys us, the idea of death saves us" (Yalom, 1980, p. 40). The existentialist perspective holds that each of us will one day cease to exist, a reality which none can escape. Acceptance of our ultimate demise, however, frees us up to focus our life energies toward finding meaning and purpose in life (Feifel, 1990; Frankl, 1965, 1985; Koestenbaum, 1971; Kübler-Ross;

1975). According to the existential perspective, death is inextricably linked with life, and therefore serves as an important organizing principle in conferring upon life a sense of meaning and purpose. It is our recognition of life's ultimate finiteness which challenges us to do today that which we could easily postpone for tomorrow and the many days thereafter. Existentialists believe that individual attitudes toward death influence the ways in which we choose to view and conduct our lives (Feifel, 1990).

Death attitudes broadly refer to individual thoughts, feelings, and behavioral manifestations related to one's own state of death with acceptance being only one of several possible attitudes. According to Wong et al. (1994), the range of possible attitudes toward death consists of three positive attitudes, collectively referred to as death acceptance, and two negative attitudes, death fear and death avoidance. Although certain death attitudes may be more dominant within any individual, death attitudes are not mutually exclusive in that other conflicting attitudes may therefore coexist (Feifel, 1976; Wong et al., 1994). For example, although two individuals may both share a very low level of death fear, they may nonetheless differ in terms of other salient death attitudes, a difference which in turn may affect their respective life choices. Whereas one individual may have a low fear of death and a simultaneous strong spiritual belief in a peaceful afterlife, another may have a low fear of death coupled with a belief that only through death will he or she be able to escape the agony of painful life circumstances. Although both of these individuals may be unafraid of their own death, the former may choose to live a virtuous life in accordance with religious or spiritual beliefs; the latter may choose a life course with self destruction as its aim. Thus, it is the unique constellation or pattern of attitudes toward death which is most likely to influence how an individual chooses to

live his or her life at any given time (Feifel, 1990; Wong et al., 1994).

Positive death attitudes. Death acceptance broadly refers to positive attitudes toward one's subjective mortality, an orientation toward death of considerable adaptive value (Kübler-Ross, 1969; Gesser et al., 1987-1988; Ray & Najman, 1974; Wong et al., 1994). Klug & Sinha (1987) defined death acceptance as "the deliberate, intellectual acknowledgment of the prospect of one's own death and the positive emotional assimilation of the consequences" (p. 230). This conceptualization of death acceptance implies the existence of two important components: a cognitive confrontation with mortality as an inescapable reality of life and a positive affective reaction to this cognizance (Klug & Sinha, 1987; Wong et al., 1994). Herman Feifel (1990) eloquently summed up the existential position on the importance of death acceptance in stimulating meaning seeking:

If we accepted death as a necessity and did not try to demote it to the level of mischance or fortuity, if we accepted death as lodged in our bowels from the very beginning, energies now bound up on continuing strivings to shelve and subdue the idea of death could be available to us for the more constructive and positive aspects of living, perhaps even fortifying our gift for creative splendor against our genius for destruction. (p. 541)

Researchers have determined that death acceptance is a multidimensional construct (e.g., Klug & Sinha, 1987; Shneidman, 1966; Wong et al., 1994), a finding which suggests that individuals may have positive attitudes toward death for different

reasons. Gesser et al. (1987-1988) and Wong et al. (1994) sought to uncover some of these reasons and, through a series of factor analytic studies, identified three distinct types of death acceptance: (a) approach, (b) escape, and (c) neutral acceptance.

Approach acceptance refers to a positive attitude toward death that is guided by a strong belief in a meaningful afterlife. Individuals with this type of death attitude believe that death marks an entrance through a passageway to an eternal existence. In terms of gender differences with regard to approach acceptance, Klenow and Bolin (1989) conducted a national survey and reported that women are more likely than men to believe in an afterlife, a finding consistent with earlier research by Berman and Hays (1975). Wong et al. (1994) provided further support for these findings in the validation studies of their DAP-R. Consistent with the researchers' predictions, women scored significantly higher than men on the Approach Acceptance subscale of the DAP-R, a finding which reflects women's stronger beliefs in life after death.

The relationship between religious and/or spiritual beliefs in afterlife and various indices of mental health and adjustment have been investigated. In their review of the empirical literature on religious commitment and beliefs, Gartner, Larson, and Allen (1991) reported positive relationships between spiritual beliefs and the following: physical and psychological well-being, marital satisfaction, personal competence and control, self-acceptance, and low rates of substance abuse, delinquent behavior, and suicide. Rasmussen and Johnson (1994) reported that strong spiritual beliefs in afterlife were negatively related to fear of death and positively related to life satisfaction and purpose in life among undergraduate students. Additional evidence of a negative relationship between death fear and strong beliefs that death is transitional to a

meaningful afterlife have been documented (e.g., Bivens, Neimeyer, Kirchberg, & Moore, 1994-1995; Neimeyer, Dingemans, & Epting, 1977; Rigdon & Epting, 1985; Triplett et al., 1995; Wong et al., 1994). Minear and Brush (1980-1981) reported a significant negative relationship between a belief in afterlife and the following: death anxiety, belief in the right of people to commit suicide, and a positive personal ethic regarding suicide. Based on the results of their study, Minear and Brush proposed that, should life become too painful or difficult, non-religious students would be more likely than those with afterlife beliefs to embrace suicide as a personal option. The existing literature on approach acceptance lends support to Frankl's (1962, 1969, 1978, 1985) contention that spirituality is an important component of meaningful living and that it can provide an effective antidote to death anxiety, depression, and psychological distress.

The second type of death acceptance, escape acceptance, represents another positive orientation toward one's personal mortality, however, it is qualitatively different from approach acceptance. This type of death acceptance is one through which death is viewed as a welcome alternative to a painful existence. Individuals with this death orientation do not necessarily see any inherent value in death per se, but rather seek to escape from a life of physical and/or psychological suffering. From this perspective, death can be viewed as a negative reinforcer in that it terminates a life of considerable pain and suffering (Gesser et al., 1987-1988).

Researchers have determined that escape acceptance is negatively related to psychological well-being. Keith (1998) explored a typology of life and death among 203 funeral directors and reported high levels of depressive symptoms and low purpose and meaning in life among those for whom the prospect of death was less disappointing than

the quality of their life had been. Gesser et al. (1987-1988) reported a positive relationship between the Escape-Oriented Death Acceptance subscale of their original Death Attitude Profile (DAP) and measures of hopelessness. Wong et al. (1994) reported the Escape Acceptance subscale of the revised version of the DAP to be negatively related to physical well-being among young adults. Although not statistically significant, escape acceptance was negatively related to psychological well-being and positively related to depression. In terms of gender differences, Wong et al. (1994) reported higher Escape Acceptance scores among women and proposed that women may be more welcoming of death than men in response to a life of considerable pain, suffering, and illness.

The third type of death acceptance is neutral acceptance. It represents the most psychologically adaptive type of death orientation and refers to the positive belief that death is to be neither welcomed nor feared, but rather accepted as a reality of life. Those individuals with this particular death orientation are fully aware that their lives will at some point in time cease to continue, and are likely to be motivated toward finding meaning and purpose in life (Frankl, 1965, 1978, 1985; Wong et al., 1994).

Significant positive relationships between neutral acceptance and indices of psychological well-being have been established through clinical observations and empirical research. For example, in her extensive clinical work with individuals confronted with death and dying, Kübler-Ross (1969, 1975) documented strong positive relationships between acceptance of death among the dying and inner peace, life purpose, and low fear of death. Researchers (e.g., Fishman, 1992; Flint, Gayton, & Ozmon, 1983) have found support for Erickson's (1963) and Butler's (1963) contentions that older

persons who are more accepting of the inevitability of their death have come to terms with memories of the events of their lives, report greater life satisfaction, and have achieved greater ego integrity than those who remain highly anxious toward death. In his investigation of funeral directors, Keith (1998) reported that those who had come to terms with their own subjective mortality reported greater satisfaction with life and low levels of depressive symptoms. Gesser et al. (1987-1988) reported a positive relationship between the Neutral Acceptance subscale of the original DAP and a measure of happiness among varied age groups. Similarly, Wong et al. (1994) reported the Neutral Acceptance subscale of the DAP-R to be positively related to both physical and psychological well-being and negatively related to fear of death and depression.

Negative death attitudes. At the other end of the death orientation spectrum lie the negative attitudes toward death. One negative death attitude is that of death avoidance which refers to a nonconscious attempt to circumvent or escape the fear and anxiety associated with thoughts of subjective mortality. Wong et al. (1994) defined death avoidance as a “defense mechanism that keeps death away from one’s consciousness” (p. 128). Although death avoidance may appear to serve an adaptive psychological function in allowing us to meet and cope with the demands of daily living (Becker, 1973), the existentialists believe this negative death attitude to be at the heart of the neurotic conflict, a barrier to authentic living which must be promptly addressed when presented in therapy (Yalom, 1980). Consistent with clinical observations, death avoidance has been empirically linked with psychological distress. For example, Wong and colleagues (1994) reported the Death Avoidance subscale on the DAP-R to be negatively related to spiritual beliefs in a meaningful afterlife and measures of psychological well-being. The

subscale also correlated negatively with the Fear of Death subscale and, among older adults, avoidance of death was positively related to depression. Frankl's (1962, 1969, 1978) logotherapy holds that everyone must eventually confront and thereby come to terms with their own mortality. A failure to do so, regardless of reasons related to fear or avoidance, will lead individuals toward inauthentic modes of living, engagement in meaningless or destructive life tasks, and deteriorations in psychological well-being (Becker, 1973; Drolet, 1990; Frankl, 1985; Palgi, 1983; Yalom, 1980).

The other negative attitude toward death is fear of death, a term frequently used interchangeably in the literature with death anxiety. A general distinction between these two terms is that *fear* represents a conscious and specific response to an identifiable danger and *anxiety* implies "vague feelings, anticipation of future unpleasantness, and a lack of specific object" (Kalish, 1988, p. 68). Although the terminological distinction between them was once considered of importance, especially by those espousing rigid adherence to psychoanalytic models, in practice, however, the two concepts are essentially equivalent in that they both refer to strong concerns elicited with the thought of death (Kalish, 1988; Neimeyer & Van Brunt, 1995). To avoid confusion and for the sake of continuity, unless otherwise necessary, the term death fear is used instead of death anxiety throughout the remainder of this paper to refer to this negative death attitude.

If Frankl's logotherapy is correct in that fear of death is a barrier to a sense of meaning and purpose in life, one should expect to find an inverse relationship between the two constructs. Using Crumbaugh and Maholick's Purpose in Life Test (PIL; 1964, 1969), Durlak (1972) measured life meaning and purpose in 120 students from a California high school, Wisconsin State University, and Vanderbilt University and

investigated the relationship between PIL scores and those on Lester's Fear of Death Scale (FODS; 1967). Consistent with Frankl's theory, personal meaning was negatively related to death fear and this relationship also emerged when PIL scores were compared with semantic differential ratings of the concepts My Life and My Death.

Blazer (1973) reported similar results among 400 adults between the ages of 18 and 52; persons with higher PIL scores scored lower on Lester's FODS (1967). Among 78 young adults enrolled in general psychology courses at Calvin College, Bolt (1978) reported that students with greater life meaning, as measured by the PIL, scored lower on Templer's Death Anxiety Scale (DAS; 1970). In other studies using the PIL and DAS to measure personal meaning and death fear, respectively, a significant negative relationship between the two existential constructs has been found for example among 91 hospice workers (Amenta & Weiner, 1981), 155 attending and house staff physicians (Viswanathan, 1996), and 136 French-Canadian college students (Drolet, 1990). Fishman's (1992) finding of low death anxiety among older persons, who had worked through negative memories and emotions related to their past, is consistent with Frankl's logotherapy and lends support to Erikson's (1963) assertion that resolution of the crisis between ego integrity and despair in late adulthood is a function of accepting death and perceiving life to have been meaningful.

Although researchers have examined the relationships between various death attitudes and other psychological and behavioral variables, thanatological research has concentrated more on fear of death as the unit of analysis than on any other death attitude since the emergence of the death awareness movement in the late 1950s. Neimeyer and Van Brunt (1995) located approximately 1,000 published studies on death fear between

the years 1946 and 1992.

Comprehensive reviews of the voluminous literature on death fear (e.g., Lonetto & Templer, 1986; Neimeyer & Van Brunt, 1995; Pollak, 1979) indicate that this type of death attitude is consistently and positively related to various indices of psychological distress and maladjustment. For example, researchers who have employed the use of the DAS (Templer, 1970), by far the most commonly used instrument for the measurement of death fear (Neimeyer & Van Brunt, 1995; Thorson & Powell, 1994), have reported high scores to be positively related to the following indices of maladjustment: low self-esteem (Buzzanga, Miller, Perne, Sandler, & Davis, 1989; Davis, Bremer, Anderson, & Tramill, 1983), separation-individuation conflict (Swanson & Byrd, 1998), depression (Gilliland & Templer, 1985-1986; White & Handal, 1990-1991), general or trait anxiety (Alvarado, Templer, Bresler, & Thomas-Dobson, 1992-1993; Triplett et al., 1995), external locus of control (Hayslip & Stewart-Bussey, 1986-1987; Viswanathan, 1996), and social inadequacy (Neufeldt & Holmes, 1979; Smith, 1977). Taken together, these findings indicate that high levels of death fear are antithetical to well-being, and the results lend support to Frankl's (1962, 1965, 1978) contention that resolution of subjective mortality is a precursor to meaningful living and life satisfaction.

Of particular relevance to the current study are studies which have explored levels of death fear among women. Reviews of the death fear literature (e.g., Neimeyer & Van Brunt, 1995; Pollak, 1979) indicate a greater tendency for women to score higher on the older scales used to measure death fear such as the DAS (Templer, 1970) and Collett-Lester Fear of Death Scale (Collett-Lester, 1969). The reasons for and implications of these findings remain unclear, however, and caution is advised against concluding that

women are more fearful than men of their own death and are, therefore, in need of clinical treatment for this condition (Kastenbaum, 1992; Neimeyer & Van Brunt, 1995).

One possible explanation for higher levels of death fear among women may be that the observed differences between the sexes do not reflect actual differences in levels of death fear, but rather a greater willingness on the part of women to express their death concerns (Stillion, 1985). Dattel and Neimeyer (1990), however, found no evidence for Stillion's emotional-expressiveness hypothesis when measuring death fear with the Threat Index (Krieger, Epting, & Leitner, 1974). Holcomb, Neimeyer, and Moore (1993) suggested that differences in socialization experiences between men and women might best explain their findings of gender differences in death fear on free-response narratives.

An alternative explanation for the gender differences may be that women's higher death fear scores are not necessarily high in comparison to those of men. Perhaps the men's scores are depressed in comparison to those of women and therefore reflect a greater defensiveness by men regarding thoughts of their own mortality (Kastenbaum, 1987, 1992). Support for this possibility was provided by Wong et al. (1994) who observed that men not only reported higher death avoidance than women, but scored higher on the Fear of Death subscale of the DAP-R as well. Existing literature indicates that the issue of gender differences related to death fear remains unclear and may have more to do with the instruments chosen to measure the trait than the trait itself.

The literature related to differences in death fear as a function of age has also yielded conflicting results. Although a fairly consistent finding has been that older persons tend to experience lower levels of death fear (Keller, Sherry, & Piotrowski, 1984; Thorson & Powell, 1994; Wong et al., 1994), attributable to an accompanying increase in

death acceptance (Fishman, 1992; Gesser et al., 1987-1988; Wong et al., 1994), results from studies have been mixed with regard to levels of death fear among young and middle-age adults. Results from earlier studies (e.g., Kalish, 1977; Nelson, 1979) suggested a significant linear decline in death fear as a function of age, with death fear peaking in young adulthood and then declining throughout the remaining years. However, as with the gender differences in death fear, age differences may have more to do with the instruments that treat death fear as a unidimensional construct than the actual trait itself. Subsequent studies which have used multidimensional instruments to measure death fear have uncovered a curvilinear effect of age (Gesser et al., 1987-1988; Wong et al., 1994) with death fear being high in young adulthood, peaking during the middle years, and then declining to lowest levels during later years.

Because studies on the age/death fear relationship have been cross-sectional, Kastenbaum (1992) warns against equating age differences in death fear with intra-individual changes in death fear over time: Cohort effects must be taken into careful consideration. Indeed, as Kastenbaum points out, 20-year-olds and 80-year-olds today not only differ with regard to age, but also in terms of life experiences embedded within the historical time periods during which they have lived. Researchers who conclude that death fear decreases with age run the risk of drawing longitudinal conclusions from cross-sectional data. With this in mind, researchers have recently begun to look toward other explanations for differences in death fear among varied age groups. For example, after comparing the DAS scores of 196 male and female undergraduates at the University of Alaska with their scores on an instrument designed to assess Erikson's (1963) stages of psychosocial development, Rasmussen and Brems (1996) determined that psychosocial

maturity was a better predictor of death fear than age.

The literature on death fear indicates a positive relationship between fear of death and psychological distress and these findings are consistent with the existential position that resolution of personal mortality is essential to authentic and meaningful living (Feifel, 1990; Frankl, 1965, 1978; Yalom, 1980). Although more research has been conducted on death fear than on any other death attitude (Neimeyer & Van Brunt, 1995; Wong et al., 1994), the general usefulness of the information obtained from these studies is compromised for two primary reasons: One relates to instrumentation, the other relates to unit of analysis.

Despite that Templer's Death Anxiety Scale (DAS; 1970) has been severely criticized for low internal consistency (Kelly & Corriveau, 1985; Neimeyer & Van Brunt, 1995) and high social desirability (Dattel & Neimeyer, 1990; Martin, 1982), the DAS has been the instrument of overwhelming choice in over 60% of the studies published on death fear since the mid-1980s (Neimeyer & Van Brunt, 1995). In addition, the DAS was originally developed based on a belief that death fear is a unidimensional construct, an assumption that has since been proven to be untrue. Several researchers (e.g., Lonetto & Templer, 1986; Nelson & Nelson, 1975; Neimeyer & Moore, 1994; Thorson & Powell, 1994) have determined that death fear is actually made up of conceptually different concerns such as those related to the state of death, the dying process, and the effect of one's death on significant others. Durlak (1982) argued for a discontinuation of the DAS on the grounds that the instrument yields a single, uninterpretable score.

Another criticism of the DAS and other unidimensional scales is the problem of interpreting low scores (Kastenbaum, 1987): Do low scores reflect low death fear or

perhaps high death denial or death acceptance? In light of these criticisms, there is a need within the thanatological research community to abandon the use of outdated assessment tools that have limited utility and questionable psychometrics for the measurement of death attitudes. The literature review suggests a need for researchers to counterbalance their focus on death fear by expanding the unit of analysis to include other meaningful death attitudes such as death avoidance and death acceptance.

Existential Correlates of Substance Abuse

Efforts to test Frankl's (1962, 1965, 1969, 1978) core tenets include studies which have examined the relationships between substance abuse and the existential variables of death attitudes and personal meaning. However, in terms of the relationship between substance abuse and attitudes toward death, only a few studies have explored these variables and the results have been mixed. For example, Katz (1981) identified no differences in death fear between groups of heroin addicts and a matched control of non-addicts as measured by the DAS. Furthermore, there were no differences in death fear within the heroin addict group as a function of level of use. The researcher concluded that fear of death was not related to heroin use and addiction.

In contrast, Kumar, Vaidya, and Dwivedi (1982) reported that delta alcoholics, those who are unable to abstain from drinking for long periods of time, have higher levels of death fear than those who do not consume alcohol. These researchers argued that death fear and certain types of alcoholism are indeed related. Similarly, Kureshi and Husain (1981) reported higher levels of death fear among undergraduate and postgraduate cigarette smokers than a group of nonsmokers matched on age, education, religious faith,

and socioeconomic status. In contrast with Katz's (1981) findings of no relationship between death fear and addiction, results from the Kumar et al. (1982) and Kureshi and Husain (1981) studies suggest that death attitudes, death fear in particular, may be related to various forms of substance abuse. Further evidence of a relationship between death attitudes and substance abuse was provided by Nicholson et al. (1994) who reported greater death acceptance among non-abusing community controls than in adults seeking treatment in inpatient drug treatment facilities. In summary, although the research on death attitudes and substance abuse has been decidedly sparse, there is some evidence that the variables are, as suggested by existential theory, related.

Frankl (1978) firmly believed that, for many people, substance abuse is the result of an existential crisis in which individual efforts toward seeking and experiencing life meaning and purpose become blocked or otherwise thwarted. Although there have been limited studies on the relationship between substance abuse and death attitudes, a significant amount of research has investigated the relationship between substance abuse and personal meaning in accordance with Frankl's logotherapy.

Results from the early validation studies on the widely used PIL test (Crumbaugh, 1968, 1972; Crumbaugh & Carr, 1979; Crumbaugh & Maholick, 1964, 1969) indicated that adult alcoholics report significantly low levels of meaning and purpose in life upon admission to inpatient treatment facilities. In contrast, Jacobson, Ritter, and Mueller (1977), found no evidence of a lack of clear meaning and purpose in life among alcoholics upon admission into residential treatment, but did find increased PIL scores among the alcoholics as they approached discharge. Consistent with the Jacobson et al. (1977) findings of increased meaning as a function of treatment, other studies have shown

that adult alcoholics report significant increases in life meaning and purpose following participation in comprehensive drug and alcohol treatment programs (Crumbaugh, 1972; Crumbaugh & Carr, 1979; Noblejas de la Flor, 1997; Waisberg & Porter, 1994).

Although studies have provided direct support for Frankl's contention that substance abuse is negatively related to low levels of personal meaning, whether or not low levels of life meaning are indicative of Frankl's existential or noögenic neurosis remains unclear (e.g., Jacobson et al., 1977). A close examination of several pertinent studies on personal meaning and substance abuse reveals methodological flaws which limit the meaningfulness of findings in support Frankl's logotherapy. For example, Adams and Waskel (1991) compared PIL (Crumbaugh & Maholick, 1964, 1969) scores between early and late onset older male alcoholics in mid-western treatment facilities and identified no statistical differences between the groups. However, the early onset alcoholics, those for whom the onset of their drinking problems occurred before the age of 40, showed clear deficits in life meaning as determined by the PIL manual (Crumbaugh & Maholick, 1969). Following ad hoc comparisons between the PIL scores of the late onset alcoholics, those for whom the onset of their drinking problems occurred after the age of 40, with other published scores on the PIL, Adams and Waskel (1991) concluded that a lack of meaning and purpose in life is indeed related to alcoholism, regardless of its onset. Although these results are consistent with existential thinking, problems related to sample size and lack of information regarding the composition of the ad hoc groups limit the meaningfulness of these findings.

Among a group 48 male alcoholics residing in a Veterans Administration treatment unit, Kish and Moody (1989) reported significant negative correlations between

purpose in life, as measured by a simplified version of Crumbaugh and Maholick's PIL called the Life Purpose Questionnaire (LPQ; Hablas & Hutzell, 1982), and general psychopathology, as measured by various scales of the original Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1951). Because significant age differences within the sample were observed, the researchers concluded that life meaningfulness and existential depression were greater among the younger alcoholics. The significance of these findings is compromised, however, since a control group of matched non-alcoholics was not assessed. Because the authors also failed to comment on the lack of relationship found between the LPQ and the MacAndrew Alcoholism Scale (MacAndrew, 1965), the MMPI supplementary scale developed to differentiate alcoholic from nonalcoholic patients, these results do not adequately explicate the nature of the relationship between life meaningfulness and alcoholism. In a more tightly controlled study, Nicholson et al. (1994) compared a group of 49 adult men and women receiving inpatient substance abuse treatment with a group of 49 matched, non-drug-abusing controls on two measures of life meaning, the PIL test (Crumbaugh & Maholick, 1964, 1969) and the Life Attitude Profile-Revised (LAP-R; Reker, 1991). Consistent with their predictions, Nicholson and his colleagues reported significant overall differences between the two groups in terms of PIL scores and LAP-R subscale scores. The inpatient abusers scored significantly lower than non-abusers on the indices of personal meaning, purpose in life, death acceptance, and perceived control in life. The researchers concurred with Frankl's (1978) contention that many people abuse drugs to cope with the existential frustration which arises from a lack of personal meaning in life.

Despite the contributions of these results to advancing Frankl's logotherapy (1962,

1965, 1969, 1978), a major criticism of the Nicholson et al. (1994) study lies in the authors' failure to interpret the significant group differences on the PIL (Crumbaugh & Maholick, 1964, 1969). Although group differences were "dramatic" (p. 27), and highly significant (i.e., $p < .01$), both groups obtained PIL scores that fell below 112, the standard cut score for the presence of definite purpose and meaning in life. Since the mean scores for the drug abusers as well as the matched controls fell well below 92, an indication of a lack of clear meaning and purpose in life according to the PIL manual (Crumbaugh & Maholick, 1969), results from this study also fail to adequately explain the relationship between personal meaning and alcohol abuse.

Although results from the above studies provide some support for Frankl's (1978) contention of an inverse relationship between meaning and purpose in life and substance abuse, studies on the two constructs tend to be correlational in design and thus preclude statements of causality: Does a lack of meaning in life lead individuals to abuse drugs and alcohol as Frankl suggests (1978), or does their substance abuse and its adverse psychological and behavioral sequelae lead to perceptions of life meaninglessness? Unfortunately, studies which seek to answer this question by simply measuring personal meaning among adults residing in residential treatment facilities (e.g., Adams & Waskel, 1991; Crumbaugh & Carr, 1979; Jacobson et al., 1977; Kish & Moody, 1989; Waisberg & Porter, 1994) clearly miss the mark. Nicholson et al. (1994) acknowledged that the ideal way to answer such an important question is through "longitudinal research that assesses self-perceived life meaning before [italics added] the possible onset of drug abuse" (p. 28). Unfortunately, longitudinal research, however critical to establishing causal links between lack of personal meaning and substance abuse, has significant

liabilities beyond the practical concerns of time and financial costs. Threats to internal validity such as attrition and history accrue over time and thus compromise the integrity of longitudinal research (Wilkinson & McNeil, 1996).

One alternative to a longitudinal approach for studying personal meaning and substance abuse is to measure personal meaning among varied groups of substance abusers, including individuals whose patterns of use have not yet resulted in the severe negative consequences which typically lead to the need for inpatient treatment. If Frankl's logotherapy is correct in that a causal link exists between lack of personal meaning in life and the development of maladaptive behaviors such as alcohol abuse, then abusers should differ from non-abusers on measures of personal meaning even *before* they suffer the adverse consequences associated with the alcohol abuse.

There have been a few studies which have attempted to investigate the personal meaning construct in groups of young adults whose drug and alcohol use had not yet led to the more severe problems typical of alcoholics seeking treatment in inpatient or residential settings. In an effort to clarify the relationship between substance abuse and life meaning among younger persons, Hutzell and Finck (1994) measured personal meaning in two groups of 100 high school students using the Life Purpose Questionnaire (LPQ; Hablas & Hutzell, 1982). One group consisted of students who were participating in a support group designed for current drug and alcohol users, those recovering from their own drug and alcohol abuse, those affected by the drug and alcohol abuse of their family or friends, and those with family issues other than drug and alcohol abuse. The control group consisted of students who had volunteered to complete the test for research purposes and who were not involved in the support group. Members of the support group

obtained significantly lower personal meaning scores on the LPQ in comparison to those in the control group. Although these results are consistent with Frankl's (1962, 1969, 1978) contention that a lack of meaning and purpose in life is associated with psychological distress and maladaptive coping, problems in sampling obscure the meaningfulness of the findings. Furthermore, since the support group was not homogeneously comprised of substance abusers, conclusions regarding the relationship between personal meaning and substance abuse cannot be made.

Shean and Fechtmann (1971) also investigated life meaning in younger adults by measuring degree of personal meaning among two groups of undergraduates in good academic standing at a prestigious small liberal arts college. Mean PIL (Crumbaugh & Maholick, 1964, 1969) scores of 27 regular marijuana users, operationally defined as those students who had used marijuana at least once per week during the six months prior to the testing, were compared with the mean PIL scores from a group of 28 students who had used no psychoactive substances, including alcohol, within the same time frame. Although the PIL scores of the nonusers did not indicate a clear presence of life meaning and purpose (i.e., mean raw scores fell in the "indecisive range"), the regular marijuana users were clearly lacking in personal meaning, and the differences between the groups were statistically significant. Although the generalizability of these findings is limited by the small sample size, this study, like Hutzell and Finck's (1994), is noteworthy for its measurement of personal meaning among young substance abusers whose patterns of abuse had yet to result in the adverse health and behavioral consequences associated with chronic abuse and dependency.

Perhaps the most significant research on personal meaning and substance abuse

among adolescents and young adults has been the work of Newcomb and Harlow. In a study of 376 high school and college students (1986), the researchers employed latent variable structural models to determine if substance abuse arises out of a sequence of events which begins with uncontrollable stress. The researchers hypothesized that negative life change events such as family discord/divorce, accident or illness, and moving to new schools engender within adolescents and young adults a sense of powerlessness and loss of control which leads to the experience of perceived life meaninglessness. According to their model, substance abuse then becomes a form of self-medication to cope with the lack of meaning and purpose in life. Consistent with Frankl's logotherapy (1978), Newcomb and Harlow confirmed that perceived loss of control and meaninglessness in life operate as mediating influences between uncontrollable stress and subsequent substance abuse. A striking finding was that when perceived loss of control and life meaninglessness were controlled for, a direct path between negative life events and substance abuse was not accounted for in the model.

In a similar study using the latent variable modeling procedure, Harlow, Newcomb, and Bentler (1986) investigated the relationships among depression, self-derogation (i.e., negative self-attitudes), suicide ideation, and substance abuse in a sample of 722 college-age adults. The researchers hypothesized that the relationships among the factors would be mediated by perceptions of personal meaning, and the results confirmed their predictions. Of considerable importance to the current study were the findings of gender differences with regard to behavioral coping strategies. In response to perceptions of life meaninglessness, women were more likely than men to turn to substance abuse. In contrast, men were more likely to turn to substance abuse in response to feelings of

depression and self-derogation; women were more likely to consider suicide in response to this type of psychic discomfort. Harlow and her colleagues concluded that, although a lack of personal meaning in life is positively related to substance abuse among both male and female college-age adults, the personal meaning construct seems especially important in mediating substance abuse among women.

Although the Newcomb and Harlow (1986) and Harlow et al. (1986) studies employed a variation of Crumbaugh and Maholick's PIL test (1964, 1969) for the measurement of life meaning and purpose, and are therefore subject to the criticisms discussed earlier with regard to the usefulness of this instrument (e.g., Debats, 1998; Yalom, 1980; Zika & Chamberlain, 1992), results from these studies have important implications for the current study. First, the results support previous findings of gender differences with regard to the causal influences of and motivations for alcohol abuse (e.g., Beck et al., 1995; Knoblauch, 1988; Ricciardelli & Williams, 1997; Stewart & Zeitlin, 1995). Second, the results indicate that a lack of meaning and purpose in life is related but not equivalent to depression and negative self-attitudes. Although feelings of depression and low self-esteem are typically associated with life meaninglessness, the personal meaning construct refers to the degree to which individuals perceive their lives to be filled with coherence, value, significance, and purpose (Frankl, 1962, 1969; Yalom, 1980). A core assumption of Frankl's (1962, 1965, 1978) logotherapy is that individuals can find and experience significant life meaning even in their suffering.

The finding that adolescents and young adults do not necessarily turn to drugs and alcohol in direct response to negative life events (Harlow et al., 1986) does provide some support for Frankl's assertion that decisions to engage in substance abuse, as well as other

maladaptive behaviors, are mediated by the emotional and cognitive perceptions of meaninglessness in life. It is the manner in which individuals appraise and interpret negative life events that ultimately influences whether or not maladaptive coping strategies, such as substance abuse, will be employed. Frankl's own ability to cope with and ultimately survive the horrific conditions of the Nazi concentration camps certainly stands as supportive testimony to the research findings related to personal meaning and adaptive functioning.

Summary

The review of literature on personal meaning and death attitudes provides support for Frankl's logothetical contentions that the two existential constructs are significantly related to psychological well-being and adaptive functioning (1962, 1965, 1978, 1985). Although there has been no systematic research on the effectiveness of Frankl's model in predicting problem drinking among college women, his existential theory offers a logical framework for predicting that personal meaning and death attitudes play mediating roles in the alcohol consumption patterns of young adults. In light of the methodological criticisms levied against previous research on personal meaning, death attitudes, and substance abuse, the current study sought to test Frankl's model in a group of young and varied consumers of alcohol by measuring the constructs with more current and useful instrumentation.

Chapter 3

METHODOLOGY

Sample

Drawn primarily from university courses within the Schools of Health and Human Performance, Business, Education, and Nursing, and the College of Liberal Arts and Sciences at Indiana State University, the participants were 154 university women whose patterns of alcohol consumption allowed for their classification into one of three alcohol consumption groups: (a) non-drinkers, (b) non-problem drinkers, and (c) problem drinkers. The nonrandomized sample of 33 freshmen, 36 sophomores, 45 juniors, 36 seniors, and four graduate students comprised 40 non-drinkers, 57 non-problem drinkers, and 57 problem drinkers. Depending on the willingness of each course instructor, participants enrolled in certain courses received extra credit for their participation. Participation in this study was completely voluntary and written informed consent was secured prior to administration of the instruments.

Instrumentation

The four measures utilized in this study were the Death Attitude Profile-Revised, the Personal Meaning Profile, the Alcohol Use Disorders Identification Test, and a

Student Demographic Questionnaire.

Death Attitude Profile-Revised (DAP-R)

The DAP-R (Wong et al., 1994), a revised version of the valid and reliable DAP (Gesser et al., 1987-1988), is a multidimensional measure of different attitudes toward death. The instrument (Appendix B) consists of 32 statements and a 6-point Likert-type response format which runs from both “Strongly Agree” (6) to “Strongly Disagree” (1) and from “Strongly Disagree” (1) to “Strongly Agree” (6). The DAP-R consists of the following five factor analytically derived subscales: (a) Fear of Death, (b) Death Avoidance, (c) Approach Acceptance, (d) Escape Acceptance, and (e) Neutral Acceptance.

The Fear of Death and Death Avoidance subscales measure negative attitudes toward death. The Fear of Death subscale consists of seven items (1, 2, 7, 18, 20, 21, and 32) and measures the degree to which respondents hold negative thoughts and feelings about the state of death (e.g., item 2: “The prospect of my own death arouses anxiety in me.”). The Death Avoidance subscale consists of five items (3, 10, 12, 19, and 26) and measures the degree to which the respondent “avoids thinking or talking about death in order to reduce death anxiety” (Wong et al., 1994, p. 128). For example, item 10 asks individuals to respond to: “Whenever the thought of death enters my mind, I try to push it away.”

The DAP-R also measures positive attitudes toward death and contains three death acceptance subscales. The Approach-Acceptance subscale consists of 10 items (4, 8, 13, 15, 16, 22, 25, 27, 28, and 31) and measures the degree to which respondents hold

the positive belief that death is a passageway to a meaningful afterlife (e.g., item 25: “I see death as a passage to an eternal and blessed place.”). The Escape-Acceptance scale consists of five items (5, 9, 11, 23, and 29) and measures the degree to which respondents hold the positive belief that death is a welcome alternative to a painful existence (e.g., item 29: “I see death as a relief from the burden of this life.”). Finally, the Neutral Acceptance subscale consists of five items (6, 14, 17, 24, and 30) and measures the degree to which respondents hold the positive belief that death is to be neither welcomed nor feared, but rather accepted as a reality of life (e.g., item 24: “Death is simply part of the process of life.”).

The DAP-R is a psychometrically sound instrument for the measurement of multidimensional attitudes toward death (Neimeyer & Van Brunt, 1995; Wong et al., 1994). In regard to reliability, Wong et al. (1994) reported alpha coefficients for the five DAP-R subscales to be acceptable: Fear of Death (.86), Death Avoidance (.88), Approach Acceptance (.97), Escape Acceptance (.84), and Neutral Acceptance (.65). Four-week test-retest reliability coefficients reflect the stability of the subscales over time: Fear of Death (.71), Death Avoidance (.61), Approach Acceptance (.95), Escape Acceptance (.83), and Neutral Acceptance (.64).

Support for the DAP-R’s convergent-discriminant abilities has been found in correlations between the five DAP-R subscales and scales from similar instruments. For example, Wong et al. (1994) reported significant correlations between death anxiety as measured by the Death Anxiety Scale (DAS; Templer, 1970) and the following DAP-R subscales: Fear of Death ($r = .61, p < .001$), Approach Acceptance ($r = -.27, p < .01$), Escape Acceptance ($r = -.44, p < .01$) and Neutral Acceptance ($r = -.34, p < .001$).

Wong and his colleagues (1994) also reported significant correlations between DAP-R dimensions and semantic differential (SD) ratings of attitudes toward life and death. Fear of Death was negatively related to SD ratings of both life ($r = -.25, p < .001$) and death ($r = -.61, p < .001$), Death Avoidance was negatively related to ratings of death ($r = -.32, p < .001$), and both Approach Acceptance ($r = .59, p < .001$) and Escape Acceptance ($r = .42, p < .001$) were positively related to ratings of death. Finally, Neutral Acceptance and Approach Acceptance were positively related to SD ratings of life. Additional support for the construct validity of the five DAP-R dimensions includes Wong et al.'s findings of predicted differences in developmental comparisons between groups of young, middle-aged, and elderly subjects. They also found significant predicted correlations between DAP-R subscales and corresponding measures of psychological and physical well-being such as the Perceived Well-Being Scale (Reker & Wong, 1984) and the Zung Depression Scale (Zung, 1965).

In summary, the DAP-R, unlike any other death attitude instrument, allows for the measurement of the full spectrum of death attitudes, which range from the negative death attitudes of fear and avoidance to the three positive attitudes of death acceptance. The DAP-R is multidimensional in nature and as such embraces a three-component model of death acceptance (i.e., Approach Acceptance, Escape Acceptance, and Neutral Acceptance). The five dimensions of the DAP-R are relatively pure both conceptually and empirically, and the instrument appears to possess good internal consistency, stability, and construct validity. Administration of the DAP-R is straightforward, requires minimal instructions, and can be done in an individual or group format. Finally, the first author (P. T. P. Wong, personal communication, February 10, 1998) of the DAP-R granted written

permission for its use for the purposes of the study.

Personal Meaning Profile (PMP)

The PMP (Wong, 1998) is a new research instrument that measures the degree to which individuals' lives approximate an idealized prototypical structure of life meaningfulness and identifies particular sources wherein individuals seek and experience personal meaning. The PMP (Appendix C) is a 57-item questionnaire that requires respondents to read a series of statements worded in first-person singular (e.g., item 6: "I engage in creative work.") and then indicate to what extent each item characterizes his or her own life. Responses are coded according to a 7-point Likert-type scale which ranges from "Not at all" (1) to "Moderately" (4) to "A great deal" (7). The PMP Total score ranges from 57 to 399 and serves as an index of the relative magnitude or degree of personal meaning experienced by each respondent.

Mean scores for the seven factor analytically derived subscales allow for the pinpointing of specific sources of personal meaning for each individual. Since mean scale scores can be computed for each of the seven PMP subscales by dividing the total factor score by the number of items forming each scale, whether or not an individual seeks and experiences meaning from a particular source can be indirectly measured by examining the mean score for the particular scale. The higher the mean scale score, the more the particular source contributes to the individual's sense of life meaning. This ability to specify the sources of individual meaning seeking is "the main advantage of the PMP," according to its author (Wong, 1998), "and it can be readily used to study meaning seeking in different populations and to investigate how different sources of meaning

seeking are related to various psychological constructs” (p. 134).

The Achievement subscale consists of 16 items (6-9, 12, 13, 21, 24-26, 29, 34, 40, 44, 47, and 48) which refer to current strivings and accomplishments as related to significant life goals and aspirations (e.g., item 8: “I pursue worthwhile objectives.”). The Relationship subscale consists of nine items (10, 18, 27, 28, 32, 41, 42, 45, and 50) and assesses the attitudes and skills necessary for the development of quality relationships with others, including friends and the larger community (e.g., item 27: “I have a number of good friends.”). The nine items which comprise the Religion subscale (3, 5, 19, 20, 22, 33, 51, 52, and 54) assess the individual’s spiritual beliefs related to a higher power, God, and cosmic meaning (e.g., item 54: “I believe that there is order and purpose in the universe.”). The Self-Transcendence subscale consists of eight items (2, 15, 23, 30, 31, 39, 49, and 53) that measure the individual’s commitment toward the welfare and well-being of others, including the larger communities and societies (e.g., item 15: “I strive to make the world a better place.”).

The Self-Acceptance subscale is made up of six items (4, 16, 36, 37, 46, and 57) and measures the individual’s comfort level with him/herself as a person and acceptance of mistakes made in the past (e.g., item 37: “I am at peace with my past.”). The Intimacy subscale is similar to the Relationship subscale in that it measures attitudes and skills necessary for the development of quality relationships with others; however, the five items comprising the Intimacy subscale (1, 11, 17, 38, and 43) specifically refer to deeper emotional ties to family and intimate relationships (e.g., item 11: “I have someone to share intimate feelings with.”). Finally, the four items which comprise the Fair Treatment subscale (14, 35, 55, and 56) refer to one’s perception of the world as fair and just (e.g.,

item 35: "Life has treated me fairly.").

In terms of the psychometric properties of the PMP, preliminary information based on a series of studies suggests that the instrument is reliable and valid. For example, Wong and his research team (1998) examined the relationships between a preliminary version of the PMP and several outcome measures including the Beck Depression Inventory (BDI; Beck, 1987), the Perceived Well-Being Scale (PWB; Reker & Wong, 1984), and the Life Attitudes Profile (LAP; Reker & Peacock, 1981), a multidimensional measure of attitudes related to life meaning. Consistent with predictions, the PMP Total and each of the seven subscales were negatively correlated with the BDI, a finding which supports Frankl's (1962, 1969, 1978) theoretical position that meaning in life is antithetical to mental illness.

Additional support for a relationship between life meaningfulness and psychological well-being was found in the significant positive correlations between the PMP subscales (including the Total PMP) and the psychological well-being subscale of the PWB. Further evidence of the PMP's discriminative validity was found in the relationships between the PMP subscales and the numerous LAP dimensions. For example, the PMP measures correlated negatively with the three LAP dimensions that indicate an absence of positive meaning (i.e., Death Attitude, Goal Seeking, and Existential Vacuum) but positively with the four LAP dimensions that indicate the presence of positive life meaning (i.e., Life Purpose, Life Control, Will to Meaning, and Future Meaning). Wong (1998) concluded that these robust findings not only provide evidence for the psychometric soundness of the PMP, but also for existential theory which holds that happiness, contentment, fulfillment, and mental health are all by-

products of meaningful living (Frankl, 1969, 1985; Maddi, 1967; Yalom, 1980).

Although more research on the PMP is needed, the existing reliability and validity data on the current version of the PMP, which was slightly modified following extensive factor analysis, suggest good psychometric properties. Lang (as cited in Wong, 1998) reported an overall Cronbach's alpha coefficient of .93 and reported the following alphas for each of the seven subscales: Achievement (.91), Relationship (.81), Religion (.89), Self-Transcendence (.84), Self-Acceptance (.54), Intimacy (.78), and Fair Treatment (.54). Wong (1998) reported on a series of recent studies that demonstrated good 3-week test-retest reliability, although these studies have yet to be published.

Results from two studies provide evidence for the construct validity of the PMP in its current form. For example, Lang (as cited in Wong, 1998) reported positive correlations between the PMP Total and two measures of well-being: Ellison's (1987) Spiritual Well-Being Scale ($r = .64$) and Reker and Wong's (1984) Perceived Well-Being Scale ($r = .29$) mentioned earlier. Finally, Giesbrecht (as cited in Wong, 1998) reported that the PMP Total was negatively related to job stress and positively related to several job satisfaction measures, findings which point to a strong relationship between meaningful living and life health and satisfaction.

In sum, there is evidence to support the use of the PMP as a reliable and valid measure of personal meaning. Although further research may add to the existing data on its psychometric properties, the findings thus far have been favorable. The author of the PMP (P. T. P. Wong, personal communication, February 10, 1998) granted the researcher of the current study written permission for its use for the purposes of this study.

Alcohol Use Disorders Identification Test (AUDIT)

Although other alcohol screening instruments, such as the CAGE questionnaire (Ewing, 1984), the Michigan Alcohol Screening Test (MAST; Selzer, 1971) and its progeny, the Short Michigan Alcohol Screening Test (SMAST-13; Selzer, Vinokur, & van Rooijen, 1975), the Brief Michigan Alcohol Screening Test (Brief MAST; Pokorny, Miller, & Kaplan, 1972), and the Malmö modified Michigan Alcohol Screening Test (Mm-MAST; Kristenson & Trell, 1982) are well suited for the identification of more severe problem drinkers and alcoholics, they often lack sensitivity to early-stage problem drinkers (i.e., hazardous drinkers) whose consumption patterns nonetheless place them at risk for the development of future problems (Barry & Fleming, 1993; Bohn, Babor, & Kranzler, 1995; Cherpitel, 1995; MacKenzie, Langa, & Brown, 1996; Seppä, Mäkelä, & Sillanaukee, 1995). As part of a six-country cross-cultural study (Project AMETHYST) of current practices in the diagnosis and treatment of alcohol-related problems, World Health Organization (WHO)-affiliated researchers developed the Alcohol Use Disorders Identification Test (AUDIT), a brief screening method for early identification of both hazardous and harmful alcohol consumption patterns (i.e., problem drinking) in the primary health care setting (Babor et al., 1989; Saunders & Aasland, 1987).

The AUDIT consists of 10 forced-choice items (Appendix D) which collectively assess the following four domains: (a) quantity and frequency of alcohol consumption (items 1-3), (b) drinking behavior suggesting dependency (items 4-6), (c) adverse psychological reactions (items 7-8), and (d) alcohol-related problems (items 9-10). Each question is scored from 0 to 4 and the range of possible scores is from 0 to 40, with lower total scores reflecting low consumption and few alcohol-related consequences and higher

scores indicating higher consumption and more severe consequences (Allen, Litten, Fertig, & Babor, 1997; Saunders et al., 1993; Seppä et al., 1995).

Although several cut-off scores have been used as markers of problem drinking and for discriminating between different clinical groups, a standard cut-point of eight is generally recommended to discriminate problem drinkers from non-problem drinkers (Allen et al., 1997; Babor et al., 1989; Conigrave, Hall, & Saunders, 1995; Saunders et al., 1993). The cut-off value of eight yields a desired balance between sensitivity (percentage of positive cases correctly identified as having the condition under question) and specificity (percentage of negative cases correctly identified as not having the condition under question) when discriminating problem drinkers from non-problem drinkers.

Researchers have confirmed the AUDIT's ability to discriminate early- and late-stage problem drinkers (i.e., hazardous and harmful drinkers) from non-problem drinkers, as well as alcoholics from non-alcoholics (e.g., Barry & Fleming, 1993; Bohn et al., 1995; MacKenzie et al., 1996; Saunders et al., 1993), despite the seemingly transparent nature of its content. These findings hold true especially when the AUDIT is completed in an anonymous manner or as part of a comprehensive medical or health examination (Allen et al., 1997).

Findings from other studies provide further evidence for the validity of the AUDIT (Allen et al., 1997). For example, the AUDIT has been shown to predict both continued unemployment as well as a return to employment in a long-term unemployed Norwegian sample (Claussen & Aasland, 1993). In another study, AUDIT scores predicted the future occurrences of alcohol-related health and social problems among

ambulatory care patients (Conigrave et al., 1995).

In terms of concurrent validity, Bohn et al. (1995) reported significant correlations between the AUDIT and other alcohol screening measures including the MAST (Selzer, 1971), MacAndrew Alcoholism Scale (MAC; MacAndrew, 1965), and various laboratory tests. Hays, Merz, and Nicholas (1995) provided further support for the construct validity of the AUDIT in their observations that repeat DUI offenders scored significantly higher on the AUDIT than first time offenders. Significant correlations have also been identified between AUDIT scores and measures of alcoholism vulnerability (e.g., familial alcoholism and childhood and adult sociopathy), as well as measures of somatic and affective consequences of heavy drinking (Bohn et al., 1995). Finally, in a study of the effectiveness of the AUDIT among Finnish research employees, Seppä et al. (1995) reported a significant correlation between AUDIT scores and self-reported estimates of mean weekly alcohol consumption levels.

In regard to reliability, two studies have been particularly noteworthy in addressing item-total correlations of the AUDIT. Among college students, the first three questions, which assess quantity and frequency of alcohol consumption patterns, loaded especially high (.79, .83., and .78, respectively) with respect to the total score (Fleming, Barry, & MacDonald, 1991). The item with the lowest discriminating power (.25) in this population was item six which assesses drinking behavior associated with dependency. Among a rural primary care sample, Barry and Fleming (1993) reported similarly impressive item-total correlations: Quantity-frequency items (1-3) and item four, which assesses difficulty in stopping drinking once the drinking has begun, had the highest discriminating powers (.72, .81, .79, and .72, respectively). The item with the lowest

item-total correlation (.36) in this sample was item nine which assesses alcohol-related harm.

In their review of studies which had computed Cronbach's alpha coefficients, Allen et al. (1997) reported evidence of high internal consistency: Alphas ranged from .75 to .94 with most falling above .80. Although they noted an absence of research on parallel form and split-half reliabilities in the studies reviewed, Allen and colleagues acknowledged that "such reliability studies might be slightly misleading for a test primarily aimed at achieving predictive validity" (p. 617). Although test-retest reliability has not been determined for the AUDIT, this omission applies to other self-report and laboratory-based alcohol screening measures as well (Allen et al., 1997).

Although originally designed for use in primary care settings, the AUDIT has performed well with divergent cultural groups and in a multitude of settings, including hospital emergency rooms (Cherpitel, 1995), inpatient and outpatient medical centers (Bohn et al., 1995), rural primary care facilities (Barry & Fleming, 1993), occupational settings (Seppä et al., 1995), and college campuses (Fleming et al., 1991). Finally, Seppä et al. (1995) determined the AUDIT to be superior to the CAGE (Ewing, 1984) and Mm-Mast (Kristenson & Trell, 1982) in detecting early-phase problem drinking among female employees. Their findings are especially encouraging given that detecting problem drinking among women has been historically difficult in clinical settings where women tend to seek help for psychiatric symptoms (Seppä, et al., 1994). Finally, since there is no copyright fee for use of the AUDIT, permission to use this instrument for clinical and research purposes is granted by the WHO (Allen et al., 1997; Babor et al., 1989).

Student Demographic Questionnaire

A nine-item demographic questionnaire was developed for this study (Appendix E) and administered to all participants. The following demographic information was collected using this self-report questionnaire: age, ethnicity/race, year in school, Greek affiliation status, current college grade point average (GPA), college residency status, high school marks, size of hometown, and family income.

Procedures

At the time of each group administration of the instruments, the researcher introduced himself to the students, read a brief description of the study, answered all questions, and informed the students of the voluntary nature of participation. Participants were then handed a research packet coded with a participant number in the upper right hand corner of the envelope. Each packet contained five items, each coded with the same number printed on the top of the envelope: (a) the Informed Consent Statement (Appendix A), (b) the DAP-R (Appendix B), (c) the PMP (Appendix C), (d) the AUDIT (Appendix D), and (e) the Student Demographic Questionnaire (Appendix E). In addition, sharpened number-two pencils were provided, although many students completed the forms using their own writing instruments. Participants read and signed the Informed Consent Statement first and then proceeded to the four questionnaires which were prearranged in a counter-balanced order prior to administration. Upon completion of the four questionnaires, participants placed all of the materials back into the coded envelope and sealed it with the accompanying adhesive strip. The researcher then collected the packets and extended his warm gratitude. Total time for participation was approximately

30 minutes per group administration.

Null Hypotheses

Based on the research question--Are there differences in death attitudes and personal meaning among college women as a function of alcohol consumption patterns?--four null hypotheses were tested:

Null Hypothesis 1: There are no differences in death attitudes between groups of non-drinking, non-problem drinking, and problem drinking college women.

Null Hypothesis 2: There are no differences in the degree of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking college women.

Null Hypothesis 3: There are no differences in the sources of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking college women.

Null Hypothesis 4: Death attitudes, degree of personal meaning, and sources of personal meaning do not predict alcohol consumption patterns among college women.

Data Analysis

Based on individual AUDIT scores, each participant was sorted into one of three alcohol consumption groups: (a) non-drinkers ($n = 40$), (b) non-problem drinkers ($n = 57$), and (c) problem drinkers ($n = 57$). Means and standard deviations were then calculated for each group on the five DAP-R and eight PMP factor scales.

To analyze Null Hypothesis 1, a multiple analysis of variance (MANOVA) was

conducted to determine whether differences existed between the three alcohol consumption groups in regard to mean scores for the five DAP-R dimensions (Fear of Death, Death Avoidance, Approach Acceptance, Escape Acceptance, and Neutral Acceptance). The MANOVA allows for the determination of group differences on multiple dependent variables (Ferguson & Takane, 1989).

To analyze Null Hypothesis 2, a one-way analysis of variance (ANOVA) was conducted to determine if group differences existed in terms of the mean PMP Total scores. The one-way ANOVA allows for the determination of group differences on a single dependent variable (Ferguson & Takane, 1989).

To analyze Null Hypothesis 3, a MANOVA was used to determine whether group differences existed in terms of mean scores on the seven PMP subscales (Achievement, Relationship, Religion, Self-Transcendence, Self-Acceptance, Intimacy, and Fair Treatment).

To analyze to Null Hypothesis 4, multiple discriminant analysis was conducted to determine if a single predictor variable or combination of predictor variables would significantly discriminate between groups of non-drinking, non-problem drinking, and problem drinking college women. Multiple discriminant analysis, although inversely similar to MANOVA in terms of the assignment of independent and dependent variables, allows for not only the determination of group differences on multiple variables, but also provides a statistical means for deriving mathematical equations for the purpose of classification (Hair, Anderson, Tatham, & Black, 1995; Klecka, 1980). The independent variables selected for the multiple discriminant analysis were the mean scores of the five DAP-R subscales (Fear of Death, Death Avoidance, Approach Acceptance, Neutral

Acceptance, and Escape Acceptance) and the mean scores of the eight PMP subscales (Achievement, Relationship, Religion, Intimacy, Fair Treatment, Self-Acceptance, Self-Transcendence, and PMP Total). The dependent variable was group membership.

In an effort to reduce the likelihood of committing Type II Error, or a failure to reject the null hypothesis of no differences when it is actually false (Ferguson & Takane, 1989), the level of significance for all hypothesis testing was set at the widely accepted, yet less conservative, alpha level of .05.

Chapter 4

RESULTS

In an effort to determine the effectiveness of existential theory (Frankl, 1962, 1965, 1969, 1978) in predicting problem drinking among college women, this study sought to explicate the relationship between alcohol consumption patterns among college women and the existential variables of death attitudes and personal meaning. It was anticipated that the results of this study would aid in the development of strategic gender-specific early intervention and prevention strategies by further explicating some of the psychological factors which differentiate problem drinking college women from those who either do not drink at all or do so in a non-harmful manner.

Presentations of the demographic information and descriptive statistics are followed by the statistical analyses used to test the four null hypotheses, and a discussion of the results.

Demographic Information

Demographic information for the sample was obtained from the 154 completed Student Demographic Questionnaires (Appendix E). The mean age for the total sample, excluding six extreme scores above the age of 25, was 19.58, and 142 (92.2%)

participants were between the ages of 18 and 23. In regard to the ethnicity/race of the total sample, 123 (79.9%) identified themselves as Caucasian compared to 26 (16.9%) who self-identified as African-American. The remaining five participants (3.2%) identified themselves as either Hispanic/Latina, Native American, or "other." None of the participants selected the Asian, Asian-American, Pacific Islander, or Middle Eastern classifications. The total sample comprised 33 freshmen, 36 sophomores, 45 juniors, 36 seniors, and four graduate students. In regard to college residency status, 64 (41.6%) participants indicated that they lived off campus in either a house or an apartment; 22 (14.3%) participants were commuters from their family home. Fifty-two (33.8%) lived on campus in a standard residence hall and 16 (10.4%) lived on campus in a residence hall designated for members of specific Greek sororities. Thirty-eight (24.7%) participants were members of a Greek sorority.

Information was also obtained regarding two measures of academic performance for the total sample: high school marks and current college GPA. Of the 154 participants, 20 (13.0%) reported obtaining "mostly A's" during high school. Fifty-two (33.8%) reported "A's and B's," 31 (20.1%) reported "mostly B's," six (3.9%) reported "more B's than C's," 31 (20.1%) reported "more C's than B's," and 14 (9.1%) reported "mostly C's." None of the participants reported obtaining "mostly D's" during high school. The second measure of academic performance was a question regarding current college GPA. Ninety-five (61.7%) participants reported a current GPA above 3.0 and 58 (37.7%) reported GPAs between 2.0 and 3.0. Only one (less than 1%) reported a current GPA below 2.0.

Demographic information was obtained for two additional measures: size of

hometown and family income. Fifty-two (33.8%) participants came to the university from a “small town” and 35 (22.7%) from a “rural area.” Twenty-eight (18.2%) indicated “moderate city,” 22 (14.3%) indicated “suburban area outside of a large city,” and 17 (11.0%) indicated “large city/urban.” In regard to family income, 62 (40.3%) participants estimated that their gross family earnings were in excess of \$50,000. Twenty-five (16.2%) participants indicated between \$40,000 and \$50,000, 23 (14.9%) between \$30,000 and \$40,000, and 15 (9.7%) between \$20,000 and \$30,000. Twenty-nine (18.8%) participants estimated that their gross family income was below \$20,000.

Appendix F provides demographic details of the sample by alcohol consumption group in regard to age, ethnicity/race, year in school, Greek affiliation status, current college GPA, college residency status, high school grades, size of hometown, and family income. The non-drinking group (N = 40) comprised six (15%) 18-year-olds, seven (17.5%) 19-year-olds, eight (20%) 20-year-olds, 10 (25%) 21-year-olds, and four (10%) 22-year-olds. There were five (12.5%) non-drinkers who were over 22 years of age. The ethnic breakdown for the non-drinkers was 23 (57.5%) Caucasian, 15 (37.5%) African-American, one (2.5%) Native-American, and one (2.5%) who indicated “other.” In regard to year in school, the non-drinking group consisted of 12 (30%) Freshmen, nine (22.5%) Sophomores, 10 (25%) Juniors, eight (20%) Seniors, and one (2.5%) graduate student. In regard to college residency status among the non-drinkers, 14 (35%) indicated that they lived off campus in either a house or an apartment; eight (20%) were commuters from their family home. Eighteen (45%) lived on campus in a standard residence hall and none lived on campus in a residence hall designated for members of specific Greek sororities. Five (12.5%) non-drinkers were members of a Greek sorority.

The breakdown for high school marks among the non-drinkers was eight (20%) “mostly A’s,” 13 (32.5%) “A’s and B’s,” two (5%) “mostly B’s,” two (5%) “more B’s than C’s,” nine (22.5%) “more C’s than B’s,” and six (15%) “mostly C’s.” Twenty-six (65%) non-drinkers reported a current college GPA above 3.0 and 14 (35%) reported GPAs between 2.0 and 3.0. In regard to size of hometown, 14 (35%) non-drinkers came to the university from a “small town” and 10 (25%) from a “rural area.” Four (10%) indicated “moderate city,” six (15%) indicated “suburban area outside of a large city,” and another six (15%) indicated “large city/urban.” In regard to family income, four (10%) non-drinkers estimated that their gross family earnings were in excess of \$50,000. Seven (17.5%) indicated between \$40,000 and \$50,000, nine (22.5%) between \$30,000 and \$40,000, and five (12.5%) between \$20,000 and \$30,000. Fifteen (37.5%) non-drinkers estimated that their gross family income was below \$20,000.

The non-problem drinking group (N = 57) comprised five (8.77%) 18-year-olds, 11 (19.3%) 19-year-olds, eight (14.4%) 20-year-olds, 12 (21.05%) 21-year-olds, and 11 (19.3%) 22-year-olds. There were 10 (17.5%) non-problem drinkers who were over 22 years of age. The ethnic breakdown for the non-problem drinkers was 51 (89.47%) Caucasian, five (8.77%) African-American, and one (2.5%) who indicated “other.” In regard to year in school, the non-problem drinking group consisted of 10 (17.54%) Freshmen, 11 (19.3%) Sophomores, 17 (29.82%) Juniors, 17 (29.82%) Seniors, and two (3.51%) graduate students. In regard to college residency status among the non-problem drinkers, 28 (49.12%) indicated that they lived off campus in either a house or an apartment; six (10.53%) were commuters from their family home. Twenty (35.09%) lived on campus in a standard residence hall and three (5.26%) lived on campus in a residence

hall designated for members of specific Greek sororities. Fourteen (24.56%) non-problem drinkers were members of a Greek sorority.

The breakdown for high school marks among the non-problem drinkers was seven (12.28%) “mostly A’s,” 24 (42.11%) “A’s and B’s,” nine (15.79%) “mostly B’s,” three (5.26%) “more B’s than C’s,” nine (15.79%) “more C’s than B’s,” and five (8.77%) “mostly C’s.” Forty (70.18%) non-problem drinkers reported a current college GPA above 3.0 and 17 (29.82%) reported GPAs between 2.0 and 3.0. In regard to size of hometown, 24 (42.11%) non-problem drinkers came to the university from a “small town” and 12 (21.05%) from a “rural area.” Ten (17.54%) indicated “moderate city,” six (10.53%) indicated “suburban area outside of a large city,” and five (8.77%) indicated “large city/urban.” In regard to family income, 31 (54.39%) non-problem drinkers estimated that their gross family earnings were in excess of \$50,000. Eight (14.04%) indicated between \$40,000 and \$50,000, seven (12.28%) between \$30,000 and \$40,000, and three (5.26%) between \$20,000 and \$30,000. Eight (14.04%) non-problem drinkers estimated that their gross family income was below \$20,000.

The problem drinking group (N = 57) comprised nine (15.79%) 18-year-olds, eight (14.04%) 19-year-olds, 19 (33.33%) 20-year-olds, 12 (21.05%) 21-year-olds, and four (7.02%) 22-year-olds. There were five (8.77%) problem drinkers who were over 22 years of age. The ethnic breakdown for the problem drinkers was 49 (85.96%) Caucasian, six (10.53%) African-American, one (1.75%) Hispanic/Latina, and one (1.75%) who indicated “other.” In regard to year in school, the problem drinking group consisted of 11 (19.3%) Freshmen, 16 (28.07%) Sophomores, 18 (31.58%) Juniors, 11 (19.3%) Seniors, and one (1.75%) graduate student. In regard to college residency status among the

problem drinkers, 22 (38.6%) indicated that they lived off campus in either a house or an apartment; eight (14.04%) were commuters from their family home. Fourteen (24.56%) lived on campus in a standard residence hall and 13 (22.81) lived on campus in a residence hall designated for members of specific Greek sororities. Nineteen (33.33%) problem drinkers were members of a Greek sorority.

The breakdown for high school marks among the problem drinkers was five (8.77%) “mostly A’s,” 15 (26.32%) “A’s and B’s,” 20 (35.09%) “mostly B’s,” one (1.75%) “more B’s than C’s,” 13 (22.81%) “more C’s than B’s,” and three (5.26%) “mostly C’s.” Twenty-nine (50.88%) problem drinkers reported a current college GPA above 3.0 and 27 (47.37%) reported GPAs between 2.0 and 3.0. One (1.75%) of the problem drinkers reported a GPA below 2.0. In regard to size of hometown, 14 (24.56%) problem drinkers came to the university from a “small town” and 13 (22.81%) from a “rural area.” Fourteen (24.56%) indicated “moderate city,” 10 (17.54%) indicated “suburban area outside of a large city,” and six (10.53%) indicated “large city/urban.” In regard to family income, 27 (47.37%) problem drinkers estimated that their gross family earnings were in excess of \$50,000. Ten (17.54) indicated between \$40,000 and \$50,000, seven (12.28%) between \$30,000 and \$40,000, and another 15 (12.28%) between \$20,000 and \$30,000. Six (10.53%) problem drinkers estimated that their gross family income was below \$20,000.

A comparison of demographic information for non-drinkers, non-problem drinkers, and problem drinkers revealed that the groups were relatively equal in terms of the current year in school and age distributions, although approximately one-third of the problem drinkers were 19-year-olds. An interesting and alarming finding was that

approximately 63% of the problem drinkers and 42% of the non-problem drinkers were below the legal minimum age of 21 for consuming alcohol in the state of Indiana. Clearly, the consumers of alcohol in this study were not deterred by existing state laws prohibiting alcohol consumption by minors. In regard to Greek affiliation, the problem drinking group contained the largest number of sorority members, a finding of little surprise given the consistent findings of higher rates of problem drinking among fraternity and sorority members (e.g., Baer, Kivlahan, & Marlatt, 1995; Lichtenfeld & Kayson, 1994; Lo & Globetti, 1993; Prendergast, 1994). In the current study, the problem drinking group comprised the largest percentage (22.81%) of students living on-campus in residence halls designated for members of specific sororities. In contrast, approximately five percent of the non-problem drinkers and none of non-drinkers lived in these special residence halls.

Consistent with previous research findings (e.g., Engs et al., 1996; Presley et al., 1994; Pullen, 1994), problem drinkers in this study reported the lowest college academic performance among the three alcohol consumption groups with nearly 50% maintaining a college GPA below a 3.0 or B average. Although the three groups appeared to consist of an equal number of students whose high school marks fell below the B average, the problem drinking group consisted of only 8.77% students who had obtained “mostly A’s” during high school; 20% of the non-drinkers and 12.28% of the non-problem drinkers obtained these marks.

Group differences existed in regard to ethnicity/race: The percentage of African-Americans who were non-drinkers (37.5%) exceeded the percentage of African-Americans in the non-problem drinking (8.77%) and problem drinking (10.53%) groups.

This information is consistent with previous research on the alcohol consumption patterns of African-American college students (e.g., Engs et al., 1996; Prendergast, 1994; Williams, Newby, & Kanitz, 1993).

There were group differences in regard to hometown and family demographics. Although there appeared to be an equal distribution of participants from rural areas and small towns, 52.53% of the problem drinkers came to the university from larger communities in comparison to 40% of the non-drinkers and 36.34% of the non-problem drinkers. In regard to family income, 47.37% of the non-problem drinkers and 38.6% of the problem drinkers estimated gross family earnings in excess of \$55,000. In contrast, 45% of the non-drinkers estimated that their gross family income was less than \$25,000; approximately 38% estimated gross earnings under \$20,000. Clearly, the non-drinkers, in comparison with those who consumed alcohol, came from families of significantly lower socio-economic status.

Descriptive Statistics

An examination of the descriptive statistics revealed that observed differences in mean factor scores were generally consistent with Frankl's existential model, especially in regard to the negative death attitudes of Fear of Death and Death Avoidance and the degree of personal meaning (PMP Total). The descriptive statistics for the three identified groups in terms of scores on the DAP-R and PMP factor scales are presented in Table 1.

Table 1

Means and Standard Deviations for Death Attitude Profile-Revised (DAP-R) and Personal Meaning Profile (PMP) Factor Scales by Alcohol Consumption Group

	Alcohol Consumption Group		
	Non-Drinkers Mean (S.D.)	Non-Problem Mean (S.D.)	Problem Mean (S.D.)
<u>DAP-R</u>			
Fear of Death	3.42 (0.98)	3.58 (1.02)	3.74 (1.02)
Death Avoidance	3.34 (1.31)	3.39 (1.29)	3.53 (1.27)
Neutral Acceptance	4.57 (0.73)	4.77 (0.57)	4.65 (0.58)
Approach Acceptance	4.93 (0.73)	4.46 (0.88)	4.49 (0.85)
Escape Acceptance	4.09 (1.23)	3.29 (1.33)	3.31 (1.18)
<u>PMP</u>			
Achievement	5.77 (0.92)	5.71 (0.72)	5.55 (0.75)
Relationship	6.11 (0.72)	6.05 (0.83)	6.05 (0.80)
Religion	5.99 (0.98)	5.23 (1.07)	5.25 (1.14)
Self-Transcendence	5.76 (1.00)	5.35 (0.92)	5.33 (0.85)
Self-Acceptance	5.16 (1.08)	5.17 (1.06)	5.12 (0.92)
Intimacy	5.48 (1.52)	5.79 (1.15)	5.46 (1.35)
Fair Treatment	5.47 (0.98)	5.27 (0.84)	5.33 (0.87)
PMP Total	327.53 (46.02)	316.68 (38.91)	312.68 (40.57)

Note. Non-Drinkers (n = 40), Non-Problem Drinkers (n = 57), Problem Drinkers (n = 57)

The descriptive data concerning problem drinkers shows that this group, in comparison with the non-drinkers and non-problem drinkers, scored highest on the negative death attitudes of Fear of Death (3.74) and Death Avoidance (3.53) as measured by the DAP-R. The data revealed a gradual linear progression across the three groups with the non-drinkers scoring lowest on these two dimensions (3.42 and 3.34, respectively) and the problem drinkers scoring highest. Consistent with predictions, the problem-drinkers were more fearful about their own mortality and more avoidant of thoughts, feelings, and behaviors associated with the state of death than the other two groups. In addition, problem drinkers had lower mean scores on the positive death attitudes of Approach Acceptance (4.49) and Escape Acceptance (3.31). That problem drinkers held fewer beliefs in death as a positive event, one which ultimately holds the promise of everlasting peace and happiness, is consistent with predictions. Higher mean scores among the non-drinkers on the Escape Acceptance (4.09) subscale of the DAP-R, however, was unexpected.

Also unexpected was the relative equality of group means on Neutral Acceptance, with the problem drinkers (4.65) actually scoring higher than non-drinkers (4.57) on this subscale. It appears that all three groups held the belief that death is an inescapable reality of life. It is important to note, however, that an examination of the group means and standard deviations suggests that all of the differences between the three groups were consistently small.

Differences between the criterion groups on the PMP subscales, however small, were generally consistent with predictions and frequently followed a linear progression with non-drinkers scoring highest and problem drinkers scoring lowest on the various

subscales. Mean scores for problem drinkers were lowest among the three groups on the following PMP subscales: Achievement (5.55), Relationship (6.05), Self-Acceptance (5.12), Self-Transcendence (5.33), and Intimacy (5.46). Conversely, and consistent with expectations, mean scores for non-drinkers were the highest on the following PMP subscales: Achievement (5.77), Relationship (6.11), Religion (5.99), Self-Transcendence (5.76), and Fair Treatment (5.47). On the two occasions when the non-drinkers did not score the highest (i.e., Self-Acceptance and Intimacy), mean scores for this group were always higher than those of the problem-drinking group.

Although caution in interpreting these findings is advised given the relatively small differences in mean scores and small standard deviations across all groups, a general statement can be made regarding sources of personal meaning: Non-drinkers seek and experience greater personal meaning from a variety of sources than do problem drinkers. Further evidence of differences in personal meaning between non-drinkers and problem drinkers was found in group comparisons of the PMP Total, the factor scale which measures the magnitude or degree of life meaning and purpose. Consistent with predictions, a linear progression was found across the criterion groups with the non-drinkers scoring highest (327.53) and the problem drinkers scoring the lowest (312.68) on the PMP Total. Non-problem drinkers occupied the middle position with a mean PMP Total score of 316.68. Results from an examination of the descriptive data suggest that differences in death attitudes and personal meaning exist among college women as a function of alcohol consumption patterns. However, statistical analyses of the null hypotheses discussed below suggest that these differences in general are not significant.

Null Hypothesis 1

Null Hypothesis 1--There are no differences in death attitudes between groups of non-drinking, non-problem drinking, and problem drinking college women--was analyzed using a MANOVA. A Wilks' lambda multivariate test of significance was performed on the Fear of Death, Death Avoidance, Neutral Acceptance, Approach Acceptance, and Escape Acceptance subscales of the DAP-R for the three alcohol consumption groups. The results of these analyses yielded a Wilks' lambda value of .96, $F(10, 288) = 1.30$, $p = .23$, indicating that the groups did not differ significantly in terms of death attitudes. Therefore, Null Hypothesis 1 was not rejected at the .05 alpha level and univariate F tests for the equality of group means were not conducted.

Null Hypothesis 2

Null Hypothesis 2--There are no differences in the degree of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking college women--was analyzed using a one-way ANOVA. Results of a test of between-subjects effects on the PMP Total subscale for the three alcohol consumption groups did not reach significance at the .05 alpha level, $F(2, 148) = 1.16$, $p = .32$, indicating that the groups did not differ significantly in regard to self-reported degree of personal meaning. Therefore, Null Hypothesis 2 was not rejected.

Null Hypothesis 3

Null Hypothesis 3--There are no differences in the sources of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking female college students--was analyzed using a MANOVA. A Wilks' lambda multivariate test of significance was performed on the Achievement, Relationship, Self-Transcendence,

Religion, Self-Acceptance, Intimacy, and Fair Treatment factor scales of the PMP for the three alcohol consumption groups. The results of these analyses yielded a Wilks' lambda value of .89, $F(14, 284) = 1.25$, $p = .24$, indicating that the groups did not differ significantly in regard to sources of personal meaning. Therefore, Null Hypothesis 3 was not rejected at the .05 alpha level and univariate F tests for the equality of group means were not conducted.

Null Hypothesis 4

Null Hypothesis 4—Death attitudes, degree of personal meaning, and sources of personal meaning do not predict alcohol consumption patterns among female college students—was analyzed through multiple discriminant analysis. According to Klecka (1980), discriminant analysis involves a series of statistical procedures for measuring the degree of differences among criterion groups in terms of some set of characteristics or discriminating variables, as well as for providing a means for classifying individual cases into the criterion groups which they most closely resemble. Although MANOVA and discriminant analysis are multivariate techniques and yield the same statistical significance tests (Huberty & Wisenbaker, 1992), discriminant analysis yields more interpretive information (e.g., canonical correlations and group centroids) than does MANOVA (Huberty & Barton, 1989).

Derivation of the Discriminant Function

Discriminant analysis involves deriving a variate or discriminant function, the linear combination of the independent or predictor variables, that will result in the largest differences between a priori defined groups. In this study, the stepwise method was

selected over the direct or simultaneous method in deriving the discriminant function. According to Hair et al. (1995), the stepwise method is particularly useful when analyzing a relatively large number of predictor variables and when intermediate results based on the most discriminating variables is of importance to the researcher. Because an objective of the study was to determine which if any predictor variables discriminated most efficiently between the three alcohol consumption classification groups, the stepwise approach was utilized. In the stepwise discriminant analysis, the single best predictor variable is entered into the model first (Step 1), followed by those subsequent variables entered one at a time that are “best able to improve the discriminating power of the function in combination with the first variable chosen” (Hair et al., 1995, p. 198). This process continues until all variables are either included into the equation or judged as not contributing significantly to further discrimination and thereby excluded from the discriminant function.

In regard to deriving the discriminant function for the current study, pooled within-groups intercorrelations among the 13 predictor variables used in the analysis were calculated and are summarized in Appendix G. The results of the tests of equality of group means for the five DAP-R subscales and eight PMP subscales are presented in Table 2.

Table 2

Tests of Equality of Group Means for the Five DAP-R and Eight PMP Subscales

Variable	Wilks' Lambda	F-Ratio	Significance
<u>DAP-R</u>			
Fear	.984	1.220	.298
Avoid	.997	.199	.820
Neutral	.982	1.396	.251
Approach	.945	4.387	.014*
Escape	.928	5.830	.004*
<u>PMP</u>			
Achieve	.986	1.041	.356
Relation	.999	.092	.912
Religion	.913	7.238	.001*
Self-Trans	.960	3.172	.045*
Self-Accept	1.00	.002	.998
Intimacy	.987	1.024	.362
Fair Treat	.992	.590	.556
PMP Total	.980	1.553	.298

* $p < .05$, $df = (1, 151)$

An examination of the results from the univariate F -tests reveals that significant group differences existed in terms of mean scores on two DAP-R (Approach Acceptance and Escape Acceptance) and two PMP subscales (Self-Transcendence and Religion). It is interesting to note that these findings are in contrast with the results of the MANOVAs used to test Null Hypothesis 1--There are no differences in the degree of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking female college students--and Null Hypothesis 3--There are no differences in the sources of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking female college students. Since the MANOVAs failed to yield statistically significant group differences, the two Nulls were not rejected and univariate F - tests for the equality of group means were not conducted as part of those analyses.

A summary of the stepwise discriminant analysis, which identified only one factor (Religion) with discriminating capabilities, is presented in Table 3.

Table 3

Summary Table of Stepwise Discriminant Analysis of the Five Death Attitude and Eight Personal Meaning Subscales

Step	Variable Entered	Variable Retained	Wilks' Lambda	df	Equivalent F
1	Religion	Religion	.913	(1, 151)	7.238*

* $p = .001$

Results from the stepwise discriminant analysis indicate that univariate F-tests, while providing a measure of the relative importance of each of the variables in predicting group membership, may be insufficient in the final analysis. In this study, the two DAP-R subscales of Approach Acceptance and Escape Acceptance and the PMP factor of Self-Transcendence, although deemed significant via the univariate F-tests, were ultimately excluded from the discriminant function. In short, these variables did not have large enough F-values to improve the discriminating power of the function in combination with the first variable chosen, the PMP factor of Religion. Results from the discriminant analysis suggest that a discriminant function composed solely of the Religion factor was the most efficient in discriminating university women's membership in non-drinking, non-problem drinking, and problem drinking alcohol consumption classification groups. Based on these results, Null Hypothesis 4 was rejected.

Since at least one predictor variable was included in the discriminant function, a test of significance for the discriminant function using a chi-square statistic was conducted. Results of the test of significance of the discriminant function composed solely of the Religion factor are presented in Table 4.

Table 4

Significance of the Discriminant Function

Wilks' Lambda	Chi-Square	<u>df</u>	<u>p</u>
.913	13.824	2	.001*

*p < .05

According to Klecka (1980), Wilks' lambda is a multivariate measure of group differences over the discriminating variables. Whereas values of lambda that are near zero denote high discrimination, values which approach the maximum value of 1.0 (indication of no group differences) reflect increasingly low discriminatory power. The Wilks' lambda value of .913 obtained for the discriminant function in this study indicates that approximately 91 percent of the variance among the three alcohol consumption groups remains to be explained. In order to test the significance of the Wilks' lambda, the value was converted to a chi-square statistic. Despite evidence of a function with low discriminating capabilities, the chi-square value of 13.824 and its corresponding p-value of .001 indicate that the discriminant function was statistically significant.

Analysis of the Discriminant Function

Given that a discriminant function may be statistically significant without being necessarily meaningful (Klecka, 1980), further statistical analyses were conducted and the results are presented in Table 5.

Table 5

Analysis of the Canonical Correlation and Related Statistics

Eigenvalue	Canonical Correlation	Eta-Squared
.096	.296	.088

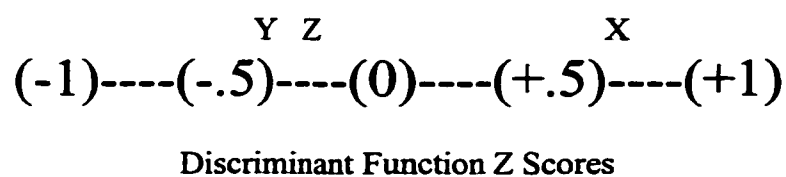
An eigenvalue is a constant used in calculating the between-groups and within-groups sums of squares and is a useful measure when comparing the strength of one discriminant function relative to others derived in the analysis. Since the discriminant analysis in this study derived only one function, interpretation of the eigenvalue (.096) is rendered unnecessary. A more important statistic relative to this study is the canonical correlation. Also referred to as eta, the canonical correlation is a measure of the degree of relatedness between the criterion groups and the derived discriminant function (Hair et al., 1995), and ranges from a minimum value of zero (no relationship at all) to a maximum of one, where the degree of relatedness increases as the correlation approaches the maximum value. The canonical correlation of .296 obtained in this study suggests that the relationship between the groups and the discriminant function is not a strong one.

In order to determine the proportion of variance in the discriminant function explained by the groups, the canonical correlation is squared and this value is known as eta-squared. Thus, a reasonable interpretation of the canonical correlation of .296 obtained in this study would be that approximately nine percent of the variance in the dependent variable (group membership) can be accounted for or explained by the discriminant function, which included only 1 of the 13 independent variables. Stated conversely, approximately 91 percent of the total variance associated with group membership remains to be explained. In short, the discriminant function composed of the Religion factor, although significant, is not very meaningful.

Validation of the Discriminant Function

The remaining tasks in analyzing and interpreting the data were to interpret the

discrimination results from a global perspective by examining the group centroids and to determine the predictive accuracy of the discriminant function by developing a classification matrix. According to Hair et al. (1995), group centroids “represent the mean of the individual discriminant function scores for each group” (p. 217) and are measured by standard or Z-scores. The centroid for each of the three criterion groups was calculated and a plot of the centroids is presented below in Figure 1.



X = Non-Drinkers
 Y = Non-Problem Drinkers
 Z = Problem Drinkers

Figure 1. Linear Comparison of Alcohol Consumption Group Centroids.

The plot of the centroids displays each group’s deviation from the overall mean of the three groups on the predictor variable with the greatest discriminating capability, Religion. A visual examination of the plot shows that the non-drinkers differed significantly from the two drinking groups based on the Religion factor derived from the discriminant function. Since the centroid of the non-drinking group occupies a moderate distance from the overall mean (Z score = 0) of the criterion groups, fewer errors in classification would be expected. In contrast, a greater number of errors in classification for the non-problem drinking and problem drinking groups would be expected given the close proximity of the two drinking group centroids to the overall mean.

Table 6 summarizes the degree to which the discriminant function accurately classified individual cases into the three a priori defined groups relative to chance.

Table 6

Classification Results of the Discriminant Analysis

Group	Number of Cases	<u>Predicted Group</u>		
		ND	NPD	PD
ND	40	20 (50.0%)	10 (25.0%)	10 (25.0%)
NPD	57	10 (17.5%)	25 (43.9%)	22 (38.6%)
PD	57	12 (21.1%)	27 (47.4%)	18 (31.6%)

Note. ND = Non-Drinkers, NPD = Non-Problem Drinkers, PD = Problem Drinkers

Total Proportion of Cases Correctly Classified: 40.9%

Consistent with the previous results, the discriminant function did not prove to be a strong predictor of group membership: Only about 41 percent of the 154 individual cases were correctly classified. Results indicate that the function was best at discriminating non-drinkers from those who do consume alcohol regardless of the extent of the drinkers' consumption patterns. Nonetheless, errors in classification were abound in that 56.1% of the non-problem drinkers and 68.4% of the problem drinkers were classified incorrectly.

Although the hit rate or total proportion of cases correctly classified appears to be

very low, it is still greater than what would be expected by a chance attempt at classification without the discriminant function. In order to assess the true effectiveness of the discriminant function's predictive accuracy, Hair et al. (1995) recommend that the hit rate (40.9%) be compared with two additional chance measures, the maximum chance and the proportional chance criteria. The maximum chance criterion is defined as the hit ratio obtained if one were to "assign all the observations to the group with the highest probability of occurrence" (Hair et al., 1995, p. 227). Since the non-problem drinking and problem drinking groups comprised 57 cases each, unlike the non-drinking group which comprised 40 cases, the maximum chance criterion (C_{MAX}) equals 57/154 or .370.

The second chance criterion used to assess the predictive validity of the discriminant function is known as proportional chance, and can be defined as the sum of the squared proportions of each group (Hair et al., 1995). The mathematical formula for calculating the proportional chance criterion is presented below in Figure 2.

$$C_{PRO} = p_1^2 + p_2^2 + p_3^2$$

Figure 2. Formula for Calculating the Proportional Chance Criterion.

Substituting the appropriate values for those obtained in this analysis, the proportional chance criterion, C_{PRO} , equals (.064) + (.1369) + (.1369), which equals .341. Since the total proportion of cases correctly classified by the discriminant function (40.9%) exceeds the maximum (37.0%) and proportional (34.1%) chance criteria, one can conclude that the discriminant function predicted membership in the alcohol consumption

classification groups slightly better than chance.

Discussion of the Results

Of the four null hypotheses tested in this study and developed in an effort to answer the broader research question--Are there differences in death attitudes, degree of personal meaning, and sources of personal meaning among female college students as a function of alcohol consumption patterns?--only Null Hypothesis 4 was rejected, a finding which at first glance appears to refute the existential model proposed by Frankl (1962, 1965, 1969, 1978). However, a closer examination of the findings reveals that, although differences among the alcohol consumption groups were not statistically significant, the directionality of the differences was consistent with Frankl's contentions.

In regard to Null Hypothesis 1--There are no differences in death attitudes between groups of non-drinking, non-problem drinking, and problem drinking female college students--results from the MANOVA were not significant enough to warrant its rejection. Although in general there tended to be little difference between the criterion groups on many of the domains assessed, differences between the non-drinkers and problem drinkers were somewhat consistent with the existential model and previous research on death attitudes. For example, the finding of higher mean scores among problem drinkers than non-drinkers on the Fear of Death and Death Avoidance subscales of the DAP-R is consonant with Frankl's model (1962, 1965, 1969, 1978) and previous findings of an inverse relationship between negative attitudes toward death and other indices of mental health (Lonetto & Templer, 1986; Neimeyer & Van Brunt, 1995; Pollak, 1979, Wong et al., 1994).

Another expected finding was that the non-drinkers, who held less negative attitudes toward death, scored higher than the problem drinkers on the positive death attitude of Approach Acceptance. Consistent with Frankl's existential model and previous thanatological research, a strong religious and/or spiritual belief in an afterlife is negatively related to death anxiety (Minear & Brush, 1980-1981; Templer, 1972; Wong et al., 1994) and maladaptive behaviors including alcohol abuse (Engs et al., 1996; Gartner, Larson, & Allen, 1991; Poulson, Eppler, Satterwhite, Wuensch, & Bass, 1998; Stark, 1971; Vogler et al., 1994).

An unexpected and interesting finding was that non-drinkers scored higher on the positive death attitude of Escape Acceptance. Although not statistically significant, abstainers in this study held stronger beliefs than problem drinkers that death is a welcome alternative to a painful existence. One obvious interpretation of this finding would be that the non-drinkers were in *more* emotional or psychological distress than their problem drinking peers and were therefore acknowledging that death represents a form of relief. This possibility is unlikely, however, when one considers previous research on the relationship between abstinence and life meaningfulness. A consistent finding has been that abstainers report greater life satisfaction than substance abusers and tend to score higher on other measures of physical and psychological well-being (Corbin et al., 1996; Noblejas de la Flor, 1997; Padelford, 1974).

The unlikeliness that the non-drinkers in this study were in more psychological distress than the problem drinkers is heightened further by the results of the ANOVA employed to test Null Hypothesis 2--There are no differences in the degree of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking

female college students. Although not statistically significant, non-drinkers reported the highest degree of personal meaning in life as measured by the Total factor score of the PMP; the problem drinkers reported the lowest. The unanticipated higher Escape Acceptance scores among the non-drinkers remains to be explained.

In regard to Null Hypothesis 3--There are no differences in the sources of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking female college students--results from the MANOVA were again not significant enough to warrant its rejection. Albeit small, differences were found between the non-drinkers and the problem drinkers and these differences were in the expected direction. Non-drinkers scored slightly higher on five of the seven subscales of the PMP, a finding consistent with the existential position that meaningful living is derived from a wide range of sources. Nonetheless, it is important to note that none of the group mean scores for the seven PMP subscales came remotely close to approaching 2.0, the value established by the author of the PMP that identifies a particular domain as contributing little to the individual's personal meaning in life. Indeed, none of the group mean scores for the seven PMP subscales fell below the value of 5.12.

In regard to Null Hypothesis 4--Death attitudes, degree of personal meaning, and sources of personal meaning do not predict alcohol consumption patterns among female college students--only one of the predictor variables, Religion, loaded into the final discriminant equation. Regardless, the Religion factor predicted alcohol consumption patterns only slightly better than chance and therefore had limited utility.

To summarize, results from this study in regard to death attitudes showed that female college students in general do not appear to be especially fearful or avoidant of

death: The total mean scores for all groups on the Fear of Death and Death Avoidance subscales of the DAP-R hovered around the midpoint of its 6-point Likert-type scale. The death attitudes that appeared to be the most well defined were the positive attitudes of Neutral Acceptance and Approach Acceptance, and these stronger attitudes appeared to hold true for all three groups. Thus, results from this study suggest that college women, regardless of their alcohol consumption patterns, tend to believe that death is something to be neither welcomed nor feared, but rather accepted as a reality of life, and that it also represents a passageway to a meaningful afterlife. In regard to the existential construct of personal meaning, results from this study suggest that college women tend to experience significant life meaningfulness and derive such meaning from a wide range of sources, regardless of their alcohol consumption patterns. Stated another way, there was little differentiation among the three criterion groups in regard to the degree and sources of personal meaning.

Chapter 5

SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Summary

Viktor Frankl (1962, 1965, 1969, 1978) believed that human behavior is mediated by a will to find meaning and purpose in life and that individual attitudes toward personal mortality are related to the ways people choose to live their lives. The purpose of the current study was to test the effectiveness of Frankl's existential model in predicting problem drinking among female college students by answering the following general research question: Are there differences in death attitudes and personal meaning among female college students as a function of alcohol consumption patterns?

Although previous studies have explored the relationship between various attitudes toward death and indices of psychological functioning (Lonetto & Templer, 1986; Neimeyer & Van Brunt, 1995; Pollack, 1979), there has been no published research investigating the role of death attitudes in mediating patterns of alcohol consumption among college students. Similarly, although studies have examined meaning and purpose in life and the problem of substance abuse (Adams & Waskel, 1991; Crumbaugh, 1968; Harlow et al., 1986; Nicholson et al., 1994; Noblejas de la Flor, 1997; Padelford, 1974; Waisberg & Porter, 1994), the relationships between these variables among college

women have remained unclear. Since problem drinking students are not a homogeneous group, the development of effective early intervention strategies to reduce problem drinking in the university setting necessitates the identification of factors related to this behavior within specific at-risk groups of individuals (Bennett et al., 1999; Engs et al., 1996).

Based on their total scores on the Alcohol Use Disorders Identification Test (AUDIT), 154 female students from undergraduate general education courses at a mid-western university were assigned to one of three alcohol consumption groups: (a) non-drinkers, (b) non-problem drinkers, and (c) problem drinkers. For each participant, death attitudes were assessed using the Death Attitude Profile-Revised (DAP-R) and personal meaning was assessed using the Personal Meaning Profile (PMP). Four null hypotheses were tested through statistical analyses.

Null Hypothesis 1--There are no differences in death attitudes between groups of non-drinking, non-problem drinking, and problem drinking female college students--was not rejected. Results from the MANOVA revealed no statistically significant differences between the three criterion groups in regard to mean scores on the Fear of Death, Death Avoidance, Approach Acceptance, Neutral Acceptance, and Escape Acceptance subscales of the DAP-R.

Null Hypothesis 2--There are no differences in the degree of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking female college students--was not rejected. Results from the ANOVA revealed no statistically significant differences between the three criterion groups in regard to mean Total scores on the PMP.

Null Hypothesis 3--There are no differences in the sources of personal meaning between groups of non-drinking, non-problem drinking, and problem drinking female college students--was not rejected. Results from the MANOVA revealed no statistically significant differences between the three criterion groups in regard to mean scores on the Achievement, Relationship, Religion, Self-Transcendence, Self-Acceptance, Intimacy, and Fair Treatment subscales of the PMP.

Null Hypothesis 4--Death attitudes, degree of personal meaning, and sources of personal meaning do not predict alcohol consumption patterns among female college students--was rejected. Results from the stepwise discriminate function analysis revealed that the Religion factor of the PMP differentiated between the alcohol consumption groups. A discriminant function composed solely of the Religion factor was the most efficient in discriminating university women's membership in non-drinking, non-problem drinking, and problem drinking alcohol consumption classification groups.

Approximately nine percent of the variance in the dependent variable, alcohol consumption group membership, was explained by differences in the Religion factor of the PMP. Thus, approximately 91% of the total variance associated with group membership remained to be explained. In regard to the predictive accuracy of the discriminant function in correctly classifying cases into the criterion groups, performance was slightly better than would be expected by a chance classification without the discriminant function. The most accurately classified group was the non-drinkers, followed by the non-problem drinkers, and then the problem drinkers.

Conclusions

The following conclusions are based on the results of the study and in light of the limitations and assumptions.

1. There were no statistically significant differences between non-drinking, non-problem drinking, and problem drinking female college students and the positive and negative attitudes held toward subjective morality. This finding is not consistent with Frankl's (1962, 1965, 1978) contention that failure to accept the transitoriness of one's life is related to the development of maladaptive coping behaviors such as substance abuse. Instead of being especially fearful or avoidant of death, the college women in this study generally accepted death as an inescapable reality of living and took comfort in a belief that death offers the promise of a peaceful afterlife. However, it is interesting that the descriptive data indicated higher levels of death fear and avoidance among the problem drinkers than the non-drinkers and non-problem drinkers. The descriptive data are consistent with Frankl's existential model and previous findings of a strong negative relationship between negative death attitudes and various indices of psychological well-being and adaptive coping (Kübler-Ross, 1975; White & Handal, 1991; Wong et al., 1994).

The descriptive data revealed another interesting observation: Non-drinking college women held stronger beliefs than non-problem drinkers and problem drinkers that death represents a form of relief from earthly suffering. This is in contrast with previous reports of a negative relationship between Escape Acceptance beliefs, as measured by the DAP-R, and physical and psychological well-being (Gesser et al., 1987-1988; Wong et al., 1994).

2. There were no statistically significant differences between non-drinking, non-problem drinking, and problem drinking female college students and the degree of personal meaning experienced in life. This finding is not consistent with Frankl's (1962, 1969, 1978) contention that a failure to find meaning and purpose in life is related to the development of maladaptive coping behaviors such as substance abuse. However, it is interesting that the descriptive data indicated a lower degree of personal meaning among the problem drinkers than the non-drinkers and non-problem drinkers. The descriptive data are consistent with Frankl's existential model and previous reports of a strong negative relationship between life meaninglessness and various indices of psychological well-being and adaptive coping (Debats, 1998; Sappington & Kelly, 1995; Shek, 1995; Wong, 1998).

3. There were no statistically significant differences between non-drinking, non-problem drinking, and problem drinking female college students and the sources wherein they sought and experienced personal meaning. This finding is not consistent with the existential position that personal meaning in life is derived from a variety of sources such as religion, relationships, intimacy, self-acceptance, achievement, and self-transcendence (Ebersole, 1998; Frankl, 1962; O'Connor & Chamberlain 1996; Wong, 1998). However, the descriptive data revealed that the problem drinkers scored lower than the non-drinkers and non-problem drinkers on the Achievement, Relationship, Self-Transcendence, Self-Acceptance, and Intimacy subscales of the PMP. The non-drinkers scored highest on five out of seven subscales on the PMP.

4. In regard to death attitudes, degree of personal meaning, and sources of personal meaning as predictors of problem drinking among female college students, none

of the factors proved to be good predictors. Taken together, the results indicate that Frankl's (1962, 1965, 1969, 1978) existential model has limited explanatory power in predicting problem drinking among college women. Although religion discriminated between groups of non-drinking, non-problem drinking, and problem drinking students, this factor was best at predicting abstinence and worst at predicting problem drinking. Consistent with previous findings of a negative relationship between spirituality and problem drinking (Engs et al., 1996; Prendergast, 1994; Vogler et al., 1994), the non-drinking college women in this study derived greater life meaning from spiritual beliefs related to a higher power, God, and cosmic meaning than did groups of non-problem drinking and problem drinking women.

Despite that groups of non-drinking, non-problem drinking, and problem drinking college women could be differentiated by the Religion factor of the PMP, differences in the degree and sources of personal meaning between the alcohol consumption groups, although generally in the expected directions, were not statistically significant. The female students in the current study reported significant life meaningfulness and derived personal meaning from a wide range of sources regardless of whether they drank alcohol or the extent to which they did. The absence of significant differentiation on the measures of personal meaning between the problem drinking women and those in the other two groups is not consistent with the existential tenets of Frankl's logotherapy (1962, 1978, 1985) and previous reports of a strong negative relationship between purpose and meaning in life and substance abuse in general (Coleman, Kaplan, & Downing, 1986; Newcomb & Bentler, 1986; Nicholson et al., 1994; Shean & Fechtmann, 1971), alcohol abuse in particular (Adams & Waskel, 1991; Amodeo, Kurtz, & Cutter, 1992; Clifford,

Edmundson, Koch, & Dodd, 1991).

Implications

Traditional thanatological and psychological approaches to the study of attitudes toward death have overemphasized death fear in the research (Marshall, 1981; Neimeyer & Van Brunt, 1995) to the relative exclusion of other meaningful death attitudes, including death avoidance and death acceptance (Gesser et al., 1987-1988; Klug & Sinha, 1987; Nelson & Nelson, 1975; Ray & Najman, 1974). The relationships between a broad spectrum of attitudes toward death and the alcohol consumption patterns of college women classified as non-drinkers, non-problem drinkers, and problem drinkers were investigated in the current study. Previous studies on life meaning and purpose among varied groups of individuals have primarily focused on magnitude or degree as the unit of analysis (Debats, 1998; Ebersole, 1998; Wong, 1998). The current study went beyond measuring personal meaning solely in terms of its magnitude or degree by investigating differences in sources of personal meaning as well. The review of the literature on death attitudes, personal meaning, and alcohol consumption provides evidence that studies reviewed have been limited in scope and significance because of the use of instruments with questionable psychometric properties and/or general usefulness. Implications for theory and practice are presented.

1. In light of the fact that the descriptive data revealed patterns of relationships that are consistent with Frankl's (1962, 1965, 1978) existential model, it is possible that the lack of statistically significant differences between the criterion groups can be accounted for by other factors not controlled for in this study. For example, factors

related to the larger socio-cultural context of universities, within which alcohol use and misuse are normative and therefore expected behaviors (Carey, 1993; Dowdall, Crawford, & Wechsler, 1998; Lo, 1991; Perkins & Wechsler, 1996; Sherry & Stolberg, 1987), may have obscured the relative contributions of death attitudes and personal meaning in predicting problem drinking in this setting. It is possible that many of the problem drinkers in this study might have been classified as non-problem drinkers had the influences of the campus social norms for problem drinking been controlled for.

2. Although the effectiveness of Frankl's logotherapy (1962, 1965, 1969, 1978) in predicting problem drinking among university women is limited based on the statistical results of the current study, the descriptive data suggest that counseling psychologists and other university-affiliated mental health workers should not ignore underlying issues of personal meaning when working with college substance abusers and developing early intervention programs. The existential approach to treating men and women struggling with substance abuse issues has been consistently determined to be an effective means for increasing purpose and meaning in life (Crumbaugh & Carr, 1979; Hutzell, 1984; Johnson, Griffin-Shelley, & Sandler, 1987; Noblejas de la Flor, 1997).

3. The PMP may be a useful clinical tool for university counselors when working with problem drinking female clients. As part of their standard intake procedures, college counselors could administer the instrument to determine the degree and sources of personal meaning in the lives of their clients. Given that problem drinking is less common among students with strong bonds to the college community, religious institutions, and family than among those with weak or broken bonds (Cherry, 1987, 1991; Poulson et al., 1998), counselors could assist clients in exploring and expanding

their sources of personal meaning in order to help them establish stronger and healthier social bonds with the larger college community. This may reduce the risk of exposure to heavy alcohol use.

Recommendations

Based on the results of the study, the following recommendations for future studies on death attitudes, personal meaning, and problem drinking are presented.

1. Future investigations of the mediating effects of death attitudes and personal meaning on college drinking behavior should control for large cultural norms which encourage problem drinking. In light of the overwhelming evidence that members of fraternities and sororities abuse alcohol in response to group norms and rituals (Baer et al., 1995; Lichtenfeld & Kayson, 1994; Lo & Globetti, 1993; Prendergast, 1994), the effect of Greek affiliation status should be controlled. Researchers should also consider raising the standard cut score on the AUDIT to control for larger peer influences. Given that campus norms for drinking alcohol exert powerful influences on students' motivations for consumption (Carey, 1993; Dowdall et al., 1998; Lo, 1991; Perkins & Wechsler, 1996; Sherry & Stolberg, 1987), college consumers of alcohol may be qualitatively different from those in the primary care setting for whom the AUDIT was originally developed to assess. Adjusting the cut score to a higher value may enhance the instrument's discriminant abilities in the college setting. Perhaps a second alcohol screening instrument could be employed as well to ensure for greater accuracy in assigning participants to various alcohol consumption groups.

2. Although problem drinking among female college students was the unit of

analysis in the current study, future studies on the mediating effects of death attitudes and personal meaning should investigate other forms of substance abuse among college students. Given that alcohol use and abuse are expected and culturally approved behaviors within the larger college context, researchers should explore collegiate abuse of less culturally accepted and approved substances such as marijuana and cocaine. In addition, researchers should consider investigating the mediating effects of death attitudes and personal meaning on other forms of maladaptive and at-risk behavior among college students such as disordered eating and unhealthy sexual practices.

3. Due to variability in the group testing environments, extraneous forces may have impacted participant responses to the measures in the current study. It is recommended that researchers standardize the testing conditions in order to reduce the likelihood of participants submitting completed but inaccurate measures. One way to accomplish this would be to test participants individually in a quiet laboratory setting where the number of distractions could be controlled.

4. Since it is not known how many individuals elected to not participate in the study, and for what reasons they may have chosen this course of action, nonparticipants and participants may have differed in some discernable way, especially with regard to negative death attitudes. It is possible that individuals who were highly avoidant of the topic of death may have self-selected themselves from participation in the study. Future researchers might wish to develop strategies and procedures for obtaining information about nonparticipants to control for the confounding effects of selection bias.

5. It is recommended that an additional measure of personal meaning such as the revised Life Regard Index (LRI-R; Debats, 1998) be employed when studying this

construct in the college setting since the PMP is a relatively new research instrument. Adding a second measure of personal meaning should provide for a greater convergence of information about the construct being measured.

6. It is also recommended that researchers continue to identify factors related to problem drinking in college by targeting specific subgroups within the larger university (Bennett et al., 1999; Gonzalez, 1993; Prendergast, 1994; Vogler et al., 1994). Since college students who abuse alcohol and other drugs are not a homogeneous group of individuals, university administrators, educators, and health professionals should continue to identify attitudinal, motivational, personality, psychosocial, and demographic influences which place specific subgroups at risk for developing serious substance-related health and behavioral problems. Researchers should continue to investigate problem drinking among female college students (Beck et al., 1995; Gleason, 1994; McCreary et al., 1999; Neve et al., 1996; Ricciardelli & Williams, 1997; Spigner et al., 1994). The effectiveness of early intervention programs with this group of university students is contingent upon the practical application of empirically derived data regarding the factors which discriminate problem drinking from non-problem drinking and non-drinking university women.

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APPENDIXES

APPENDIX A

INFORMED CONSENT STATEMENT

This study investigates the attitudes of college students toward alcohol use, personal meaning in life, and mortality. As a member of a university population, your thoughts regarding these issues are of vital importance to the study. Your participation in this study is completely voluntary and will be treated with confidentiality. As a way to protect your privacy, you are asked to respond to the following questionnaires anonymously. The information you provide will be coded so that your identity will not be attached to the data. The only record of your identity will be your name and signature which you provide on this consent form. There is no penalty for refusal to participate and you are free to discontinue participation at any time.

You will be asked to respond to four brief questionnaires which can be completed in approximately 30 minutes. There are no right or wrong answers: Respond to each item based on your own thoughts and feelings. A potential benefit of your participation is that you may gain greater insight into who you are as a person and how you wish your life to proceed in the future. This study conforms to the American Psychological Association (APA) guidelines for research with human subjects.

This study is being completed as part of the doctoral dissertation of Christopher Hugh Nolan, doctoral fellow, Department of Counseling, Indiana State University, under the direct supervision of William Osmon, Ed.D., Department of Counseling Chairperson.

If you have any questions regarding your participation in the study, please feel free to call Mr. Nolan at (812) 238-0008.

I, the undersigned, acknowledge that I have read the above statement and understand my rights as they have been outlined. Furthermore, my signature below indicates I voluntarily agree to participate in this study.

 (Print Full Name)

 (Student ID Number)

 (Signature)

 (Date)

If you would like the results of this study mailed to you, please print your name and address:

APPENDIX B

DEATH ATTITUDE PROFILE-REVISED

This questionnaire contains a number of statements related to different attitudes toward death. Read each statement carefully, and then indicate the extent to which you agree or disagree. For example, an item might read: "Death is a friend." Indicate how well you agree or disagree by circling one of the following:

SA = strongly agree

A = agree

MA = moderately agree

MD = moderately disagree

D = disagree

SD = strongly disagree.

If you strongly agree with the example statement ("Death is a friend."), you would circle SA. If you strongly disagree, you would circle SD. It is important that you work through the statements and answer each one. Many of the statements will seem alike, but all are necessary to show slight differences in attitudes.

Please begin by turning to the next page.

(Continued next page)

APPENDIX B (cont.)

Please be careful: As you can see, the scales run both from SD (strongly disagree) to SA (strongly agree) and from SA (strongly agree) to SD (strongly disagree).

1. Death is no doubt a grim experience.	SD	D	MD	MA	A	SA
2. The prospect of my own death arouses anxiety in me.	SA	A	MA	MD	D	SD
3. I avoid death thoughts at all costs.	SA	A	MA	MD	D	SD
4. I believe that I will be in heaven after I die.	SD	D	MD	MA	A	SA
5. Death will bring an end to all my troubles.	SD	D	MD	MA	A	SA
6. Death should be viewed as a natural, undeniable, and unavoidable event.	SA	A	MA	MD	D	SD
7. I am disturbed by the finality of death.	SA	A	MA	MD	D	SD
8. Death is an entrance to a place of ultimate satisfaction.	SD	D	MD	MA	A	SA
9. Death provides an escape from this terrible world.	SA	A	MA	MD	D	SD
10. Whenever the thought of death enters my mind, I try to push it away.	SD	D	MD	MA	A	SA
11. Death is deliverance from pain and suffering.	SD	D	MD	MA	A	SA
12. I always try not to think about death.	SA	A	MA	MD	D	SD
13. I believe that heaven will be a much better place than this world.	SA	A	MA	MD	D	SD
14. Death is a natural aspect of life.	SA	A	MA	MD	D	SD
15. Death is a union with God and eternal bliss.	SD	D	MD	MA	A	SA
16. Death brings a promise of a new and glorious life.	SA	A	MA	MD	D	SD
17. I would neither fear death nor welcome it.	SA	A	MA	MD	D	SD
18. I have an intense fear of death.	SD	D	MD	MA	A	SA
19. I avoid thinking about death altogether.	SD	D	MD	MA	A	SA
20. The subject of life after death troubles me greatly.	SA	A	MA	MD	D	SD
21. The fact that death will mean the end of everything as I know it frightens me.	SA	A	MA	MD	D	SD
22. I look forward to a reunion with my loved ones after I die.	SD	D	MD	MA	A	SA
23. I view death as a relief from earthly suffering.	SA	A	MA	MD	D	SD
24. Death is simply a part of the process of life.	SA	A	MA	MD	D	SD
25. I see death as a passage to an eternal and blessed place.	SA	A	MA	MD	D	SD
26. I try to have nothing to do with the subject of death.	SD	D	MD	MA	A	SA
27. Death offers a wonderful release of the soul.	SD	D	MD	MA	A	SA
28. One thing that gives me comfort in facing death is my belief in the afterlife.	SD	D	MD	MA	A	SA
29. I see death as a relief from the burden of this life.	SD	D	MD	MA	A	SA
30. Death is neither good nor bad.	SA	A	MA	MD	D	SD
31. I look forward to life after death.	SA	A	MA	MD	D	SD
32. The uncertainty of not knowing what happens after death worries me.	SD	D	MD	MA	A	SA

APPENDIX C

PERSONAL MEANING PROFILE

This questionnaire measures people's perception of personal meaning in their lives. Generally, a meaningful life involves a sense of purpose and personal significance. However, people often differ in what they value most, and they have different ideas as to what would make life worth living.

The following statements describe potential sources of meaningful life. Please read each statement carefully and indicate to what extent each item characterizes your own life. You may respond by circling the appropriate number according to the following scale:

1	2	3	4	5	6	7
Not at all		Somewhat	Moderately		Mostly	A great deal

For example, if going to parties does not contribute to your sense of personal meaning, you may circle 1 or 2. If taking part in volunteer work contributes quite a bit to the meaning in your life, you may circle 5 or 6. It is important that you answer on the basis of your own experience and beliefs. Please begin with item number 1 and proceed until you have answered all items.

1.	I have a good family life	1	2	3	4	5	6	7
2.	I believe I can make a difference in the world	1	2	3	4	5	6	7
3.	I am at peace with God	1	2	3	4	5	6	7
4.	I have learned that setbacks and disappointments are an inevitable part of life	1	2	3	4	5	6	7
5.	I believe that life has an ultimate purpose and meaning	1	2	3	4	5	6	7
6.	I engage in creative work	1	2	3	4	5	6	7
7.	I am successful in achieving my aspirations	1	2	3	4	5	6	7
8.	I pursue worthwhile objectives	1	2	3	4	5	6	7
9.	I strive to achieve my life goals	1	2	3	4	5	6	7
10.	I care about other people	1	2	3	4	5	6	7
11.	I have someone to share intimate feelings with	1	2	3	4	5	6	7
12.	I believe in the value of my pursuits	1	2	3	4	5	6	7
13.	I seek to actualize my potentials	1	2	3	4	5	6	7
14.	I have found that there is rough justice in this world	1	2	3	4	5	6	7
15.	I strive to make this world a better place	1	2	3	4	5	6	7
16.	I am at peace with myself	1	2	3	4	5	6	7
17.	I have confidants to give me emotional support	1	2	3	4	5	6	7
18.	I relate well to others	1	2	3	4	5	6	7
19.	I have a sense of mission or calling	1	2	3	4	5	6	7
20.	I seek to do God's will	1	2	3	4	5	6	7

Please continue on the next page.

(Continued Next Page)

APPENDIX C (cont.)

	1	2	3	4	5	6	7
	Not at all	Somewhat		Moderately	Mostly		A great deal
21. I like challenge	1	2	3	4	5	6	7
22. I believe that human life is governed by moral laws	1	2	3	4	5	6	7
23. It is important to dedicate my life to a cause	1	2	3	4	5	6	7
24. I take initiative	1	2	3	4	5	6	7
25. I am able to make full use of my abilities	1	2	3	4	5	6	7
26. I strive to do my best in whatever I am doing	1	2	3	4	5	6	7
27. I have a number of good friends	1	2	3	4	5	6	7
28. I am trusted by others	1	2	3	4	5	6	7
29. I am committed to my work	1	2	3	4	5	6	7
30. I have a purpose and direction in life	1	2	3	4	5	6	7
31. I seek higher values--values that transcend self-interests	1	2	3	4	5	6	7
32. I am highly regarded by others	1	2	3	4	5	6	7
33. I seek to glorify God	1	2	3	4	5	6	7
34. I am enthusiastic about what I do	1	2	3	4	5	6	7
35. Life has treated me fairly	1	2	3	4	5	6	7
36. I accept my limitations	1	2	3	4	5	6	7
37. I am at peace with my past	1	2	3	4	5	6	7
38. I have a mutually satisfying loving relationship	1	2	3	4	5	6	7
39. I have a sense of coherence and continuity in my life	1	2	3	4	5	6	7
40. I do not give up when I encounter setbacks or obstacles	1	2	3	4	5	6	7
41. I am altruistic and helpful	1	2	3	4	5	6	7
42. I am liked by others	1	2	3	4	5	6	7
43. I have found someone I love deeply	1	2	3	4	5	6	7
44. I strive toward personal growth	1	2	3	4	5	6	7
45. I bring happiness to others	1	2	3	4	5	6	7
46. I accept what cannot be changed	1	2	3	4	5	6	7
47. I am persistent and resourceful in attaining my goals	1	2	3	4	5	6	7
48. I value my work	1	2	3	4	5	6	7
49. I make a significant contribution to society	1	2	3	4	5	6	7
50. I contribute to the well-being of others	1	2	3	4	5	6	7
51. I believe in afterlife	1	2	3	4	5	6	7
52. I believe that one can have a personal relationship with God	1	2	3	4	5	6	7
53. I attempt to leave behind a good and lasting legacy	1	2	3	4	5	6	7
54. I believe that there is order and purpose in the universe	1	2	3	4	5	6	7
55. I am treated fairly by others	1	2	3	4	5	6	7
56. I have received my fair share of opportunities and rewards	1	2	3	4	5	6	7
57. I have learned to live with suffering and make the best of it	1	2	3	4	5	6	7

APPENDIX D

THE ALCOHOL USE DISORDERS IDENTIFICATION TEST

The following questions refer to the past twelve months.
Please circle the answer that is correct for you.

1. How often do you have a drink containing alcohol?
(0) Never (1) Monthly or less (2) 2 to 4 times a month (3) 2 to 3 times a week (4) 4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
(0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7 to 9 (4) 10 or more
3. How often do you have six or more drinks on one occasion?
(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
4. How often during the past year have you found you were not able to stop drinking once you started?
(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily
9. Have you or someone else been injured as the result of your drinking?
(0) No (2) Yes, but not in the last year (4) Yes, during the last year
10. Has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?
(0) No (2) Yes, but not in the last year (4) Yes, during the last year

APPENDIX E

STUDENT DEMOGRAPHIC QUESTIONNAIRE

Please answer each of the following questions.

1. Your age: _____
2. Current year in school:
 - _____ Freshman
 - _____ Sophomore
 - _____ Junior
 - _____ Senior
 - _____ Graduate Student
3. Current member of sorority: _____ Yes _____ No
4. What were your usual marks in high school?
 - _____ A or A- (mostly A's) _____ B+ (A's and B's)
 - _____ B (mostly B's) _____ B- (more B's than C's)
 - _____ C (mostly C's) _____ C+ (more B's than C's)
 - _____ D (mostly D's)
5. Current college GPA _____
6. Your ethnicity/race:
 - _____ Asian, Asian-American, Pacific Islander
 - _____ Black, African-American
 - _____ Caucasian, White, European-American
 - _____ Hispanic, Latino/Latina
 - _____ Middle Eastern
 - _____ Native American
 - _____ Other (please specify) _____
7. College residency status:
 - _____ On-campus housing/residence hall
 - _____ Off-campus housing/apartments
 - _____ Commuter from family home
8. What area do you feel best describes where you lived during high school?
 - _____ Rural area
 - _____ Small town
 - _____ Moderate city
 - _____ Suburban area outside large city
 - _____ Large city/urban
9. What is your best estimate of your family income last year?

_____ Less than \$15,000	_____ Between \$40,001 and \$45,000
_____ Between \$15,001 and \$20,000	_____ Between \$45,001 and \$50,000
_____ Between \$20,001 and \$25,000	_____ Between \$50,001 and \$55,000
_____ Between \$25,001 and \$30,000	_____ Between \$55,001 and \$60,000
_____ Between \$30,001 and \$35,000	_____ Between \$60,001 and \$65,000
_____ Between \$35,001 and \$40,000	_____ Over \$65,001

APPENDIX F
DEMOGRAPHIC INFORMATION

COMPOSITION OF AGE BY ALCOHOL CONSUMPTION GROUP

Age	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
18	6	15.00	5	8.77	9	15.79
19	7	17.50	11	19.30	8	14.04
20	8	20.00	8	14.04	19	33.33
21	10	25.00	12	21.05	12	21.05
22	4	10.00	11	19.30	4	7.02
23	1	2.50	2	3.51	5	8.77
24	1	2.50	3	5.26	0	0.00
25	0	0.00	2	3.51	0	0.00
Above 25	3	7.50	3	5.26	0	0.00
Total	40	100	57	100	57	100

COMPOSITION OF ETHNICITY BY ALCOHOL CONSUMPTION GROUP

Ethnicity	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
V1	0	0.00	0	0.00	0	0.00
V2	15	37.50	5	8.77	6	10.53
V3	23	57.50	51	89.47	49	85.96
V4	0	0.00	0	0.00	1	1.75
V5	0	0.00	0	0.00	0	0.00
V6	1	2.50	0	0.00	0	0.00
V7	1	2.50	1	1.75	1	1.75
Total	40	100	57	~100	57	~100

V1 = Asian, Asian-American, Pacific Islander

V2 = Black, African-American

V3 = Caucasian, White, European-American

V4 = Hispanic/Latina

V5 = Middle Eastern

V6 = Native American

V7 = Other

COMPOSITION OF YEAR IN SCHOOL BY ALCOHOL CONSUMPTION GROUP

Year	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Freshman	12	30.00	10	17.54	11	19.30
Sophomore	9	22.50	11	19.30	16	28.07
Junior	10	25.00	17	29.82	18	31.58
Senior	8	20.00	17	29.82	11	19.30
Graduate	1	2.50	2	3.51	1	1.75
Total	40	100	57	~100	57	100

COMPOSITION OF GREEK STATUS BY ALCOHOL CONSUMPTION GROUP

Greek Status	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Greek	5	12.50	14	24.56	19	33.33
Non-Greek	35	87.50	43	75.44	38	66.67
Total	40	100	57	100	57	100

COMPOSITION OF COLLEGE GPA BY ALCOHOL CONSUMPTION GROUP

GPA	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
V1	0	0.00	0	0.00	0	0.00
V2	0	0.00	0	0.00	0	0.00
V3	0	0.00	0	0.00	1	1.75
V4	2	5.00	7	12.27	7	12.27
V5	12	30.00	10	17.54	20	35.08
V6	13	32.50	22	38.61	19	33.33
V7	13	32.50	18	31.57	10	17.54
Total	40	100	57	~100	57	~100

V1 = Less than 1.0

V2 = Between 1.0 and 1.49

V3 = Between 1.50 and 1.99

V4 = Between 2.0 and 2.49

V5 = Between 2.5 and 2.99

V6 = Between 3.0 and 3.49

V7 = Greater than or equal to 3.5

COMPOSITION OF RESIDENCY STATUS BY ALCOHOL CONSUMPTION GROUP

Residence	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
V1	18	45.00	20	35.09	14	24.56
V2	0	0.00	3	5.26	13	22.81
V3	14	35.00	28	49.12	22	38.60
V4	8	20.00	6	10.53	8	14.04
Total	40	100	57	100	57	~100

V1 = On-campus housing (Residence hall)

V2 = On-campus housing (Greek hall)

V3 = Off-campus housing/apartments

V4 = Commuter from family home

**COMPOSITION OF HIGH SCHOOL MARKS
BY ALCOHOL CONSUMPTION GROUP**

Marks	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
V1	8	20.00	7	12.28	5	8.77
V2	13	32.50	24	42.11	15	26.32
V3	2	5.00	9	15.79	20	35.09
V4	2	5.00	3	5.26	1	1.75
V5	9	22.50	9	15.79	13	22.81
V6	6	15.00	5	8.77	3	5.26
V7	0	0.00	0	0.00	0	0.00
Total	40	100	57	100	57	100

V1 = Mostly A's

V2 = A's and B's

V3 = Mostly B's

V4 = More B's than C's

V5 = More C's than B's

V6 = Mostly C's

V7 = Mostly D's

COMPOSITION OF HOMETOWN SIZE BY ALCOHOL CONSUMPTION GROUP

Size	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	n	%	n	%	n	%
V1	10	25.00	12	21.05	13	22.81
V2	14	35.00	24	42.11	14	24.56
V3	4	10.00	10	17.54	14	24.56
V4	6	15.00	6	10.53	10	17.54
V5	6	15.00	5	8.77	6	10.53
Total	40	100	57	100	57	100

V1 = Rural area

V2 = Small town

V3 = Moderate city

V4 = Suburban area outside large city

V5 = Large city/urban

COMPOSITION OF FAMILY INCOME BY ALCOHOL CONSUMPTION GROUP

Income	Non-Drinkers		Non-Problem Drinkers		Problem Drinkers	
	n	%	n	%	n	%
V1	7	17.50	7	12.28	4	7.02
V2	8	20.00	1	1.75	2	3.51
V3	3	7.50	2	3.51	2	3.51
V4	2	5.00	1	1.75	5	8.77
V5	3	7.50	2	3.51	2	3.51
V6	6	15.00	5	8.77	5	8.77
V7	3	7.50	5	8.77	8	14.04
V8	4	10.00	3	5.26	2	3.51
V9	3	7.50	4	7.02	5	8.77
V10	0	0.00	7	12.28	2	3.51
V11	0	0.00	3	5.26	5	8.77
V12	1	2.50	17	29.82	15	26.32
Total	40	100	57	~100	57	~100

V1 = Less than \$15,000

V2 = Between \$15,001 and \$20,000

V3 = Between \$20,001 and \$25,000

V4 = Between \$25,001 and \$30,000

V5 = Between \$30,001 and \$35,000

V6 = Between \$35,001 and \$40,000

V7 = Between \$40,001 and \$45,000

V8 = Between \$45,001 and \$50,000

V9 = Between \$50,001 and \$55,000

V10 = Between \$55,001 and \$60,000

V11 = Between \$60,001 and \$65,000

V12 = Over \$65,001

APPENDIX G

POOLED WITHIN-GROUPS INTERCORRELATIONS AMONG THE DEATH
ATTITUDE AND PERSONAL MEANING SUBSCALES

	ACHIEV	RELATN	RELIGN	SLFTRAN	SLFACCP
ACHIEV	--				
RELATN	.635	--			
RELIGN	.512	.499	--		
SLFTRAN	.808	.692	.668	--	
SLFACCP	.615	.525	.433	.559	--
INTIMAT	.447	.430	.306	.450	.324
FAIRTRT	.562	.562	.406	.572	.588
PMPTOTL	.885	.797	.740	.900	.726
FEAR	-.137	-.086	-.114	-.185	-.037
AVOID	.016	.053	.073	.015	.124
NEUTRL	.090	.086	-.023	.119	.073
APPROCH	.171	.264	.620	.325	.113
ESCAPE	-.143	-.147	.167	-.014	-.168

PMP Subscales

ACHIEV = Achievement
 RELTN = Relationship
 RELIGN = Religion
 SLFTRAN = Self-Transcendence
 SLFACCP = Self-Acceptance
 INTIMAT = Intimacy
 FAIRTR = Fair Treatment
 PMPTOTL = PMP Total

DAP-R Subscales

FEAR = Fear of Death
 AVOID = Death Avoidance
 NEUTRL = Neutral Acceptance
 APPROCH = Approach Acceptance
 ESCAPE = Escape Acceptance

APPENDIX G (cont.)

	INTIMAT	FAIRTRT	PMPTOTL	FEAR	AVOID
ACHIEV					
RELATN					
RELIGON					
SLFTRAN					
SLFACCP					
INTIMAT					
FAIRTRT	.401	--			
PMPTOTL	.602	.699	--		
FEAR	-.044	.056	-.123	--	
AVOID	-.001	.195	.068	.678	--
NEUTRL	-.039	-.044	.069	-.285	-.171
APPROCH	.129	.146	.349	-.198	-.100
ESCAPE	-.210	-.113	-.100	-.011	-.067

PMP Subscales

ACHIEV = Achievement
 RELTN = Relationship
 RELIGON = Religion
 SLFTRAN = Self-Transcendence
 SLFACCP = Self-Acceptance
 INTIMAT = Intimacy
 FAIRTR = Fair Treatment
 PMPTOTL = PMP Total

DAP-R Subscales

FEAR = Fear of Death
 AVOID = Death Avoidance
 NEUTRL = Neutral Acceptance
 APPROCH = Approach Acceptance
 ESCAPE = Escape Acceptance