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Larry Dale Holmes

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John Paul McKinley
Major professor

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THE RELATIONSHIP BETWEEN ADDICTIVE PROCESSES AS MANIFESTED IN TWO DOMAINS: ALCOHOL USE/ABUSE AND ROMANTIC RELATIONSHIPS

By

Larry Dale Holmes

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ABSTRACT

THE RELATIONSHIP BETWEEN ADDICTIVE PROCESSES AS MANIFESTED IN TWO DOMAINS: ALCOHOL USE/ABUSE AND ROMANTIC RELATIONSHIPS

By

Larry Dale Holmes

This study was designed to explore the relationship between addictive processes manifested in alcohol use and those in romantic relationships among college students, and is primarily specific to the developmental period of late adolescence. The study was created with the intention of replicating the results of an earlier related study and expanding upon that research by increasing the representativeness of the sample. Several additional constructs were investigated and a continuum model of intense love processes was developed as a more empirically-based reconstruction of the infatuation continuum from the earlier study.

Subjects completed self-report measures regarding alcohol consumption and problems associated with alcohol use, love related measures, personality measures, and a sociodemographic questionnaire. A construct validity study demonstrated construct validity for romantic love, desperate love, codependency, and borderline personality organization. The limerence construct emerging from the confirmatory factor analysis appeared to primarily tap a shyness/fear of rejection component and did not merge with desperate love, as hypothesized.

Significant gender differences were found for alcohol consumption, alcohol diagnosis, self-esteem, and frequency of infatuations. Gender differences were also found concerning the relationship between self-esteem and alcohol consumption, with women's self-esteem being significantly negatively correlated with consumption as hypothesized, but no relationship was found between men's self-esteem and consumption. There were 46.3% of the subjects in the study who met criteria for a lifetime diagnosis of alcohol abuse or dependence, with 54.3% being designated as binge drinkers and 27.8% as frequent binge drinkers.

A strong general trend was found concerning the relationship between addictive processes in the two domains in that many of the hypothesized correlations were significant for women, but not for men. Several explanations were given for this phenomenon, including the much smaller sample size for men relative to women, and the tendency for men to understate, minimize, or suppress their feelings and attitudes in close relationships because of socialization. The finding that the frequency of infatuations was positively correlated with alcohol consumption and alcohol diagnosis appears to lend support to predictions based upon inhibitory conflict theory. The importance of conducting this line of research with clinical populations in future endeavors was emphasized.

This work is lovingly dedicated to my wife Kathryn, whose constant love and support were critical for the timely completion of this project. Her contributions involved many hours of hard work, much patience and tolerance, unceasing faith in my abilities, and have been invaluable almost beyond description.

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INTRODUCTION

The proposed research is designed to examine the relationships among alcohol consumption and problems associated with alcohol use, romantic love style, attachment style, and personality characteristics including self-esteem and ego identity, in male and female college students using self-report measures.

There is a substantial literature on dependency in romantic relationships (e.g., Critelli, Myers, & Loos, 1986; Levay & Kagle, 1983). However, little research has yet explored the association between addictive processes regarding alcohol usage and those of romantic relationships.

Psychoanalytic associations among problematic love processes and alcoholism are certainly not a recently conceived notion. Early research literature in this area included Lolli (1956) who postulated that alcoholism is primarily a disorder of the love disposition. He described alcoholic etiology as being a function of early maternal attachment dysfunction combined with physiological events. In this view, alcoholism represents the "abnormal survival in the adult of a need for the infantile experience of unitary pleasure of body and mind" (p. 106). Through the course of getting intoxicated, the alcoholic rediscovers this symbiotic blissful state and cannot resist its gratification, despite the fact that this state of ecstasy is temporary and illusory. Alcohol is seen as a beverage similar to milk that not only quenches the infant's thirst, but satisfies its hunger and provides the security and power of mother's love. Alcohol then provides similar satisfaction to the alcoholic adult that milk gives to the normal infant.

Several researchers in the 1960's and 1970's explored the relationship between dependency and alcoholism (e.g., Blane 1968; Blane & Chafetz, 1971; Tremper, 1972). Blane and Chafetz postulated that dependency conflict wherein a dominant state of urgent personal need exists, is part of a personality dynamic that is important with regard to etiological processes in the development of alcoholism. Three different types of alcoholics were described according to their solution to these conflicts regarding dependency (Blane, 1968). The "dependent" alcoholic seeks direct gratification of strong dependent needs, the "counter-dependent" alcoholic attempts to gratify dependent needs in an indirect and covert manner, and the "dependent-independent" alcoholic alternates between denying and demonstrating dependent needs. The study of how this dependent need state is manifested specifically in romantic relationships was not a focus of this research.

Studies using objective measures of emotional/psychological dependence with alcoholics have reported mixed results, with some finding that alcoholics had higher dependence scores than controls (e.g., Loas, Borghe, & Delahousse, 1994; Marchiori, Loschi, Marconi, Mioni, & Borgherini, 1997), and others not finding differences (e.g., Marchiori, Loschi, Marconi, Mioni, & Pavan, 1999; Mills & Taricone, 1991). Marchiori et al. (1999) found that alcoholics with personality disorders had higher dependence scores than alcoholics without personality disorders in their inpatient sample.

Weinberg (1986) studied the interaction between alcohol use and love relationships among a small (n=46) sample of male homosexuals. It was found

that love relationships did not necessarily affect alcohol consumption in general, except in cases where stresses and strains in the relationship would often increase consumption. Weinberg reported that reductions in alcohol use were often the result of feeling secure in the relationship. One may speculate that the generalizability of these findings regarding increases and decreases in alcohol consumption to heterosexual love relationships would be appropriate.

Moore (1998) studied alcohol dependence from an interpersonal perspective in a sample of 60 male and female alcoholics in outpatient substance abuse treatment. It was concluded that alcoholics in this sample hoped to obtain more love as a result of drinking. This included hope for love toward the self, and love from and toward the significant other.

This author began the present line of research after working with alcoholics and drug addicts in a residential detoxification center. It was observed that many of the alcoholics spoke of intense and dramatic love affairs frequently not lasting very long, and often ending in bitter, traumatic breakups that left them feeling devastated. The idea that higher degrees of alcohol consumption and problems associated with alcohol use might be statistically correlated with addictive processes manifested in romantic relationships in the general population was formed at that time.

An initial pilot study (Holmes, 1989) was conducted at Indiana University and it was found that alcohol consumption was not significantly associated with loving or liking as measured by the Rubin L1 and L2 scales (Rubin, 1970) respectively, although a trend was found. This study was fraught with

methodological problems particularly in that addictive processes in romantic relationships, as defined by constructs denoting excessive or overly-intense love styles, were not assessed directly.

In a later study at Michigan State University (Holmes, 1996), an attempt was made at studying addictive processes occurring in these two domains by initially constructing an "infatuation continuum" as a working model (see Figure 1). This model postulated that intense love processes could be construed as existing on a continuum with superficial infatuations or "crushes" at one end and love addiction at the other. Limerence and codependency were seen as existing somewhere in the middle of the continuum and romantic love was viewed as being closely related to these constructs but existing on a separate continuum. In a construct validity study performed through the development of a measurement model using confirmatory factor analysis, limerence and codependency emerged as separate constructs. However, romantic love and love addiction merged together in the analysis. Therefore the idea that these two constructs may indeed be opposites existing on the same continuum was developed.

The subjects in the Holmes (1996) sample were 412 college students from psychology classes at Michigan State University. The mean age was 19.5, the vast majority (84%) were Caucasian, and most were from the middle to upper-middle class range with regard to SES (58% had a family income of over $60,000). Gender differences were found for codependency, alcohol consumption, and the number of infatuations. Alcohol consumption and problems with alcohol as indicated by alcohol diagnosis were highly correlated ($r = .65$, $p <$

.001). The main hypothesis of this study, that with higher amounts of alcohol consumed there would be a tendency to score higher on all measures of infatuation on the continuum held up only for codependency.

Despite the fact that higher alcohol consumption rates and consequent problems related to drinking of alcohol might be expected on a college campus, it was still surprising that 53% of this sample met lifetime criteria for a diagnosis of alcohol abuse or dependence. Two factors may have contributed to these high figures. First, this study was conducted at the end of the semester and may have included a large number of procrastinators who put off signing up for experiments in order to fulfill course requirements until the end of the semester. It may be that people who have problems with alcohol were over-represented in this sample.

Secondly, some collaborative evidence has come from a major study conducted at Harvard University by Dr. Henry Wechsler (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994). It was found that 50% of college men and 39% of college women from a sample of 17,592 students at 140 colleges in 40 states met the criteria for being "binge drinkers." The definition of "binge drinking" used in the Wechsler study was "those who consumed five drinks one after the other at least once in the previous two weeks" for men, with the criteria being four drinks for women. Although at first glance this five/four drink criterion seems low, it is indicative of a heavy pattern of drinking in many respects (Wechsler, Moeykens, Davenport, Castillo, & Hansen, 1995). Wechsler et al. (1994) reported that heavy drinkers identified through the binge-drinking measure characteristically drink in a heavy episodic pattern, drink 10 or more times in a

month, get drunk 3 or more times per month, and drink to get drunk. Therefore, a high correlation between "binge drinking" and diagnosis of alcohol abuse or dependence appears to be highly probable. Additionally, the highest rates of binging were found to be in the Northeast or North Central regions of the United States (where Michigan State University is located) and the highest rate of binging at one school was 70% in this study (Wechsler et al., 1994).

Recently, Wechsler, Dowdall, Maenner, Gledhill-Hoyt, and Lee (1998) resurveyed the same colleges that participated in the 1993 study described above and found a slight decrease (42.7% vs. 44%) in the percentage of binge drinkers and a slight increase in the percentage of frequent binge drinkers (20.7% vs.19%). Frequent binge drinkers were defined as those drinkers who had binged three or more times in the previous 2 weeks.

The following literature review will begin by exploring the nature of infatuation or excessive/intense love styles. Limerence and desperate love will be discussed in a separate section since they appear to be very similar constructs. A description will follow of the various types of love and then addictive processes sometimes associated with love. The concept of codependency as well as the controversy surrounding it will be discussed, followed by a substantial discussion of the various theories linking addictive processes in the two domains of alcohol use and romantic relationships. These are psychoanalytic theories exploring the concepts of borderline personality organization and identity diffusion, attachment theory, and inhibitory conflict theory.

REVIEW OF THE LITERATURE

Infatuation

As a result of the previous study (Holmes, 1996), in which an "infatuation continuum" was described (see Figure 1), it appears appropriate and more empirically correct to discuss excessive love styles or intense love processes as clusters of highly related constructs. Romantic love can be construed as a construct highly similar to these intense or addictive processes and as existing on a separate continuum. Codependency can be defined as a personality trait that is highly similar to addictive love processes but is different in that one can be codependent in all her/his relationships, whereas one is usually infatuated, limerent, or loving in a romantic sense with a more select group of people with a concomitant sexual interest (see Figure 2). From a clinical viewpoint, one may imagine that a person who is codependent may possibly be predisposed to limerent reactions or addictive love processes to a greater or lesser degree in romantic relationships.

Infatuation is a construct that has been developed through clinical observation primarily; there is currently no measure of "infatuation" per se in our field. According to a review of the literature, infatuation on all levels appears to be a state in which the object of affection or desire is perceived idealistically. Werman and Jacobs (1983) examined Thomas Hardy's The Well Beloved (Hardy, 1897/1975) from a psychoanalytic viewpoint and contended that infatuation is described in that book in great detail. On pages 450 and 451, they

listed the following characteristics of infatuation that they believe were revealed in Hardy's book:

> 1) The experience is intense, irrational, and dream-like. The lover feels himself to be in a state of ecstasy--that is, in a state of consciousness in which he is in the grip of intense, pleasurable feelings or sensations, while his cognitive and perceptual functions are markedly diminished.
>
> 2) The Beloved is appealing, alluring, beautiful, and cool.
>
> 3) The fantasy of the idealized love-object exists as a mental representation long before the object is encountered.
>
> 4) The infatuation is typically precipitated by some discrete, usually physical, trait of the object which is experienced as a part object.
>
> 5) The infatuation is fundamentally ambivalent, carrying within it the seeds of its own negation in the form of the unconscious, frequently hostile, search for, and inevitable discovery of, the intolerable flaw in the Beloved....
>
> 6) The experience of infatuation is both intoxicating and painful. It tends to fulfil a fantasy and yet it seeks to avoid that fulfillment;...

Infatuation is a construct that is fascinating and appealing that has little empirical utility. Two highly related constructs also indicative of excessive/intense love processes are limerence and desperate love, both of which have a small but provocative empirical literature that make them more amenable to scientific research.

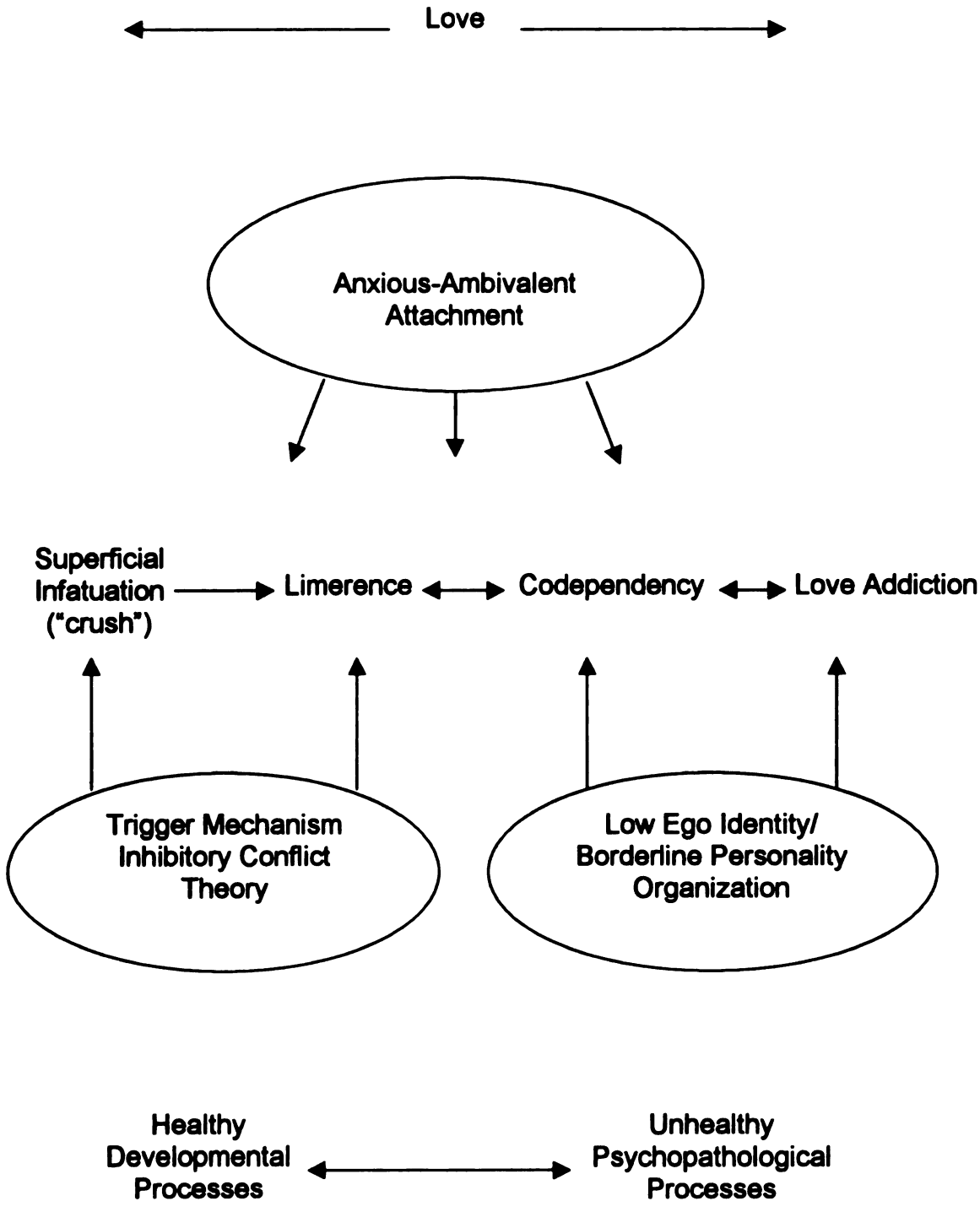

Figure 1. Diagram of the Infatuation Continuum and its Relationship with Corresponding Theories

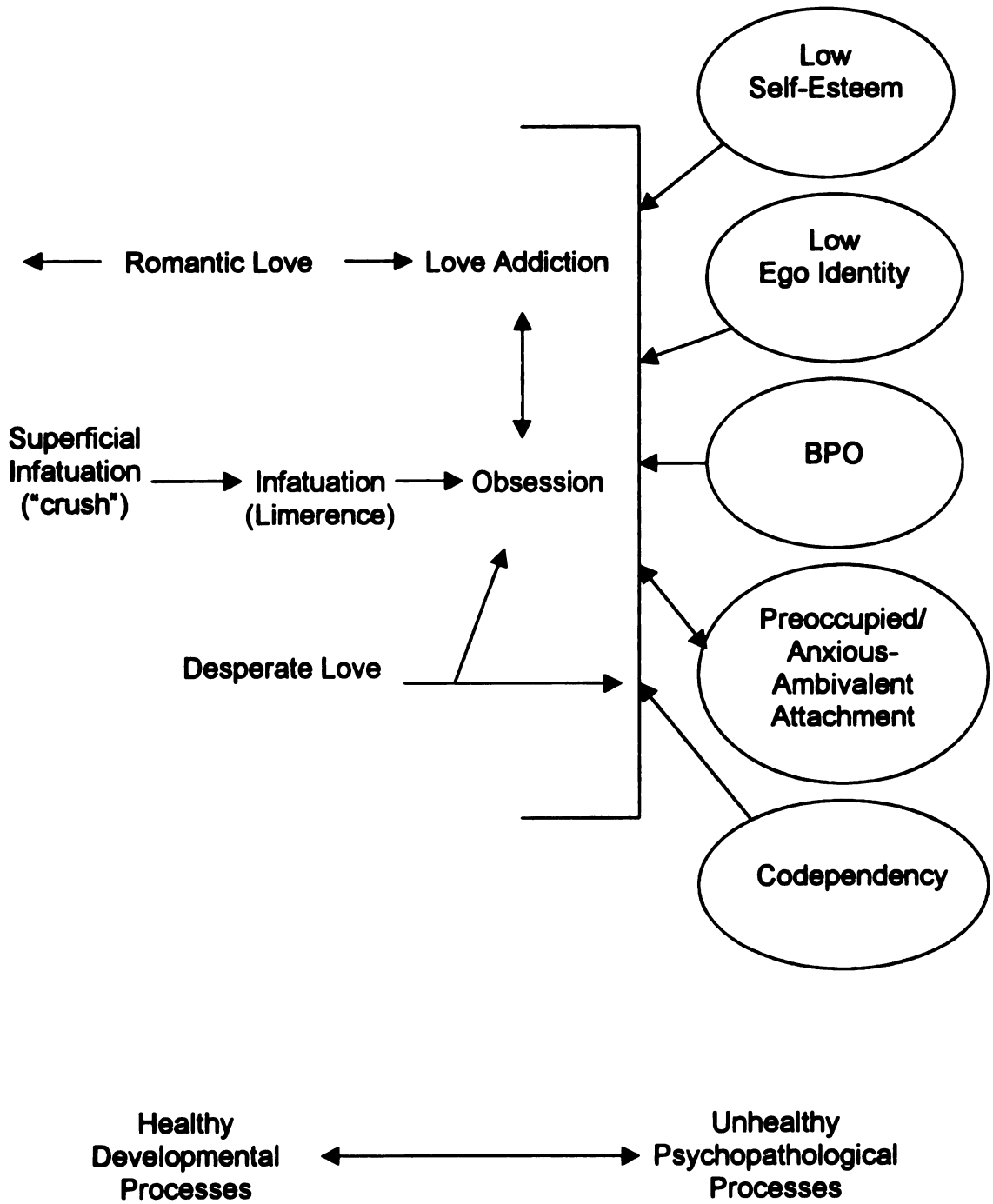

Figure 2. Diagram of a Continuum Model of Intense Love Processes

Limerence and Desperate Love

The formulation that appears to capture the essence of the emotional state of infatuation is Dorothy Tennov's (1979) concept of limerence. Limerence is a state of falling in love or being in love. On pages 23 and 24 she lists the attributes of the state of limerence in full bloom as:

[1] intrusive thinking about the object of your passionate desire (the limerent object or "LO"), who is a possible sexual partner

[2] acute longing for reciprocation

[3] dependency of mood on LO's actions or, more accurately, your interpretation of LO's actions with respect to the probability of reciprocation

[4] inability to react limerently to more than one person at a time (exceptions occur only when limerence is at a low ebb--early on or in the last fading)

[5] some fleeting and transient relief from unrequited limerent passion through vivid imagination of action by LO that means reciprocation

[6] fear of rejection and sometimes incapacitating but always unsettling shyness in LO's presence, especially in the beginning and whenever uncertainty strikes

[7] intensification through adversity (at least, up to a point)

[8] acute sensitivity to any act or thought or condition that can be interpreted favorably, and an extraordinary ability to devise or invent "reasonable" explanations for why the neutrality that the

disinterested observer might see is in fact a sign of hidden passion in the LO

[9] an aching of the "heart" (a region in the center front of the chest) when uncertainty is strong

[10] buoyancy (a feeling of walking on air) when reciprocation seems evident

[11] a general intensity of feeling that leaves other concerns in the background

[12] a remarkable ability to emphasize what is truly admirable in LO and to avoid dwelling on the negative, even to respond with a compassion for the negative and render it, emotionally if not perceptually, into another positive attribute

Tennov (1979) describes limerence as involving an emotional energy that feeds both on the potential of a relationship and the uncertainty about whether one will develop or last. In her conceptualization, Tennov views love, limerence, and sexual passion as being relatively independent of each other, with sex itself not being the main focus of limerence. Although sex is not the primary focus of limerence, sexual attraction is an essential element, in most cases. Tennov believes that limerence lasts about 2 years for most people, and can be transformed into love or "affectional bonding" which involves genuine caring and concern for the other. For those whose limerence is replaced by affectional bonding with the same person, Tennov (1998) fantasized that these lovers might say, "We were very much in love when we were married; today we love each

other very much" (p. 79). A trademark of limerence is that after some idiosyncratic threshold level is passed, it is involuntary.

Steffen, McLaney, and Hustedt (1982) developed a scale of limerence (LS-59), wherein the construct is described as a personality trait that exists essentially on a continuum, with highly limerent people, or people especially prone to limerent attractions, differing substantially from those who have a low level of limerence. Highly limerent people rate themselves as being less dominant, less self-confident, less predictable, and less cunning than people who have a low level of limerence. Steffen and colleagues also believe that highly limerent people probably feel less in control of their relationship than do people with a lower level of limerence.

With a revised limerence scale (LS-39), Steffen (1993) found that younger respondents tended to be more limerent than older respondents. The age range in this study was 17 to 86 years, the mean age was 24.8 years (SD = 9.5). Additionally, it was found that females tended to be more limerent than males. With a limerence scale used by Feeney and Noller (1990), which was adapted from the original limerence scale (LS-59) of Steffen et al. (1982), no gender differences were found in the Holmes (1996) study. However, with the definition of infatuation described above, significant gender differences were found for the frequency of infatuations, with males having experienced this emotional state substantially more often than women. Holmes attempted to explain this inconsistency by stating that, at least in his sample of primarily middle class

college students, men have a greater number of infatuations than women, but statistically have similar levels of limerent intensity in their romantic relationships.

Steffen (1993) described a "dark side" to limerence in that some highly limerent people may become totally obsessed with the LO, as in the case of John Hinckley's obsession with Jodie Foster. Steffen suggests that these "stalkers," as described in the popular press, may fit the DSM-III-R (American Psychiatric Association, 1987) criteria for the erotomanic subtype of those with Delusional (Paranoid) Disorder (297.10).

Importantly, some individuals appear to be in a state of limerence much of the time, others some of the time, and there are some people who never experience limerence at all (Hendrick & Hendrick, 1983; Verhulst, 1984). Additionally, Tennov (1998) described limerence as being a cultural and human universal that is extremely important from an evolutionary perspective regarding the natural selection process. For people who can experience this interactional emotional state, there are five possible phases that exist: prelimerence, prereciprocity, reciprocity, gradual dissolution, and postlimerence (Verhulst, 1984). Stendahl (cited in Tennov, 1979) described two crystallization stages in the development of limerence for some people, wherein crystallization is described as a mental process where attractive characteristics of the LO are exaggerated and unattractive characteristics are given little or no attention. In popular terms, this process has been entitled "love blindness." The second crystallization stage is where the intensity of idealization of the LO is at a peak.

Additionally, Stendahl (cited in Tennov, 1998) described limerence as a disease.

With regard to the psychoanalytic interpretation of the development of the capacity to experience limerence, Verhulst (1984) described limerence as a regression to early attachment behavior in the oral stage of development, with similar fusional object relations. From this perspective, the fusional infant-mother relationship can be seen as the prototype for all fusional love relationships for the individual. Many authors have defined limerence as a state of regression to pre-Oedipal stages of development or as a repetition compulsion of unresolved early attachments (Weiner, 1980).

A similar construct to that of limerence is Sperling's (1985; 1987) concept of desperate love. The author asserts that a major difference in the two theoretical concepts is that Tennov (1979) made no attempt to address questions of causality, whereas the origin of desperate love is grounded in early attachment dysfunction (Sperling, 1988). Tennov (1998) later described the etiology of limerence within the individual in terms of biological predispositions based upon the natural selection process. See Tennov (1998) for a more detailed anthropological/ethological account of this process.

Desperate love is seen as resulting from an insecure form of attachment resulting from inconsistent gratification from maternal figures, and not from either too much early love, nor too little. Sperling (1987) stated that:

> While experienced [desperate love], there are prevailing qualities such as a feeling of fusion with the lover, much idealization and diminished interpersonal reality testing to construe the relation and the lover as

completely gratifying, a seemingly insatiable need for reciprocal affection, anxiety at separations, a sense of urgency, and diffuse ego boundaries. (p. 601)

The following characteristics are also part of the desperate love construct (Sperling, 1985): narcissism and a sense of entitlement, neediness and a problematic attainment of ego identity, and anxious attachment. Sperling and Berman (1991) describe desperate love as being most commonly manifested as a normative variant of adolescent and adult love relations that can be potentially maladaptive. In its most extreme form desperate love is associated with borderline character structure.

Other constructs related to limerence include anxious-ambivalent attachment (Feeney & Noller, 1990; Hazan & Shaver, 1987), and mania or obsessive love (Lee, 1973).

Since some of the more excessive/intense love processes have now been discussed at length, other types of romantic love or affectional bonding, to use Tennov's term, will be explored. It is important to keep in mind that much of the earlier literature and some of the more recent literature on types of love have failed to differentiate between limerence-type processes and other types of romantic love. In fact, this is often a very difficult theoretical and empirical distinction to make.

Types of Love

Freud wanted to undertake a comprehensive study of love but was never able to finish this task successfully (Bergman, 1980). Freud believed that the

compulsion to love was an infantile one wherein one's love objects form a series, one object is only a recurrence of another, and each love object is a reactivation of the original unconscious infantile love for the primary object. In other words, "the finding of an object is in fact the re-finding of it" (Freud, 1922, cited in Bergman, 1980, p. 59). Freud believed that falling in love involves a transfer of narcissistically-centered libido to that of object libido, while the libido travels in the opposite direction during the mourning process (Bergman, 1980). In other words, falling in love involves a transfer of libido from an internal to external focus, and in mourning the transfer is from an external to internal focus.

Rubin (1970) developed a scale of romantic love (L1) from a definition of love as "love between unmarried opposite-sex peers, of the sort which could possibly lead to marriage" (p. 266), with the idea of distinguishing it clearly from other types of love such as filial love and love of God. His conceptualization of romantic love, from which the scale was developed, was derived from an eclectic theoretical orientation involving components of love incorporating Freud's (1955) concept of love as sublimated sexuality, Harlow's (1958) postulation of love's relationship with attachment behavior, and Fromm's (1956) division of the components of love into care, responsibility, respect, and knowledge.

Rubin (1970) makes a strong distinction between loving and liking and developed two different scales that tap these constructs (the L1 and L2 scales, respectively). Love is further defined as an "attitude held by a person toward a particular other person, involving predispositions to think, feel, and behave in certain ways toward that other person" (p. 265). Love is described as an

interpersonal attitude that has affiliative and dependent needs, a predisposition to help, and exclusiveness and absorption. His conception of liking involves components of favorable evaluation and respect for the targeted person, as well as perceiving that the person is similar to oneself.

Bergman (1980) asserted that there was not a satisfactory working definition of love from a psychoanalytic point of view. He hoped to make some headway toward an understanding of love from a psychoanalytic viewpoint. He maintained that the sense of bliss associated with falling in love originates in an idiosyncratic state of longing for the feeling state of symbiosis, that varies in degree of intensity in everyone. After a long and successful process of separation and individuation, and after establishing a sense of identity and clear ego boundaries, Bergman asserted that one still longs, at least temporarily, to reverse the process of separation and to go back to the blissful state prior to individuation.

On page 74, Bergman (1980) lists the following functions of love:

1. To transfer the libido or the attachment from the infantile and incestuous objects to new, nonincestuous ones...

2. To integrate libidinal strivings originally attached to many objects of childhood into love for one person.

3. To add what was missing in the early relationships to objects. Love's potential to give the adult what the child never had gives to it a powerful restitutional quality.

4. To return to the adults some of the feelings of bliss experienced in the symbiotic phase that had to be renounced in later developmental phases.

Bergman (1980) postulated that happy love relationships must combine these three components: (1) refinding of the early love object on a variety of developmental levels, (2) improvement on the old object by identifying what one never experienced in childhood, and (3) some mirroring of the self in the current love object.

Several authors have described love relationships as changing over time, following clearly defined stages. For example, Goldstine, Lamer, Zuckerman, and Goldstine (1977) postulated that a "love cycle" included three stages: initially falling in love, disappointment and alienation, and realistic adjustment. Another example is that of Weiner (1980) who describes an early courtship phase, the phase of falling in love, the phase of unmasking, of disappointment, and lastly, the phase of acceptance of love's illusion.

Other major formulations of love include Lee's (1973, 1976) "colors of love," postulating three primary and three secondary "colors" of love. The primary components include eros (erotic love), ludus (love as a game) and storge (love as an extension of friendship) and can exist alone or in combination to form the secondary components: mania (romantic love), pragma (practical love), and agape (altruistic or unconditional love). Walster and Walster (1978) describe passionate and companionate love to be on a continuum, wherein any given relationship falls somewhere along that continuum. In this formulation, passionate love is exciting, intense, short-lived, sexually-driven romantic love.

The "affection we feel for those with whom our lives are deeply intertwined" (p. 9), is labeled as companionate love and is less transient and intense than passionate love.

The research exploring gender differences regarding romantic love present conflicting findings. For example, women were reported to admit to more symptoms of romantic love than men (Kanin, Davidson, & Scheck, 1970) and to report more euphoria (Dion & Dion, 1973). Men were found to be quicker to fall in love and to cling more strongly to a dying affair than women (Hill, Rubin, & Peplau, 1976). More recently, Pedersen and Shoemaker (1993) found no gender differences on five romantic attitude scales. In the Holmes (1996) study no gender differences were found using items from the Rubin L1 romantic love scale. Other recent research in the literature has concentrated on gender differences of attitudes and behaviors in romantic relationships (e.g., Simmons, Wehner, & Kay, 1989; Vangelisti & Daly, 1998). Vangelisti and Daly reported that both women and men in their study rated the standards that they had in their heterosexual romantic relationships as being similar in importance, however, women tended to note that their standards were met less fully than did men. Additionally, women reported a greater discrepancy between the importance they associated with various standards, compared to men.

Component models such as Lee's (1973, 1976) "colors of love" model and Sternberg's (1986) "triangular" theory of love focus on the components of love as opposed to viewing love on a continuum, such as does the Walster and Walster (1978) model. These theories view a given love relationship as a unique

composite of several possible relational elements. Sternberg's "triangular" theory includes the three components of intimacy (similar to companionate love), passion (similar to passionate love), and decision/commitment. The three components can be combined in various ways to produce a classification scheme involving eight types of love. These are nonlove, liking, infatuated love, empty love, romantic love, companionate love, fatuous love, and consummate love.

It is obvious from the above review of romantic love that there is a plethora of theories and nomenclature in the empirical and clinical literature regarding this construct. Additionally, there clearly are some gender differences in attitudes, beliefs, and behaviors involved in romantic relationships, although just what they are is not yet clear. Another related construct, and one that is particularly germane to a study of addictive processes, is love addiction. This is an excessive/intense love style that has mainly been discussed from a clinical viewpoint, has little empirical support, and is quite titillating.

Love and Addictive Processes

Stanton Peele (Peele & Brodsky, 1975) distinguishes between genuine love and addiction in relationships. Genuine love is characterized as a commitment to mutual growth and fulfillment and as being the opposite of the desperate self-seeking dependency that is addiction. Love addiction can be conceptualized as involving enmeshment or two underdeveloped egos merged into what D. H. Lawrence (1920/1960) called an egoisme a deux. Peele and Brodsky suggested six criteria for evaluating love versus addiction. The criteria

focus on the themes of whether lovers in a relationship are capable of being secure in their own identities, so that they don't conceive of themselves only in the context of their relationship, and whether they show the ability to maintain friends and serious interests outside of the relationship. These authors maintain that "addiction has at its center a diminished sense of self" (p. 84).

Peele and Brodsky (1975) asserted that some people may have a basic personality proneness to addiction in general and describe a person with this tendency as being:

> ...predisposed to addiction to the extent that he cannot establish a meaningful relationship to his environment as a whole, and thus cannot develop a fully elaborated life. In this case, he will be susceptible to a mindless absorption in something external to himself, his susceptibility growing with each new exposure to the addictive object. (p. 61)

Miller (1987) gives an account of Peele's social-psychological explanation of addictive tendencies wherein people learn dysfunctional behaviors in response to the inability to cope with stress and these behaviors temporarily make it appear as if these problems have disappeared. The relieving of anxiety itself can become addicting and consequently the dysfunctional behavior is reinforced and repeated over and over. These dysfunctional behaviors include, but are not limited to, addiction to love, alcohol, drugs, food, cigarettes, religion, stress, gambling, over-spending, television, and athletic activities.

Some recent research exploring the characteristics of an addictive personality have yielded some provocative results. Valeithian (1999) found a high

degree of similarity in the personalities of women addicted to chemicals, food, and harmful relationships. The women displayed a personality pattern that matched traits found consistently in research with other addicted groups and did not fit into any one, or a combination of several of the diagnosed personality disorders. Valeithian discussed these results as providing evidence for the existence of an addictive personality that is distinct from other personality types. Gilbert, Gilbert, and Schultz (1998) found a high degree of similarity in withdrawal symptom patterns across addictive categories (i.e., alcohol, nicotine, caffeine, food, and social/love relationships). Additionally, they reported that individual differences in symptom intensity were found to operate across addiction/loss categories. In discussing the nature of the addictive personality, Eysenck (1997) asserted that addiction is related to excessive dopamine functioning, which is related to the personality dimension of psychoticism. Evidence is then cited linking psychoticism to a large number of addictions including addiction to nicotine, cocaine, amphetamines, morphine, and alcohol.

Hunter, Nitschke, and Hogan (1981) described four main criteria of love addiction. These are wanting the partner to fill a void in one's life, seeking the reassurance of constancy of the partner, feeling that this object is necessary to make life bearable, and feeling that the only source of one's gratification and pleasure comes from the partner.

Griffin-Shelley (1993) linked sex and love addiction together and provided diagnostic criteria that include the "high," tolerance, dependence, withdrawal, cravings, obsession, compulsion, secrecy, and personality change.

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Timmreck (1990) also compared the dynamics involved in substance abuse/addiction with those governing love addiction. People who are addicted to love can feel as helpless without their lost loves as a drug addict might be without her/his fix. Peele and Brodsky (1975) described this addictive process wherein the fear of withdrawal creates an ever-present craving. A general behavioral interpretation could be that over time a person may develop a conditioned response to the powerfully good feelings associated with love, which may in turn increase the probability of that response being repeated. Timmreck postulated that the idea of a person "falling in love with love itself" may have some merit. It may be that the person falls in love with the feelings and related sexual excitement more than with the person.

Some of the elements of limerence can be linked with the concept of love addiction. For example, Verhulst (1984) asserted that people who have felt extremely frustrated and rejected in early childhood may become possessive and clinging during the later stages of limerence and show signs of addiction. Verhulst describes a limerent lover as possibly being prone to this type of fantasy, "I have always loved you, even before I met you. I have known you, somewhere inside me for all my life. And I will love you forever." This certainly sounds like someone who has fallen in love with the concept of love itself, as described above.

The concept of love addiction has been addressed often in the clinical literature but there is a dearth of empirical investigation regarding it. Since

empirical studies of love addiction are scarce, this may in itself indicate the difficulty of measuring this elusive construct.

In the previous study conducted by this author (Holmes, 1996), the love addiction construct did not emerge as a separate construct from that of limerence, romantic love, and codependency through confirmatory analytic procedures. The measure used to measure love addiction was an exploratory scale used by Feeney and Noller (1990), and was developed from the criteria of Peele and Brodsky (1975) and items adapted from Cowan and Kinder (1985). Since there was not any reported information regarding the reliability and validity of the scale, it is not totally surprising that it merged with the romantic love scale. Additionally, the romantic love scale's definitional component of "exclusiveness and absorption" may have helped contaminate this scale with the love addiction scale in the initial measurement model. Addictive love processes may also be very similar to what Stendahl (cited in Tennov, 1979) called the second crystallization stage of limerence in which the intensity of the idealization is at a peak. The conceptual overlaps with limerence may have contributed to contamination of the love addiction scale with the limerence scale in the initial model.

It may be that Peele and Brodsky's (1975) conceptualization of romantic love and love addiction as being opposites of each other may hold some merit. In this way they can be thought of as existing on the same continuum on opposite ends.

It is clear from the previous discussion that the construct of love addiction has little empirical support, however, there does appear to be a growing body of research linking the dynamic processes of addiction across addictive categories in the attempt to elucidate the elements of an addictive personality.

Codependency is a construct that has been labeled as a personality disorder, a personality trait/syndrome, a disease, and a social condition. Wright and Wright (1991) describe it as a personality syndrome that is closely related to addictive love. This hotly debated and controversial concept and the arguments regarding its validity, pro and con, will now be addressed.

The Concept of Codependency

One of the most controversial topics in the mental health field in the last decade or two is the concept of codependency. Although codependency is a familiar concept with clinicians and therapists working with alcoholics and their families, Whitfield (1989) describes it as a concept "not even close to being accepted by the mainstream of public health" (p. 28).

The concept of codependency has undergone much transformation since the initial conceptualization of a "codependent" as being one who has lived with and/or was raised by an alcoholic. Someone who is codependent is said to have an extremely external focus in relationship with others with a concomitant tendency to deny his/her own needs and desires. In the past codependent individuals were called "para-alcoholic" or co-alcoholic (Harper & Capdevila, 1990). The concept of codependency has met with much warranted criticism. The primary problem appears to be that most articles regarding codependency

are not empirical but theoretical and descriptive, and there is a dearth of psychological inquiry into the concept. Harper and Capdevila criticized the concept of codependency for lacking an operational definition and that "no two authors in the CD [Chemical Dependency] field adhere to the same definition" (p. 285). Gomberg (1989) has been critical of the fact that within some conceptualizations, the definition of codependency has been expanded "so that it encompasses virtually the entire population of the United States" (p. 120). Another frequent criticism of the concept is that its proponents do not make clear whether codependence is best regarded as a personality trait, a psychological disorder, or as a social condition (Gierymski & Williams, 1986; Gomberg, 1989; Haaken, 1990; Harper & Capdevila, 1990).

Cermak (1986, 1991) argues that codependency is both a personality trait and a personality disorder. Cermak (1986) postulated that codependence is a unique personality disorder similar to but distinct from Dependent Personality Disorder (DPD), and proposed specific diagnostic criteria for codependence in the style of the DSM-III. It appears that it is an over-simplification to subsume codependency within DPD, which has been suggested in the past. There is a distorted sense of willpower that is central to drug dependence, but not to DPD (Cermak, 1986). For Cermak (1986), codependents develop low self-esteem and a lack of self-confidence that is characteristic of DPD, because they have literally invested their self-esteem in the behavior of others. Cermak stated that research using adequate diagnostic criteria is needed to verify the existence of codependency as a reliable and valid construct. Cermak (1986) viewed

codependency as currently fitting into the category of Mixed Personality Disorder. Cermak (1986) also believes that when codependents drink they are called alcoholics. He believes that it is a disservice to make large distinctions between alcoholics and codependents.

Cermak (1991) described codependence or co-addiction as a disease that results in a set of personality traits that are the complement of narcissism. The same core dynamics operate in both codependency and narcissism, although often in opposite directions, and the same issues are emotionally charged. These issues include specialness, grandiosity or insignificance, fantasies of power, continuous hypersensitivity to the evaluation of others or lack thereof, and the existence or lack of empathy in relationships. Wells, Glickauf-Hughes, and Bruss (1998) found that codependency was not significantly related to overt narcissism and, according to these researchers, this finding lends some preludial support to Cermak's hypothesis that codependency may complement overt or grandiose narcissism. Additionally, they found codependency to be significantly related to self-defeating characteristics and to borderline characteristics.

In the same spirit of a disease model or medical model of codependence, Whitfield (1989) labeled codependence as the most common addiction and asserted that it is "the base out of which all our addictions and compulsions emerge" (p. 23). This addictive predisposition is shame-based and results in an addiction to looking outside of oneself for happiness and fulfillment. This outward focus may be on people, places, things, behaviors, or other experiences.

Hogg and Frank (1992) distinguish between codependency and contradependency. Contradependence is viewed as a behavioral tendency to separate oneself from others to prevent being hurt emotionally. This tendency to keep others at a distance has also been termed "counter phobic behavior" (Cermak, 1986). Kaufman (1985) views both codependency and contradependency as sharing an emotional commonality with each other, with both arising out of the shaming behaviors of families and peer groups. Common behavioral patterns of codependency are given as martyrdom, fusion, intrusion, perfection, and addiction (Hogg & Frank, 1992). Those behavior patterns associated with contradependence are defensiveness, self-sufficiency, isolation, and acting out.

It is quite clear from the previous sampling of definitions of codependency that it is indeed a difficult construct to pin down. In an attempt to remedy this situation, Fischer, Spann, and Crawford (1991) developed a measure of codependency based upon a working definition formulated from a review (Spann & Fischer, 1990). Eighteen overlapping characteristics were reduced to three basic areas. These authors define codependency as a "[p]sychosocial condition that is manifested through a dysfunctional pattern of relating to others. This pattern is characterized by: extreme focus outside of self, lack of open expression of feelings, and, attempts to derive a sense of purpose through relationships" (p. 27).

Recently, Roehling and Gaumond (1996) developed the Codependent Questionnaire (CdQ) based upon the description of codependence proposed by

Cermak (1986). The four essential criteria posited by Cermak for the diagnosis of codependence are:

> (1) [Control] continual investment of self-esteem in the ability to influence/control feelings and behavior in self and others in the face of obvious adverse consequences; (2) [Responsibility] assumption of responsibility for meeting other's needs to the exclusion of acknowledging one's own needs; (3) [Intimacy] anxiety and boundary distortions in situations of intimacy and separation; (4) [Enmeshment] enmeshment in relationships with personality disordered, drug dependent and impulse disordered individuals. (p.16)

Although Cermak (1986) proposed that at least 3 out of 10 additional symptoms must be present for a diagnosis of codependence, Roehling and Gaumond (1996) designed the CdQ to assess only the four essential criteria. Contradicting Cermak's hypothesis, DPD was not significantly related to codependence in their study.

One of the most important findings of the Holmes (1996) study was that codependency emerged as a strong construct that is distinct from romantic love, limerence, and love addiction through confirmatory factor analysis procedures. The measure used in that study were 12 items from the Spann Fischer Codependency Scale (SFCS) (Fischer et al., 1991) from the original 16 items. This empirical finding providing evidence of construct validity for a controversial and often criticized concept may give added impetus to those investigators who want to include the construct of codependency in their research. Women were

found to be more codependent than men in the Holmes study, which is consistent with the results found by some researchers (Cowan & Warren, 1994; Fischer et al., 1991; Roehling, Koelbel, & Rutgers, 1996) and contrary to the results found by other researchers (Roberts, 1990; Springer, Britt, & Schlenker, 1998; Wells et al., 1998).

The literature regarding a relationship between parental alcoholism and codependency presents a somewhat cloudy picture. A marginal relationship between codependence and parental alcoholism was found to be mediated by parental abuse in the Roehling et al. (1996) study. Carothers and Warren (1996) also found codependency and parental chemical dependency to be uncorrelated. They did find that parental codependency and maternal coercion were significant predictors of subject codependency. Hewes and Janikowski (1998) reported no significant differences in codependency scores between children of alcoholics (COAs) and non-COAs in their college sample of women at the upperclass undergraduate level, and reported that underclass COAs actually had lower codependency scores than non-COAs. George, La Marr, Barrett, and McKinnon (1999) found that adult children of alcoholics (ACOAs) did not differ from non-ACOAs on different traits reputed to characterize ACOAs and codependents that they collected from the literature (e.g., difficulty with intimacy, discomfort with feelings, indecisiveness, overcontrolling-super responsible, etc.).

A positive association between family history of alcoholism and codependency was found by Gotham and Sher (1995) wherein most of the relation between these two constructs was found to be explained by a general

negative affectivity. Hinkin and Kahn (1995) found significantly greater levels of psychological symptomatology in female subjects living with an alcoholic and in those subjects with a positive family history of alcoholism. These effects were reported to be consistent in part with the hypothesized symptomatology of codependency. These authors concluded as a result of their study that there may be two distinct subtypes of codependency based on whether a person is raised by, or married to, an alcoholic.

It should be evident from the preceding discussion that the usefulness of codependency as an valid psychological construct will necessitate much further empirical work, particularly with regard to elucidating not only what codependency is, with studies focusing on content validity, but also what it is not, with studies focusing on discriminant validity (George et al., 1999).

The next three sections will explore various theories regarding why addictive processes in the two domains of alcohol use and romantic relationships may be related. The first section will explore the theoretical and empirical literature regarding the connection between dysfunctional character formation (i.e., borderline personality organization/disorder) and alcohol use/abuse.

Borderline Personality Organization and Identity Diffusion

Lolli's (1956) early conceptualizations viewing alcoholism as primarily being a disorder of the love disposition were explored in the introduction. Stanton Peele's (Peele & Brodsky, 1975) views regarding personality proneness to addiction in general was also examined. Next, relationships between faulty object

relations development, borderline personality organization (BPO), and addictive processes in the two domains will be discussed.

In an extremely interesting and provocative theoretical article regarding psychotherapy with recovering alcoholics based upon clinical observations, Rosen (1981) identified three stages of recovery: (1) detoxification, (2) the period of giving up drinking, of attaining and maintaining sobriety, and (3) the stage that begins when personality and value differences appear. Early in recovery alcoholics in Alcoholics Anonymous (AA) are completely immersed in the program, are dependent upon it, and have a sense of identity as an "alcoholic." There is a strong focus on the participants' similarity to each other and this has a positive consequence of giving emotional support to each other as well as engendering a sense of fellowship that improves one's chances of staying sober. Despite positive consequences to this reliance on AA, there are drawbacks in that the strong supportive effort of AA enables and often induces the individual to maintain or regress to the symbiotic stage of development. In this sense AA becomes an ambivalent surrogate mother wherein the patient's dependence upon AA can be construed as a reiteration of infantile dependence on the mother and of the associated clinging behavior (Rosen, 1981). Many recovering alcoholics never progress past the second stage, which is unfortunate, but staying sober is still far better for their quality of life and those around them than if they were still drinking.

The third stage of recovery is the time that personality and value differences from others within the individual appear. Rosen (1981) described a

self-selected group of third stage recovering alcoholics as seeking out psychotherapy to deal with increasingly ego-dystonic personality conflicts. AA describes these conflicts as character defects. Many of these third stage patients have a borderline personality organization, if not full-blown Borderline Personality Disorder (BPD) and are asking, at least on an unconscious level, to separate and individuate from AA. According to Rosen, the initial symbiotic ties to AA may be necessary so that the patient can be re-parented by AA, return to the symbiotic developmental phase, and enter the separation-individuation phase without reliance on drinking.

One of the main defenses used by these third stage patients with a borderline-type character pathology is that of splitting. In describing the etiology of BPD, Mahler (1971) presented clinical evidence from her naturalistic observation studies and intensive case studies that during the rapprochement subphase of the separation-individuation process, patients who will later develop borderline personality pathology experience ego fixation. This rapprochement crisis then reinforces deep ambivalence and the splitting of the object world into "good" and "bad." The rapprochement child then has marked difficulties in achieving the consolidation of an autonomous ego identity and this gives her/him problems achieving both differentiation and object constancy.

Kernberg (1975) emphasized that splitting occurs because patients with BPO are incapable of integrating primitive "good" and "bad" self and object representations. As a result of this inability, these patients use the splitting defense to prevent the introduction of aggression, and consequent

manifestations of highly valued, over idealized, introjected images of self and significant others.

In developing a measure of borderline personality organization, Oldham et al. (1985) drew heavily on the theoretical ideas of Kernberg (1977). Kernberg's definition of BPO emphasizes the structural variables of identity integration, defensive operations, and reality testing. From this viewpoint, BPO involves marked identity diffusion, the use of primitive defense mechanisms, and intact reality testing. Identity diffusion is conceptualized as a poorly integrated sense of self or of significant others. With this poor integration may come a subjective experience of chronic emptiness, or in contradictory perceptions of the self, difficulties integrating contradictory behavior in an emotionally meaningful way, and a penurious perception of others (Oldham et al., 1985). Primitive defenses include lower-level defenses such as splitting, idealization, devaluation, omnipotence, denial, projection, and projective identification.

All of these defenses are conceptually understood to protect the ego by dissociating contradictory experiences of significant others and the self. Kernberg (1977) views neurotic personality organization and BPO as both involving more or less successful maintenance of reality testing, in contrast to psychotic structures. Oldham et al. (1985) asserted that patients with BPO are presumed to maintain intact reality testing generally, but may have transient psychotic experiences.

In explanation of the etiology of a desperate love style, Bergman (1980) asserted that if there is manifest unresolved identity diffusion remaining in

adulthood, especially in the context of perceiving love objects as being inconsistent, one may attempt to recapture some of the primitive gratifications and consistency characteristics of the earliest feeling of fusion (symbiosis) with the maternal object. Using his Desperate Love Scale, Sperling (1985) found a significant negative correlation between the tendency toward desperate love and ego identity. Gaoni and Shreibaun (1985) described a specific pattern of pathological infatuation with some borderline patients that involves a vicious cycle of courtship and rejection within a relationship. This pattern is regarded by the authors as a stress situation that may cause a person with BPO to develop full-blown borderline personality symptomatology.

The preceding argument links ego identity problems and BPO with the tendency to try to fill a void with a symbiotic fusion in a romantic relationship in an addictive manner. The particular relational style may be labeled in many different ways including codependent, love addicted, limerent, anxiously attached, manic, or exemplary of borderline-type behavior. Although there are differences between these constructs, they all represent more desperate, obsessive relational styles that are excessive and can be construed as being indicative of addictive processes in their more extreme forms. Faulty object relations development and often associated borderline character structure may also be associated in a statistically significant manner with alcohol abuse/dependence as well as other forms of substance abuse. This is not to infer that early problems in attachment and in the development of object relations are primary etiologic processes in the development of alcohol problems or alcoholism, but most certainly may be a part

of the etiologic and/or symptom picture for many patients exhibiting alcoholic or substance abusing behavior.

The empirical literature basically supports the idea of a significant relationship between BPO/BPD and alcoholism and/or substance abuse. While reviewing this literature, it is important to keep in mind that much of the theoretical underpinnings for this research are based upon the medical model and consequently there is a strong focus on diagnostic categories and personality characteristics of the various syndromes/disorders involving a borderline-type character formation. It is critical to consider that people with these disorders are just that, people with a wide range of emotional and behavioral problems who are suffering a great deal and have been subjected to adverse environmental conditions contributing significantly to the formation of their character problems.

Relationships have also been described between alcoholism, BPO, and antisocial personality disorder (Segal, 1987). Sandell and Bertling (1996) found that 40% of a sample of 1,824 drug abusers in Sweden had a clear borderline level of personality organization according to Kernberg's (1977) theory, involving problems with weak impulse control, poor judgment, and diffuse identity contributing to both frequent and destructive acting-out in these individuals.

There is a larger literature regarding the association between alcoholism and borderline personality disorder (BPD). Part of this link is definitional, in that one of the criteria listed in the Diagnostic and Statistical Manual of Mental Disorders-4th edition (DSM-IV) (American Psychiatric Association, 1994) for

diagnosis of BPD is "(4) impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating)" (p. 654).

The percentage of inpatient alcoholics with BPD in various studies has ranged from 3.5% to 69% (Nace, Saxon, & Shore, 1983; Nace, Saxon, & Shore, 1986; Poldrugo & Forti, 1988; Preng & Clopton, 1986; Skinstad & Mortensen, 1992). This incredibly large range may be attributed in part to differences in locality of the various inpatient facilities and to differences in theoretical orientation of these programs (e.g., 12-step based vs. behaviorally-oriented), as well as to methods of referral (e.g., self-referred vs. court-appointed). Additionally, variations in the assessment and diagnosis of BPD may also have contributed to this wide range. Nace et al. (1983) found that 12.8% of 94 inpatient alcoholics had co-occurring BPD, and described many significant differences between Borderline Personality Disordered Alcoholics (BAs) and Non-Borderline Personality Disordered Alcoholics (NBAs). Loranger and Tulis (1985) found 83 (35%) of 239 female alcoholic inpatients had BPD and further interpreted their data as implying that alcoholism and BPD are transmitted in families fairly independently of each other, and therefore are not different manifestations of the same underlying disorder. The fact that they are frequently associated with each other means that they probably share certain environmental and individual risk factors. Koenigsberg and associates (Koenigsberg, Kaplan, Gilmore, & Cooper, 1985) in a review of over 2,400 psychiatric patients found that 46% of alcoholics

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and 61% of nonalcoholic drug abusers had a personality disorder; 43% of these patients had BPD.

Two groups of researchers (Akiskal et al., 1985; Dulit, Fyer, Haas, Sullivan, & Frances, 1990) found that BPD patients' drugs of choice were alcohol and sedative-hypnotics. In the Dulit et al. study, 96% of the BPD patients used either alcohol or sedative-hypnotics. These authors speculated that BPD patients may use these substances "because they rapidly modulate the frantic anxiety that is associated with dysphoria and anger" (p. 1006). In other words, they use alcohol and drugs in an attempt to self-medicate their extreme psychological/emotional pain. They offered another interesting insight in that for a substantial number of patients who appear to have BPD, substance use may be a primary cause of their psychopathology, whereas other patients may be caught in a vicious cycle where substance use is both a cause and an effect of comorbid borderline psychopathology, unfortunately resulting in a poor prognosis for people caught in this distressing situation.

More recently, Nurnberg, Rifkin, and Doddi (1993) studied 50 sober alcoholic outpatients enrolled in a treatment program and found that 16% had BPD. Skinstad and Mortensen (1992) found of 42 alcohol dependent male inpatients in a detoxification center that 21 (50%) had BPD and an additional 8 (19%) had BPD and a second personality disorder diagnosis. Morgenstern, Langenbucher, Labouvie, and Miller (1997) reported that BPD is linked with more severe symptomatology of alcoholism and other clinical problems.

The preceding discussion builds an argument that links early attachment dysfunction that results in faulty object relations development, a deficiency in ego identity, and associated borderline character structure with addictive tendencies in later life. Therefore, for some individuals, these early childhood events may predispose or be risk factors for the development of addictive processes as manifested in excessive/intense love styles in romantic relationships and/or alcohol abuse/dependence. The next section will move away from psychoanalytic theoretical arguments regarding the childhood etiology of attachment dysfunction in adulthood and concentrate on characteristics of this dysfunction as it is manifested in relational styles in adult relationships.

Attachment Theory

Attachment theory has been the focus of a burgeoning literature in the last decade or so. Hazan and Shaver (1987) describe variation in early social experience as producing relatively enduring differences in relationship styles, and assert that the three attachment styles described in the infant literature (i.e., secure, avoidant, and anxious-ambivalent) are manifested in adult romantic love. Shaver and Hazan (1988) suggest that the approach to love described within theories of romantic love is similar to the concept of anxious-ambivalent attachment. These authors proposed that anxious-ambivalent attachment corresponds to mania. Mania, as described by Lee (1973), is a type of love wherein the lover is possessive, jealous, and where "the slightest lack of response or enthusiasm from the beloved becomes an occasion for anxiety and resentment. Each tiny sign of warmth or approval brings instant relief, but no

lasting satisfaction. The manic lover's appetite for attention and affection is virtually insatiable" (p. 89). Using a number of measures of love, Hendrick and Hendrick (1989) found this relationship between anxious-ambivalent attachment and mania to be robust. Feeney and Noller (1990) found that anxious-ambivalent subjects obtained high scores on a number of scales reflecting their extreme approach to love, including Mania, Obsessive Preoccupation, Emotional Dependence, Reliance on Partner, and Agape.

Hazan and Shaver (1987) reported that anxious-ambivalent lovers described their romantic relationships as involving obsession, emotional extremes, jealousy, extreme sexual attraction, and a desire for reciprocation and union with their lover. Anxious-ambivalent lovers find it easy to fall in love and often find themselves beginning to fall in love. They seldom find what they would call real and genuine love. Levy and Davis (1988) conducted a study wherein a principal components factor analysis showed an Anxious Attachment factor defined primarily by a positive loading on the Anxious/Ambivalent attachment style and the Manic Love style. Levy and Davis describe this factor as representing the needy yearning for romantic attachment combined with insecurity about being loved and accepted that corresponds to Tennov's (1979) concept of limerence and to that of Hindy and Schwartz's (1984) anxious-romantic attachment.

More recently, four factor models have begun to replace and/or supplement earlier three factor models of attachment in adulthood (e.g., Bartholomew & Horowitz, 1991; Sperling & Berman, 1991). Bartholomew and

Horowitz propose four categories of attachment including secure (comfortable with intimacy and autonomy), dismissing (dismissing of intimacy and counterdependent), fearful (fearful of intimacy and socially avoidant), and preoccupied (overly dependent and preoccupied with relationships). In this typology, the fearful type corresponds to Hazan and Shaver's (1987) avoidant category and the preoccupied type corresponds to their ambivalent category. Bartholomew (1990) asserted that a preoccupied partner may desire closeness to a pathological degree from their romantic partners. Brennan, Shaver, and Tobey (1991) compared the two models and found that subjects fitting the three category model type of anxious-ambivalent distributed themselves mainly into the four category model types of preoccupied (57%) and fearful (22.4%).

Another four category model relevant to this discussion resulted from the work of Sperling, Berman, and Fagen (1992) in their attempt to develop a model of adult attachment that integrates attachment and psychoanalytic theories. Sperling and Berman (1991), in an earlier study, describe a four factor model of attachment that basically is a modification of Ainsworth, Blehar, Waters, and Wall's (1978) three level system, wherein they add dependent and hostile attachment styles to those of resistant/ambivalent and avoidant. Surprisingly, Sperling and Berman found that desperate love, or in their terms "fusional anxious attachment," was strongly and positively related to a dependent attachment style and was secondarily related to the resistant/ambivalent and hostile attachment styles. This is surprising in that the dependent style is described as being most closely related to the secure style of other typologies.

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The literature regarding the relationship between attachment style and alcohol use is sparse. Most of the studies in this area have explored adult attachment styles and parental problem drinking (Brennan et al., 1991; Hardwick, Hansen, & Bairnsfather, 1995; King, 1994; Smith, 1990). Levitt, Silver, and Franco (1996) using a three factor attachment model, found that subjects who fit the insecure-avoidant type were more prone to use drugs or alcohol to cope with troubled relationships. Rothbard and Shaver (1994) assert that the use of alcohol and drugs by avoidant types is consistent with attachment theory in that avoidance is said to reflect fearfulness, insecurity, and defensiveness. Avoidant types are more likely to resort to substance use to alleviate anxiety because they are less likely to derive comfort from supportive relationships (Levitt et al., 1996). These authors found that overall, men were more likely than women to report using alcohol or drugs to cope with their troubled relationships, whereas women were more likely to find and develop new relationships in order to cope.

Senchak and Leonard (1992), using a three category model, found that husbands who were avoidantly attached had higher Alcohol Dependence Scale (ADS) scores than those who were ambivalently attached, and both groups had higher scores than the securely attached husbands. For the wives, attachment was not related to alcohol use.

The preoccupied style of adult attachment is characterized by an insatiable desire to gain others' approval, emotional dependence on the partner, and a deeply rooted feeling of unworthiness (Bartholomew & Horowitz, 1991). This conceptualization sounds much like that of the codependent described

above as well as being similar to that of one who is anxious-ambivalent in their attachments and to the love style of mania. Preoccupied people also show an active and conflicted interpersonal style of relating to others characterized by compulsive caregiving (feature of codependency) and shifts between partner idealization and derogation (feature of borderline personality) (Bartholomew 1990; Bartholomew & Horowitz, 1991; Kunce & Shaver, 1994). There is some recent research that links anxious-ambivalent or preoccupied attachment styles to codependency and borderline personality features.

Springer et al. (1998) found codependency to be positively correlated with both the anxious-ambivalent and avoidant attachment styles using a three factor model (i.e., secure, avoidant, and anxious-ambivalent). Using a four factor model (i.e., secure, avoidant-dismissive, avoidant-fearful, and preoccupied), Roberts (1996) found a relationship between the preoccupied attachment style and borderline personality disorder. In their sample of abused women, Henderson, Bartholomew, and Dutton (1997) found attachment styles of 88% of the women to be associated with negative self-models (53% preoccupied, 35% fearful). Additionally, preoccupation was found to be associated with shorter relationship length, more frequent previous separations from the abusive relationship, continuing emotional involvement with the abusive partner after separation, and more frequent sexual contact with this partner. These characteristics can be construed as being associated with borderline personality features in that they demonstrate boundary difficulties and enmeshment, relationship instability, and efforts to avoid abandonment even in the face of abuse.

If one conceptualizes the anxious-ambivalent or preoccupied styles of adult attachment as representative of more excessive love styles and similar to addictive processes, then hypothesizing that these people may drink more and have more problems related to alcohol use than people with other styles of attachment makes intuitive sense. The meager literature in this area appears to contradict this hypothesis, since it appears at this early stage of research in this area that those who are avoidant in their attachment styles drink more than those in the other groups. In fact, if it is true that those people who are avoidant in their attachment style do drink more and have more problems related to alcohol use, this may in fact mediate the relationship between alcohol use/problems and limerence, codependency, and love addiction. The argument involves hypothesizing that people who are avoidantly attached may score lower on measures of codependence, limerence, and other excessive love styles such as desperate love, therefore decreasing the correlations between alcohol consumption and problems associated with alcohol use, and addictive or excessive love processes.

The preceding discussion links dysfunctional, insecure attachment styles with addictive or excessive love processes. The argument follows that since alcohol and other drugs are frequently used to "self-medicate" psychological/ emotional pain, if one is in emotional upheaval over a real or potential romantic relationship, whether it be codependent, limerent, addictive, or a result of an anxious, preoccupied, or desperate attachment style, increased alcohol consumption may be used as a way of temporarily self-medicating the pain and

consequently attempting to reduce the accompanying psychological/emotional distress. The next section explores how the effects of alcohol may help maintain or exacerbate excessive or addictive processes in romantic relationships with an in-depth analysis of inhibitory conflict theory.

Inhibitory Conflict Theory

Alcohol may be used to self-medicate emotional or psychological pain and it may also cause people to become locked into responses such as limerence or infatuation because of its cognitive constricting or myopic effects. Lolli (1960) described alcohol as a depressant of mental functions that "tips the emotional balance of the individual in directions favoring the expression of drives which are more or less controlled during sobriety" (Lolli, 1949, p. 414). With increased consumption of alcohol, the drive to fill a void and/or affiliate with a potential romantic partner may be less controlled. According to Steele (1986), alcohol's cognitive constricting effect (alcohol myopia) makes social behaviors more extreme by blocking a form of response conflict. Alcohol myopia is defined by Steele and Josephs (1990) as "a state of shortsightedness in which superficially understood immediate aspects of experience have a disproportionate influence on behavior and emotion, a state in which we see the tree, albeit more dimly, but miss the forest altogether" (p. 923). These authors state that alcohol myopia leads to excess in situations that would normally involve response or inhibition conflict if the person were sober. In a normal sober situation, a response motivated by salient, strong cues is also inhibited by other strong cues that

require further processing to comprehend. Additionally, it is clear that alcohol myopia increases with dosage (e.g., Jones & Vega, 1972).

"Inhibitory response conflict" involves a struggle between the impulse to engage in a social response (e.g., arguing, flirting) and the pressures not to respond in that way (Steele, 1986). "....[W]hen both impulses and inhibitions are powerful, conflict between them is strong, and alcohol makes the response more extreme by impairing the cognition needed to inhibit behavior" (p. 50). Steele and Southwick (1985) performed a meta-analysis wherein each published study of alcohol's effect on a social, or socially significant behavior was rated (validated against independent judges) as to whether the behavior was under high or low inhibitory conflict. The designation of low conflict was assigned to situations in which the instigating internal and situational cues were weak and/or "the relevant inhibiting situational cues, response contingencies, and standards of behavior were weak" (p. 22). High conflict situations were designated as those situations in which conflicting response pressures were stronger, and more equal in relative strength. It must be kept in mind that the judgment of whether the behavior was under high or low conflict was made after the fact (during the meta-analytic study) and is a weakness in this analysis. They concluded that:

> [O]ver low conflict tests, intoxicated subjects behaved only a tenth of a standard deviation more extremely than their sober controls, whereas over high-conflict tests they were a full standard deviation more extreme. The effect of conflict increased with alcohol dosage, was shown not to be mediated by drinking expectancies, and generalized with few exceptions

across the 34 studies and 12 social behaviors [e.g., aggression, drinking, eating, risk taking, and sexual interest] included in this analysis. (p. 18)

The authors caution that the studies in the analysis do not provide direct evidence that these effects resulted from alcohol's impairment of cognitive functioning, which they claim is the basic assumption in their model.

According to inhibitory conflict theory (Steele, 1986; Steele & Josephs, 1990) wherever cues exist for a particular response, in this case an infatuation or limerent reaction, the individual may get locked into it because of alcohol's impairment of perception and thought (alcohol myopia). And as discussed above, once the threshold is reached and the person becomes limerent or infatuated, there is no turning back, as the reaction is no longer under voluntary control. This theory then could account for the effects of alcohol consumption on more superficial levels of infatuation and possibly limerence, constructs wherein previous etiological influences play a minor role in their expression, and are considered to be more normative processes than other constructs under investigation (i.e., codependency, anxious or preoccupied attachment styles, desperate love, and BPO). Alcohol myopia may increase both the quantity of infatuation experiences as well as the intensity of those experiences.

Recent research has provided some evidence that supports inhibitory conflict theory with regard to the effects of alcohol in high conflict situations. Cooper and Orcutt (1997) explored the link between alcohol use and the probability of intercourse on two different first date occasions with adolescents and young adults. They found that the likelihood of intercourse was significantly

higher when the male couple member, but not the female member, drank alcohol. For males then, but not for females, inhibitory conflict theory was supported in that alcohol effects on the probability of intercourse were found mostly with males who were highly conflicted about having intercourse on the date. In a related study with women, Murphy, Monahan, and Miller (1998) concluded that in high conflict situations alcohol and alcohol expectancies may suppress the impact of inhibitory cues, enabling women to pursue more freely their initial affective reactions with regard to relationship potential of possible partners.

In the Holmes (1996) study, it was found that the number of times one experiences infatuation was not significantly associated with alcohol consumption. This finding tends to refute, at least partially, predictions based upon inhibitory conflict theory, with a college population. However, since there were very strong differences between men and women in that study on both of these variables, and the level of conflict was not controlled nor evaluated, further in-depth analysis of the relationships between them is warranted. Additionally, it will be important to consider how the relationships between alcohol use and infatuation change as a person ages.

Since limerence was not positively associated with alcohol consumption or with problems associated with alcohol use in the Holmes (1996) study, there exists at least some support for the notion of limerence as more reflective of normal healthy developmental processes. Another possible implication of this finding is that one may be highly limerent without having severe psychopathology

as argued by Tennov (1979). It remains to be seen how the relationship between limerence and alcohol use changes throughout the life span. Additionally, as discussed in the attachment section of the Literature Review, a stronger relationship between limerence and alcohol consumption and problems associated with alcohol use may be found when people who have an avoidant attachment style are controlled for in the analyses.

Various theories have been discussed at length to account for the relationship between addictive processes in the two domains of alcohol use and romantic relationships. It was not the purpose of this study to explore, nor to determine the extent to which, each theory enhances the relationship or association between the two main variables under examination. The purpose of this study is elucidated in the next section.

STATEMENT OF THE PROBLEM

The preceding discussion is important in that it clarifies one of the significant problems in this line of research, namely that most investigations regarding addictive processes as manifested in different realms are primarily clinically-based, and there continues to be a dearth of empirical investigations in this field of research. This has been due, at least partially, to difficulties in quantifying love and related concepts in an empirically satisfying manner.

This study was designed to be a replication and extension of an earlier study (Holmes, 1996), continuing to explore the relationship between addictive processes manifested in alcohol use/abuse and those in romantic relationships. The purpose of this study was not primarily to explore the etiology of addiction or proneness to addiction, nor was this study aimed at ruling in or out biological explanations of etiology. The primary motivation for this line of research is the desire to understand the extent to which the tendency to use/abuse alcohol is also manifested in the tendency to use/abuse romantic relationships.

It was expected that some of the results of the earlier study (Holmes, 1996) would be replicated, including finding significant gender differences for alcohol consumption, codependency, and the frequency of infatuations. Additionally, the surprising finding regarding alcohol diagnoses (53% meeting criteria for either lifetime alcohol abuse or dependence diagnoses) was expected to be replicated.

An attempt was made to include students in the sample from a wider age range, ethnicity, and SES. Additionally, an attempt was made to conduct the study earlier in the semester in order to limit the number of procrastinators who wait until the end of the semester to sign up for experiments.

A construct validity study was again conducted. This time however, the construct of desperate love was included instead of love addiction. At this time and as a consequence of the earlier study, love addiction may be best thought of as the opposite of genuine romantic love and on the same continuum. In any case, currently there does not appear to be a reliable and valid measure of love addiction that does not merge with the romantic love construct in confirmatory factor analytic procedures, as happened in the previous study. Another measure of codependency was included based upon proposed diagnostic criteria (Cermak, 1986) in order to help clarify this construct empirically. Since desperate love and limerence are theoretically very similar constructs, it was important to see if these constructs retained their integrity during the construction of a measurement model during confirmatory factor analytic procedures.

Path analyses were planned following the creation of a measurement model of intense love processes if the data suggested the utility of this method. The following constructs/measures were added to the current study: adult attachment style, ego identity, self-esteem, borderline personality organization, and parental alcoholism.

HYPOTHESES

Specific hypotheses are as follows:

1. Confirmatory Factor Analysis will result in a measurement model that supports the construct validity of codependency and romantic love. Limerence and desperate love will merge in the analysis.

2. Women will have higher scores than men on Codependency.

3. Men will have higher scores than women on Alcohol Consumption and problems with alcohol as indicated by higher Alcohol Diagnosis.

4. Alcohol Consumption and problems with alcohol as indicated by Alcohol Diagnosis will be positively correlated with scores on Codependency and Desperate Love.

5. The Preoccupied attachment style will be positively correlated with scores on Codependency, Limerence, and Desperate Love.

6. The Preoccupied and Fearful attachment styles will be positively correlated with scores on Alcohol Consumption and problems associated with alcohol use as indicated by higher Alcohol Diagnosis.

7. Ego Identity will be negatively correlated with Codependency and Desperate Love.

8. Parental Alcoholism will be related to scores on Codependency.

9. Self-Esteem will be negatively correlated with Alcohol Consumption, Alcohol Diagnosis, Desperate Love, Limerence, and Codependency.

10. Borderline Personality Organization will be related to scores on Codependency, Limerence, Desperate Love, Alcohol Consumption, and Alcohol Diagnosis.

METHOD

Subjects

Subjects were 305 female students and 155 male students recruited from psychology undergraduate courses at Michigan State University (n = 300), Lansing Community College (n = 105), and Jackson Community College (n = 55), who received credit in their class for participating. These subjects were tested in groups of between 4 and 55 at a time (mean $\simeq$ 20) over a 5 week period.

Because of the anticipated importance of male-female differences on many of the variables studied here, sociodemographic and descriptive statistics will be broken down into male and female categories in the tables. Table 1 presents the sociodemographic characteristics of the subjects used in the study. There was substantial sample homogeneity with respect to age, which is indicated by the means and standard deviations, and was expected due to the nature of the population sampled, primarily undergraduate underclassmen (80% of the sample). Under college major, in addition to the seven largest groups (psychology, pre-med/physiology, business, advertising, elementary education, no preference, and education) the "other" category includes subjects who fell into any of the remaining 65 types of majors (e.g., finance, child development, sociology, etc.) indicated on the Personal Background Questionnaire.

Table 2 displays information regarding ethnic and religious characteristics of the sample. With regard to ethnicity, the majority (87%) of the sample were

Caucasian, rendering analyses of ethnic differences on many of the variables of interest in this study statistically inappropriate, in terms of the generalizability to the population at large.

Table 3 depicts the socioeconomic characteristics of the sample. An important consideration is that a majority (60%) of the subjects in this sample came from families with a total family income over $60,000. About 3% of the subjects in the sample came from families with a total family income of less than $19,999.

Table 1

Sociodemographic Characteristics of the Sample (N= 460)

	Men			Women		
	M	SD	Range	M	SD	Range
Age	19.80	2.53	17-40	19.94	3.87	17-45
	n	% of sample		n	% of sample	
Sex	155	33.7		305	66.3	
	n	% of group		n	% of group	
Major						
Psychology	12	7.7		35	11.5	
Pre-med/Physiology	11	7.1		13	4.3	
Business	9	5.8		11	3.6	
Advertising	11	7.1		14	4.6	
Elementary Education	4	2.6		20	6.6	
No Preference	28	18.1		41	13.4	
Education	3	1.9		22	7.2	
Other	77	49.7		149	48.9	
	n	% of group		n	% of group	
Class						
Freshman	65	41.9		141	46.2	
Sophomore	57	36.8		107	35.1	
Junior	19	12.3		39	12.8	
Senior	10	6.5		13	4.3	
Fifth-year Senior	4	2.6		5	1.6	

Table 2

Ethnic and Religious Characteristics of the Sample (N=460)

	Men (n=155)		Women (n=305)	
	n	% of group	n	% of group
Ethnicity				
Asian	3	1.9	12	3.9
Black	11	7.1	16	5.2
Hispanic	3	1.9	4	1.3
Native American	1	.6	3	1.0
White	130	83.9	268	87.9
Other	7	4.5	2	.7
Religion				
Greek Orthodox	1	.6	2	.7
Jewish	3	1.9	3	1.0
Protestant	45	29.0	65	21.3
Roman Catholic	46	29.7	97	31.8
Other	34	21.9	75	24.6
None	26	16.8	63	20.7

Table 3

Socioeconomic Characteristics of the Sample (N = 460)

	Men (n=155)		Women (n=305)	
	n	% of group	n	% of group
Father Education				
Less than high school	6	3.9	17	5.6
High school degree	26	17.0	63	20.8
Some college	39	25.5	76	25.1
4 year college degree	44	28.8	76	25.1
Master's degree	25	16.3	47	15.5
Ph.D., M.D., etc.	13	8.5	24	7.9
Mother Education				
Less than high school	3	1.9	10	3.3
High school degree	39	25.2	74	24.3
Some college	43	27.7	102	33.6
4 year college degree	42	27.1	61	20.1
Master's degree	24	15.5	52	17.1
Ph.D., M.D., etc.	4	2.6	5	1.6
Income				
< $19,999	2	1.3	12	3.9
$20 - 39,999	21	13.6	42	13.8
$40 - 59,999	27	17.5	79	26.0
$60 - 79,999	30	19.5	67	22.0
> $80,000	74	48.1	104	34.2

Procedure

Subjects were seated in alternate seats with an empty seat between subjects, to decrease the potential of subjects copying responses from one another and/or being influenced by other subjects' responses. Another reason was to give the subjects some privacy so as to increase the probability that they would be honest in their answers. Fourteen measures were administered with an approximate testing time of 1 ½ to 2 hours. Testing was preceded by a 15 minute introduction that included instructions for completing the questionnaires (see Appendix A). All subjects who were under 18 years of age were asked to turn in their signed parental consent forms. When subjects had completed their questionnaires, the forms were checked by the primary investigator and/or research assistants for missing data or other errors. Subjects who had missing data were asked to complete those items when appropriate. Those subjects who had never been involved in a romantic relationship were asked to complete the questionnaires that were applicable to them. Subjects who abstain from drinking alcohol were asked to write "I don't drink" on the alcohol measures and to fill out the questionnaires as well. Subjects whose mother or father is an alcohol abstainer were also asked to write, "My mother [or father] doesn't drink," on the appropriate questionnaires.

Subjects were asked to fill out a consent form (see Appendix B) and a demographic sheet concerning their age, sex, family income level and education level, etc. (see Instruments section for complete details). The questionnaires were administered in different orders to prevent the items of one scale from

systematically affecting responses to subsequent scales. Counterbalancing was achieved by using three orders of questionnaire presentation and rotating the sequential position of questionnaires in a standard ABC design. The number of subjects within each order ended up being almost equal (Order 1 = 154, Order 2 = 149, Order 3 = 157).

Instruments

In this section a description is given for each of the measures included in each participant's questionnaire packet. The reliability data for the current study is indicated where appropriate for those measures which were not altered in confirmatory factor analytic procedures.

I. SOCIODEMOGRAPHIC MEASURE

Gathering demographic and general relationship information

A Personal Background Questionnaire (see Appendix C) was used to ascertain participant's sex, age, college major, class year, race, religion, parents' highest level of education completed, total family income, number of love relationships, whether or not they were in a romantic relationship at the time of the study, length of the longest love relationship, number of infatuations, and time periods for the first and most recent infatuations. The definition of infatuation was written by the primary investigator (Holmes, 1996) by combining various aspects of infatuation from the literature review:

> An emotional state where the object of desire is perceived unrealistically. It involves idealization of the person's positive qualities and avoidance of his/her negatives. The feeling is intense, irrational, persistent and

sometimes can be all-consuming. The person is perceived as being appealing, alluring, beautiful and cool. Usually this feeling is accompanied by physical attraction and sexual desire and a longing for reciprocation of these same feelings from the person. Often the intensity of focus and feelings pushes other concerns into the background. (p. 107)

II. LOVE RELATED MEASURES

Measuring desperate love

The Desperate Love Scale (DLS) (Sperling, 1985) was used to measure the construct of desperate love. This scale is a 12-item questionnaire that was created to measure, on a continuum from having no experience of desperate love to strong experiences, where a person rates himself/herself (Sperling, 1987). Sample items include: "persistent thoughts about the person you are involved with" and "a feeling that a relationship with the person fills a void in you, makes you feel much more secure and whole." The measure is scored on a 9-point Likert-type scale (1--not at all characteristic to 9--extremely characteristic) wherein higher scores indicate more feeling of desperate love. Sperling (1987) reported that this scale was reliable with a test-retest correlation of .92. Internal consistency was measured with a coeffiecient alpha of .93. Additionally, Sperling (1987) reported that this scale was a valid way of differentiating subjects based upon a criterion measure in which subjects described personality characteristics of the self, ideal self, lover, and ideal lover, described as being theoretically related to desperate love. The scale contained only one factor having an

eigenvalue greater than 1. For more information on the reliabilities and validities of this scale see Sperling (1985, 1987) (see Appendix D).

Measuring limerence

The Limerence Scale-39 (LS-39) (Steffen, 1993) was used to measure the construct of limerence which refers to an emotional state of falling in love or being in love. This scale is a revision of the original scale, Limerence Scale-59 (LS-59), developed by Steffen and colleagues (Steffen et al., 1982) based upon Tennov's (1979) description of this emotional state. The LS-39 has 39 items, 13 of which are reverse scored, and is scored on a 7-point Likert-type scale ranging from A--Strongly Disagree to G--Strongly Agree. Higher scores indicate a greater amount of limerence. A sample item is, "When I am strongly attracted to someone, I find that they become the center of all my thoughts" (see Appendix E).

Steffen (1993) reported the internal consistency of the LS-39 to be .86 for the overall scale. Additionally, a principal components factor analysis of the scale generated four factors that explained 91% of the variance. Factor 1 was named "Love is a wonderful thing", factor 2, "Love stinks," factor 3, "My eyes adore you," and factor 4, "Fantasy and daydream." Internal consistency was given at .81, .81, .64, and .59 for Factors 1 to 4, respectively. For more information on the reliabilities and validities of this scale see Steffen (1993).

Measuring romantic love

The Romantic Love Scale (L1) (Rubin, 1970) was included in order to see how the concept of romantic love relates to the other constructs included in the

study. This is a 13-item measure of romantic love based on affiliative and dependent needs (e.g., If I could never be with _____, I would feel miserable), a predisposition to help (e.g., If _____ were feeling badly, my first duty would be to cheer him (her) up), and exclusiveness and absorption (e.g., I feel that I can confide in _____ about virtually everything). The test uses a 9-item Likert-type scale (1--not at all true; disagree completely to 9--definitely true; agree completely) with higher scores indicating greater amount of love towards the partner. This scale was reported to have high internal consistency with coefficient alphas of .84 for women and .86 for men.

The author states that the scale has content, construct, concurrent, discriminant, and predictive validity. An attempt was made to assure content validity by including items that were grounded in the existing theoretical and popular ideas of romantic love. Discriminant validity was attested to by the fact that love for one's dating partner was only slightly correlated with love for one's same-sex friend. In reference to construct validity, the Love Scale showed no correlation with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Concurrent validity was shown in that love scores were highly correlated with respondents' reports of whether or not they were "in love," and with an estimation of the probability that they would marry their current dating partners. Discriminant validity was also demonstrated in that the Love Scale was only moderately correlated with the Liking Scale ($r = .60$ for men and $r = .39$ for women). Additionally, liking scores were only moderately correlated with respondents' reports of whether or not they were "in love," and with estimates of

the likelihood that they would marry their current dating partners. Lastly, in a separate study, predictive validity was reportedly shown in that college dating couples who loved each other to a high degree (as indicated by their Love Scale scores), were found to spend more time gazing into each others' eyes than couples who loved each other to a lesser degree (see Appendix F).

This scale was used in an earlier study by this author (Holmes, 1996) with the construct of romantic love being found through confirmatory factor analysis to be positively correlated with codependency and limerence. Correlations were low enough, however, to provide evidence of discriminant validity with regard to these constructs. It should be noted that the final scale that emerged from the confirmatory factor analysis was a merged scale that included items from the original Romantic Love Scale and a Love Addiction scale, and was termed as Romantic Love/Love Addiction in the Holmes study. For more information on the reliabilities and validities of the scale see Rubin (1970).

III. PERSONALITY MEASURES

Measuring codependency

The Spann-Fischer Codependency Scale (SFCS) (Fischer et al., 1991) was based on a definition of codependency "as a dysfunctional pattern of relating to others with an extreme focus outside of oneself, lack of expression of feelings, and personal meaning derived from relationships with others" (p. 87). It is a 16-item measure using a 6-point Likert-type scale (1--strongly disagree to 6--strongly agree) wherein higher scores reflect greater codependency. In development of the scale, Spann and Fischer (1990) reported internal

consistency Cronbach alphas of .73 and .80 for two of the groups. The authors reported that the scale demonstrated content, construct and concurrent/convergent validity. Content validity was shown through expert review of the definition. Construct validity was demonstrated through the fact that the factor loading patterns supported the validity of the concept. The definitional elements of codependency formed coherent patterns in the factor loadings as suggested by the definition. Construct validity was also shown in that known groups (recovering codependents vs. self-identified active codependents) differed significantly on the measure. Convergent validity was demonstrated by the fact that some measures thought to be related to codependency were related, but not so highly that they could be considered duplicate measures of codependency. Lastly, discriminant validity was also reportedly shown in that measures thought to be unrelated to codependency were unrelated to this measure (see Appendix G). For more information on the reliabilities and validities of this scale see Fischer et al. (1991).

This scale was used in the Holmes (1996) study wherein confirmatory factor analysis revealed that codependency, romantic love, and limerence were correlated, suggesting convergent validation of the codependency construct. Importantly, after the final measurement model was tested in the Holmes study with bad or contaminated items having been removed, 12 items from the original scale were left. The standard coefficient alpha for the 12-item version of the original scale was .77 in that study.

The Codependent Questionnaire (CdQ) (Roehling & Gaumond, 1996) was added to the current study in order to provide another measure of a controversial construct with the hope of adding to the validity of this construct. This measure was created based upon the four essential criteria for a diagnosis of codependence from Cermak's (1986) postulations. These four criteria are Control, Responsibility, Intimacy, and Enmeshment. There are 36 items in the scale wherein all items are designated as assessing one of the four essential criteria (see Appendix H). It is scored on a 5-point Likert-type scale (1--I never feel this way to 5--I always feel this way). Examples of items include "I get angry when things do not go my way" (Control), "When I am not intimately involved with someone, I feel worthless" (Intimacy), "Most of my friends rely upon my guidance and advice" (Enmeshment), and "I tend to place the needs of others ahead of my own" (Responsibility). The authors reported that in their first study, the scale had a high level of internal consistency (alpha = .86) and test-retest reliability (r = .80). In their second study, the CdQ was given to 42 outpatient psychotherapy clients and it was found that clients' Codependency scores correlated .53 with their therapist's ratings of their codependence, therefore demonstrating criterion related validity.

Roehling and Gaumond (1996) further asserted that the CdQ was found to have convergent and discriminant validity by correlating CdQ scores with scores on the Millon Clinical Multiaxial Inventory (MCMI). The measure correlated negatively or had a non-significant correlation with clinical disorders reflecting characteristics incompatible with codependent behaviors (i.e., anti-social,

narcissistic). Additionally, the CdQ correlated positively with clinical disorders sharing common characteristics with codependence (i.e., borderline, dysthymia, anxiety, passive-aggressive). For more information on the reliabilities and validities of the scale see Roehling and Gaumond (1996).

Measuring ego identity

The Ego Identity Process Questionnaire (EIPC) (Balistreri, Busch-Rossnagel, & Geisinger, 1995) was used to assess subjects' ego identity. This measure operationalizes the construct in terms of two conceptual dimensions: crisis (or exploration) and commitment, as in Marcia (1964). Additionally, subjects are placed into one of four identity statuses (Marcia, Waterman, Matteson, Archer, & Orlofsky, 1993): identity achievement, moratorium, foreclosure, and diffusion.

The scale consists of 32 items which assess the dimensions of exploration and commitment in eight areas. These eight areas consist of four domains within the ideological realm (occupation, religion, politics, and values), and four domains within the interpersonal realm (family, friendship, dating, and sex roles). Each domain includes two exploration and two commitment items, and the final scores consist of separate sums for both of these dimensions. The scale has 20 positively-worded items and 12 negatively-worded items scored on a Likert-type scale from 1--Strongly Disagree to 6--Strongly Agree. Scoring is reversed for negatively-stated items. Balistreri et al. (1995) assigned subjects the identity achieved status when they scored above the median on both dimensions, the diffused status when they scored below the median on both dimensions, the

moratorium status when they scored above the median on exploration and below the median on commitment, and the foreclosed status when they scored above the median on commitment and below the median on exploration. This is the method that was also used in the present study.

Balistreri et al. (1995) reported that this scale showed good internal consistency as demonstrated by coefficient alphas of .80 for commitment and .86 for exploration in Study 1, and .75 for commitment and .76 for exploration in Study 2. In the current study, good internal consistency was also demonstrated by Cronbach coefficient alphas of .78 for commitment and .72 for exploration. Test-retest reliability was given at r = .90 for commitment and r = .76 for exploration at 1 week in the Balistreri et al. study. The authors asserted that the scale demonstrated content validity in that the dimensions assigned to the items were significantly agreed upon by expert raters. Factor analysis yielded a relatively high goodness-of-fit (adjusted goodness-of-fit index = .76) for the two-factor model. The EIPC was shown to have concurrent validity in that it tended to classify individuals into the same statuses as Marcia's interview. Finally, the authors reported that the measure showed construct validity in that analyses of variance and correlations with personality variables supported most of the study expectations (see Appendix I). For more information on the reliabilities and validities of the scale see Balistreri et al. (1995).

Measuring self-esteem

The Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965) was used to measure global self-esteem (see Appendix J). Rosenberg, Schooler,

Schoenbach, and Rosenberg (1995) asserted that the RSES (Rosenberg, 1989) is the most widely used of all the self-esteem measures. Bagley, Bolitho, and Bertrand (1997) reported that the RSES is the instrument of choice with adolescent populations and that a computerized literature search showed that over 1,000 studies conducted in America have used the RSES with high school and junior college populations. Kohn and Schooler (1969) indicated that the RSES contained two components, self-confidence and self-deprecation, which has been reconfirmed empirically more recently by Owens (1993). Both of these components are seen as fitting well into a second-order construct of global self-esteem. These components have also been labeled as Positive and Negative Self-Esteem by Carmines and Zeller (1979).

The RSES is a 10-item measure with sample items such as "I feel that I have a number of good qualities," and "At times I think I am no good at all," measuring self-confidence and self-deprecation, respectively. The most frequently used scoring method (Hagborg, 1996) is a 4-point one (strongly disagree, disagree, agree, strongly agree), wherein the item scores are totaled and then divided by 10, which provides an average score ranging from 1 (low) to 4 (high). This is the method that was used in the current study.

Concerning internal consistency of the RSES, Dobson, Goudy, Keith, and Powers (1979) reported a Cronbach alpha of .77 for their sample, and Fleming and Courtney (1984) obtained a Cronbach alpha of .88. In the current study, a Cronbach alpha of .90 was found for the RSES. Silber and Tippett (1965) reported good test-retest reliability for the RSES, with a test-retest correlation of

.85 after a 2-week interval. Fleming and Courtney reported a test-retest correlation of .82 for 259 subjects with a 1-week interval.

There is much research demonstrating the convergent validity of the RSES (Blascovich & Tomaka, 1991). For example, Lorr and Wunderlich (1986) obtained a correlation of .65 between RSES scores and confidence and .39 between RSES scores and popularity. Savin-Williams and Jaquish (1981) reported correlations of .72 with the Lerner Self-Esteem Scale and .27 with peer ratings for an adolescent sample with the RSES. Additionally, Demo (1985) found RSES scores correlated .55 with scores on the Coopersmith Self-Esteem Inventory and .32 with peer ratings of self-esteem. The validity of the RSES has also been supported both by Rosenberg's research (1965, 1979) and by other reviews (Chiu, 1988; Wylie, 1974). Additional information on the reliabilities and validities of the scale can be found in Blascovich and Tomaka (1991) as well.

Measuring adult attachment style

The Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991) was used to measure adult attachment patterns (see Appendix K). The RQ was developed as an adaptation of an attachment measure developed by Hazan and Shaver (1987), and consists of four short paragraphs describing the four attachment patterns (secure, fearful, preoccupied, and dismissing). It is designed to measure general orientations to close relationships. The measure is scored on a 7-point Likert-type scale (1--not at all like me to 7--very much like me) wherein subjects make ratings on the degree to which they resemble each of the four styles. The RQ generates both a continuous rating for each attachment pattern

and an attachment category, which is defined as the pattern with the highest rating on the 7-point scales.

Griffin and Bartholomew (1994) compared interview ratings with scores on the RQ and concluded that "[C]onvergent validity is demonstrated by the moderately high correlations within each attachment dimension across dimensions" (p. 433). The correlation of the RQ with family interview ratings was $r = .32$, and with peer interview ratings the correlation was $r = .39$. Scharfe and Bartholomew (1994) reported that the scale showed moderately high stability over 8 months.

Measuring borderline personality organization

The Self-Report Instrument for Borderline Personality Organization (Oldham et al., 1985) was used to measure borderline personality organization (see Appendix L). The development of this measure was based upon Kernberg's (1977) definition of BPO emphasizing the structural variables of identity integration, defensive operations, and reality testing. From an original pool of 130 items, 30 items are used which had the strongest factor loadings for each of the three subscales of identity diffusion, primitive defenses, and reality testing (Dutton, Starzomski, & Ryan, 1996). Identity diffusion is conceptualized as a poorly integrated sense of self or of significant others. A sample item is "I feel like a fake or an imposter, that others see me as quite different at times." Primitive defenses include lower-level defenses and items tap the defenses of splitting, idealization, devaluation, omnipotence, denial, projection, and projective identification. A sample item is "It is hard for me to trust people because they so

often turn against me or betray me." Reality testing is seen as being maintained both by people with neurotic personality organization and those with BPO, but not by those with psychotic personality structure (Kernberg, 1977). A sample item from this subscale is "I can't tell whether certain physical sensations I'm having are real, or whether I am imagining them."

The measure is scored on a 5-point Likert-type scale from 1 (never true) to 5 (always true). Oldham et al. (1985) reported Cronbach alphas for the BPO subscales as .92 for Identity Diffusion, .87 for Primitive Defenses, and .84 for Reality Testing. The three subscales are reported as successfully differentiating patient groups from normals in a statistically significant way in that profile patterns created by the three subscales did discriminate among most diagnostic groups. For more on the reliabilities and validities of this scale see Oldham et al. (1985).

IV. ALCOHOL MEASURES

Measuring paternal alcoholism

The Short Michigan Alcoholism Screening Test-Fathers Version (F-SMAST) (Sher & Descutner, 1986) was used to screen for paternal alcoholism. This is an adaptation of the 13-item Short Michigan Alcoholism Screening Test (SMAST) (Selzer, Vinokur, & Van Rooijen, 1975) for children to assess their father's drinking practices. A sample item is "Was your father able to stop drinking when he wanted to?" The scale is answered in a yes-no format. A cut-off score of 5 (5 and above) is seen as indicative of paternal alcoholism. The authors report that this scale has good internal consistency (coefficient alpha = .87), good

test-retest agreement using a cut score of 5 (k = .86, Y = .89) and good intersibling agreement (k = .79, Y = .87). In the current study, very good internal consistency was found with a Cronbach alpha of .92. The authors (Sher & Descutner, 1986) report that the scale also shows concurrent validity with both the Family History-Research Diagnostic Criteria (FH-RDC) (Endicott, Andreasen, & Spitzer, 1975), and with fathers' scores on the SMAST (see Appendix M). For more information on the validity of this scale see Crews and Sher (1992).

Measuring maternal alcoholism

The Short Michigan Alcoholism Screening Test-Mothers Version (M-SMAST) (Sher & Descutner, 1986) was used to screen for maternal alcoholism. This scale is exactly the same as the F-SMAST except that it has been adapted for children to assess their mother's drinking practices. The authors report that this scale has good internal consistency (coefficient alpha = .74), although not as good as with the F-SMAST. In the current study a Cronbach alpha of .84 was found, which also is good but lower than that found with the F-SMAST. Sher and Descutner report very good test-retest agreement using a cut score of 5 (k = 1.00, Y = 1.00) and good intersibling agreement (k = .85, Y = .92). The authors report that the scale also shows concurrent validity with both the Family History-Research Diagnostic Criteria (FH-RDC) and with mothers' scores on the SMAST (see Appendix N). For more information on the validity of this scale see Crews and Sher (1992).

Measuring alcohol consumption

Alcohol consumption was measured by the same standard questionnaire measuring alcohol quantity and frequency (see Appendix O) that was used in an earlier study (Holmes, 1996). This questionnaire with slight revision (questions concerning quantity or frequency were not altered) was also used in research involving sons of alcoholics at Indiana University in Bloomington, Indiana (Earleywine & Finn, 1991; Earleywine, Finn, & Martin, 1990). The measure was adapted from Cahalan and Cisin (1968). Subjects are asked about their drinking practices in the past 6 months in order to receive a reasonably extensive assessment of their drinking behavior without taxing the limits of memory. Frequency and average quantity are assessed separately for beer, wine, wine coolers, and liquor. Subjects are asked to choose a frequency of consumption for each beverage ranging from A (every day) to E (less than once a week). Also, subjects choose a quantity that describes their consumption during an average drinking session ranging from A (eight or more) to E (less than one serving). A serving or drink is defined as one 12-oz. beer or wine cooler, a 4-oz. glass of wine, or a 1.5-oz. shot of hard liquor. A third question for each type of alcoholic beverage concerns the maximum amount drank at one particular time during the past 6 months. In the current study, good internal consistency was found for this scale with a Cronbach alpha of .83.

Three measures of alcohol consumption can then be calculated. To generate an index of consumption, quantity and frequency are multiplied together for each of the types of alcohol investigated and added together for a cumulative score (Dielman, Leech, Miller, & Moss, 1991). To calculate an approximated

average daily ethanol consumption variable (O'Hare, 1991), the mid-point of each class interval for both quantity and frequency are calculated and extrapolated over 1 year and then multiplied (Q x F) separately for each type of alcoholic beverage, and the different totals are added together resulting in the number of drinks consumed in 1 year. This product is divided by 365 days, and multiplied by .60 oz., the alcohol equivalent used for one 12-oz. beer or wine cooler, one 4-oz. glass of wine, or one 1.5 oz shot/one mixed drink.

The third index of alcohol consumption is a maximum variable as in Earleywine (1994). For the purposes of this study, this variable was calculated from a question on the Information on Drinking Questionnaire (Zucker, Fitzgerald, & Noll, 1990) described below, because of the higher ceiling for this item on this questionnaire. Subjects are asked to indicate the maximum amount of alcohol consumed during a 24-hour period within the past 6 months, ranging from none to 30 or more drinks.

It is well described in the alcohol literature that any self-report questionnaire concerning alcohol consumption will be subject to distortions caused by denial (e.g., Midanik, 1982; Richman & Warren, 1985). It should be kept in mind that these distortions will probably have the effect of giving lower alcohol consumption amounts at the upper end of the alcohol consumption continuum.

Measuring the degree of alcohol problems

The Information on Drinking Questionnaire (Zucker et al., 1990) was used to measure the extent of alcohol problems for the subject himself/herself. This is

an adaptation from the Information on Drinking and Other Drug Use questionnaire used by Robert A. Zucker in the Michigan State University-University of Michigan Longitudinal Study. It is part of a self-report questionnaire designed to explore drinking and drug use patterns, and problems associated with drinking and other drugs. The section of the questionnaire used in this study includes a question regarding the age of the subject the first time they became drunk from drinking alcohol, the alcohol consumption question described above, the same question regarding the maximum amount of alcohol consumed during a 24-hour period during the person's lifetime, and questions concerning problems associated with drinking alcohol. The general problem question is "Have you ever had any of the following happen because of your drinking?" (e.g., missed school or time on job, lost friends). The respondent answers with yes or no. If the answer is yes, the respondent is asked how many times, and at what age were the first and also the most recent occurrence. An algorithm is then used to make a diagnosis according to DSM III-R (American Psychiatric Association, 1987) criteria, as well as one according to DSM-IV criteria (American Psychiatric Association, 1994) (see Appendix P).

Additionally, the following three questions were added to this questionnaire to assess binge drinking (Wechsler et al., 1994): (1) "When was the last time you had a drink?" (never, not in past year, within last year but more than 30 days ago, within 30 days but more than 1 week ago, or within the past week); (2) "Think back over the last two weeks. How many times have you had

five or more drinks in a row? "; and (3) "During the last two weeks, how many times have you had four drinks in a row (but no more than that)?"

Note: The measures as they appear in the appendix were slightly modified in some cases by the addition of spaces between items/questions and the insertion of blanks for responses, on the actual forms the subjects filled out. Additionally, the names of the questionnaires were often abbreviated in order not to bias the subjects' responses due to ideas they may have gotten from the name of the questionnaire (e.g., Romantic Love Scale L1 = The R-L Questionnaire, The Codependent Questionnaire = CDP Questionnaire, etc.). Other very minor changes were also made.

RESULTS

Missing Data and Outliers

Before beginning analyses, all variable files were screened for missing data and outliers. Missing data that were replaced were estimated with a series-mean procedure wherein missing values were replaced with the mean for the entire series. For the most part, this was only done with the main measures in the study, primarily those that were involved in confirmatory factor analysis. None of the alcohol variables nor demographic variables had missing data replaced. No more than 3% of the values were estimated in this manner for any of the variables. Outliers were defined as nonadjacent values falling outside a normal curve superimposed upon the frequency distribution histogram for each variable. No outliers were removed unless they were obviously not possible or extremely improbable of being correct (e.g., age of first infatuation = 0). No more than 2 of these improbable outliers were removed for any of the variables. Approximately 95% of the variables were not affected by this procedure.

Descriptive Statistics

Table 4 presents descriptive information regarding romantic relationship characteristics of the sample. It should be noted that any differences on these variables should be interpreted with some caution given the mean age of 19.9 years. Despite this caveat, some interesting patterns in the data did emerge. The length of the subject's longest romantic relationship was measured in months while the number of infatuations reported are approximations wherein the mean

of the interval for each of the nine choices on the Personal Background Questionnaire was used as the total score for each subject.

Attachment style categories in the close relationships of subjects are given in Table 5. The attachment classification was made based upon the pattern that subjects gave the highest rating. In cases where there were two or more patterns with the highest rating, the subject was given the classification that they chose as best describing their style of relating in their close relationships after reading a short descriptive paragraph. The correlation between the chosen style and the attachment style given the highest rating was $r = .94$.

Table 6 gives the subjects' ego identity statuses according to the procedure used by Balistreri et al. (1995), in which subjects were assigned the identity achieved status when they scored above the median on both exploration and commitment, the diffused status when they scored below the median on both dimensions, the moratorium status when they scored above the median on exploration and below the median on commitment, and the foreclosed status when they scored above the median on commitment and below the median on exploration.

Table 7 provides information regarding alcohol-related lifetime diagnoses according to DSM-IV criteria among the subjects in the study sample. Diagnoses were initially made based upon both DSM-III-R and DSM-IV criteria as described in the Methods section. Because the DSM-IV diagnoses appeared to have substantially higher inter-rater reliability than those made using DSM-III-R criteria, they are the ones given in Table 7 and used in subsequent analyses.

Based upon subjects' answers on the Information on Drinking Questionnaire and the alcohol quantity, frequency, type scale, subjects were assigned to one of six groups (DSM-III-R) and to one of five groups (DSM-IV). For both diagnostic systems, all subjects who indicated on the alcohol questionnaires that they did not drink, marked all "e's" (minimum choice) on the quantity, frequency, type scale, and reported no symptoms on the Information on Drinking Questionnaire were classified as "abstainers." Subjects who reported any symptoms were given a diagnosis based upon the reported symptoms. Subjects who were not abstainers and did not meet DSM-III-R or DSM-IV criteria for alcohol abuse or dependence were classified as "no diagnosis." The diagnostic classifications for DSM-III-R were labeled as alcohol abuse, and either mild, moderate, or severe dependence. For DSM-IV diagnostic classifications, the categories assigned were alcohol abuse, or dependence with or without physiological dependence (see Appendix Q).

According to the protocol in using the algorithm based upon DSM criteria, any subject whose classification appeared to be questionable was labeled "questionable diagnosis," and then decisions about diagnosis were made as a clinical judgment by the primary investigator after thorough examination of all relevant data. There were approximately 170 subjects whose diagnosis was marked "questionable." For the purpose of attaining inter-rater reliability, 20 subjects who were initially given questionable diagnoses were randomly chosen and were blindly re-diagnosed by an advanced clinician on the staff of the Michigan State-University of Michigan Longitudinal Study.

For DSM-III-R diagnoses, percent agreement for exact match of diagnosis was 55%. The percent agreement within one level of classification was 95%, and percent agreement of the decision of diagnosis versus no diagnosis was 80%. For DSM-IV diagnoses, percent agreement for exact match of diagnosis was 80%. The percent agreement within one level of classification was again 95%, as was the percent agreement of the decision of diagnosis versus no diagnosis. It is important to consider that had inter-rater reliability been determined using all subjects in the subject pool, the percent agreements would have been much higher, but would not have been as meaningful. A total of 46.3% (213) of the subjects in this sample met lifetime criteria for a DSM-IV diagnosis.

Table 8 presents the binge drinking classification of subjects, with the "non-binger" category indicating subjects who had drank in the past year but who had not binged, "infrequent binger" indicating subjects who had binged one or two times in the 2 week period prior to testing, and "frequent binger" indicating subjects who had binged three or more times in that same 2 week period. Subjects who had not drank in the past year were labeled "abstainers." A total of 54.3% (250) of the subjects in the study met criteria for being a "binge drinker," with 27.8% of these meeting criteria for being a "frequent binger." These percentages are considerably higher than those found in the national studies of Wechsler et al. (1994) (44% and 19% respectively) and Wechsler et al. (1998) (42.7% and 20.7%).

Table 9 gives the parental alcohol diagnoses of subjects in the sample and indicates that at least 19.3% of the sample have a parental history of

alcoholism. This percentage probably gives a lower estimate than exists in reality because some subjects had one parent for which they couldn't answer questions regarding their drinking practices.

Table 4

Descriptive Romantic Relationship Characteristics of the Sample (N=460)

	Men (n=155)			Women (n=305)		
	M	SD	Range	M	SD	Range
Number of romantic love relationships	2.31	1.53	0-9	2.53	1.96	0-15
Length of longest romantic relationship[a]	21.12	25.77	1-240	25.57	26.26	1-168
Number of lifetime infatuations[b]	8.47	8.60	0-31	5.40	5.95	0-31
Age of first infatuation	13.57	3.43	5-31	14.07	2.69	5-25
Age of last infatuation	18.53	2.27	6-26	18.60	3.49	13-45

[a]Measured in months.

[b]Based on approximations.

Table 5

Attachment Category for Close Relationships (N=460)

	Men (n=155)		Women (n=305)	
	n	% of group	n	% of group
Secure	78	50.3	157	51.5
Fearful	32	20.6	73	23.9
Dismissing	25	16.1	25	8.2
Preoccupied	20	12.9	50	16.4

Table 6

Ego Identity Status of Subjects (N=460)

	Men (n=155)		Women (n=305)	
	n	% of group	n	% of group
Identity Achieved	35	22.6	66	21.6
Moratorium	42	27.1	104	34.1
Foreclosed	46	29.7	93	30.5
Diffused	32	20.6	42	13.8

Table 7

Descriptive Statistics Pertaining to Alcohol Diagnoses in the Sample

Group	n	% of group	% of group with dx
Men (n=155)			
Abstainers	15	9.7	--
No diagnosis	54	34.8	--
Abuse	20	12.9	23.3
Dependence without physiological	24	15.5	27.9
Dependence with physiological	42	27.1	48.8
Women (n=305)			
Abstainers	27	8.9	--
No diagnosis	151	49.5	--
Abuse	45	14.8	35.4
Dependence without physiological	34	11.1	26.8
Dependence with physiological	48	15.7	37.8

Note: Diagnoses based on DSM-IV criteria.

Table 8

Binge Drinking Classification of Subjects (N=460)

	Men (n=155)		Women (n=305)	
	n	% of group	n	% of group
Non-binger	41	26.5	120	39.3
Infrequent binger	45	29.0	77	25.2
Frequent binger	49	31.6	79	25.9
Abstainers	20	12.9	29	9.5

Note: Subjects labeled as abstainers were those who reported no drinking in the past year.

Table 9

Parental Alcohol Diagnoses of Subjects in the Sample (N=460)

	Men (n=155)		Women (n=305)	
	n	% of group	n	% of group
Non-alcoholic	132	85.2	230	75.4
One parent non-alcoholic/ one parent data missing	3	1.9	6	2.0
One parent alcoholic/ one non-alcoholic	19	12.3	62	20.3
One parent alcoholic/ one parent data missing	--	0.0	2	0.7
Both parents alcoholic	1	0.6	5	1.6

Exploratory Factor Analysis

It was determined that the first step in the inferential analysis should be a construct validity study wherein a measurement model would be established with factor analysis. After the measurement model was established, the resulting constructs or factors would be treated as the major variables in later analyses. This was the same research procedure followed in the Holmes (1996) study that began by entering the constructs of limerence, love addiction, romantic love, and codependency into the factor analysis as the four initial factors. A technical stumbling block was encountered that was not a problem with the Holmes study, in that entering the items from the measures of romantic love, limerence, both codependency questionnaires, desperate love, and BPO into the confirmatory factor analysis would result in an initial correlation matrix that was too large to run in one piece. Therefore, a 3-stage plan was developed to deal with this problem. The first stage involved using exploratory factor analysis procedures in order to reduce the number of items that would be used in the construct validity study. A very conservative approach to item deletion was used, wherein only items which had corrected item-total correlations lower than .35 were initially marked as "questionable" items. Then the item was deleted only after a thorough content analysis revealed that the item did not tap an essential component of the construct. Another retention consideration was if the item loaded on a factor with an Eigenvalue greater than 1.0, that was also above the inflection point on the Scree plot. Using this procedure, no items were removed from the romantic love, BPO, and desperate love scales. Twelve items were removed from both

codependency measures wherein items were entered on one factor, and 10 items were removed from the limerence scale.

Confirmatory Factor Analysis

The second stage was to continue with the construct validity study using confirmatory factor analytic procedures. Confirmatory procedures were used rather than exploratory methods after the initial paring down of the constructs described above, for many reasons. Since confirmatory factor analysis creates a measurement model that indicates which measurements are supposed to assess each construct and then tests that model (J. E. Hunter, personal communication, Spring, 1992), this model is directly linked to reliability theory and the theory of construct validity. Exploratory factor analysis has two major problems in that it typically under-factors, or produces fewer factors than there are underlying factors in the data, and it also has no "residual cluster" for bad items, resulting in bad items being forced into the clusters (Hunter & Gerbing, 1982). With confirmatory factor analysis, bad or contaminated items are eliminated from the measurement model. For a more detailed discussion of these issues, see Hunter (1980) or Hunter and Gerbing.

As in the Holmes (1996) study, it was determined to use the "CFA" component of the software program "Package" (Hunter & Cohen, 1969) which utilizes oblique multiple groups analysis, rather than the path analytic methods used in LISREL (Joreskog & Sorbom, 1978), to perform the confirmatory factor analysis.

Next, to cope with the technical problem of the correlation matrix being too large, the confirmatory factor analysis was broken down into two phases. In the first phase, BPO, both pared down codependency measures, and the pared down limerence measure were entered as the initial factors in the initial measurement model to be tested. It was decided to begin with the three subscales of BPO entered as separate factors (i.e., Loss of Reality, Primitive Defenses, and Identity Diffusion). The other two factors were codependency (both measures entered on one factor) and limerence. The procedure for developing the best-fitting measurement model involved (1) running a model, (2) examining the item-factor correlation matrix, (3) deciding how many factors or constructs to retain, and then (4) deciding which items, or measurements of the constructs, to retain and which ones to remove from the model. Items which had low item-factor correlations on the factor they were initially assigned to, or that were contaminated, were eliminated from the next "run" or next measurement model.

After the initial measurement model was tested, it was determined to run the next measurement model with the three subscales of BPO entered on one factor, because of the extremely high correlations between these separate factors (all over r = .95) in the first model (see Appendix R for the initial item-factor correlations). Additionally, because all correlations between factors were r = .75 or above, it was determined that this indicated a marked empirical overlap between the factors. These initial factor correlations are given in Table 10. One way of handling this phenomenon would be to stop with the first measurement

model and conclude that these factors all measured virtually the same construct. Alternatively, because there are conceptual differences between the three remaining factors (BPO, limerence, and codependency), we could endeavor to maximize the differences between the factors, therefore elucidating these distinctions empirically. It was decided to choose the latter option with the ultimate goal of determining the empirical differences in these highly related constructs.

Five subsequent measurement models were tested, and then the romantic love and desperate love questionnaire items were entered as separate factors. Three more models were tested before it was concluded that a best-fitting model had been attained. It should be noted that in the process of determining which items to retain and which ones to remove from a factor, the standard of items loading .40 or higher was adopted as an initial criterion for retention, unless the item was contaminated by similar loadings on one or more other factors. As with the initial exploratory factor analysis, a conservative approach was taken with regard to item deletion, in that items were retained that had factor loadings as low as about .20 on a factor, after a thorough content analysis revealed that the item tapped an essential component of the construct, and the item was not contaminated by high loadings on other factors. These items then would appear to have good content validity, but individually have much measurement error. Four items were retained that had item-factor loadings under .40, including the item "persistent thoughts about the person you are involved with," which was retained on the desperate love factor with a factor loading of .32, because it taps

possible fusional properties and diffuse ego boundaries, both prevailing qualities of the desperate love construct. Another example was the item "I feel that without my effort and attention, everything would fall apart," which was retained on the codependency factor with a factor loading of .37, because it taps the responsibility component of that construct.

Table 11 presents the final factor correlations for the five factors retained in the final measurement model (i.e., Romantic Love, Desperate Love, Limerence, Codependency, and BPO). The standard score coefficient alphas for the five factors were .87, .87, .68, .59, and .82, respectively. Appendix S gives the final item-factor correlations for each of these factors.

Hypothesis one.

With regard to the first hypothesis of the study, i.e., that confirmatory factor analysis would result in a measurement model that supports the construct validity of codependency and romantic love, and that limerence and desperate love would merge in the analysis, the first part appears to have been supported in that both Codependency and Romantic Love retained their integrity as separate constructs and had acceptable coefficient alphas. The second part of the hypothesis needed a separate analysis, because the original limerence and desperate love measures were not entered as factors at the same time in the confirmatory factor analysis procedures. Therefore, the final correlation between these constructs was examined after being corrected for attenuation and revealed a correlation of r = .29, providing evidence of a lack of support for the second part of hypothesis one. This is a fairly high correlation and indicates the

strong relationship between the factors, however, the correlation is not so high that they could be considered to be identical conceptualizations.

Gender Differences

The software program SPSS-9.0 was used for all analyses involving the main variables following the confirmatory factor analysis and creation of the final measurement model. Table 12 illustrates the descriptive statistics involving Romantic Love, Desperate Love, Limerence, Codependency, and BPO, broken down between males and females. As can be ascertained by visual inspection of Table 12, there was no significant heterogeneity of variance between male and female scores on any of these variables as determined by Levene's tests for homogeneity of variance.

Table 13 displays the results of independent samples t-tests performed to test for gender differences on several of the key variables in the study which were run as two-tailed (non-directional) tests. The variables displayed are Romantic Love, Desperate Love, Limerence, BPO, Self-Esteem, Exploration, and Commitment. Under the Men and Women columns are given the means, with the standard deviations underneath the mean values in parentheses. The statistic D denotes the actual raw score difference between the means for males and females on each of these variables. The standard score mean difference (d) is also regarded as a measure of the effect size. For comparing the standard deviations between men and women, the statistic "v" is given and is simply a comparison ratio. The last column of Table 13 lists the confidence intervals for the point biserial correlation between the binary variable (sex) and the various

comparison variables. It should be noted that the confidence intervals for these non-directional tests were given at the 95% level of confidence. There was no significant heterogeneity of variance between male and female scores on each of the variables listed in Table 13, as determined by Levene's tests for homogeneity of variance.

Table 14 displays the results of independent samples t-tests performed to test for gender differences on several of the remaining key variables in the study which were run as one-tailed (directional) tests. The variables displayed are Codependency, the approximated number of Infatuations, Maximum, Average Daily Ethanol Consumption, Quantity-Frequency Index, DSM-IV Alcohol Diagnosis, and Number of Binge Episodes. Levene's tests for equality of variance between men's and women's scores on these variables indicate there was significant heterogeneity of variance on the approximated number of Infatuations ($F = 30.01$, $p < .001$), the Maximum variable ($F = 56.97$, $p < .001$), Average Daily Ethanol Consumption ($F = 21.54$, $p < .001$), Quantity-Frequency Index ($F = 14.32$, $p < .001$), and DSM-IV Alcohol Diagnosis ($F = 10.86$, $p < .01$). The statistics provided in Table 14 are the same as those given in Table 13. All confidence intervals were given at the 90% level of confidence.

Hypotheses two and three.

The second hypothesis of the study, i.e., that women would have higher scores than men on codependency, was not supported, $t(458) = .68$, $p = .50$. The third hypothesis of the study, i.e., that men would have higher scores than women on Alcohol Consumption and problems with alcohol as indicated by

higher Alcohol Diagnosis, held up for all three indices of consumption and for the Alcohol Diagnosis variable. This variable was developed by devising a scale for analyses regarding alcohol diagnoses, wherein 1 was assigned to abstainers, 2 to subjects with no diagnosis, 3 to alcohol abusers, 4 to dependents without physiological dependence, and 5 to dependents with physiological dependence. This scale was treated as a continuous scale given the progressive nature of increasing problems due to alcohol use from abstainers to dependents with physiological dependence. Significant gender differences were found for the Maximum variable with $t(216) = 6.15$, $p < .001$, Quantity-Frequency Index with $t(261) = 3.74$, $p < .001$, Average Daily Ethanol Consumption with $t(244) = 3.94$, $p < .001$, and the Alcohol Diagnosis variable with $t(278) = 3.01$, $p < .01$. In all cases men scored significantly higher than women, as predicted.

To determine if there were any large differences on the key variables in the study with regard to the different orders of questionnaire presentation, a series of one-way ANOVAs was conducted. No significant differences were found for the vast majority of these variables. Significant differences were found for Desperate Love ($F = 8.4$, 2/457 df, $p < .001$), Romantic Love ($F = 3.4$, 2/457 df, $p < .05$), Self-Esteem ($F = 3.5$, 2/457 df, $p < .05$), and Exploration ($F = 3.9$, 2/457 df, $p < .05$). Because of the exploratory nature of this research, a conservative post hoc method of comparison was used to determine where the significant differences were located for men and women separately and combined. For Desperate Love, significant differences were found between two of the groups for both men and women. For Romantic Love, significant

differences were found between two of the groups when both sexes were combined, but not when each was analyzed separately. Significant differences were found between two of the groups on Self-Esteem, both when analyzed together and for women separately, but not for men. For Exploration, significant differences were found between two of the groups when both sexes were analyzed together, but not when men and women were analyzed separately.

Table 10

Confirmatory Factor Analysis Initial Factor Correlations

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1 Loss of Reality	1.00	.98	.96	.92	.81
Factor 2 Primitive Defenses	---	1.00	1.00	.85	.75
Factor 3 Identity Diffusion	---	---	1.00	.99	.81
Factor 4 Limerence	---	---	---	1.00	1.00
Factor 5 Codependency	---	---	---	---	1.00

Table 11

Confirmatory Factor Analysis Final Factor Correlations

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1 Romantic Love	1.00	.54	.02	-.04	-.06
Factor 2 Desperate Love	---	1.00	.29	.31	.36
Factor 3 Limerence	---	---	1.00	.59	.46
Factor 4 Codependency	---	---	---	1.00	.71
Factor 5 Borderline Personality Organization	---	---	---	---	1.00

Table 12

Descriptive Statistics for Romantic Love, Desperate Love, Limerence, Codependency, and Borderline Personality Organization Following Confirmatory Factor Analysis.

	M	SD	Var	Range	Min	Max
Romantic Love						
Men	78.82	15.50	240.14	81	24	105
Women	80.59	14.65	214.53	95	12	107
Desperate Love						
Men	70.35	14.66	214.83	117	29	146
Women	70.69	14.31	204.70	74	25	99
Limerence						
Men	17.16	4.84	23.44	23	4	27
Women	17.94	5.15	26.51	24	4	28
Codependency						
Men	16.37	4.12	16.95	21	6	27
Women	16.10	4.16	17.27	21	7	28
Borderline Personality Organization						
Men	25.72	6.00	36.06	30	11	41
Women	24.63	6.61	43.74	36	11	47

Table 13

Independent Samples T-tests Exploring Gender Differences (Non-Directional Tests)

Variable	Men (n=155)	Women (n=305)	D	d	t	v	r_{pb}[a]
R L	78.82 (15.50)	80.59 (14.65)	-1.77	-.12	-1.20	1.06	(-.03, .15)
D L	70.35 (14.66)	70.69 (14.31)	-.34	-.02	-.24	1.02	(-.08, .10)
Lim	17.16 (4.84)	17.94 (5.15)	-.78	-.16	-1.56	1.06	(-.02, .16)
B P O	25.72 (6.00)	24.63 (6.61)	1.09	.17	1.72	1.10	(-.17, .01)
S E	3.30 (.50)	3.14 (.52)	.16	.31	3.15**	1.04	(-.24, -.06)
Exp	61.18 (9.30)	63.21 (9.43)	-2.03	-.22	-2.20*	1.01	(.01, .19)
Com	63.39 (9.94)	63.51 (10.53)	-.13	-.01	-.13	1.06	(-.08, .10)

[a] 95% confidence interval

*p < .05, ** p < .01,

R L = Romantic Love
D L = Desperate Love
Lim = Limerence
B P O = Borderline Personality Organization
S E = Self-Esteem
Exp = Exploration
Com = Commitment

Table 14

Independent Samples T-tests Exploring Gender Differences (Directional Tests)

Variable	Men (n=155)	Women (n=305)	D	d	t	v	r_{pb}[a]
Cod	16.37 (4.12)	16.10 (4.16)	.28	.07	.68	1.01	(-.11, .05)
Inf	8.47 (8.60)	5.40 (5.95)	3.07	.42	3.99***	1.45	(-.28, -.14)
Max	12.43 (8.86)	7.64 (5.50)	4.79	.65	6.15***	1.61	(-.39, -.25)
Eth	1.21 (1.21)	.77 (.91)	.43	.40	3.94***	1.33	(-.27, -.13)
Q F I	12.63 (7.29)	10.09 (5.95)	2.54	.38	3.74***	1.23	(-.25, -.11)
Alc Dx	3.15 (1.40)	2.75 (1.24)	.40	.30	3.01**	1.13	(-.23, -.07)
# Binge	2.15 (2.18)	1.82 (2.36)	.33	.15	1.38	1.08	(-.15, .01)

[a] 90% confidence interval

*p < .05, ** p < .01, *** p < .001

Cod = Codependency
Inf = Approximated number of Infatuations
Max = Maximum amount of alcoholic drinks (24 hr. period) in past 6 months
Eth = Average Daily Ethanol Consumption
Q F I = Quantity-Frequency Index
Alc Dx = Alcohol Diagnosis
Binge = Number of binge episodes in past 2 weeks

Note: # Binge variable does not include abstainers (n = 135 men, n = 276 women).

Correlations Among the Major Variables in the Study

Table 15 lists the correlations (Pearson R) among the major independent and dependent variables in the study. It should be noted that the correlations between the five factors that emerged from the confirmatory factor analysis are somewhat different from those correlations given in Table 11, because the correlations in Table 11 were corrected for attenuation.

The variables listed in Table 15 are Sex, Age, Class, Total Family Income, Self-Esteem, Secure attachment, Fearful attachment, Preoccupied attachment, Dismissing attachment, Commitment, Exploration, approximated number of Infatuations, Romantic Love, Desperate Love, Limerence, Codependency, BPO, Family History of Alcoholism, Maximum, Average Daily Ethanol Consumption, Quantity-Frequency Index, number of binge episodes, and Alcohol Diagnosis.

Since several of the correlations given in Table 15 are not related to this study's hypotheses, an exhaustive elaboration of the relationships among these variables is precluded at this time. Therefore the focus of the present discussion will be on the correlations that were used to test the remaining seven hypotheses of the study.

Hypothesis four.

Related to the fourth hypothesis, i.e., that Alcohol Consumption and problems with alcohol as indicated by higher Alcohol Diagnosis would both be positively correlated with Codependency and Desperate Love, the Pearson correlations indicate that with regard to Codependency, the hypothesis is not

supported, in that none of the relevant correlations were significant. With Desperate Love, the correlations provide a different picture. All three indices of consumption (Maximum, Average Daily Ethanol Consumption, and Quantity-Frequency Index) and Alcohol Diagnosis were significantly positively correlated with Desperate Love. The Pearson correlations were $r = .12$, $p < .01$ for the Maximum variable, $r = .10$, $p < .05$ for Average Daily Ethanol Consumption, $r = .14$, $p < .01$ for Quantity-Frequency Index, and $r = .13$, $p < .01$ for Alcohol Diagnosis.

Closer inspection of the relationships between these variables appears to indicate that the majority of the strength of the correlations is accounted for by women's scores. When analyzing the correlations separately for men and women, the only significant correlation for men was with Alcohol Diagnosis and Desperate Love, $r = .14$, $p < .05$. For women, all the correlations were significant, with $r = .16$, $p < .01$ for the Maximum variable, $r = .12$, $p < .05$ for Average Daily Ethanol Consumption, $r = .15$, $p < .01$ for Quantity-Frequency Index, and $r = .14$, $p < .01$ for Alcohol Diagnosis. All correlational tests related to hypothesis four were directional (one-tailed) tests.

Because of the large differences in sample sizes for men and women, it was questionable as to whether the smaller sample size for men may have contributed to non-significant findings with some of the correlations related to hypothesis four. Inspection of the correlations and their corresponding inference probability (IP) indices indicate that this may be the case. For example, the correlation between Desperate Love and the Quantity-Frequency Index for men

was r = .13, p = .054, resulting in an IP index of .946. This signifies that there is over a 94% chance that the directional hypothesis tested would be true at the population level. Other correlations for men related to hypothesis four that were insignificant and had IP indices over .90 were for Desperate Love and Maximum (r = .11, p = .097, IP = .90), for Codependency and Quantity-Frequency Index (r = .10, p = .10, IP = .90), and for Codependency and Alcohol Diagnosis (r = .12, p = .07, IP = .93). Data relevant to hypothesis four is summarized in Table 16.

Hypothesis five.

The fifth hypothesis of the study, i.e., that the Preoccupied attachment style would be positively correlated with scores on Codependency, Limerence, and Desperate Love, was strongly supported as evidenced by Pearson correlations of r = .20, p < .001 for Codependency, r = .20, p < .001 for Limerence, and r = .26, p < .001 for Desperate Love. Correlations run separately for men and women revealed significant relationships for all possible combinations, except for that of the Preoccupied attachment style and Codependency for men only. Again, all correlations were run as directional (one-tailed) tests. Data relevant to hypothesis five is summarized in Table 17. Visual inspection of Table 17 reveals that despite the strong correlations between the Preoccupied attachment style and Codependency and Limerence, the correlations were not as strong as those with the Avoidant or Fearful style (r = .40, p < .001 for Codependency, and r = .44, p < .001 for Limerence).

Hypothesis six.

Analysis of the correlations related to the sixth hypothesis of the study, i.e., that the Preoccupied and Fearful/Avoidant attachment styles would be positively correlated with Alcohol Consumption scores and with problems associated with alcohol use as indicated by higher Alcohol Diagnosis, yields a cloudy picture. See Table 18 for a summary of data relevant to this hypothesis.

With regard to the Alcohol Diagnosis variable the hypothesis is supported, in that significant positive correlations were found with both attachment styles, $r = .09$, $p < .05$ for the Preoccupied style, and $r = .11$, $p < .01$ for the Fearful style. Closer inspection of the relationships between these variables indicates that the majority of the strength of the correlations is again accounted for by women's scores. When analyzing the correlations separately for men and women, there were no significant correlations for men among these variables. For women, the Pearson correlation between the Alcohol Diagnosis variable and the Preoccupied attachment style was $r = .12$, $p < .05$, and with the Fearful/Avoidant attachment style it was $r = .15$, $p < .01$.

With regard to the three indices of alcohol consumption, there were no significant Pearson correlations between any of these variables and the Preoccupied attachment style when analyzed separately for men and women, and for the two genders combined. For men and women together there was a significant positive correlation between the Fearful/Avoidant attachment style and the Quantity-Frequency Index ($r = .09$, $p < .05$), but not with the Maximum or Average Daily Ethanol Consumption indices. When analyzing the correlations after a gender breakdown, there were no significant correlations for men between

the Fearful/Avoidant attachment variable and any index of alcohol consumption. However, for women, the correlations for all three indices of consumption were significantly positive with the Fearful/Avoidant attachment style. The Pearson correlations were $r = .12$, $p < .05$ with the Quantity-Frequency Index, $r = .10$, $p < .05$ with the Maximum index, and $r = .11$, $p < .05$ with the Average Daily Ethanol Consumption index. All correlational tests related to hypothesis six were directional (one-tailed) tests.

Hypothesis seven.

Analyses related to hypothesis seven, i.e., that Ego Identity would be negatively correlated with Codependency and Desperate Love, was done by exploring these relationships separately for the two conceptual dimensions of Exploration and Commitment. The hypothesis was not supported for the dimension of Exploration, both when the correlations were performed separately for men and women and when the genders were combined. The correlations between Commitment and both Codependency and Desperate Love were significant and negative, giving support in part for the hypothesis with $r = -.15$, $p < .01$ for Codependency, and $r = -.09$, $p < .05$ for Desperate Love. Correlational data relevant to hypothesis seven is summarized in Table 19.

Closer inspection of the relationships between these variables indicates that the majority of the strength of the correlations is again accounted for by women's scores. When analyzing the correlations separately for men and women, there were no significant negative correlations for men among these variables. For women, the Pearson correlations were significant in the

hypothesized direction with regard to the relationship between Commitment and Codependency, with $r = -.17$, $p < .01$ for Codependency, and $r = -.14$, $p < .01$ for Desperate Love. All correlational tests related to hypothesis seven were directional (one-tailed) tests.

Two single factor ANOVAs were performed to determine if there were any significant differences on the dependent variables of Codependency and Desperate Love for the various levels of the independent variable Ego Identity status. The four status levels again are Identity Achieved, Moratorium, Foreclosed, and Diffused. No significant main effects were found for either of the dependent variables, Codependency ($F = 1.40$, 3/459 df, $p = .24$, Eta = .10) or Desperate Love ($F = 1.82$, 3/459 df, $p = .14$, Eta = .11).

Hypothesis eight.

Hypothesis eight, i.e., that Parental Alcoholism would be related to scores on Codependency, was found to be unsupported. An Independent Samples T-Test, wherein Codependency score differences were compared for a positive versus a negative Family History of Alcoholism, was insignificant with $t(449) = -1.13$, $p = .26$. Subjects that reported data for one non-alcoholic parent only were not included in this analysis. Additionally, Pearson correlations were insignificant comparing Codependency scores with both mother and father's total number of reported alcoholic symptoms, both when analyzed separately for men and women, and when both genders were combined. Data relevant to hypothesis eight is summarized in Table 20, including the means and standard deviations for the Independent Samples T-Test.

Hypothesis nine.

Hypothesis nine, i.e., that Self-Esteem would be negatively correlated with Alcohol Consumption, Alcohol Diagnosis, Desperate Love, Limerence, and Codependency, was supported in part by evidence from the Pearson correlations with both genders combined for Alcohol Diagnosis ($r = -.11$, $p < .05$), Desperate Love ($r = -.24$, $p < .001$), Limerence ($r = -.36$, $p < .001$), and Codependency ($r = -.39$, $p < .001$). Gender breakdown of the correlations with Self-Esteem revealed that they were all significant in the hypothesized direction for women on these variables, with $r = -.19$, $p < .001$ for Alcohol Diagnosis, $r = -.32$, $p < .001$ for Desperate Love, $r = -.38$, $p < .001$ for Limerence, and $r = -.45$, $p < .001$ for Codependency. For men, the only significant correlations on these variables was for Limerence with $r = -.29$, $p < .001$, and for Codependency with $r = -.29$, $p < .001$. See Table 21 for a summary of data relevant to hypothesis nine.

With regard to the relationship between Self-Esteem and Alcohol Consumption, none of the correlations were significant with both genders combined for all three of the indices of consumption. Closer inspection revealed that this was accounted for by the correlations for men only, with none of the correlations being significant in the hypothesized direction for any of the three indices of consumption. For women, the correlations were significant in the hypothesized direction on all three indices, with $r = -.12$, $p < .05$ for Average Daily Ethanol Consumption, $r = -.14$, $p < .01$ for the Quantity-Frequency Index, and $r = -.16$, $p < .01$ for the Maximum variable.

Hypothesis ten.

Hypothesis ten, i.e., that Borderline Personality Organization would be related to scores on Codependency, Limerence, Desperate Love, Alcohol Consumption, and Alcohol Diagnosis, as with many of the hypotheses, held up for some of the variables, especially the three excessive relationship styles. For men and women combined the Pearson correlations were all significant for Codependency, $r = .47$, $p < .001$, Limerence, $r = .35$, $p < .001$, and Desperate Love, $r = .30$, $p < .001$. For women, all of the correlations were also significant, with $r = .51$, $p < .001$ for Codependency, $r = .40$, $p < .001$ for Limerence, and $r = .38$, $p < .001$ for Desperate Love. For men, significant correlations were found for Codependency, $r = .39$, $p < .001$, and for Limerence, $r = .26$, $p < .001$, but not for Desperate Love. A summary of the data relevant to this hypothesis is given in Table 22.

With regard to the relationship between BPO and the alcohol variables related to hypothesis ten, the picture is much less clear. Significant correlations were found for the Maximum variable with $r = .09$, $p < .05$, and for Alcohol Diagnosis with $r = .15$, $p < .01$, with both genders combined. Further analysis revealed no significant correlations between these alcohol variables and BPO for men alone. However, when analyzing the relationship between these variables for women alone, significant correlations were found for Quantity-Frequency Index with $r = .11$, $p < .05$, the Maximum variable with $r = .13$, $p < .05$, and for Alcohol Diagnosis with $r = .21$, $p < .001$.

Note: The issue of the smaller sample size for men possibly contributing to some of the non-significant correlations may have slightly effected the results of several of the hypotheses examined above in addition to hypothesis four, therefore mitigation of the importance of the differences between men and women with regard to these hypotheses should be considered.

Additionally, the inference probability (IP) indices given in all Tables 16-22 were calculated according to the direction of the correlation, which does not necessarily correspond with the direction predicted in the relevant hypothesis.

Table 15

Correlations (Pearson R) Between Major Variables in the Study

Variable	Sex	Age	Class	TotInc	S E	Sec	Fear	Pre	Dis	Com	Exp	Inf
Sex	1.00	—	—	—	—	—	—	—	—	—	—	—
Age	.02	1.00	—	—	—	—	—	—	—	—	—	—
Class	-.05	.29***	1.00	—	—	—	—	—	—	—	—	—
TotInc	-.12**	-.20***	.02	1.00	—	—	—	—	—	—	—	—
S E	-.15**	.06	.02	.05	1.00	—	—	—	—	—	—	—
Sec	.02	-.04	.05	.11*	.25***	1.00	—	—	—	—	—	—
Fear	.09	-.08	-.06	.03	-.32***	-.43***	1.00	—	—	—	—	—
Pre	.03	-.04	-.06	-.04	-.28***	-.32***	.14**	1.00	—	—	—	—
Dis	-.12**	.00	-.04	-.06	.14**	-.09*	-.12*	-.15**	1.00	—	—	—
Com	.01	.17***	.13**	-.06	.34***	.06	-.12*	-.12**	-.03	1.00	—	—
Exp	.10*	.03	.08	.03	-.08	-.03	.16**	.13**	-.04	-.34***	1.00	—
Inf	-.21***	.05	-.02	.01	-.09	-.06	.05	.11**	.05	-.06	.13**	1.00
R L	.06	-.11*	.01	.02	-.12*	.19***	-.07	.03	-.21***	.09	-.03	-.05
D L	.01	-.14**	-.05	.02	-.24***	-.04	.17***	.26***	-.17***	-.09*	.15**	.10*
Lim	.07	-.11*	.04	.00	-.36***	-.28***	.44***	.20***	-.07	-.16**	.15**	.04
Cod	-.03	.00	.01	.00	-.39***	-.33***	.40***	.20***	-.04	-.15**	.08*	.07
B P O	-.08	.03	-.05	-.11*	-.53***	-.33***	.32***	.36***	.04	-.32***	.28***	.21***
FHist	.12*	.17***	-.05	.12*	-.07	-.08	.01	.03	-.01	-.09	.09	.03
Max	-.32***	-.11*	.00	.15**	-.03	-.04	.07	.04	.02	-.16***	-.03	.22***
Eth	-.20***	-.09*	.01	.11*	-.05	-.04	.07	.04	-.02	-.11*	-.04	.23***
Q F I	-.18***	-.11*	.00	.12**	-.06	-.04	.09*	.06	-.01	-.15**	-.02	.23***
Binge	-.07	-.07	.07	.05	-.06	-.04	.03	.02	-.06	-.08	-.08	.13**
AlcDx	-.15**	.01	.02	.09	-.11*	.09	.11**	.09*	-.03	-.22***	.08	.23***

*$p < .05$, **$p < .01$, ***$p < .001$

Table 15 (cont'd).

Variable	R L	D L	Lim	Cod	B P O	FHist	Max	Eth	Q F I	Binge	AlcDx
Sex	—	—	—	—	—	—	—	—	—	—	—
Age	—	—	—	—	—	—	—	—	—	—	—
Class	—	—	—	—	—	—	—	—	—	—	—
TotInc	—	—	—	—	—	—	—	—	—	—	—
S E	—	—	—	—	—	—	—	—	—	—	—
Sec	—	—	—	—	—	—	—	—	—	—	—
Fear	—	—	—	—	—	—	—	—	—	—	—
Pre	—	—	—	—	—	—	—	—	—	—	—
Dis	—	—	—	—	—	—	—	—	—	—	—
Com	—	—	—	—	—	—	—	—	—	—	—
Exp	—	—	—	—	—	—	—	—	—	—	—
Inf	—	—	—	—	—	—	—	—	—	—	—
R L	1.00	—	—	—	—	—	—	—	—	—	—
D L	.46***	1.00	—	—	—	—	—	—	—	—	—
Lim	.01	.22***	1.00	—	—	—	—	—	—	—	—
Cod	.01	.25***	.36***	1.00	—	—	—	—	—	—	—
B P O	-.04	.30***	.35***	.47***	1.00	—	—	—	—	—	—
FHist	-.04	.06	.05	.05	.13**	1.00	—	—	—	—	—
Max	-.06	.12**	.03	.05	.09*	-.05	1.00	—	—	—	—
Eth	-.06	.10*	.03	.02	.04	-.02	.66***	1.00	—	—	—
Q F I	-.06	.14**	.03	.04	.07	-.01	.71***	.97***	1.00	—	—
Binge	-.08	.02	.00	-.05	.04	-.01	.52***	.66***	.67***	1.00	—
AlcDx	-.04	.13**	.06	.05	.15**	.08	.67***	.65***	.69***	.53***	1.00

*$p < .05$, **$p < .01$, ***$p < .001$

Table 15 (cont'd).

Sex = gender of subject
Age = age of subject
Class = class of subject
TotInc = total family income
SE = self-esteem
Sec = secure attachment
Fear = fearful attachment
Pre = preoccupied attachment
Dis = dismissing attachment
Com = commitment
Exp = exploration
Inf = approximate number of infatuations
RL = romantic love
DL = desperate love
Lim = limerence
Cod = codependency
BPO = borderline personality organization
FHist = family history of alcoholism
Max = maximum
Eth = average daily ethanol consumption
Q F I = quantity-frequency index
Binge = number of binge episodes
AlcDx = alcohol diagnosis

Table 16

Data Relevant to Hypothesis Four

Variables	Men (n=155)			Women (n=305)			Combined (n=460)		
	r	p	IP	r	p	IP	r	p	IP
Codependency and Maximum	.05	.261	.739	.03	.289	.711	.05	.154	.846
Quantity-Frequency Index	.10	.100	.900	-.01[a]	.418	.582	.04[b]	.216	.784
Average Daily Ethanol Consumption	.10	.109	.891	-.05	.208	.792	.02	.352	.648
Alcohol Diagnosis	.12	.071	.929	.00	.481	.519	.05	.149	.851
Desperate Love and Maximum	.11	.097	.903	.16	.003	.997	.12	.005	.995
Quantity-Frequency Index	.13	.054	.946	.15[a]	.004	.996	.14[b]	.002	.998
Average Daily Ethanol Consumption	.09	.147	.853	.12	.017	.983	.10	.015	.985
Alcohol Diagnosis	.14	.043	.957	.14	.009	.991	.13	.002	.998

[a] n = 304
[b] n = 459

Table 17

Data Relevant to Hypothesis Five

Variables	Men (n=153)			Women (n=305)			Combined (n=458)		
	r	p	IP	r	p	IP	r	p	IP
Preoccupied Attachment									
and Codependency	.12	.072	.928	.24	.000	.999	.20	.000	.999
and Limerence	.29	.000	.999	.16	.003	.997	.20	.000	.999
and Desperate Love	.20	.006	.994	.28	.000	.999	.26	.000	.999

Table 18

Data Relevant to Hypothesis Six

Variables	Men (n=153)			Women (n=305)			Combined (n=458)		
	r	p	IP	r	p	IP	r	p	IP
Preoccupied and Maximum	.08	.180	.820	.03	.274	.726	.04	.207	.793
Quantity-Frequency Index	.12	.073	.927	.03[a]	.279	.721	.06[b]	.115	.885
Average Daily Ethanol Consumption	.08	.15	.850	.02	.344	.656	.04	.204	.796
Alcohol Diagnosis	.03	.340	.660	.12	.017	.983	.09	.033	.967
Fearful and Maximum	.11	.087	.913	.10	.041	.959	.07	.078	.922
Quantity-Frequency Index	.10	.123	.877	.12[a]	.017	.983	.09[b]	.025	.975
Average Daily Ethanol Consumption	.07	.203	.797	.11	.032	.968	.07	.066	.934
Alcohol Diagnosis	.08	.174	.826	.15	.004	.996	.11	.009	.991

[a] n = 304
[b] n = 457

Table 19

Correlational Data Relevant to Hypothesis Seven

Variables	Men (n=155)			Women (n=305)			Combined (n=460)		
	r	p	IP	r	p	IP	r	p	IP
Desperate Love									
and Exploration	.15	.032	.968	.14	.006	.994	.15	.001	.999
and Commitment	.00	.497	.503	-.14	.009	.991	-.09	.025	.975
Codependency									
and Exploration	.02	.412	.588	.12	.021	.979	.08	.043	.957
and Commitment	-.11	.088	.912	-.17	.002	.998	-.15	.001	.999

Table 20

Data Relevant to Hypothesis Eight

Independent Samples T-Test

IV = Family History of Alcoholism
DV = Codependency
t (449) = -1.13 p = .26

Means

No Family History of Alcoholism	n = 362	x = 16.12	SD = 4.11
Family History of Alcoholism	n = 89	x = 16.67	SD = 4.25

Correlations

Variables	Men			Women			Combined		
	r	p	IP	r	p	IP	r	p	IP
Codependency and									
Father's # of Symptoms	-.01	.453 (153)	.547	.07	.124 (298)	.876	.04	.179 (451)	.821
Mother's # of Symptoms	.06	.235 (154)	.765	.01	.440 (304)	.560	.02	.311 (458)	.689

IV = Independent Variable; DV = Dependent Variable; n for each group indicated in parentheses.

Table 21

Data Relevant to Hypothesis Nine

Variables	Men (n=155)			Women (n=305)			Combined (n=460)		
	r	p	IP	r	p	IP	r	p	IP
Self-Esteem and									
Alcohol Diagnosis	-.02	.395	.605	-.19	.000	.999	-.11	.010	.990
Average Daily Ethanol Consumption	-.03	.357	.643	-.12	.019	.981	-.05	.136	.864
Quantity-Frequency Index	-.01	.472	.528	-.14[a]	.007	.993	-.06[b]	.100	.900
Maximum	.00	.485	.515	-.16	.003	.997	-.03	.231	.769
Desperate Love	-.09	.139	.861	-.32	.000	.999	-.24	.000	.999
Limerence	-.29	.000	.999	-.38	.000	.999	-.36	.000	.999
Codependency	-.29	.000	.999	-.45	.000	.999	-.39	.000	.999

[a] n = 304
[b] n = 459

Table 22

Data Relevant to Hypothesis Ten

Variables	Men (n=155)			Women (n=305)			Combined (n=460)		
	r	p	IP	r	p	IP	r	p	IP
Borderline Personality Organization and									
Codependency	.39	.000	.999	.51	.000	.999	.47	.000	.999
Limerence	.26	.000	.999	.40	.000	.999	.35	.000	.999
Desperate Love	.13	.053	.947	.38	.000	.999	.30	.000	.999
Alcohol Diagnosis	-.01	.476	.524	.21	.000	.999	.15	.001	.999
Quantity-Frequency Index	-.03	.343	.657	.11[a]	.031	.969	.07[b]	.068	.932
Maximum	-.01	.477	.523	.13	.014	.986	.09	.028	.972
Average Daily Ethanol Consumption	-.06	.217	.783	.07	.110	.890	.04	.229	.771

[a] n = 304
[b] n = 459

DISCUSSION

Overview of the Main Findings of the Study

As in the Holmes (1996) study, confirmatory factor analytic procedures resulted in a measurement model in which the constructs that emerged had acceptable to high reliabilities. Construct validity was demonstrated for romantic love, desperate love, codependency, and BPO. Importantly, codependency again emerged as a strong construct separate from the others, although it was highly correlated with BPO. The limerence construct did not merge with desperate love and appeared to primarily tap a shyness/fear of rejection component.

Concerning the relationship between addictive processes in the two domains, a strong general trend was found in that many of the hypothesized correlations were significant for women, but not for men. A stronger relationship was found for the fearful/avoidant attachment style than the preoccupied attachment style with the alcohol variables for women. The frequency of infatuations was positively correlated with all the alcohol variables, which appears to lend support to predictions based upon inhibitory conflict theory.

Consistent with the findings from the Holmes (1996) study, a large percentage (46.3%) of the subjects in the study met criteria for a lifetime diagnosis of alcohol abuse or dependence. A large percentage of subjects were designated as binge drinkers (54.3%), with about half of these drinkers (27.8%) being designated as frequent bingers. Parental alcoholism was found not to be related to subjects' level of codependency.

Significant gender differences were found for alcohol consumption, alcohol diagnosis, self-esteem, and frequency of infatuations. Surprisingly, gender differences were not found for the number of binge episodes in the 2 weeks prior to testing. Gender differences were found concerning the relationship between self-esteem and alcohol consumption, with women's self-esteem being significantly negatively correlated with consumption, but no relationship was found between men's self-esteem and consumption.

Characteristics of the Sample

Since the meaning of the results is limited by the nature of the sample, it is important to review the sample before proceeding to a more in-depth discussion of the major findings. The subjects in this sample were college students coming from psychology classes at Michigan State University, Lansing Community College, and Jackson Community College. The vast majority were Caucasian, and were in the middle to upper-middle class range. Additionally, there was poor representation of those from lower SES families. Despite the strong effort to recruit subjects with a wider age range, ethnicity, and SES than in the Holmes (1996) study by recruiting at community colleges, these demographics are almost identical to those found in the previous study. This is primarily due to the fact that attempts to recruit from community college campuses with a larger percentage of ethnic minorities and a more diversified student population with regard to age and family income were in vain. Another contributing factor to this problem is the decrease in college students nationally from lower SES groups and ethnic minority groups across all types of colleges. Therefore, the generalizability of the

findings discussed above should probably be limited to middle/upper-middle class college students, despite the attempt to increase the representativeness of the sample.

An attempt was made to conduct the study earlier in the semester than in the Holmes (1996) study and this effort was largely successful. The idea behind this was to limit the number of procrastinators in the study. However, there is no way of telling if this change with regard to the timing of data collection had any significant effect on the results.

Nature of the Final Measurement Model

Hypothesis one stated that confirmatory factor analysis would result in a measurement model that supported the construct validity of codependency and romantic love, and that limerence and desperate love would merge in the analysis. Despite the technical problems encountered with regard to the size of the initial correlation matrix, it appears that the confirmatory factor analysis was successful in determining a measurement model that provides support for the construct validity of the five factors under investigation. Ideally, it would have been best to run all the items in all the factors at the same time in the initial measurement model. However, it does appear the alternative method that was implemented was a reliable and valid means of achieving a best-fitting model. A very conservative approach was utilized wherein items were only deleted after a thorough content analysis and were not rejected simply because of low loadings on the intended factor. This painstaking and fastidious process

contributes to the content validity of the final factors emerging from the terminal measurement model.

It was not a specific purpose of this study to attempt to prove that the continuum model of excessive/intense love processes exists as depicted by the model shown in Figure 2. This model was designed to be a starting point for developing a construct validity study involving the constructs of romantic love, desperate love, limerence, BPO, and codependency. Our purpose was to determine how these constructs relate to each other and to validate them as being separate, but interrelated concepts. The study appears to have been partially successful, in that the five separate constructs that emerged from the confirmatory factor analysis were fairly highly correlated with each other for the most part (see Table 11), but not so much as to be considered identical conceptualizations. Examination of Table 10 reveals the marked empirical overlap that existed between the initial factors in the first measurement model with the three subscales of BPO, limerence, and codependency. It was decided that the best way to proceed was to attempt to pare down these conceptually different constructs in order to determine what the empirical differences were between these factors. The end result was a final measurement model that was extremely parsimonious and the fairly high standard coefficient alphas attest to the reliabilities of the resultant constructs.

One of the most important findings of this study is that codependency again emerged as a strong construct separate from the others as in the Holmes (1996) study, and contributes additional validity to a construct that has had many

critics and opponents. This empirical replication regarding the construct validity of codependency may give added impetus to those investigators who want to include it in their research. Despite the tremendous amount of item deletion that occurred in the confirmatory factor analysis iterative process, the 6 items that remained make up a powerful, compact measurement tool with regard to the essential concept of codependency. Additionally, despite the small number of items, the final factor had an acceptable, albeit not ideal, reliability (coefficient alpha of .59).

The final 11-item version of the borderline personality scale included items from all three original subscales (i.e., Loss of Reality, Primitive Defenses, and Identity Diffusion) and 1 item from the original Codependency Questionnaire. The coefficient alpha was very good (.82) and the final factor promises substantially more empirical and clinical utility than the original 130-item version of the scale.

The final versions of the romantic love and desperate love scales each had only one item deleted from the original scales and both had very high reliabilities (.87). These characteristics attest both to the high reliability and construct validity of the original scales. Only four items from the original limerence measure were retained in the final measurement model, and these items all tap a shyness/fear of rejection component. This empirical finding provides evidence for a lack of support of the total limerence construct, which is not surprising given the dearth of empirical research of limerence in the published literature.

Why did the limerence and desperate love measures not merge in the confirmatory factor analysis as hypothesized? One reason is that the limerence measure (LS-39) was substantially reduced and an examination of the two original measures provides at least a partial explanation for this phenomenon. The desperate love measure (DLS) was only one page and consisted of 12 short descriptive sentences regarding subjects' style of relating in intimate relationships. The LS-39 measure was over two and one-half pages long and had 40 descriptive sentences, many of which were quite long. Therefore it is highly possible that subjects either responded randomly or fell into response sets with the longer, more tedious questionnaire. So even though the limerence and desperate love constructs appear to have substantial theoretical and conceptual overlap, the utility of the DLS measure may have resulted in more accurate responding of subjects.

Another reason is that the DLS has questions geared to subjects' styles of relating in actual intimate relationships and the LS-39 has questions concerning strong attractions to people with whom subjects may or may not have had a relationship. Consideration of both of these explanations may clarify this unexpected finding.

Examination of Table 11 provides evidence that romantic love is quite distinct from limerence, codependency, and BPO, as evidenced by very low correlations between these constructs. This makes intuitive sense because romantic love is seen as being a more normative emotional state and not indicative of addictive or excessive processes as described in the Literature

Review. The low correlation with limerence would be expected if one considers that the factor that emerged from the confirmatory factor analysis basically taps a shyness/fear of rejection component, that would not relate highly with healthy romantic relationships involving care, responsibility, respect, and knowledge of the partner. Romantic love did correlate highly with desperate love and much of this strong relationship could be accounted for by the fact that both measures concerned characteristic behaviors and attitudes in subjects' intimate relationships. Another factor with regard to the weak relationship between romantic love and the constructs of codependency and BPO is that the latter constructs are personality traits/disorders that develop in early childhood, wherein dysfunctional attitudes and behaviors are manifested later on in development, particularly in adulthood. Romantic love is an emotional state that requires a high level of emotional maturity and a sense of identity and is usually attained by late adolescence.

Hypothesis ten predicted that Borderline Personality Organization would be related to Codependency, Limerence, and Desperate Love. This hypothesis was supported for all three of these love-related variables. One problem with regard to validating the constructs under scrutiny as separate but interrelated concepts is the very high correlation between codependency and BPO. In addition to the empirical evidence for these constructs as being extremely similar, there are also theoretical/conceptual explanations. Primitive defenses that are described as being utilized by people with BPO such as projection, omnipotence, and denial, have conceptual links with codependency. Omnipotence refers to an

exaggerated sense of responsibility, which is a hallmark of codependency. Denial is also an essential component of the codependency construct and can be traced back to the conceptual origins of the notion, wherein family members often deny that the problem drinker is an alcoholic.

Finally, the identity diffusion component of BPO can be related to enmeshment and intimacy difficulties, which are additional hallmarks of codependency. The tendency to become enmeshed in intimate relationships can also be construed as indicative of a drive to fill a void within oneself with a symbiotic-type fusion process, indicating ego identity problems and borderline personality structures.

Alcohol-Related Findings Concerning Consumption Patterns and Diagnoses

As expected, the percentage of subjects who met lifetime criteria for a diagnosis of alcohol abuse or dependence (46.3%) in this study was close to that found in the Holmes (1996) study (53%). As in the earlier study, there was a greater percentage of men with alcohol diagnoses than women (55.5% versus 41.6%, respectively). Of note is the larger percentage of subjects who met criteria for a diagnosis of alcohol dependence with physiological dependence than for alcohol dependence without physiological dependence, for both men (27.1% versus 15.5%, respectively) and women (15.7% versus 11.1%). In order to meet criteria for a diagnosis of alcohol dependence with physiological dependence, the subject must have reported symptoms indicating the development of tolerance to the effects of alcohol, and/or symptoms of withdrawal.

The reason for this is at least partially explained by examining the extremely large percentage of subjects in this study who met criteria for being a "binge drinker" (54.3%) or "frequent binge drinker" (27.8%) according to Wechsler's criteria. These percentages are considerably higher than those found in the Wechsler et al. (1994) and Wechsler et al. (1998) national studies and attest to the high percentage of subjects having serious problems with alcohol. For a detailed theoretical discussion regarding the large percentage of subjects in this population meeting criteria for an alcohol diagnosis see Holmes (1996).

Hypothesis three stated that men would have higher scores than women on Alcohol Consumption and problems with alcohol as indicated by higher Alcohol Diagnosis. This study's findings of significant gender differences in alcohol consumption and severity of alcohol diagnoses are consistent with the results of the Holmes (1996) study and other findings in the literature reporting that men drink more than women (Engs & Hanson, 1990; Rabow, Watts, Hernandez, & Sappington, 1992). It is noteworthy that there were no significant gender differences for the number of binge drinking episodes during the 2 weeks prior to testing. Therefore it is evident that although men and women had a relatively equal number of binge episodes, men were drinking more on the average, per drinking occasion.

Significant gender differences were found for self-esteem as expected, which is consistent with both American and Canadian research with men having higher self-esteem scores than women (Bagley et al., 1997). In hypothesis nine it was hypothesized that Self-Esteem would be negatively correlated with Alcohol

Consumption and problems related to alcohol use as depicted by Alcohol Diagnosis. This part of hypothesis nine turned out not to be supported when analyzed with both genders combined for the consumption variables. When analyzed separately for men and women, it was found that Self-Esteem was significantly negatively correlated with Alcohol Consumption for women and not correlated with Alcohol Consumption for men. This result can be partially explained by considering that for many men in college, self-image and corresponding self-esteem with regard to masculinity/machismo traits is raised with increasing ability to consume large amounts of alcohol. This type of male drinker would offset those who have low self-esteem and drink to bolster their confidence, or who have their self-esteem or self-image decreased because of their alcohol use/abuse. This compensatory effect could result in the statistical result of a non-significant relationship between self-esteem and alcohol consumption for men.

In hypothesis eight it was predicted that Parental Alcoholism would be related to scores on Codependency, however, this hypothesis was not supported. This finding is consistent with the results of Carothers and Warren (1996), George et al. (1999), and Hewes and Janikowski (1998), and inconsistent with the findings of Gotham and Sher (1995), and Hinkin and Kahn (1995). The finding that parental alcoholism was not related to subjects' level of codependency provides evidence for the need of a broader definition and more expansive etiological explanations for the codependency construct, than that

furnished by early theory suggesting parental alcoholism is a main dynamic in producing codependency.

Relationships Between Excessive/Addictive Processes in the Two Domains

Again keeping in mind that this study was not designed to prove or disprove the continuum model of intense love processes as depicted in Figure 2, it may be useful to explore the relationship between alcohol consumption and problems associated with alcohol use as depicted by alcohol diagnoses with each of the constructs measured by the key variables separately.

A strong general trend was found in that there was a significant positive relationship between most of the excessive or addictive processes in the two domains for women, but not for men. Although insignificant, with the majority of variables, the relationships for men were in the same direction as for women. In addition to the possibility that the smaller sample size for men may have contributed to the general trend, another possible explanation for this phenomenon is that, because of social influences in development, women are more prone to be honest with regard to strong or excessive feelings and attitudes, whereas men have been socialized to understate, minimize, or suppress these feelings and attitudes in close relationships. The effect of these socialized differences with regard to self-report involving subjects' close relationships would be to reduce the correlations between constructs in the two domains for men, but not for women. Importantly, as discussed in the Results section above, since the sample size for men was about one-half the size of the sample for women, the differences between the genders regarding the

relationship between addictive processes in the domains may be overstated somewhat and should therefore be explored more thoroughly in subsequent research.

Hypothesis four stated that Alcohol Consumption and problems with alcohol as indicated by Alcohol Diagnosis would be positively correlated with scores on Codependency and Desperate Love. With regard to Desperate Love, the findings parallel the larger general trend discussed above in that a significant relationship was found with Alcohol Consumption for women, but not for men. With reference to the relationship between Desperate Love and problems with alcohol as depicted by Alcohol Diagnosis, significant relationships were found for both genders. Since there is little or no research in this area, further explanations of these results beyond those given above will be delegated to future endeavors.

Why was a significant relationship between Codependency and Alcohol Consumption and problems associated with alcohol use as indicated by Alcohol Diagnosis not found in this study as it was in the Holmes (1996) study? Part of the answer may lie in the fact that the measures of Codependency that emerged from the confirmatory factor analysis in the two studies were different. Secondly, given the substantial amount of item deletion from the two original codependency scales during the establishment of a final measurement model, one may be suspect of the utility of this construct. However, since it is clear by close examination of the results that the hypothesized relationships between Codependency and several variables in the study were supported, this lends contradictory evidence to that notion. For example, Codependency was found to

be strongly negatively correlated with Self-Esteem, as predicted in hypothesis nine. Also, the finding that there were no significant gender differences with regard to Codependency, which is inconsistent with the prediction made in hypothesis two, is comparable to the results of some researchers (Roberts, 1990; Springer et al., 1998; Wells et al., 1998), and contrary to the results of others (Cowan & Warren, 1994; Fischer et al., 1991; Roehling et al., 1996).

Based upon a review of the literature surrounding attachment theory, it was predicted in hypothesis six that the Preoccupied and Fearful/Avoidant attachment styles would be related to Alcohol Consumption and problems associated with alcohol as indicated by Alcohol Diagnosis. By conceptualizing the anxious-ambivalent or preoccupied attachment style as being associated with more excessive love styles and similar addictive processes, it was predicted that subjects with that style of relating in close relationships would drink more and have more problems associated with alcohol use than those with other styles. Surprisingly, it was found that there was no significant relationship between the Preoccupied style and Alcohol Consumption or Alcohol Diagnosis for men, and with women, the only significant relationship was found for Alcohol Diagnosis.

With regard to the Fearful/Avoidant attachment style, the general trend was found again, i.e., there was no relationship between this style of attachment and any of the alcohol variables for men, but significant relationships were found with all of the alcohol variables and the Fearful/Avoidant attachment style for women. The fact that there was a stronger relationship found for the Fearful/Avoidant attachment style than the Preoccupied attachment style with the

alcohol variables for women was surprising at face value. However, several researchers (Levitt et al., 1996; Rothbard & Shaver, 1994; Senchak & Leonard, 1992) have reported that avoidant types drink more and have more problems associated with alcohol use than the other types. Levitt et al. described avoidantly attached people as being more likely to resort to substance abuse to alleviate anxiety because they are less likely to obtain comfort from supportive relationships. The question as to why this relationship was not found for men in the current study may at least be partially explained by the reasons given above, but further research is warranted.

A significant relationship was found between the number of times subjects have experienced infatuation and all the alcohol variables, for both men and women, when analyzed separately and combined. This is inconsistent with the results of the Holmes (1996) study in which a relationship between the frequency of infatuation and alcohol consumption was found to be mediated by the effects of gender. This finding is consistent with predictions based upon inhibitory conflict theory, in that the frequency of infatuations would be expected to increase with increasing alcohol consumption over time because of alcohol myopia. This impairment of perception and thought may lock the person into an infatuation reaction whereas if they were not affected by alcohol, the attraction might be minimal and temporary. Since this particular finding was not part of a controlled experiment and there was no evaluation of the level of conflict subjects experienced when they had infatuation experiences, the results should be interpreted with caution.

In hypothesis ten it was predicted that Borderline Personality Organization would be related to Alcohol Consumption and Alcohol Diagnosis. The general trend involving gender differences as described at the beginning of this section was also found for the most part with regard to BPO and the alcohol variables. For men, there were no significant relationships found with this variable and any of the alcohol variables. For women, all hypothesized relationships with the alcohol variables were significant, except with regard to one of the indices of Alcohol Consumption (Average Daily Ethanol Consumption). It may be that men were particularly hesitant to endorse strong attitudes and/or feelings with regard to this measure because of items indicative of psychotic processes (Loss of Reality items). This phenomenon may be explained, at least in part, by men's socialization to present themselves as being in control of their cognitions and emotions and consequently, their environment. Therefore, as discussed above, under-reporting would have the effect of decreasing the correlations between BPO and the alcohol variables for men.

Relationship of these findings to theory.

What do these findings imply with regard to theories addressed in the Literature Review? As stated earlier, it was not the purpose of this study to explore, nor to determine the extent to which, each theory enhanced the relationship or association between the two main variables under consideration. Therefore, a detailed discussion regarding the theoretical implications of this study's findings will be left for future undertakings.

There are two important dilemmas faced when making theoretical interpretations of the data. First, it is very difficult to delineate the influences of the various theories with regard to the findings. Secondly, the general trend involving gender differences on the two main variables makes strong associations with theoretical predictions much more difficult and ambiguous with regard to interpretation.

As discussed in the Literature Review, psychoanalytic theory would predict that development of a strong, autonomous ego identity would be compromised by borderline personality structures. Therefore, we would expect to find a negative relationship between BPO and Ego Identity. Examination of Table 15 shows that this prediction was supported for the Commitment component of Ego Identity, but not for the Exploration component. This finding fits expectations regarding people who have weaker identity formations finding it difficult to commit with regard to personal choices.

Psychoanalytic theory and previous research suggest that BPO would be positively associated with alcohol consumption and problems associated with alcohol use. As discussed in the Literature Review, borderline personality structure can be viewed as a significant risk factor with regard to the development of alcoholism. In this study a positive association between most of the alcohol variables and BPO was found for women, but not for men. Possible explanations for this gender difference were discussed above.

Hypothesis seven stated that Ego Identity would be negatively correlated with Codependency and Desperate Love. Consistent with the breakdown

between Exploration and Commitment described above, it was found that Commitment was indeed negatively correlated with Desperate Love and Codependency for women alone and when combined with men, but not for men alone. For the Commitment component and Desperate Love, these results are consistent with those found by Sperling (1985) and predictions made based on psychoanalytic theory. The finding that Exploration was not negatively associated with Desperate Love and Codependency makes sense in that people with high levels of codependency and desperate attachment styles would tend to explore their world more thoroughly, but have difficulty making commitments.

Hypothesis five stated that the Preoccupied attachment style would be positively associated with scores on Codependency, Limerence, and Desperate Love. For the vast majority of correlations between these variables, the hypothesis was strongly supported. This finding gives some support to the idea that these constructs are all related and indicative of addictive processes in their extreme form. In the Literature Review the argument has been made that alcohol and other drugs are frequently used to "self-medicate" psychological/emotional pain. Therefore, if one is in emotional upheaval over a real or potential romantic relationship, whether it be codependent, limerent, addictive, or a result of an anxious, preoccupied, or desperate attachment style, increased alcohol consumption may be used as a way of temporarily self-medicating the pain and consequently attempting to reduce the accompanying psychological/emotional distress. The relationships between these related constructs and alcohol consumption and problems associated with alcohol use in

this study are complicated and vary according to the particular construct being considered. Therefore, it is more useful to examine these constructs separately, and view them as being related but distinct theoretical entities, then to consider them lumped together as "addictive processes." This is also corroborated by the significant but moderate correlations between these variables.

Future Directions

Both the exploratory nature of this study, as well as the interesting and thought-provoking results, lend themselves to a wealth of future research. One of the most important findings in the current study was the strong pattern of gender differences in addictive processes in the two domains of alcohol use/abuse and romantic relationships. More detailed analyses of theoretical and conceptual explanations of this difference, in particular involving the constructs of desperate love, fearful/avoidant attachment, and BPO are warranted. Additionally, gender differences in the relationship between alcohol consumption and self-esteem should be explored in-depth, in particular involving personality differences and those associated with social and cultural influences.

Expansion of the sample used in this study would be necessary in order to study the relationship between alcohol use and romantic relationships over the entire life span, both cross-sectionally and longitudinally. It is imperative to keep in mind that from a developmental perspective, the subjects involved in the Holmes (1996) study and the current study were primarily from the stage of late adolescence, and were in college. This particular developmental period is characterized by early attempts at dating and searching for mates, and is driven

by a higher tendency to become infatuated than occurs in later developmental periods. It is important to keep these developmental considerations in mind when analyzing and reflecting upon the results of the two studies.

Inclusion of many subjects from all age, SES, and racial groups in the college population may be possible with recruitment at campuses that have a higher percentage of ethnic minorities and returning students. This type of subject recruitment would result in data that is generalizable to a wider range of populations. Additionally, expansion with regard to collection of demographic data concerning whether students belong to fraternities/sororities, live in dormitories, or off-campus, in addition to the inclusion of other personality measures, may provide more detailed explanations for the results of the present study. Finally, recruitment of subjects from the general population would make it possible to explore differences that may exist between these people and college students with regard to the relationship between the two domains under consideration.

Since the excessive/addictive processes under study certainly exist to a greater degree in a clinical population than in the general or college student population, studying the relationship between the two domains with patients in treatment for chemical dependency and/or psychiatric patients would be a major step towards scrutinizing these pathological processes in greater detail. Also, by studying a clinical population, further elucidation of the relationships between these variables could have strong implications for therapy in particular and treatment in general. This would be important especially with regard to issues of

self-esteem and ego identity, as well as for attachment style and borderline personality structure, in treating patients with substance abuse problems and/or relationship difficulties, for example. Comparing patients who have borderline character structure with those who meet criteria for a diagnosis of borderline personality disorder (BPD) on the variables under consideration would also be a strong addition to this line of research.

Confirmatory factor analytic procedures that would allow the inclusion of all relevant items at once in the initial measurement model could provide empirical confirmation of the results of the current study. Further in-depth analysis of the relationship between the variables displayed in Figure 2, including the strong empirical and conceptual overlap between codependency and BPO, is another potentially productive research avenue to pursue.

As a result of the confirmatory factor analysis in this current study, it appears that the desperate love measure (DLS) holds more future promise empirically with regard to excessive processes in intimate relationships than the limerence measure (LS-39) with which we started. It may be useful to use confirmatory factor analytic procedures in an attempt to develop a measure that would tap the construct of limerence and discriminate it from other related constructs. It may be that the essential component of limerence is fear of rejection and that other related constructs such as desperate love provide much more empirical information concerning excessive/intense processes in romantic relationships.

Further exploration of transgenerational patterns involving parental alcohol history, romantic love styles, codependency, adult attachment styles, BPO, ego identity, self-esteem, and alcohol use/abuse will also undoubtedly be a fruitful avenue for future research. Finally, inclusion of a measure that provides information on drug use other than alcohol may help elucidate the effect of many different types of drug use/abuse on one's relationships and vice versa.

APPENDICES

APPENDIX A

SCRIPT FOR INSTRUCTIONS TO SUBJECTS

Hi, my name is Larry Holmes and I am a Clinical Psychology Doctoral Student. Please sit in alternate seats; there should not be anyone sitting in the seat next to you. The purpose of this is to help insure your privacy with regard to answering questions. Before you begin, you should know that the purpose of this study is to look at personality characteristics and their relationship to drinking (alcohol) behavior. This experiment will take approximately one and one-half to two hours, and involves filling out questionnaires in manila envelopes that we will distribute after the instructions are given. The questionnaires ask questions about your personal background such as your sex, age, and parents' amount of education, your use of alcohol, your parents' use of alcohol, and personal attitudes regarding yourself and in relationship to others. Before you begin, please read the informed consent sheet, and if you agree to be in the study, sign the consent sheet. If you are under 18 years old, be sure to turn in your completed parental consent form before beginning the experiment. Remember that you are free not to participate at all, to refuse to answer certain questions, and may discontinue your participation in the study at any time without penalty. You should also be aware that the results of this study will be kept in strict confidence and you will remain anonymous. When you turn in your completed questionnaires, we will pull the informed consent sheet from your packets and after that there will be no way to trace your questionnaires back to you. Do not put your name anywhere except on the consent form.

Please follow the instructions at the top of each questionnaire very carefully. If you have any questions, please raise your hand and one of us will assist you. There are a total of 14 questionnaires, some are very short and others are longer. For six of the questionnaires you will be marking your responses on the red scantron sheet. For five of the questionnaires in your packet use the blue scantron sheet. Which color of scantron to use is printed on the top of each questionnaire. Please mark your answers on the questionnaire directly and then transfer your responses to the appropriate scantron sheet before beginning the next questionnaire. Please be careful that you are transferring your answers from the questionnaire to the scantron correctly. The order in which to mark your answers for each questionnaire on each scantron is written on the blackboard at the front of the room. Additionally, where each questionnaire ends on the scantron sheet is indicated by a heavy red line after the last question for that questionnaire. Three of the questionnaires do not use a scantron sheet and this is indicated by the words "No Scantron" printed at the top of the questionnaire. Simply mark your answers directly on the questionnaire and go on to the next one.

Before you begin answering the questionnaires, be sure to enter your identification number on the scantron sheets. Your identification number is written in the upper left hand corner on the envelope in which you will receive the

questionnaires. Please enter your identification number in the boxes labeled "section" on the scantron sheets and fill in the bubbles underneath as well. Additionally, indicate which form you have used, which is written on the blackboard, and on the blue scantron indicate your gender.

If you don't drink alcohol, please write "I don't drink" at the top of the appropriate questionnaires and answer each question. If one or both of your parents don't drink, write that at the top of the questionnaire(s) regarding your mother or father's drinking history. Please answer each question on these forms as well. If you did not know one or both of your parents indicate this on the appropriate form(s) and don't fill them out.

When you have finished filling out the questionnaires and scantron sheets, please form a line along the wall and wait while we check your forms. Please remain quiet while waiting in line, and it will expedite matters if you put your questionnaires in the same order that you received them. It won't take very long for us to check your questionnaires, but please be patient. Don't forget to have your credit cards stamped before you leave.

Although beneficial results are not guaranteed, being in a large psychological study will give you firsthand experience of what doing research is all about and will add to your knowledge of behavioral science. You may learn more about yourself and find this study to be an interesting experience as well. We will provide feedback sheets that can be picked up as you leave which will give you further information about the study and the various theories involved. After the results of this study are determined, feel free to contact me and I will discuss the results with you. I will also be glad to talk with anyone who wants to have a deeper explanation of the study than that already provided at that time. Thanks for participating in this experiment.

APPENDIX B

INFORMED CONSENT

1. You have voluntarily and freely consented to take part in a scientific study being conducted by: Larry Holmes-Clinical Psychology Graduate Student

   Under the supervision of: Dr. Ralph Levine-Professor of Psychology

2. The purpose of this study is to look at personality characteristics and their relationship to drinking behavior. You have been told that the questionnaires in this study ask for information about your 1) personal background (e.g., sex, age, parent education, etc.), 2) use of alcohol, 3) parents' use of alcohol, 4) personal attitudes regarding yourself and in relationship to others.

3. Participation in this experiment usually takes 1½ to 2 hours and is done in one session.

4. The study has been explained to you, as well as what your participation will involve.

5. You are free not to participate at all, to refuse to answer certain questions, or to discontinue your participation in the study at any time without penalty.

6. The results of this study will be treated in strict confidence and you will remain anonymous. Within these restrictions, results of the study will be made available to you at your request.

7. Your participation in the study does not guarantee any beneficial results to you.

8. At your request, you can receive additional explanation of the study after your participation is completed.

9. If you have any questions or concerns about the study you may contact Larry Holmes at 353-5926.

10. You have read this consent form, have been informed as to what your participation will involve, and freely agree to participate in this study.

Signed:_____

Date: _____

APPENDIX C

PERSONAL BACKGROUND QUESTIONNAIRE

Demographic Information:

1) What is your sex? male _____ female _____

2) What is your age? _____

3) What is your major? _____

4) Class: Freshman _____ Sophomore _____

Junior _____ Senior _____

5th Year Senior _____

5) Are you? Black _____ White _____

Hispanic _____ Asian _____

Native American ____ Other _____

6) What is your religion? Protestant _____ Roman Catholic _____

Greek Orthodox _____ Jewish _____

None _____ Other _____

7) What was your father's highest level of education?

a) less than high school
b) high school degree
c) some college
d) 4 year college degree
e) Master's degree
f) Ph.D., J.D., M.D., D.D.S., etc.

8) What was your mother's highest level of education?

a) less than high school
b) high school degree
c) some college
d) 4 year college degree
e) Master's degree
f) Ph.D., J.D., M.D., D.D.S., etc.

9) What is the total income of your family? (Give your best guess.)

less than $19,999 _____

$20,000-$39,999 _____

$40,000-$59,999 _____

$60,000-$79,999 _____

$80,000 and over _____

Please answer the following questions as accurately and honestly as you can.

10) How many romantic love relationships have you been involved in?

_____

a) none
b) one
c) two
d) three
e) four
f) five

If more than five, state approximately how many. _____

11) Are you currently involved in a romantic love relationship? Yes No

12) How long did your longest romantic love relationship last (in months)? (If you are currently in a romantic love relationship, state how long it has lasted up until now.)

_____

13) Based on the following brief definition, how many times have you been infatuated with someone?

An emotional state wherein the object of desire is perceived unrealistically. It involves idealization of the person's positive qualities and avoidance of his/her negatives. The feeling is intense, irrational, persistent and sometimes can be all-consuming. The person is perceived as being appealing, alluring, beautiful and cool. Usually this feeling is accompanied by physical attraction and sexual desire and a longing for reciprocation of these same feelings from the person. Often the intensity of focus and feelings pushes other concerns into the background.

_____ 30 or more times
_____ 25-29 times
_____ 20-24 times
_____ 15-19 times
_____ 10-14 times
_____ 7-9 times
_____ 5-6 times
_____ 3-4 times
_____ 1-2 times
_____ never

14) How old were you when you experienced infatuation with someone for the first time?

_____

15) How old were you the last time you were infatuated with someone?

_____

APPENDIX D

DESPERATE LOVE SCALE

These questions concern your style of relating to partners in intimate relationships. For the purposes of this questionnaire, an intimate relationship should be thought of as a close relationship with a single partner in which there is some sexual attraction. To think about your style of relating, consider the way you have related to partners in the one, two, or three most significant, intense, intimate relationships you have had. Of course, the way you relate to someone is probably different in some way each time it happens, but for now try to imagine an overall picture of your style of relating based upon a few of the most significant relationships in your life.

Twelve qualities of a style of relating are listed below. For each you should think about how much the quality is characteristic of <u>your</u> style of relating. In other words, how well does this quality describe the way you approach an intimate relationship. You should then rank each quality according to the nine point scale below, where a rating of 1 indicates that the quality is not at all characteristic of your style of relating, and a rating of 9 indicates that the quality is extremely characteristic of your style of relating. For purposes of comparison, you should assume that a rating of 5 would be typical for the "average" person, and then decide to what extent you vary from the norm for each quality.

not at all characteristic			moderately characteristic (typical of "average" person)				extremely characteristic	
1	2	3	4	5	6	7	8	9

1. persistent thoughts about the person you are involved with

2. a great longing for the person to return your love

3. a feeling of intense passion toward the person

4. your moods being greatly affected by the actions of the person

5. much fear of rejection

6. many daydreams and fantasies about the person returning your love

7. a need to spend as much time as possible with the person

8. a feeling that you want to be as close as possible emotionally to the person

9. a tendency to emphasize the good qualities in the person and to avoid dwelling on the negative

10. a feeling that a relationship fills a void in you, makes you feel much more secure and whole

11. a general intensity of feelings such that other concerns seem unimportant

12. a feeling that you not only desire, but feel a powerful need to be in a very intimate relationship with the person

APPENDIX E

LIMERENCE SCALE-39 (LS-39)

ATTRACTION SURVEY

The following is a questionnaire asking you to respond to a number of statements about how you feel or felt toward someone to whom you are or were strongly attracted. This does not have to be someone with whom you have had a relationship. In fact, we may often find ourselves strongly attracted to someone with whom we have only had a brief acquaintance. The important point is that you find or found yourself very strongly attracted to this person. In answering these questions, it is best to describe the feelings you have toward someone that are happening now, rather than in the past. If you are not strongly attracted to someone right now but felt this way in the past, answer the questions based upon your past feelings. Please respond to each question using the following scale:

A	B	C	D	E	F	G
Strongly Disagree			Neutral			Strongly Agree

1. I love everything about the person to whom I am strongly attracted.
2. When I am strongly attracted to someone, I have a lot of self-doubt and uncertainty abut how to act in their presence.
3. When I am strongly attracted to someone I find that I search for alternative meanings to each of their words and gestures.
4. I have been strongly attracted to someone even when I wasn't sure that they may have felt the same way toward me.
5. It doesn't bother me when I find that someone toward whom I'm strongly attracted doesn't feel the same about me.
6. When I'm strongly attracted to someone, I interpret the meaning of their every action, looking for clues about their feelings toward me.
7. Love is not a beautiful experience for me.
8. My heart flutters, my body trembles, and my face seems flushed when I am with someone to whom I am strongly attracted.
9. I feel that I couldn't be happier when someone to whom I am strongly attracted admits to feeling the same about me.

10. I admire everything, no matter how trivial, about the person to whom I am strongly attracted.
11. When I am strongly attracted to someone, I find that they become the center of all my thoughts.
12. I do not enjoy being in love.
13. I get a great deal of pleasure from thinking about the person to whom I am strongly attracted.
14. When I am attracted to someone, I have often felt that it was almost impossible for them to ever feel the same way about me.
15. I have never felt an intense attraction toward someone I hardly knew.
16. I find that it's easy to neglect my daily responsibilities when I am lost in thoughts about the person to whom I am strongly attracted.
17. I have never been strongly attracted to someone who showed little interest in me.
18. I feel awkward, confused, shy, and inhibited when I am around someone to whom I am strongly attracted.
19. I hide my true feelings from someone to whom I am strongly attracted because I fear that they will reject me.
20. I do not spend much time imagining myself doing things with the person to whom I am strongly attracted.
21. When I am strongly attracted to someone, that person seldom enters my thoughts.
22. I feel elated when it seems that the person to whom I am strongly attracted may return my feelings.
23. When something gets in the way of my involvement with someone to whom I am strongly attracted (parents' objections, geographical separation, and so forth), I find that my desire to overcome these obstacles intensifies.
24. I often remain in bed in the morning thinking about the person to whom I am strongly attracted.
25. When I am strongly attracted to someone, I am preoccupied with thoughts of that person returning my love.
26. When I daydream about someone to whom I am strongly attracted, the dreams end with that person saying that they feel the same way about me.
27. When I am strongly attracted to someone, my thoughts and feelings about that person are never so intense that other concerns are left in the background.
28. I sometimes have neutral feelings toward someone and then find that suddenly those feelings change to a specific and strong attraction.
29. I have a great fear of rejection when I am uncertain about how someone to whom I am strongly attracted feels about me.
30. I sometimes get jealous when I see someone to whom I am strongly attracted in a situation with another person that I feel only I should be in.

31. I never fantasize or daydream about a special person when I should be doing other things.
32. When I am strongly attracted to someone, I seldom have an acute longing for my feelings to be returned.
33. I have never felt an initial shyness around a person to whom I was beginning to feel strongly attracted.
34. My heart beats a little bit faster when I am with or near the person to whom I am strongly attracted.
35. When I am talking on the telephone with a person to whom I am strongly attracted, I am often afraid that I will say the wrong thing.
36. I have rarely gone out of my way to increase my chances of meeting someone to whom I felt attracted.
37. I become deliriously happy when I think about the person to whom I am strongly attracted.
38. At times I have felt that someone to whom I am strongly attracted does not even know that I exist.
39. The mood of someone to whom I find myself strongly attracted rarely affects my own feelings.
40. How honest have your answers been to the preceding questions?
    A. 100% honest.
    B. 80% honest.
    C. 60% honest.
    D. 40% honest.
    E. 20% honest.
    F. Not honest at all.

APPENDIX F

THE ROMANTIC LOVE SCALE L1

Please respond to the following statements about your current romantic love relationship as accurately and honestly as possible. Do not respond to the questionnaire if you have never been involved in a romantic relationship. If your present relationship is not particularly significant or if you are not currently involved, then answer to the best of your ability about your most significant relationship within the last 3 to 4 years. On a scale of 1 to 9, circle the number most closely corresponding to your level of agreement with the statement. 1 signifies "not at all true" and 9 "definitely true."

1. If my partner were feeling badly, my first duty would be to cheer him (her) up.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

2. I feel that I can confide in my partner about virtually everything.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

3. I find it easy to ignore my partner's faults.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

4. I would do almost anything for my partner.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

5. I feel very possessive toward my partner.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

6. If I could never be with my partner, I would feel miserable.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

7. If I were lonely, my first thought would be to seek my partner out.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

8. One of my primary concerns is my partner's welfare.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

9. I would forgive my partner for practically anything.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

10. I feel responsible for my partner's well-being.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

11. When I am with my partner, I spend a good deal of time just looking at him (her).

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

12. I would greatly enjoy being confided in by my partner.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

13. It would be hard for me to get along without my partner.

Not at all true; disagree completely	1	2	3	4	5	6	7	8	9	Definitely true; agree completely

APPENDIX G

SPANN-FISCHER CODEPENDENCY SCALE

Read the following statements and place the number in the spaces provided that best describes you according to the following list: 1=Strongly Disagree; 2=Moderately Disagree; 3=Slightly Disagree; 4=Slightly Agree; 5=Moderately Agree; 6=Strongly Agree.

1. It is hard for me to make decisions.
2. It is hard for me to say "no".
3. It is hard for me to accept compliments graciously.
4. Sometimes I almost feel bored or empty if I don't have problems to focus on.
5. I usually do not do things for other people that they are capable of doing for themselves.
6. When I do something nice for myself I usually feel guilty.
7. I do not worry very much.
8. I tell myself that things will get better when the people in my life change what they are doing.
9. I seem to have relationships where I am always there for them but they are rarely there for me.
10. Sometimes I get focused on one person to the extent of neglecting other relationships and responsibilities.
11. I seem to get into relationships that are painful for me.
12. I don't usually let others see the "real" me.
13. When someone upsets me I will hold it in for a long time, but once in a while I explode.
14. I will usually go to any lengths to avoid open conflict.
15. I often have a sense of dread or impending doom.
16. I often put the needs of others ahead of my own.

APPENDIX H

CODEPENDENT QUESTIONNAIRE

Please rate on a scale of 1 to 5 how strongly the following statements represent your feelings.

1-I never feel this way
2-I rarely feel this way
3-I sometimes feel this way
4-I often feel this way
5-I always feel this way

1. Feelings often build up inside me that I do not express.
2. When I am unable to help someone I feel inadequate.
3. I tend to place the needs of others ahead of my own.
4. I get angry when things do not go my way.
5. I think that others take advantage of me.
6. I am unaware of what I want from others.
7. I feel that without my effort and attention, everything would fall apart.
8. I feel that it is my fault when someone gets angry or upset.
9. It is easy for me to say no to others.
10. It makes me feel uncomfortable to share my feelings with others.
11. I try to please other people.
12. When I am not intimately involved with someone, I feel worthless.
13. I get a great deal of satisfaction from helping others.
14. People will not like me if I talk to them about my problems.
15. Even with good friends, I am afraid that someday they will reject me.
16. I often feel depressed even when things are going well.
17. I tend to either really like a person or really dislike them.
18. I usually do not care about what others think of me.
19. I am comfortable letting others into my life and revealing the "real me" to them.
20. I seem to get involved with people with personal problems.
21. I worry a great deal about what others think of me.
22. It bothers me when friends try to get too close.
23. Most of my friends have many problems.
24. I am overly sensitive to the feelings of those who are important to me.
25. I am highly critical of the things that I do and say.

26. If I work hard enough I should be able to solve almost any problem or make things better for people.
27. My mood is fairly stable and unaffected by the problems and moods of those close to me.
28. I tend to avoid close relationships.
29. If things are going to be done correctly, I must do them myself.
30. I am very open with others about my feelings, no matter what they are.
31. When there is a great deal of activity going on around me, I tend to get a headache.
32. When I become closely involved with someone, I begin to adopt their values and tastes.
33. I often get caught in the middle of an argument between other people.
34. As a child, it seemed like nothing I did was good enough.
35. Sometimes I do not know how I really feel.
36. Most of my friends rely upon my guidance and advice.

APPENDIX I

EGO IDENTITY PROCESS QUESTIONNAIRE

Listed below are a number of statements describing adolescent behavior. Please indicate how you feel about each statement.

Example: Politics are very important in my life.

Write a 1 if you strongly disagree.
Write a 2 if you disagree.
Write a 3 if you slightly disagree.
Write a 4 if you slightly agree.
Write a 5 if you agree.
Write a 6 if you strongly agree.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

___ (1) I have definitely decided on the occupation I want to pursue.
___ (2) I don't expect to change my political principles and ideals.
___ (3) I have considered adopting different kinds of religious beliefs.
___ (4) There has never been a need to question my values.
___ (5) I am very confident about what kinds of friends are best for me.
___ (6) My ideas about men's and women's roles have never changed as I became older.
___ (7) I will always vote for the same political party.
___ (8) I have firmly held views concerning my role in my family.
___ (9) I have engaged in several discussions concerning behaviors involved in dating relationships.
___ (10) I have considered different political views thoughtfully.
___ (11) I have never questioned my views concerning what kind of friend is best for me.
___ (12) My values are likely to change in the future.
___ (13) When I talk to people about religion, I make sure to voice my opinion.
___ (14) I am not sure about what type of dating relationship is best for me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

___ (15) I have not felt the need to reflect upon the importance I place on my family.
___ (16) Regarding religion, my beliefs are likely to change in the near future.
___ (17) I have definite views regarding the ways in which men and women should behave.
___ (18) I have tried to learn about different occupational fields to find the best one for me.
___ (19) I have undergone several experiences that made me change my views on men's and women's roles.
___ (20) I have consistently re-examined many different values in order to find the ones which are best for me.
___ (21) I think what I look for in a friend could change in the future.
___ (22) I have questioned what kind of date is right for me.
___ (23) I am unlikely to alter my vocational goals.
___ (24) I have evaluated many ways in which I fit into my family structure.
___ (25) My ideas about men's and women's roles will never change.
___ (26) I have never questioned my political beliefs.
___ (27) I have had many experiences that led me to review the qualities that I would like my friends to have.
___ (28) I have discussed religious matters with a number of people who believe differently than I do.
___ (29) I am not sure that the values I hold are right for me.
___ (30) I have never questioned my occupational aspirations.
___ (31) The extent to which I value my family is likely to change in the future.
___ (32) My beliefs about dating are firmly held.

APPENDIX J

ROSENBERG SELF-ESTEEM SCALE

Please read the following statements and place the number in the spaces provided that best describes you according to the following list: 1=Strongly Disagree; 2= Disagree; 3=Agree; 4=Strongly Agree.

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

APPENDIX K

RELATIONSHIP QUESTIONNAIRE

PLEASE READ DIRECTIONS!!!

1) Following are descriptions of four general relationship styles that people often report. Please read each description and **CIRCLE** the letter corresponding to the style that best describes you or is closest to the way you generally are in your close relationships.

A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

2) Please rate each of the following relationship styles according to the extent to which you think each description corresponds to your general relationship style.

A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

	Not at all like me			**Somewhat like me**			**Very much like me**
Style A.	1	2	3	4	5	6	7
Style B.	1	2	3	4	5	6	7
Style C.	1	2	3	4	5	6	7
Style C.	1	2	3	4	5	6	7

APPENDIX L

BORDERLINE PERSONALITY ORGANIZATION (BPO)

For each of the statements below, please indicate how true it is about you by circling the most appropriate number beside each statement.

1	2	3	4	5
never true	seldom true	sometimes true	often true	always true

1.	I feel like a fake or an imposter, that others see me as quite different at times.	1 2 3 4 5
2.	I feel almost as if I'm someone else like a friend or relative or even someone I don't know.	1 2 3 4 5
3.	It is hard for me to trust people because they so often turn against me or betray me.	1 2 3 4 5
4.	People tend to respond to me by either overwhelming me with love or abandoning me.	1 2 3 4 5
5.	I see myself in totally different ways at different times.	1 2 3 4 5
6.	I act in ways that strike others as unpredictable and erratic.	1 2 3 4 5
7.	I find I do things which get other people upset and I don't know why such things upset them.	1 2 3 4 5
8.	Uncontrollable events are the cause of my difficulties.	1 2 3 4 5
9.	I hear things that other people claim are not really there.	1 2 3 4 5
10.	I feel empty inside.	1 2 3 4 5
11.	I tend to feel things in a somewhat extreme way, experiencing either great joy or intense despair.	1 2 3 4 5

12.	It is hard for me to be sure about what others think of me, even people who have known me very well.	1 2 3 4 5
13.	I'm afraid of losing myself when I get sexually involved.	1 2 3 4 5
14.	I feel that certain episodes in my life do not count and are better erased from my mind.	1 2 3 4 5
15.	I find it hard to describe myself.	1 2 3 4 5
16.	I've had relationships in which I couldn't feel whether I or the other person was thinking or feeling something.	1 2 3 4 5
17.	I don't feel like myself unless exciting things are going on around me.	1 2 3 4 5
18.	I feel people don't give me the respect I deserve unless I put pressure on them.	1 2 3 4 5
19.	People see me as being rude or inconsiderate and I don't know why.	1 2 3 4 5
20.	I can't tell whether certain physical sensations I'm having are real, or whether I am imagining them.	1 2 3 4 5
21.	Some of my friends would be surprised if they knew how differently I behave in different situations.	1 2 3 4 5
22.	I find myself doing things which feel okay while I am doing them but which I later find hard to believe I did.	1 2 3 4 5
23.	I believe that things will happen simply by thinking about them.	1 2 3 4 5
24.	When I want something from someone else, I can't ask for it directly.	1 2 3 4 5
25.	I feel I'm a different person at home as compared to how I am at work or at school.	1 2 3 4 5
26.	I am not sure whether a voice I have heard, or something that I have seen is my imagination or not.	1 2 3 4 5

27.	I have heard or seen things when there is no apparent reason for it.	1 2 3 4 5
28.	I feel I don't get what I want.	1 2 3 4 5
29.	I need to admire people in order to feel secure.	1 2 3 4 5
30.	Somehow, I never know quite how to conduct myself with people.	1 2 3 4 5

APPENDIX M

SHORT MICHIGAN ALCOHOLISM SCREENING TEST-FATHER'S VERSION (F-SMAST)

Please answer the following questions as accurately and honestly as possible. All information will be used for research only and will be kept strictly confidential. If you are not sure of the answer to a question please answer the best you can.

		Yes (1)	No (2)
1.	Do you feel your father has been a normal drinker?	____	____
2.	Did your mother, grandparent, or other near relative ever complain about your father's drinking?	____	____
3.	Did your father ever feel guilty about his drinking?	____	____
4.	Did friends and relatives think your father was a normal drinker?	____	____
5.	Was your father able to stop drinking when he wanted to?	____	____
6.	Has your father ever attended a meeting of Alcoholics Anonymous?	____	____
7.	Has your father's drinking ever created problems between him and your mother (or step-parent) or another near relative?	____	____
8.	Has your father ever gotten into trouble at work because of drinking?	____	____
9.	Has your father ever neglected his obligations, family, or work for two or more days in a row because he was drinking?	____	____

10. Has your father ever gone to anyone for help about his drinking? ____ ____

11. Has your father ever been in a hospital because of drinking? ____ ____

12. Has your father ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages? ____ ____

13. Has your father ever been arrested, even for a few hours, because of other drunken behavior? ____ ____

APPENDIX N

SHORT MICHIGAN ALCOHOLISM SCREENING TEST-MOTHER'S VERSION (M-SMAST)

Please answer the following questions as accurately and honestly as possible. All information will be used for research only and will be kept strictly confidential. If you are not sure of the answer to a question please answer the best you can.

		Yes (1)	No (2)
1.	Do you feel your mother has been a normal drinker?	____	____
2.	Did your father, grandparent, or other near relative ever complain about your mother's drinking?	____	____
3.	Did your mother ever feel guilty about her drinking?	____	____
4.	Did friends and relatives think your mother was a normal drinker?	____	____
5.	Was your mother able to stop drinking when she wanted to?	____	____
6.	Has your mother ever attended a meeting of Alcoholics Anonymous?	____	____
7.	Has your mother's drinking ever created problems between her and your father (or step-parent) or another near relative?	____	____
8.	Has your mother ever gotten into trouble at work because of drinking?	____	____
9.	Has your mother ever neglected her obligations, family, or work for two or more days in a row because she was drinking?	____	____

10. Has your mother ever gone to anyone for help about her drinking? ____ ____

11. Has your mother ever been in a hospital because of drinking? ____ ____

12. Has your mother ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages? ____ ____

13. Has your mother ever been arrested, even for a few hours, because of other drunken behavior? ____ ____

APPENDIX O

ALCOHOL QUANTITY, FREQUENCY, TYPE SCALE

Please answer the following questions as accurately and honestly as possible. All information will be used for research only and will be kept strictly confidential. Circle the letter of the response that most closely describes your drinking practices in the past 6 months. For all types a drink is defined as a 12 oz. can, glass, or bottle of beer; a 4 oz. glass of wine; a 12 oz. wine cooler; a single shot; or a "single mixed drink." Enter your choice on the scantron sheet.

1. How often did you drink beer in the last six months?
A. Every day
B. 5 or 6 days a week
C. 3 or 4 days a week
D. 1 or 2 days a week
E. Less than once a week

2. When you drank beer, how many beers did you usually have at one time, on the average?
A. 8 or more beers
B. 6 or 7 beers
C. 4 or 5 beers
D. 2 or 3 beers
E. 1 or fewer beers

3. What is the greatest amount of beer you have had at any one particular time over the last six months?
A. 16 or more beers
B. 11 to 15 beers
C. 7 to 10 beers
D. 3 to 6 beers
E. 2 or fewer beers

4. How often did you drink wine coolers in the last six months?
A. Every day
B. 5 or 6 days a week
C. 3 or 4 days a week
D. 1 or 2 days a week
E. Less than once a week

5. When you drank wine coolers, how many did you usually have at one time, on the average?
A. 8 or more wine coolers
B. 6 or 7 wine coolers
C. 4 or 5 wine coolers
D. 2 or 3 wine coolers
E. 1 or fewer wine cooler

6. What is the greatest number of wine coolers you have had at any one particular time in the last six months?
A. 16 or more wine coolers
B. 11 to 15 wine coolers
C. 7 to 10 wine coolers
D. 3 to 6 wine coolers
E. 2 or fewer wine coolers

7. How often did you drink wine in the last six months?
A. Every day
B. 5 or 6 days a week
C. 3 or 4 days a week
D. 1 or 2 days a week
E. Less than once a week

8. How much wine did you usually have at one time, on the average?
A. 8 or more glasses
B. 6 or 7 glasses
C. 4 or 5 glasses
D. 2 or 3 glasses
E. 1 or fewer glasses

9. What is the greatest amount of wine you have had at any one particular time in the last six months?
A. 16 or more glasses
B. 11 to 15 glasses
C. 7 to 10 glasses
D. 3 to 6 glasses
E. 2 or fewer glasses

10. How often did you drink liquor in the last six months?
A. Every day
B. 5 or 6 days a week
C. 3 or 4 days a week
D. 1 or 2 days a week
E. Less than once per week

11. When you drank liquor, how many drinks did you usually have at one time, on the average?
A. 8 or more drinks
B. 6 or 7 drinks
C. 4 or 5 drinks
D. 2 or 3 drinks
E. 1 or fewer drinks

12. What is the greatest amount of drinks of liquor you have had at any one time in the last six months?
A. 16 or more drinks
B. 11 to 15 drinks
C. 7 to 10 drinks
D. 3 to 6 drinks
E. 2 or fewer drinks

APPENDIX P

INFORMATION ON DRINKING

Please answer these questions as honestly as you can about your drinking of alcoholic beverages. All information will be used for research only and will be kept strictly confidential. If you are not sure of the answer to a question please answer the best you can. Please try to answer each item.

1. How old were you the first time you ever drank enough to get drunk?
_____ years old

2. In the last six months, think of the 24 hour period when you did the most drinking; this would be a day somewhere in the period between _____, _____ and now.
(month) (year)

On that day, how many drinks did you have? (A drink is a 12 oz. can, bottle, or glass of beer, a 4 oz. glass of wine, a single shot, or a single mixed drink).

_____ 30 or more drinks
_____ 25 - 29 drinks
_____ 20 - 24 drinks
_____ 15 - 19 drinks
_____ 10 - 14 drinks
_____ 7 - 9 drinks
_____ 5 - 6 drinks
_____ 3 - 4 drinks
_____ 1 - 2 drinks
_____ none

2b. Approximately when did this happen? _____, _____
(month) (year)

2c. Now answer the question for any time in your life before these last six months. In the 24 hour period when you did the most drinking, how many drinks did you have?

_____ 30 or more drinks
_____ 25 - 29 drinks
_____ 20 - 24 drinks
_____ 15 - 19 drinks
_____ 10 - 14 drinks
_____ 7 - 9 drinks

_____ 5 - 6 drinks
_____ 3 - 4 drinks
_____ 1 - 2 drinks
_____ none

d. Approximately when did this happen? _____, _____
(month) (year)

3. When was the last time you had a drink?

_____ Never

_____ Not in past year

_____ Within last year but more than 30 days ago

_____ Within 30 days but more than 1 week ago

_____ Within the past week

4a. Think back over the last two weeks. How many times have you had five or more drinks in a row?
_____ times

4b. During the last two weeks, how many times have you had four drinks in a row (but no more than that)?
_____ times

ANSWER KEY FOR QUESTIONS BELOW:

1	2	3-5	6-10	11-20	21-50	51-100
101-250		251-500		501-1000	1000+ (more than 1000)	

Now some questions about outcomes people sometimes have because of drinking. Have you ever had any of the following happen because of your drinking?

		Yes (check one)	No	How many times (approx. see key)	Age first time	Age most recent time
1.	Missed school or time on job	____	____	_____	_____	_____
2.	Thought I was drinking too much	____	____	_____	_____	_____
3.	Gone on a binge of constant drinking for 2 or more days	____	____	_____	_____	_____
4.	Lost friends	____	____	_____	_____	_____
5.	My spouse or others in my family (my parents or children) objected to my drinking	____	____	_____	_____	_____
6.	Felt guilty about my drinking	____	____	_____	_____	_____
7.	Divorce or separation	____	____	_____	_____	_____
8.	Took a drink or two first think in the morning	____	____	_____	_____	_____
9.	Restricted my drinking to certain times of day or week in order to control it or cut down, (like after 5pm, or only on weekends, or only with other people)	____	____	_____	_____	_____
10.	Been fired or laid off	____	____	_____	_____	_____
11.	Once started drinking, kept going till completely intoxicated	____	____	_____	_____	_____

		Yes (check one)	No	How many times (approx. see key)	Age first time	Age most recent time
12.	Had a car accident when I was driving	____	____	_____	_____	_____
13.	Kept on drinking after I promised myself not to	____	____	_____	_____	_____
14.	Had to go to a hospital (other than accidents)	____	____	_____	_____	_____
15.	Had to stay in a hospital overnight	____	____	_____	_____	_____
16.	Had the shakes "the morning after"	____	____	_____	_____	_____
17.	Heard or saw or felt things that weren't there (hallucinations), several days after stopped drinking	____	____	_____	_____	_____
18.	Had blackouts (couldn't remember later what you'd done while drinking)	____	____	_____	_____	_____
19.	Been given a ticket for drunk driving (DWI or DUIL)	____	____	_____	_____	_____
20.	Had a jerking or fits (convulsions) several days after stopped drinking	____	____	_____	_____	_____
21.	Been given a ticket for public intoxication, drunk or disorderly, or other non-alcohol arrest	____	____	_____	_____	_____

		Yes	No	How many times (approx. see key)	Age first time	Age most recent time
		(check one)				
22.	Had the D.T.'s (delirium tremens, shakes, sweating, rapid heart, etc.) within 2-3 days after stopped drinking	____	____	_____	_____	_____

APPENDIX Q

DIAGNOSTIC CLASSIFICATIONS REGARDING LIFETIME ALCOHOL USE

(1) Abstainers: Subjects who indicated on both alcohol questionnaires that they didn't drink, marked all "e's" on the quantity, frequency, and type scale, and reported no symptoms on the information on drinking questionnaire.

(2) No Diagnosis: Subjects who were not classified as abstainers and also did not meet DSM-IV criteria for alcohol abuse or dependence.

(3) Abuse: Subjects who met the criteria for diagnosis of alcohol abuse.

(4) Dependence without physiological dependence: Subjects who met the criteria for diagnosis of dependence without physiological dependence.

(5) Dependence with physiological dependence: Subjects who met the criteria for diagnosis of dependence with physiological dependence.

Note: All diagnostic classifications are based on lifetime alcohol use with specific diagnoses being based on DSM-IV criteria.

APPENDIX R

Item-Factor Loadings Following the Testing of the Initial Measurement Model

Loss of Reality (BPQ)

Factor / Item #	2	7	9	16	19	20	23	26	27	30
L o R	50	37	44	40	43	46	48	56	54	59
P D	45	49	41	45	47	46	50	43	49	52
I D	52	38	54	46	41	45	46	42	50	40
Lim	37	33	49	42	41	41	46	51	47	50
Cod	36	34	41	37	37	36	34	39	42	47

Primitive Defenses (BPQ)

Factor / Item #	3	4	6	8	11	14	18	22	28	29
L o R	53	68	61	38	26	48	43	45	53	50
P D	74	27	53	61	37	46	45	47	51	52
I D	51	41	72	53	32	50	57	53	45	49
Lim	33	31	36	38	44	49	49	42	43	56
Cod	42	31	44	33	40	35	40	37	30	38

Identity Diffusion (BPQ)

Factor / Item #	1	5	10	12	13	15	17	21	24	25
L o R	24	53	44	43	52	38	53	52	41	47
P D	23	58	42	49	52	41	52	64	49	48
I D	29	51	42	51	43	38	62	58	48	45
Lim	35	38	46	51	51	49	50	53	51	41
Cod	33	36	31	42	34	44	35	44	47	36

Limerence

Factor / Item #	1	2	3	4	5	6	7	8	9	10
L o R	52	24	--	28	60	34	--	35	32	52
P D	42	43	--	44	12	20	--	33	36	30
I D	39	19	--	24	22	14	--	47	61	41
Lim	27	43	--	45	29	40	--	46	58	24
Cod	26	44	--	55	41	48	--	61	60	49

Factor Item #	11	12	13	14	15	16	17	18	19	20
L o R	56	--	55	54	--	50	--	39	37	57
P D	58	--	56	21	--	30	--	54	20	35
I D	62	--	61	40	--	38	--	42	59	48
Lim	33	--	43	50	--	30	--	44	52	39
Cod	55	--	45	54	--	34	--	45	38	61

Factor Item #	21	22	23	24	25	26	27	28	29	30
L o R	32	--	31	34	32	29	--	--	13	41
P D	25	--	42	39	33	43	--	--	31	29
I D	57	--	35	54	62	38	--	--	59	29
Lim	30	--	30	35	41	32	--	--	48	50
Cod	49	--	55	63	44	45	--	--	42	40

Factor Item #	31	32	33	34	35	36	37	38	39
L o R	34	28	9	27	31	--	27	45	--
P D	53	30	12	27	34	--	29	39	--
I D	18	36	22	27	20	--	37	50	--
Lim	45	46	39	37	46	--	43	46	--
Cod	46	35	34	41	42	--	53	40	--

Codependency (Spann-Fischer)

Factor Item #	1	2	3	4	5	6	7	8	9	10
L o R	31	38	29	29	--	40	34	--	28	25
P D	13	30	20	28	--	35	31	--	35	32
I D	19	36	26	39	--	46	48	--	32	17
Lim	49	43	51	48	--	42	47	--	46	46
Cod	23	43	32	30	--	47	39	--	43	32

Factor Item #	11	12	13	14	15	16
L o R	20	27	17	19	24	16
P D	19	45	23	22	26	15
I D	21	19	21	27	21	7
Lim	34	47	39	40	45	46
Cod	15	51	44	57	48	24

Codependency (CdQ)

Factor / Item #	1	2	3	4	5	6	7	8	9	10
L o R	28	24	8	--	37	41	35	19	9	17
P D	17	20	6	--	31	32	37	15	4	5
I D	32	32	8	--	32	40	56	15	-1	5
Lim	48	43	39	--	39	46	42	43	45	36
Cod	48	36	27	--	32	41	46	29	30	13

Factor / Item #	11	12	13	14	15	16	17	18	19	20
L o R	24	36	--	12	8	32	--	39	--	12
P D	6	40	--	18	12	32	--	40	--	4
I D	17	39	--	11	9	35	--	47	--	-3
Lim	31	33	--	35	27	37	--	25	--	36
Cod	19	47	--	39	28	34	--	21	--	26

Factor / Item #	21	22	23	24	25	26	27	28	29	30
L o R	19	33	30	51	49	--	--	10	--	47
P D	17	36	23	48	47	--	--	26	--	43
I D	15	37	33	40	51	--	--	28	--	44
Lim	37	32	42	32	38	--	--	38	--	37
Cod	31	28	32	38	28	--	--	41	--	42

Factor / Item #	31	32	33	34	35	36
L o R	39	--	--	54	31	--
P D	47	--	--	41	25	--
I D	54	--	--	45	28	--
Lim	36	--	--	35	38	--
Cod	31	--	--	36	36	--

APPENDIX S

Final Item-Factor Loadings

Romantic Love

Factor / Item #	1	2	3	4	5	6	7	8	9	10
RL	58	56	40	76	—	61	68	64	54	61
DL	35	18	15	40	—	38	42	25	22	29
Lim	-1	-21	1	-3	—	5	16	2	0	3
Cod	-9	-35	-5	1	—	7	5	-9	-3	12
BPO	-8	-32	-5	0	—	-1	-1	-14	-5	10

Factor / Item #	11	12	13
RL	62	57	69
DL	47	38	40
Lim	2	9	3
Cod	10	-5	6
BPO	9	-4	5

Desperate Love

Factor / Item #	1	2	3	4	5	6	7	8	9	10
RL	16	31	36	38	—	24	47	50	30	36
DL	32	71	69	59	—	60	70	78	47	65
Lim	8	27	3	29	—	26	16	14	6	28
Cod	17	24	4	21	—	20	16	14	16	32
BPO	10	29	17	22	—	21	24	23	10	30

Factor / Item #	11	12
RL	30	29
DL	63	72
Lim	22	18
Cod	23	28
BPO	26	33

Limerence

Factor Item #	1	2	3	4	5	6	7	8	9	10
RL	—	—	—	—	—	—	—	—	—	—
DL	—	—	—	—	—	—	—	—	—	—
Lim	—	—	—	—	—	—	—	—	—	—
Cod	—	—	—	—	—	—	—	—	—	—
BPO	—	—	—	—	—	—	—	—	—	—

Factor Item #	11	12	13	14	15	16	17	18	19	20
RL	—	—	—	—	—	—	—	—	-7	—
DL	—	—	—	—	—	—	—	—	12	—
Lim	—	—	—	—	—	—	—	—	66	—
Cod	—	—	—	—	—	—	—	—	47	—
BPO	—	—	—	—	—	—	—	—	35	—

Factor Item #	21	22	23	24	25	26	27	28	29	30
RL	—	—	—	—	—	—	—	—	2	—
DL	—	—	—	—	—	—	—	—	26	—
Lim	—	—	—	—	—	—	—	—	77	—
Cod	—	—	—	—	—	—	—	—	40	—
BPO	—	—	—	—	—	—	—	—	34	—

Factor Item #	31	32	33	34	35	36	37	38	39	
RL	—	—	13	—	-3	—	—	—	—	—
DL	—	—	15	—	16	—	—	—	—	—
Lim	—	—	39	—	57	—	—	—	—	—
Cod	—	—	22	—	32	—	—	—	—	—
BPO	—	—	10	—	29	—	—	—	—	—

Codependency (Spann-Fischer)

Factor Item #	1	2	3	4	5	6	7	8	9	10
RL	—	—	—	—	—	—	—	—	—	—
DL	—	—	—	—	—	—	—	—	—	—
Lim	—	—	—	—	—	—	—	—	—	—
Cod	—	—	—	—	—	—	—	—	—	—
BPO	—	—	—	—	—	—	—	—	—	—

Factor Item #	11	12	13	14	15	16
RL	—	—	3	12	—	—
DL	—	—	17	20	—	—
Lim	—	—	22	21	—	—
Cod	—	—	53	40	—	—
BPO	—	—	33	25	—	—

Codependency (CdQ)

Factor Item #	1	2	3	4	5	6	7	8	9	10
RL	—	—	—	—	—	—	-1	—	—	—
DL	—	—	—	—	—	—	14	—	—	—
Lim	—	—	—	—	—	—	26	—	—	—
Cod	—	—	—	—	—	—	37	—	—	—
BPO	—	—	—	—	—	—	29	—	—	—

Factor Item #	11	12	13	14	15	16	17	18	19	20
RL	—	—	—	0	—	—	—	—	—	—
DL	—	—	—	18	—	—	—	—	—	—
Lim	—	—	—	29	—	—	—	—	—	—
Cod	—	—	—	55	—	—	—	—	—	—
BPO	—	—	—	41	—	—	—	—	—	—

Factor Item #	21	22	23	24	25	26	27	28	29	30
RL	—	—	—	—	—	—	—	-22	—	—
DL	—	—	—	—	—	—	—	-3	—	—
Lim	—	—	—	—	—	—	—	35	—	—
Cod	—	—	—	—	—	—	—	41	—	—
BPO	—	—	—	—	—	—	—	25	—	—

Factor Item #	31	32	33	34[a]	35	36
RL	0	—	—	3	—	—
DL	16	—	—	17	—	—
Lim	24	—	—	21	—	—
Cod	38	—	—	37	—	—
BPO	34	—	—	47	—	—

Borderline Personality Organization

Factor Item #	1	2	3	4	5	6	7	8	9	10
RL	—	—	—	-5	-2	-8	-5	0	—	—
DL	—	—	—	23	22	17	21	20	—	—
Lim	—	—	—	24	26	18	26	16	—	—
Cod	—	—	—	42	38	2	44	32	—	—
BPO	—	—	—	57	62	58	59	50	—	—

Factor Item #	11	12	13	14	15	16	17	18	19	20
RL	—	—	—	—	—	-12	—	—	—	-1
DL	—	—	—	—	—	13	—	—	—	15
Lim	—	—	—	—	—	34	—	—	—	18
Cod	—	—	—	—	—	37	—	—	—	32
BPO	—	—	—	—	—	50	—	—	—	42

Factor Item #	21	22	23	24	25	26	27	28	29	30
RL	—	-2	—	—	-3	—	—	-3	—	—
DL	—	24	—	—	17	—	—	24	—	—
Lim	—	27	—	—	35	—	—	29	—	—
Cod	—	37	—	—	49	—	—	43	—	—
BPO	—	58	—	—	58	—	—	58	—	—

[a] Item loaded on Borderline Personality Organization.

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