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WOMEN'S SUBSTANCE ABUSE TREATMENT WITH SUPPLEMENTAL
COUPLE'S THERAPY: CHANGES IN WOMEN'S LEVELS OF INTIMACY
AND AUTONOMY IN RELATION TO TREATMENT OUTCOMES
BY TREATMENT MODALITY

by

Charles N. Davis

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family, Consumer, and Human Development

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ABSTRACT

Women's Substance Abuse Treatment with Supplemental Couple's Therapy:
Changes in Women's Levels of Intimacy and Autonomy in Relation to
Treatment Outcomes by Treatment Modality

by

Charles N. Davis, Master of Science

Utah State University, 2005

Major Professor: Thorana S. Nelson, Ph.D.
Department: Family, Consumer, and Human Development

The current study is a secondary analysis of a National Institute of Drug Abuse (NIDA) study in which 122 women received treatment for their substance abuse problems. Three models of substance abuse treatment were administered. One included standard substance abuse treatment alone and two models included supplemental couple's therapy in addition to standard treatment. The current study examined the significance of the relationship between changes in the women's levels of intimacy and autonomy, during and after treatment, and their treatment outcomes according to the treatment modality they received.

It was hypothesized that the relationship would be significant in that levels of intimacy and autonomy would be important variables with regard to treatment outcomes in couple's therapy. No statistical significance was reported although some significant

trends were found with regard to the fluctuation of intimacy and autonomy levels during and after treatment. Implications for policy, practice, and future research are reviewed.

(131 pages)

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Charles N. Davis

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CHAPTER I

INTRODUCTION

Substance abuse has been a growing epidemic in our society for many years. Not only has it been destructive to countless individual lives, but it has also been destructive to the health and safety of families and communities nationwide. Women in our society have not been left immune to this epidemic (The National Center on Addiction and Substance Abuse at Columbia University [CASA], 1996).

Incidence of the Problem

In 2002, the Substance Abuse and Mental Health Services Administration (SAMHSA) and the National Survey on Drug Use and Health (NSDUH) reported that 6.4% of women reported using illicit drugs and 2.6% reported using nonmedical psychotherapeutic drugs (SAMHSA). Among female youths ages 12 to 17, the rate of illicit drug use was 10.9%, marijuana use was 7.2%, and nonmedical psychotherapeutic drug use was 4.3%. The survey also reported that 3.3% of pregnant women ages 15 to 44 years reported using illicit drugs in the month prior to their interview. This rate was significantly lower than the rate among women ages 15 to 44 who were not pregnant (10.3%; SAMHSA).

The damaging effects of substance abuse can be seen not only in women's physical, mental, and emotional health, but also in their personal relationships with family, friends, and significant others. It has been reported that substance abuse is commonly associated with physical trauma involving women (Lindebaum, Carroll,

Daskal, & Kapusnick, 1989). It has also been shown that women's chronic abuse of alcohol increases the potential for fetal alcohol syndrome (FAS) for newborn infants (Pagliaro & Pagliaro, 1996) and research has shown that FAS contributes to mental retardation in newborn infants. Reports have also stated that substance abuse affects women's ability to parent and give child care effectively and can lead to the abuse and neglect of their children (Pagliaro & Pagliaro, 2000). Substance abuse by women is associated with an increased incidence of sexually transmitted diseases (Hibbs & Gunn, 1991) and the incidence of suicide for women increases by six times when they drink heavily (Klatsky & Armstrong, 1993). Other findings report that a majority of fatal motor vehicle accidents for women involved alcohol intoxication (Ward, Flynn, Miller, & Blaisdell, 1982), that women are being incarcerated at increasing rates for drug-related charges (Snell & Morton, 1991), and that substance abuse is implicated in the crimes of 80% of incarcerated women (CASA, 1998).

Gender-specific Issues in Substance Abuse Treatment Research

Much of the substance abuse research in the past has been conducted with male substance abusers (CASA, 1996). As a result, most of the substance abuse interventions that have been developed over the years have evolved from treatment models that were designed to treat male substance abusers (Winters, Fals-Stewart, O'Farrell, Birchler, & Kelley, 2002). Substance abuse research has often been generalized to both men and women substance abusers (CASA). Researchers have reported that because of the generalization of treatment to both men and women, issues specific to women's

substance abuse treatment and research have been neglected in the past (Blume, 1998; CASA; Williams & Klerman, 1984). This neglect of substance abuse issues specific to women substance abusers may have put women at a disadvantage when it came to successful and appropriate treatment (CASA).

Researchers have also known for some time that men and women have different treatment needs (Anglin, Hser, & Booth, 1987; CASA, 1996; Straussner & Zelvin, 1997). Researchers have reported gender-specific differences in the epidemiology and treatment of substance abuse. For example, according to Anglin and colleagues, women substance abusers enter treatment earlier than do men. Weisner and Schmidt (1992) stated that women substance abusers are younger and poorer and more likely to have children than are men. Beckman and Amaro (1986) reported that women substance abusers receive less emotional support from their partners and family members than do male substance abusers. Anglin and Hser (1987) found that women substance abusers are more likely to be referred by social services but less likely to be involved in criminal activity than their male counterparts. In addition, Grella and Joshi (1999) reported that women substance abusers are more likely to be diagnosed with generalized anxiety disorder and major depression but less likely to be diagnosed with anti-social personality disorder than male substance abusers.

CASA (1996) reported that women are now starting to abuse substances at the same rate as men and are also using drugs at earlier ages. CASA also stated that women become addicted to substances faster than do men and develop diseases related to substance abuse sooner. CASA asserted that some professionals do not realize the

gender-specific needs of women substance abusers when it comes to issues such as the type of treatment needed, exhibition of substance abuse symptoms, difficulties in staying sober, specific risk factors, and reasons for initiating substance abuse.

Blume (1998) reported several features of substance abuse that women are more likely to exhibit than are men. Women typically begin substance abuse later in life, progress more rapidly in substance abuse related diseases, drink less, have a significant other who is a substance abuser, and have a higher rate of comorbid psychiatric disorders and prescription drug dependence. Women also make more suicide attempts, have a history of physical and/or sexual abuse, date the onset of substance abuse to a specific stressful event, report previous psychiatric treatment, and have a higher mortality rate.

With regard to different responses to treatment by male and female substance abusers, Sanchez-Craig, Leigh, Spivak, and Lei (1989) found that women had better treatment outcomes such as fewer problems or less heavy drinking than men did in brief outpatient alcohol treatment. According to Moos, Finney, and Cronkite (1990) women problem drinkers were more successful in medical treatment programs, whereas men problem drinkers did better in peer-group programs. Finally, Fiorentine, Nakashima, and Anglin (1999) stated that women responded better to empathic counseling, whereas men responded better to utilitarian counseling.

Substance Abusers' Relationships With Significant Others in Substance Abuse Treatment Research

Some researchers have examined substance abusers' relationships with significant

others and the effects of those relationships on the abusers' substance abuse and treatment. Some of the studies focused on male substance abusers (Fals-Stewart, Birchler, & O'Farrell, 1996; Fals-Stewart & O'Farrell, 2003; Fals-Stewart, O'Farrell, & Birchler, 2001; O'Farrell, Choquette, & Cutter, 1998; O'Farrell, Choquette, Cutter, Brown, & McCourt, 1993; O'Farrell, Cutter, & Floyd, 1985; O'Farrell, Murphy, Neavins, & Van Hutton, 2000). Some studies focused on both male and female substance abusers (Anglin et al., 1987; Anglin, Hser, & McGothlin, 1987; Bailly, Carman, & Forslund, 1991; Epstein & McCrady, 2002; Fals-Stewart, Birchler, & O'Farrell, 1999; Hser, Anglin, & McGlothlin, 1987; Newcomb, 1994). Finally, some studies focused on female substance abusers (Boyd & Guthrie, 1996; Dahlgren & Willander, 1989; Laudet, Magura, Furst, & Kumar, 1999; McCollum, Lewis, Nelson, Trepper, & Wetchler, 2003; McCollum & Trepper, 1995; Nelson, McCollum, Wetchler, Trepper, & Lewis, 1996; Stanton, 1997; Williams & Klerman, 1984; Winters et al., 2002). Whether focusing on one gender or both, all of these researchers found that significant relationships and the interpersonal dynamics in those relationships play an important role in a substance abuser's initiation, maintenance, treatment, and recovery from substance abuse.

Some of these same researchers also have shown that couple's therapy can help in reducing some of the negative symptoms that accompany substance abuse and difficulties with significant others such as relational dissatisfaction and family difficulties as well as other symptoms such as prolonged drug and alcohol use (Fals-Stewart et al., 1996, 1999, 2001; Fals-Stewart & O'Farrell, 2003; McCollum et al., 2003; O'Farrell et al., 1998; O'Farrell et al., 1985, 1993, 2000; Winters et al., 2002). Researchers also have stated that

women's substance abuse can be associated with the initiation and maintenance of intimacy with significant others, especially male substance abusing partners. For example, Boyd and Guthrie (1996) stated:

Connection to others becomes a motivational thrust for many women, and their self-concepts become organized around these affiliations. . . . Women substance abusers are more likely than men to have been initiated to the drug by a family member and/or member of the opposite sex. (p. 157)

Boyd and Guthrie also reported that women are "less likely to use drugs for pleasure and more likely to use drugs to cope with situational and interpersonal factors" (p. 159).

Intimacy and Autonomy in Women's Substance Abuse Research

In any significant relationship, one's levels of intimacy and autonomy, or the dynamic interplay of closeness and distance, play significant roles in the level of functioning of the relationship and the level of functioning of the persons involved (Bowen, 1978). That is, the amount of togetherness or intimacy in a relationship as well as the ability to maintain an autonomous self is an important dynamic in the overall health of a relationship, which affects the emotional health of the individuals in the relationship. Bowen defined this dynamic as *differentiation of self*, or one's ability to maintain high levels of both intimacy and autonomy in significant relationships.

Women substance abusers' levels of intimacy and autonomy in significant relationships are the main focus of this study. Rationale for focusing on women substance abusers' levels of intimacy and autonomy within their significant relationships is supported by existing literature that points to findings and theories regarding the constructs of intimacy and autonomy and their significance within the primary

relationships of women substance abusers (Bailly et al., 1991; Boyd & Guthrie, 1996; Laudet et al., 1999; Nelson et al., 1996; Rosenbaum, 1981; Scheff, 1990; Stephens, 1991). These researchers and theorists have reported that the constructs of intimacy and autonomy are significant variables in women substance abusers' satisfaction within their important relationships as well as in their initiation, maintenance, and treatment of substance abuse.

It has been argued that an individual's levels of intimacy and autonomy play a significant role in the level of functioning of an individual's significant relationships (Bowen, 1978). It has also been argued that significant relationships play a major role in a substance abuser's treatment. With these points in mind, it can be argued that women (and/or men) with low levels of intimacy and/or autonomy (or a low level of differentiation of self) may be vulnerable to misusing substances or to having low levels of functioning while using substances. Because relationships with significant others and the interpersonal dynamics within those relationships are important in women's substance abuse treatment and because intimacy and autonomy are central components of relationships, this study aims to investigate specific components of relationships, particularly intimacy and autonomy, that would be helpful in predicting treatment outcomes.

Purpose and Objectives

Having established the argument, the current study involves women who participated in substance abuse treatment, some of whom received supplemental couple's

therapy in addition to standard substance abuse treatment. This study examines the significance of the relationship between changes in the women's levels of intimacy and autonomy over time in treatment and their treatment outcomes according to the treatment modality they received. It was hypothesized that the relationship would be significant. That is, it was expected that those women whose intimacy and autonomy scores improved most would have higher levels of functioning and decreased drug use over time than those women whose intimacy and autonomy scores did not improve.

Levels of intimacy and autonomy were determined by extrapolating several items from various measures used in a National Institute of Drug Abuse (NIDA) study done in the early 1990s with 122 women substance abusers in a large southwestern city in the U.S. (McCollum et al., 2003). The NIDA study (which will now be referred to as the parent study) carried out research on three models of substance abuse treatment for women (McCollum et al.). Two of those models included supplemental couple's therapy in addition to standard substance abuse treatment. The supplemental couple's therapy was determined to be helpful to those women who were involved, especially in the long term maintenance of progress made in their treatment (McCollum et al.).

Definitions

For the purposes of this study, the construct of *intimacy* is defined as one's ability to have a sense of togetherness or emotional closeness with another person. Intimacy motivates people to be interdependent and emotionally connected to each other. The construct of *autonomy* is defined as one's ability to have a sense of separateness or

individuality. Autonomy motivates people to develop their own identities within relationship systems. It also allows individuals to differentiate their thinking processes from their emotional processes (Bowen, 1978). Intimacy and autonomy can be described as being separate "life forces" that motivate persons to behave in different ways. However, they are complementary forces and are not oppositional in nature (Bowen). That is, an individual may have high levels of intimacy and autonomy at the same time. Bowen described this ability as being able to have a high level of *differentiation of self*.

A person with a high level of differentiation of self is defined as someone who can be emotionally close to others while retaining a clear sense of a separate self (Bowen, 1978). Bowen theorized that a well-differentiated individual would have the ability to find a balance of intimacy and autonomy on both intrapsychic and interpersonal levels. For the purposes of this study, the balance and levels of intimacy and autonomy were examined at the interpersonal level. Bowen also described differentiation as being the level of the quality of *self* that a person has. Healthy differentiation is the ability to have a balance of high levels of intimacy and autonomy in relationships, especially in emotionally significant relationships.

For the purposes of this study, women with a *substance abuse problem* were defined in the parent study as women who were referred and/or self-referred to two treatment agencies as needing treatment for substance abuse difficulties. The women had to want treatment. The women from the two treatment agencies either identified opiates as their primary drug of choice or reported alcohol, cocaine, and opiates as their three most commonly listed primary drugs of choice (McCollum et al., 2003).

CHAPTER II

LITERATURE REVIEW

Introduction

This review will cover the theoretical and research literature related to the scope and purpose of women's substance abuse treatment and women substance abusers' levels of intimacy and autonomy in their significant relationships. In particular, the following areas will be reviewed: (a) the incidence and phenomenon of substance abuse among women, (b) the effects of significant relationships in women's substance abuse and substance abuse treatment, (c) intimacy and autonomy as significant variables in women's substance abuse, (d) treatment issues specific to women's substance abuse, and (e) couple's therapy for the treatment of women's substance abuse.

Substance Abuse Among Women

Most of the substance abuse literature and research in the past has dealt with male substance abusers. However, researchers and practitioners alike are continuing to report more and more gender differences between males and females in various aspects of substance abuse (CASA, 1996).

Based on SAMHSA's 2003 National Survey on Drug Use and Health, 74.5 million (61%) females ages 12 or older used alcohol during the year prior to the survey and 15.2 million (12%) women used an illicit drug during the previous year. Among females ages 12 to 17, 9% were dependent on or abusing alcohol or an illicit drug.

Among women ages 18 to 25, the rate of dependence or abuse was 15.7%. The rate of substance dependence or abuse for women age 50 or older was 1.5%.

Among women ages 18 to 49 who were employed full time, the rate of substance dependence or abuse was 8%. Among unemployed women, the rate was 12.5%. The rate of substance dependence or abuse for women ages 18 to 49 who were married was 4%. The rate of substance dependence or abuse among the divorced or separated was 11%. Among those never married, the rate of substance dependence or abuse was 16%. Among women living with one or more children, the rate of substance dependence or abuse was 5.5% (SAMHSA, 2003).

Blume (1998) indicated several risk factors for women substance abusers. Women ages 21-34 years have been reported as having the highest problem rate of any age group. Among that group, women who have never married, are childless, and are unemployed are at highest risk. Other risk factors for increased likelihood of women's substance abuse are a lesbian lifestyle, involvement in the criminal justice system, a history of physical and/or sexual abuse, depression as a primary rather than secondary diagnosis, and the influence of substance abusing significant others who are male (Blume).

In a review on women's substance abuse, CASA (1996) reported that women were beginning to abuse substances at the same rate as men and were also using drugs at earlier ages. Women also become addicted to substances faster than men do and develop diseases related to substance abuse sooner. Many professionals do not realize the gender-specific needs of women substance abusers when it comes to issues such as the type of treatment needed, exhibition of substance abuse symptoms, difficulties in staying sober,

specific risk factors, and reasons for initiating substance abuse (CASA).

Blume (1998) also has indicated several features of substance abuse that women are more likely to exhibit than are men. Women typically begin substance abuse later in life, progress more rapidly in substance abuse related diseases, drink less, have a significant other who is a substance abuser, and have a higher rate of comorbid psychiatric disorders and prescription drug dependence. Women also have more suicide attempts, have a history of physical and/or sexual abuse, date the onset of substance abuse to a specific stressful event, report previous psychiatric treatment, and have a higher mortality rate.

Significant Relationships in Women's Substance Abuse

In addition to the medical, physiological, and societal damages incurred from women's substance abuse, studies have also reported on the effects of significant relationships on women's substance abuse as well as the damages felt in those relationships from this phenomenon. In a review on women's alcohol abuse and treatment, Williams and Klerman (1984) stated that women were more likely than men to cite marriage and family difficulties as reasons for both abusing alcohol and for seeking treatment. Boyd and Guthrie (1996) reported that women are "less likely to use drugs for pleasure and more likely to use drugs to cope with situational and interpersonal factors" (p. 159). Newcomb (1994) also reported that drug use within relationships is associated with reduced dyadic adjustment and general relationship quality.

With regard to interpersonal dynamics and substance abuse in families of origin,

Madanes, Dukes, and Haley (1980) administered the Family Hierarchy Test (Madanes et al.) to families with an addict. Families with an addict were five times more likely to overlap family stick figures on a board than were normal families. The authors concluded that the addicts in their study were "enmeshed in dependent relationships with their families of origin or parental surrogates" (p. 889). Binion (1982) also reported that addicted women might need assistance in working through conflicts and feelings that were developed in interpersonal relationships with parents and family in childhood and adolescence.

Research focusing on the dynamics of substance abuser's relationships has given us additional insight on this topic. For instance, in 1999, Fals-Stewart and colleagues used role incompatibility theory (RIT; Newcomb, 1994) to postulate that marriage and substance abuse are incompatible because of eventual role conflict. They theorized that this conflict can only be resolved by ending the substance abuse itself, ending the relationship, or modifying the relationship to accommodate the substance abuse. The goal of ending substance abuse in a relationship by means of making changes in the relationship itself is a major theoretical underpinning for the therapeutic model used in the parent study (Nelson et al., 1996) and supports the rationale and objectives of this study.

Epstein and McCrady (2002) postulated that some of the factors maintaining substance abuse can be based in the interpersonal relationship. They made it clear that the relational dynamics of couples and their substance abuse are cyclic and systemic in nature and have a great impact on one another. These relational dynamics can initiate and

maintain the chaotic spiraling of the substance abuse's vicious cycle and negatively impact the well being of the couple's relationship, other family members, and/or children involved (Epstein & McCrady).

Research and clinical experience also provide evidence that women's substance abuse is often associated with the initiation and maintenance of intimacy and closeness with significant others, especially male substance abusing partners. Boyd and Guthrie (1996) stated the following concerning this issue:

Theorists argue that, unlike men, women are socialized to be concerned with the maintenance of, or growth within, interpersonal relationships. Whereas men, in general, value individuation and autonomy, women often strive for interdependence and connection. Thus, connection to others becomes a motivational thrust for many women, and their self-concepts become organized around these affiliations. . . . Women substance abusers are more likely than men to have been initiated to the drug by a family member and/or member of the opposite sex. (p. 157)

Research findings from Amaro, Zuckerman, and Cabral (1989) also support this theory. Amaro and colleagues found that the most significant factor in an adolescent mother's substance abuse was her partner's drug use.

Laudet and colleagues (1999) also suggested that women are socialized to mature through interpersonal relationships and therefore would use drugs with significant others to maintain social and emotional ties. Finkelstein (1994) reported that women substance abusers often are introduced to drugs by men and supplied drugs from men "as part of an intimate or sexual relationship" (p. 11). She also reported that women's substance abuse is often "dependent on the initiation, assistance and encouragement of other people" (p. 10).

Rosenbaum (1981, as cited in Anglin et al., 1987) stated the following concerning

following concerning women heroin addicts:

American society is male-dominated. . . . A woman is expected to become integrated into society through identification through one particular man. . . . If the man is an addict, the woman's social role dictates that she share this activity as well. (p. 61)

Scheff (1990) has added to this theory with this idea: As substance abusing couples' time together continues, they begin to perceive their relationships as becoming more intimate. One reason that substance abusing couple relationships may be more intimate, or may be *perceived* as being more intimate, is because of the shared substance abuse that occurs. Scheff stated that this intimacy, or perceived intimacy, has an "empathetic intersubjectivity" and refers to it as an "attunement" between the couple. Scheff theorizes that when a couple uses drugs together, the bonds of their relationship are perceived as becoming stronger because the use of drugs itself becomes an integral part of the relationship. Consequently, when a woman terminates her drug habit through treatment, she may sever the perceived intimacy bond between her and her partner. It is possible that the bond can only be reestablished by resuming substance abuse. This attunement described by Scheff could be perceived as a type of "pseudo intimacy" between the couple and theoretically could be harmful to both partners.

In a report related to Scheff's (1990) theory, Finkelstein (1994) reported that substance abuse is "woven" into the "fabric" of married life for couples who abuse. An ethnographic study by Furst (no reference; cited in Laudet et al., 1999), also reported that substance abuse becomes an "integral component" of a couple's social and sexual life.

Significant Relationships in Women's Substance Abuse Treatment

Many treatment models and research studies have started to pave the way for the development of more appropriate treatment approaches for women substance abusers and their needs (McCollum et al., 2003; Winters et al., 2002). One of the needs specific to women's substance abuse treatment is focusing at least partially on the significant relationships of the substance-abusing women. Another need is having significant others and/or partners of the women involved in the treatment process (Nelson et al., 1996).

Nespor (1990) stated that it was "futile to treat an alcoholic-dependent woman without examining the problem of her alcohol-dependent husband" (p. 51). Nespor found that women entering substance abuse treatment are more likely to have a substance abusing partner than not. This report took into account the relational part of the context in which women's substance abuse occurs, which is vital to treatment success and relapse prevention.

In a study of women's substance abuse treatment with a couple's therapy component, McCollum and Trepper (1995) interviewed 15 women and their partners to discover what was most helpful to them in treatment. The results showed that the women found it quite helpful to have their partners involved in treatment and found it to be a barrier when their partners were not involved.

In 1997, in a NIDA study, Stanton postulated that women have a central and emotional role in their significant relationships and that this role can affect treatment. Stanton suggested that when a woman is in treatment and is absent from the relationship, her absence can create anxiety. This anxiety may lead to her premature dropout in

treatment. Reporting on a slightly different issue, but still dealing with women substance abusers' significant relationships, Stanton hypothesized that female clients may feel pressure of triangulation in treatment, or of being caught between significant others and treatment staff. At times, these clients are not able to withstand the pressure of the triangulation and they subsequently drop out of treatment to alleviate it. According to Bowen (1978), individuals unable to withstand this type of pressure may have low levels of differentiation of self or low levels of intimacy and/or autonomy.

Laudet and colleagues (1999) reported that in some cases, male partners of substance abusing women did not support their female partners' treatment because they wanted to maintain the "status quo" in the relationship. They also reported that when women in treatment began to "develop a greater sense of self-esteem and autonomy," this autonomy may have "clashed with the male partner's expectation to retain the dominant role" (p. 623). Stephens (1991) reported that successful substance abuse treatment and recovery from substance abuse might threaten a woman's relationship with her partner. Scheff's (1990) idea supports these reports. As mentioned earlier, he suggested that when partners have formed a perceived intimate bond through mutual substance abuse, the bond can be severed when the woman terminates her drug habit through treatment. It may be perceived that the bond can only be reestablished by resuming substance abuse.

Intimacy and Autonomy in Women's Substance Abuse

With more focus being given to significant relationships in women's substance abuse, identifying and utilizing the significance of certain interpersonal constructs such as

dependence and interdependence, closeness and distance, enmeshment and separateness, and intimacy and autonomy is an important task. Bowen family systems theory (Bowen, 1978) can be helpful when trying to understand, describe, and utilize the constructs of intimacy and autonomy in the interpersonal dynamics of significant relationships in substance abuse. Bowen's theory centers around two counterbalancing life forces: togetherness and individuality, which can also be understood as intimacy and autonomy. For the purposes of this study, the constructs of intimacy and autonomy have been used to describe and measure these life forces.

Togetherness, as emotional closeness or *intimacy*, and separateness, as individuality or *autonomy*, are not opposite points of a continuum; they are separate but related processes. That is, it is possible to have high levels of both in a system. The person with a high level differentiation of self is one who can be emotionally close to others while retaining a clear sense of a separate self (Bowen, 1978). Togetherness, or intimacy, keeps people interdependent and emotionally connected to each other. Separateness or autonomy has a dual purpose. First, it encourages people to develop their own identities within relationship systems, and secondly, it encourages people to differentiate thinking from emotional processes (Bowen). During times of emotional need, the intimacy force allows people to borrow emotional strength from each other, to be in communion with each other, and to help each other. When intimacy is not immediately needed or desired, autonomy helps people experiment and try out new behaviors that may be more adaptive for them (Bowen).

Differentiation of Self

Bowen (1978) theorized that a well-differentiated individual would have the ability to find a balance of intimacy and autonomy on both intrapsychic and interpersonal levels. For the purposes of this study, the balance and levels of intimacy and autonomy will be examined at the interpersonal level.

Bowen (1978) described differentiation as being the level of the quality of *self* that a person has. Healthy differentiation is a balance of high levels of intimacy and autonomy, closeness and distance, or dependence and interdependence in relationships, especially emotionally significant relationships. Low differentiation, or *no-self*, is often the result of an "emotional fusion into a common self with others" (p. 472) and usually results in an *undifferentiated ego mass* in a dyad, triad, or family system. Bowen stated that this emotional fusion often "reaches its greatest intensity in the emotional interdependency of a marriage" (p. 472).

Low differentiation manifests itself in one of two ways: A person may become emotionally *fused* to a significant other, engaging in *pseudo-self* or *pretend-self* thought and behavior. Alternatively, a person may become emotionally *cut off* by physically and/or emotionally distancing from a significant other because he or she is unable to withstand the intensity of emotional confrontations. Highly differentiated people are able to withstand the intensity of emotional confrontations because of their ability to adhere to their solidly built belief systems and their ability to maintain congruity by communicating their beliefs to significant others (Bowen, 1978).

Differentiation, or this *self* quality, can be illustrated by "I position stances" such

as: "These are my beliefs and convictions. This is what I am and who I am, and what I will do, or not do" (Bowen, 1978, p. 473). Someone with true differentiation of self can and will change their belief system from within themselves, but will not change those beliefs due to coercion or pressure from others or to gain approval or enhance their standing in relation to others.

In interpersonal terms, Nichols and Schwartz (2001) described *undifferentiated* individuals as

. . . Reacting emotionally, positively or negatively, to the dictates of family members or other authority figures. . . . Such people have little autonomous identity . . . and find it difficult to separate themselves from others, particularly on important issues. . . . They either conform or assume pseudo-independence through counter-conformity" (p. 141).

In contrast, differentiated individuals are able to stand firm in their beliefs and act upon them. This allows them to be intimate with others "without being reflexively shaped by them" (p. 141).

Intimacy, Autonomy, and Substance Abuse

In their research, Madanes and colleagues (1980) found that families with an addict were five times more likely to overlap family stick figures on a board than were normal families. The authors concluded that addicts were enmeshed in "dependent relationships with their families of origin or parental surrogates" (p. 889). Addicts and their families of origin may have low levels of intimacy and autonomy, resulting in an undifferentiated ego mass in the nuclear family that may cause fusion, cutoff, or enmeshment. Theoretically, these low levels would carry over to the addict's relationship with a significant partner.

Boyd and Guthrie (1996) and other researchers (Amaro et al., 1989; Finkelstein, 1994; Laudet et al., 1999; Rosenbaum, 1981; Stanton, 1997) indicated that women's substance abuse often is associated with the initiation and maintenance of relational closeness with significant others, especially male substance abusing partners. Women who abuse substances in efforts to initiate and/or maintain closeness with significant others may have taken on a *pseudoself* (Bowen, 1978) or a self that is "made up of a mass of heterogeneous facts, beliefs, and principles acquired through the relationship system in the prevailing emotion" (p. 473). They may have "accepted a plausible sounding philosophy" (in this case it would be the abuse of substances) "under the emotional influence of the moment" (p. 473). An individual with high levels of both intimacy and autonomy and a high level of differentiation of self may not fall prey to this type of maladaptive coping style carried out in the intensity of an emotional moment. If this premise is true, then women with substance abuse problems who are involved in substance abusing relationships may have relatively low levels of differentiation, particularly low levels of autonomy.

Bailly and colleagues (1991) carried out a study in which women reported using alcohol in response to their desire to be more assertive and to increase their levels of self-expression. Women reported using alcohol in trying to meet their need for more autonomy and in trying to escape feelings of being dominated. It could be argued that women's attempts to become more assertive and increase their levels of self-expression through alcohol use could result in the development of pseudoautonomy instead of true autonomy. Pseudoautonomy could result when individuals use substances to affect their

emotional and intellectual functioning in attempts to achieve a sense of autonomy instead of using their own capabilities without influence from chemicals.

These reports, in conjunction with Bowen (1978) theory and the idea of differentiation of self, support the proposal that the variables of intimacy and autonomy play an important role in understanding and clarifying the effects of women substance abuser's significant relationships on women's substance abuse and treatment.

Treatment Issues Specific to Women's Substance Abuse

Researchers have shown that males and females have different needs when it comes to substance abuse treatment (Anglin & Hser, 1987; Anglin et al., 1987; Beckman & Amaro, 1986; CASA, 1996; Grella & Joshi, 1999; Straussner & Zelvin, 1997; Weisner & Schmidt, 1992). CASA reported that in 1989, fewer than 14% of all women and 12% of all pregnant women who were in need of substance abuse treatment received it. They also reported that women were more likely than men to exhibit "inner-directed" symptoms from substance abuse such as depression, anxiety, and low self-esteem rather than the external symptoms that men may exhibit such as drunk driving or fighting. These "inner-directed" symptoms are more difficult for professionals to detect and consequently women's substance abuse problems have many times been left undiagnosed and untreated. Also, because of the social stigma of women's substance abuse, women may make more efforts to disguise their substance abuse problems from family and friends than do men (CASA).

Statistics show how important it is to assess the ways in which we are attempting

to engage and keep women in substance abuse treatment as well as to assess the types of treatments we are administering. This assessment needs to continue and become more advanced so that the women who need treatment can receive it. Blume (1998) reported that when specialized substance abuse treatment for women has been utilized, it has been more effective than non-gender specific treatment in general (Dahlgren & Willander, 1989; Roberts & Nishimoto, 1996).

CASA (1996) reported that in some cases, family members of women substance abusers may discourage these women (who are significant partners or mothers) from entering treatment because of socially constructed beliefs that women need to run the household and/or nurture the family. A woman's levels of intimacy and/or autonomy and level of differentiation of self could be significant variables in her ability to withstand the tendency to go along with this type of socially constructed and interpersonal pressure.

Couple's Therapy and Women's Substance Abuse

With so many findings supporting the effect of women's significant relationships on women's substance abuse and treatment, researchers and practitioners have recently begun to utilize different treatment approaches in efforts to meet the specific needs from this effect. Many researchers and practitioners have begun to utilize couple's therapy.

Couple's therapy has been shown to be as effective as other psychotherapies in the treatment of special populations. For example, in a review of couple's therapy for the treatment of affective disorders, Prince and Jacobson (1995) found that couple's therapy was as effective as individual psychotherapy, especially for female spouses with

depression. They also found that couple's therapy was more effective than individual therapy with this population in reducing marital discord. Beach (2003) reported that marital therapy could play an important role in the treatment of many but not all depressed persons.

Epstein and McCrady (2002) reported that alcohol behavioral couple therapy (ABCT) treatment resulted in significant reductions in alcohol consumption and improvements in couple functioning, although these results are not solely specific to women's substance abuse treatment in general. Fals-Stewart and colleagues (1996) showed that couples who received behavioral couples therapy (BCT; Fals-Stewart et al.) for treatment of drug abuse had better relationship outcomes, fewer days of drug use, and fewer drug-related arrests and hospitalizations up to one year following therapy than did those in individual therapy.

In a study of 75 female substance abusers involved in BCT, Winters and colleagues (2002) reported that women in BCT had fewer days of substance use; longer periods of abstinence; lower levels of drug, alcohol, and family problems; and higher relationship satisfaction during a nine month follow-up period than did women who were involved in just individual and group therapy. Alexander, Holtzworth-Munroe, and Jameson (1994) reported that when used as the sole treatment for substance abuse, behavioral marital therapy (BMT; O'Farrell et al., 1985) has led to less drinking and greater marital satisfaction than other forms of therapy. Furthermore, BMT or spouse involvement in treatment is more effective when couples report some marital discord before entering treatment. O'Farrell and colleagues found that even if couples report no

marital discord before treatment, they may see some improved marital satisfaction and communication when marital therapy is used as an intervention for substance abuse.

Nelson and colleagues (1996) developed a treatment model of couple's therapy with women substance abusers and their partners called systemic couple's therapy. Systemic couple's therapy has been tested in research (McCollum et al., 2003) and, when used in addition to standard substance abuse treatment, was found to be more effective in reducing substance abuse for women in long term outcomes than was a "treatment as usual" group. The treatment as usual group used standard substance abuse treatment only.

Purpose and Objectives

Substance abusing women have the possibility of being more successful in treatment if they could fulfill their needs for emotional connection to significant others as well as fulfill their need to assert themselves individually. This may increase their levels of satisfaction in their relationships with significant others as well as their levels of healthy functioning. According to the theories and research findings that have been presented thus far, substance-abusing women may need to work through issues of intimacy and autonomy in regards to their relationships with significant others in order to be successful in treatment. It is indeed an unfortunate finding that women's substance abuse relapses and treatment dropouts are due in part to pressure and coercion from significant others (Laudet et al., 1999; McCollum & Trepper, 1995; Stanton, 1997). A woman's ability to increase her levels of both intimacy and autonomy in relation to her significant others may be one of the keys to successful treatment, treatment completion,

and relapse prevention.

Women substance abusers' development of healthy levels of both intimacy and autonomy in relation to significant others may come through standard treatment as well as standard treatment with supplemental couple's therapy. However, using supplemental couples' therapy and focusing on issues of intimacy, autonomy, and differentiation of self may not only help women complete treatment more successfully and prevent future substance abuse relapse, but may also increase their satisfaction in their significant relationships.

The goals of increasing one's levels of intimacy, autonomy, differentiation of self, and satisfaction in significant relationships through treatment are the optimal end results for the systemic couple's therapy model provided by Nelson and colleagues (1996) as well as the theoretical underpinnings that drive it. Nelson and colleagues stated that a major dilemma for women's substance abuse treatment is "to help [the substance abusing women] develop autonomy and interdependence within relationships and, at the same time, alter those relationships so that they promote sobriety rather than substance abuse" (p. 8). Systemic couple's therapy was "designed to address this need for autonomy as well as the need to maintain important relationships" (p. 8).

The current study analyzed data from women substance abusers who were involved in substance abuse treatment in the parent study (some of whom received systemic couple's therapy in addition to standard substance abuse treatment) and examined the significance of the relationship between changes in their levels of intimacy and autonomy over time in treatment and their treatment outcomes according to the

and autonomy over time in treatment and their treatment outcomes according to the treatment modality they received. It is hypothesized that this relationship will be significant and that it will support the theory that women's substance abuse treatment may need to focus more on women's levels of intimacy and autonomy when working with women substance abusers. Doing so may more efficiently and positively affect treatment outcomes for these women.

Research Questions

1. Is there a statistically significant amount of change in the women substance abusers' levels of intimacy and autonomy over the duration of treatment for the participants in general?
2. Are there statistically significant differences in the amount of change in the levels of intimacy and autonomy over the duration of treatment according to the treatment modality the participants received?
3. Do participants who have more positive functioning during treatment increase more in their intimacy and autonomy levels than those participants who have poorer functioning during treatment?
4. What is the relationship between women's levels of intimacy and autonomy and their actual drug use at each assessment phase for the participants in general?
5. Are there relationship differences between women's levels of intimacy and autonomy and their actual drug use at each assessment phase according to the treatment modality the participants received?

CHAPTER III

METHOD

Research Design

The research design used in the parent study was an experimental design with two experimental groups and one control group. The participants were assessed before treatment began at a pretest phase and then assessed after treatment was concluded at an immediate posttest phase (at discharge), and at 3-, 6-, and 12-months posttest phases. The current study is a secondary analysis of the data from the assessments administered.

Population and Sample

The sample for this study came from two agencies in a large southwestern city in the U.S. One agency provided intensive outpatient drug treatment to substance abusers and the other agency provided methadone-maintenance treatment for substance abusers addicted to heroin. The participants in the study were women substance abusers chosen from both agencies (McCollum et al., 2003).

The goal of treatment for women in the intensive outpatient treatment agency was abstinence. They were involved in psychoeducational groups and were encouraged but not required to attend Alcoholics or Narcotics Anonymous meetings. The drug use of the women at this agency was diverse. They reported alcohol, cocaine, and opiates as their drugs of choice (McCollum et al., 2003).

The clients in the methadone-maintenance treatment agency were involved in a

was required for the women to continue to receive methadone. The drug of choice for the women in the methadone-maintenance treatment agency was opiates, but they also used alcohol and other illicit drugs. Methadone was used to reduce cravings for opiates such as heroin and, at the same time, prevent withdrawal symptoms that easily led to relapse (McCollum et al., 2003).

The average age of the women participating ($N = 122$) was approximately 33 years. Eighty-one percent of the women were Caucasian and the average annual income for the women was approximately \$13,400. The average number of years of school completed was 12.25. The average family size was 2.7 persons per family and number of children was approximately 1.75. The average number of years of a woman's relationship with her partner was 6.5 years. Forty-five percent of the women were married, 24% were divorced, and 24% had never married. Sixty-two percent of the women were unemployed with 20% having been unemployed less than 3 months, 14% having been unemployed for three months or longer, and 28% were unemployed and not looking for work. Tables 1 and 2 show these demographics with Table 1 showing the discrete variables and Table 2 showing the continuous variables according to the two treatment agencies involved in the study.

In the pretest phase, 122 women were administered assessments; however, the sample size decreased as the study progressed (see Table 3). By the end of the study at the 12-month assessment phase, only 45 women were administered assessments (63% attrition rate). In a comparable study by Winters and colleagues (2002), 75 participants

Table 1

Description of Sample: Discrete Variables

Variable	<i>n</i>	Percentage
Ethnicity		
Caucasian	98	81
African-American	4	3
Native-American	6	5
Hispanic	11	9
Asian/Pacific Islander	1	1
Marital status		
Never married	30	24
Married	55	45
Divorced	30	24
Widowed	4	3
Separated	5	4
Employment status		
Full-time	20	16
Part-time	10	8
Homemaker	15	12
Shelter/supported employment	1	1
Student	1	1
Unemployed less than 3 months	24	20
Unemployed longer than 3 months	17	14
Unemployed, not looking for work	34	28

were administered pretest assessments and the sample decreased to 68 participants at the 12-month assessment phase (9% attrition rate). Implications of the attrition rate on the analyses and results will be reviewed further in the discussion chapter.

Measures

Independent Variables

None of the instruments or subscales of the measures used in the parent study

Table 2

Description of Sample According to Treatment Agency: Continuous Variables

Variable	Treatment agency	<i>n</i>	Mean	Range	<i>SD</i>
Age	IO	85	33.40	20 – 73	7.62
	MM	36	32.40	18 – 41	6.87
Annual income	IO	84	\$12,900	\$0 – \$72,000	\$11,848
	MM	36	\$14,500	\$0 – \$132,000	\$30,416
Years of school completed	IO	84	12.23	8 – 20	2.18
	MM	34	12.29	8 – 18	2.14
Number of children	IO	85	1.66	0 – 5	1.19
	MM	36	1.97	0 – 10	1.95
Years involved in relationship with partner	IO	85	6.27	5 mts – 29 yrs	5.54
	MM	37	7.08	3 mts – 23 yrs	6.80

Note. IO = Intensive Outpatient Agency; MM = Methadone-maintenance Agency

Table 3

Sample Sizes by Assessment Phase

Assessment phase	<i>n</i>
Pretest	122
Posttest (immediate)	94
3-month posttest	76
6-month posttest	61
12-month posttest	45

directly measure the constructs of intimacy or autonomy. However, there are items from within those measures that address the constructs. Because of this and because of the purposes and objectives of this study, women's levels of intimacy and autonomy were measured by using an indirect method. This indirect method involved extrapolating

intimacy and autonomy items from various measures used in the parent study and combining them to create new measures of intimacy and autonomy.

In creating the new measures of intimacy and autonomy, the researcher initially reviewed each item from each assessment that was used in the parent study and examined the items in relation to the definitions of intimacy and autonomy according to Bowen family systems theory (Bowen, 1978). The researcher extrapolated 68 total items that were determined to be a possible construct of either intimacy or autonomy according to Bowen family systems theory.

Two items from the Symptom Checklist-90-Revised (SCL-90R; Derogatis, 1983), 42 items from the Dyadic Formation Inventory (DFI; Lewis, 1973), 14 items from the Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983), and 10 items from the Emotional Cut-off Scale (ECS; McCollum, 1991) were initially selected by the researcher (see Appendix A). These measures, along with many others, were administered at five different assessment phases during the study at pretest, immediate posttest (at discharge), and at 3-, 6-, and 12-months posttests.

Symptom Checklist-90-Revised

The SCL-90R (Derogatis, 1983) is a self-report symptom inventory that reflects the psychological symptom patterns of psychiatric and/or medical patients. It is scored in terms of nine primary psychological dimensions. The SCL-90R reports concurrent validity with the MMPI (Hathaway & McKinley, 1967) and Wiggins' content scales (Wiggins, Goldberg, & Applebaum, 1971) as ranging from .40 to .68 and concurrent validity with the Middlesex Hospital Questionnaire (Crown & Crisp, 1966) as ranging

from .36 to .92. The SCL-90R also reports within-form reliability as ranging from .77 to .90 depending on the subscale. The two items that were extrapolated from the SCL-90R were from the psychoticism dimension or subscale and assessed the individual's closeness to and/or distance from others.

Dyadic Formation Inventory

The DFI (Lewis, 1973) is a 74-item, self-report questionnaire that assesses dyadic quality and stability through seven different indices. Lewis reported no coefficients for validity or reliability. Lewis cited a longitudinal analysis from 1965-66 to support the DFI's reliability, and a predictive validation study from 1970-71 to support its validity. Of the 42 items that were extrapolated from DFI, 10 came from the index or subscale regarding dyadic exclusiveness, nine came from value consensus, five came from dyadic commitment, 12 came from dyadic interaction, and six came from dyadic preference.

Family Assessment Device

The FAD (Epstein et al., 1983) is a screening instrument that evaluates family functioning with regard to transaction patterns among family members and structural and organizational properties of the family group through seven different subscales. Epstein and colleagues reported internal consistency of the FAD's seven subscales as ranging from .72 to .92 and test-retest reliability scores as ranging from .66 to .76. They also reported evidence of discriminant validity. FAD scores of clinical and nonclinical families were compared and for each subscale, the group mean of the nonclinical group was found to be lower than that of the clinical group with statistical significance. Also,

the same procedure was used to compare a clinical family's FAD scores with an experienced family therapist's clinical ratings of the same family. The therapist's "unhealthy" ratings of the family were congruent with the FAD's higher mean scores with statistical significance for every scale except the behavior control scale. Of the 14 items that were extrapolated from the FAD, five came from the subscale of general functioning, four came from affective responsiveness, two came from communication, and three came from affective involvement.

Emotional Cutoff Scale

The ECS (McCullum, 1991) is a 10-item self-report questionnaire based on the construct of emotional cutoff from Bowen family systems theory (Bowen, 1978) that measures the degree to which an individual has emotionally cut off from his or her mother and/or father. McCullum reported Cronbach's alpha reliability coefficients as ranging from .82 to .90. Factor analysis resulted in two factors that represented one factor with items pertaining to cutoff with the individual's mother and a second factor with items pertaining to cutoff with the individual's father. Strong validity correlations were also reported when the ECS was compared to similar instruments. All 10 items from this measure were extrapolated to possibly be used in the new instrument.

Validity

The 68 extrapolated items were sent to three experts in the field of transgenerational theory and Bowen family systems theory. The experts have researched the constructs of intimacy and autonomy in the field of interpersonal relationships for

many years. For the purposes of validation, the three experts were asked to examine and validate the 68 extrapolated items (see items in Appendix A). They did this by choosing items they determined that best measured the constructs of intimacy and autonomy according to the definitions given by Bowen family systems theory and by endorsing them with one of four construct names: "intimacy," "autonomy," "both," or "neither." After choosing which construct the item best measured, the experts rated how well the item measured the chosen construct on a five-point Likert scale from "extremely well" to "not well at all." Criteria for keeping an item were based on the following stipulations: Two or more experts had to converge on their choice of a construct for an item and their ratings had to be labeled as "well," "moderately well," or "extremely well." Only the items for the constructs of intimacy and autonomy that were converged upon were kept; all others were removed (see converged items in Appendix B). After this procedure, 30 items were identified as representing the construct of intimacy and 16 items were identified as representing the construct of autonomy for a total of 46 items. This procedure provides evidence of content validity to the measurement of intimacy and autonomy in this study.

Reliability

Reliability for the newly created intimacy and autonomy measures was determined by using Cronbach's alpha to obtain an acceptable level of internal consistency for the intimacy and autonomy measures. Cronbach's alpha analysis was administered to the data of the selected items at each assessment phase. After each analysis was administered, low-rated items were deleted until the coefficient of reliability

for the groups of intimacy or autonomy items yielded an adequate correlation of approximately .70 or higher at each phase. The coefficients show a moderate to high reliability for items in each construct at each of the phases of assessment (see Table 4). After Cronbach's alpha was completed for each construct at each phase of assessment, it was determined that 17 intimacy items and 12 autonomy items for a total of 29 items would be retained to create the new measures (see items in Appendix C).

Factor Analysis

To provide evidence of construct validity to the intimacy and autonomy measures, the 29 remaining items were analyzed using factor analysis. This was done to differentiate the items into separate factors and then determine the extent to which the items identified with each factor. Three different methods were used to determine the most valid manner in which to provide evidence of construct validity.

Analysis was conducted on the data at the pretest phase and the results indicated nine different factors that accounted for 72% of the variance in the scores. The intimacy and autonomy items split cleanly into eight of the nine factors. Factor analysis was

Table 4

Reliability of Intimacy and Autonomy Measures

Assessment phase	Intimacy ^a	Autonomy ^a
Pretest	.81	.74
Posttest	.84	.63
3-months	.86	.68
6-months	.84	.64
12-months	.79	.71

^aCronbach's alpha

administered again forcing the items into three factors and then again into two factors. When forced into three, only 42% of the variance was explained and when forced into two, only 33% of the variance was explained. With both of these latter methods, the loadings were quite spread out also (see Appendix D for tables and results of factor analyses). It was determined that the initial factor analysis would be used because the amount of variance explained was much higher than were the latter results and the intimacy and autonomy items separated better than the latter methods.

Developing the Measures for Scoring

After completing validity and reliability checks as well as factor analyses for the intimacy and autonomy measures, levels of intimacy and autonomy were computed by converting the items for each construct into z scores. This took into account the differing lengths of the Likert scales used with the items (4-, 5-, and 7-point Likert scales; see Appendix A) and standardized the scores so that each item would have equal weight in forming the levels of the constructs.

The z scores for each item have a mean score of approximately zero and a standard deviation of approximately one. The z scores of the items for each construct were summed and sum totals were used to indicate levels of intimacy and autonomy for the women. Because of the nature of the z scores, the sum totals for the scale's minimum and maximum scores (see Tables 5 and 6) are far below and above zero. Tables 5 and 6 show the number of participants, minimum and maximum values, means, and standard deviations for the intimacy and autonomy scales at each assessment phase.

Table 5

z-score Sums for Intimacy Scale

Assessment phase	<i>n</i>	Minimum	Maximum	Mean	<i>SD</i>
Pretest	119	-17.61	22.67	.20	9.46
Posttest	94	-19.52	28.62	.05	9.94
3-months	76	-17.59	24.49	-.09	10.01
6-months	61	-16.45	23.47	-.53	9.71
12-months	45	-16.14	19.76	-.49	8.04

Table 6

z-score Sums for Autonomy Scale

Assessment phase	<i>n</i>	Minimum	Maximum	Mean	<i>SD</i>
Pretest	121	-10.08	12.15	.39	4.96
Posttest	89	-13.19	9.09	.23	4.87
3-months	68	-12.43	9.90	.13	5.12
6-months	56	-16.21	10.12	.31	4.95
12-months	39	-9.70	8.43	.21	5.21

Scoring the Results

With regard to the results of the research questions which are reviewed further in the results section, the *z* score means are centered around zero which makes many of the intimacy and autonomy means negative. This does not mean however, that a negative score indicates that the women's intimacy or autonomy levels are poor or severe.

Scoring of the women's levels of intimacy and autonomy is derived from comparing post-treatment mean scores (i.e., immediate posttest, 3-month posttest, etc.) to

the "baseline" mean score derived at the pretest assessment. This was done so as to determine if women's levels of intimacy and autonomy changed during or after treatment. Pretest scores do not show whether the women have "appropriate or healthy levels" of intimacy or autonomy, rather, they give a starting point or "baseline" from which to observe and compare post-treatment scores.

Dependent Variables

The ASI (McClellan, Luborsky, Woody, & O'Brien, 1980) and drug screening results (urinary analysis; UA) were used as dependent measures to determine the various treatment outcomes for the women. The ASI variables are continuous and the drug screening variable is dichotomous. The ASI is a 140-item structured clinical interview that is designed to assess an individual's level of functioning and problem severity in seven areas. These areas are divided into subscales in the ASI and include the areas of drug and alcohol use, medical condition, employment, illegal activity, family and social relations, and psychiatric condition. The ASI is administered by trained interviewers and takes approximately 50 minutes. The data collected include objective information about the intensity and duration of the problem symptoms and subjective ratings from both the client and the interviewer with regard to the level of severity in each problem area.

McClellan and colleagues reported inter-rater reliabilities of the ASI of .89, .94, and .99 for Spearman-Brown coefficients, and product-moment correlation coefficients from .74 to .91. They also reported test-retest reliability of .92 on severity ratings. The ASI has discriminant validity and concurrent validity. For discriminant validity, ratings of three groups of clients (low, mid, and high severity) were compared to scores on items

that indicated problem status in each area. It was found that between-group differences were statistically significant ($p < .05$) in all but one measure (times treated for alcohol use, $p = .07$). For concurrent validity, each subscale (except medical) was compared with other measures of corresponding problem areas. Concurrent validity was found between the ASI psychological subscale and the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and Global Assessment Scale (Endicott, Spitzer, Fleiss, & Cohen, 1976; $p < .0001$), the ASI family/social subscale and the means of all factors on the Social Adjustment Scale (SAS; Weissman & Bothwell, 1976; $p < .0001$), the ASI employment subscale and the work factor on the SAS ($p < .0001$), and the ASI legal subscale and the number of days illegal profit factor on the SAS ($p < .0001$).

ASI composite scores were used to determine baseline and outcome levels for the participants in the study. Composite scores were developed to measure treatment outcomes and are indicators of change in the clients' seven areas of functioning and take into account only questions that pertain to the previous 30 days. ASI composite scores are computed using a mathematical formula that standardizes the items so that each contributes equally to the final composite score for each subscale. Composite scores range from 0.0 to 1.0 with 0.0 being no severity and 1.0 being extreme severity (Delucchi & Bostrom, 2004). That is, higher scores suggest higher severity.

UAs were administered to the women at each assessment phase to obtain physical evidence of whether or not the women were using illegal substances. The women provided urine samples and the samples were tested on a nine panel drug screen including amphetamines, barbiturates, benzodiazepines, cocaine, methadone, opiates, PCP,

cannabis, and propoxyphene. The UA results were scored as dichotomous variables being either positive or negative for illegal substances. A single positive result meant the variable as a whole was scored as a positive. Outcomes using the ASI subscales and UAs were compared separately in relation to the independent variables of women's levels of intimacy and autonomy to determine significant relationships among the variables.

Procedures

The current project is a secondary analysis of data generated in a NIDA-funded study carried out from 1991 to 1994. Nelson and colleagues (1996) developed a systemic-based treatment model for couples called systemic couple's therapy. This model was used as the supplemental couple's therapy for women substance abusers and their partners in addition to standard substance abuse treatment in the parent study (McCollum et al., 2003).

Systemic couple's therapy (Nelson et al., 1996) was developed to focus on relational aspects of a substance abusing woman's life. Family of origin dynamics from the past and in the present, current relationships with significant others, and connections among these dynamics were often the focus of therapy as contextual factors that could either hinder or help a woman's recovery. The purpose of the treatment was to (a) clarify and strengthen significant relationships and (b) explore and utilize these relationships in substance abuse treatment. The model was based on structural (Minuchin, 1974), strategic (Bowen, 1978; Haley, 1976), and behavioral models of family therapy. The Bowen component of the model was included to increase a woman's differentiation of

self in order to make more independent or autonomous decisions and, at the same time, to strengthen intimate relationships.

The Systemic couple's therapy (SCT) model was delivered in two different modalities in the parent study: (a) SCT and (b) systemic individual therapy (SIT). In the parent study, three treatment groups were formed: TAU (treatment as usual), TAU with SCT, and TAU with SIT. The TAU group received standard agency substance abuse treatment with no couple's therapy. The TAU with SCT group received treatment as usual along with supplemental couple's therapy with both the client and partner present in SCT sessions. The TAU with SIT group received treatment as usual along with supplemental couple's therapy, but with only the client present in SIT sessions. Twelve sessions of SCT or SIT plus booster sessions at each assessment phase following treatment were conducted with the clients. Various measures were administered to the women and their partners through phases. Women clients and their partners were paid for completing assessments at each phase in the study.

All women were recruited from the caseloads of two agencies and also by advertising in a variety of local media. To be eligible, the women had to want treatment and had to have a partner who was willing to participate in the research as well. Partners were defined as someone who had a committed, ongoing relationship with a woman participant for at least six months (McCollum et al., 2003). Women who were eligible and interested in participating in the study received a preassessment screening and were then randomly assigned to one of three treatment modalities.

The women also received one hour "booster" therapy sessions after the 12

sessions were completed. These booster sessions took place immediately following the women's completing their assessments at 3 months, 6 months, and 12 months posttreatment. During the booster sessions, current functioning was assessed, progress maintained was reviewed, and plans were set in place if the participant had relapsed or if there was significant conflict between the participant and her partner.

Therapists who provided treatment were under intense supervision from the research team that had developed the model and were conducting the research. The supervision was done live during actual sessions, through watching video tape of the sessions, and via telephone. Supervisors gave feedback to the therapists to ensure that the therapists strictly adhered to the model.

McCollum and colleagues (2003) reported that SCT and SIT treatments were more effective than TAU alone in reducing composite scores for the women on the ASI drug subscale at the 6- and 12-month assessment phases ($p < .04$) for long-term outcomes and helping women maintain the gains they made in treatment. No statistical significance was found among treatment modalities for the ASI alcohol subscale. The variables of intimacy and autonomy were not specifically examined in relation to women's treatment outcomes in the parent study.

Preliminary Analyses

Preliminary analyses were administered on the data from the ASI subscales and UAs. First, the current researcher desired to observe the significance of changes of the ASI subscales over assessment phases for all of the participants to ensure that changes

did occur in treatment regardless of treatment modality. In the parent study, McCollum and colleagues (2003) observed changes in the ASI drug and alcohol subscales, but did so according to treatment modality, not for the participants in general. Secondly, the current researcher desired to duplicate the results found by McCollum and colleagues regarding differences among modalities for the ASI drug and alcohol subscales as well as to observe any possible differences among modalities for the other ASI subscales that were not reported by McCollum and colleagues. Thirdly, the current researcher desired to observe the UA results over the assessment phases to determine how much or how little substance abuse was occurring before and after treatment for the women. McCollum and colleagues gave no report on the women's UA results. Finally, the current researcher desired to determine if there were pretest differences between those participants who completed treatment and those who dropped out.

Repeated measures ANOVA was used to determine the significance of changes of the ASI subscales over assessment phases for all of the participants (see Figure 1). All of the ASI subscales showed significant decreases in problem severity over time. The results were statistically significant for each of the seven subscales ($p < .01$). Implications of this preliminary analysis will be reviewed in the discussion chapter of this study.

Repeated measures ANOVA was then used to determine the significance of changes of all of the ASI subscales over assessment phases for the participants according to treatment modality. Results showed that changes for all of the ASI subscales excluding the medical subscale were statistically significant ($p < .01$ or $p < .05$) for changes over time for each treatment modality (SIT, SCT, and TAU). Results found by McCollum and

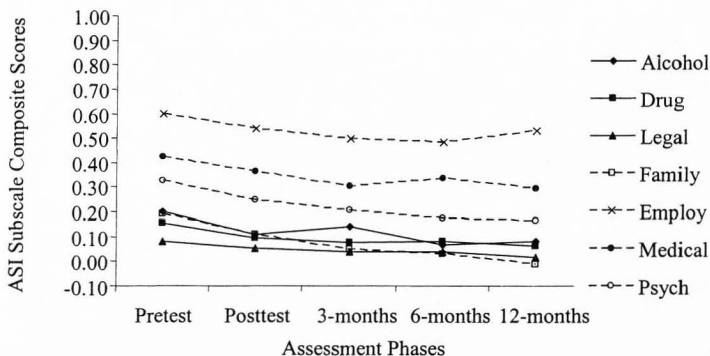


Figure 1. ASI subscale composite scores by assessment phase for all participants.

colleagues (2003) were duplicated with regard to the ASI alcohol and drug subscales.

With regard to results from the other subscales not initially reported in the parent study, none were statistically significant for differences among modalities in the current analyses.

UA results for the women over assessment phases were varied (see Table 7 and Figure 2). As can be seen, large percentages of women continued to use substances throughout the assessment phases, especially after treatment. Implications of these UA results will be reviewed in the discussion chapter of this study.

Results of Preliminary Analyses of ASI and UA Reports

Repeated measures ANOVA was used to determine the significance of changes of the ASI subscales over assessment phases for all of the participants. Results

Table 7

Percentage of Women With UAs Positive for Illegal Substances by Assessment Phase

Assessment phase	SIT		SCT		TAU	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
Pretest	33.3	39	59.0	39	43.6	39
Posttest	22.2	27	38.7	31	50.0	32
3-months	39.1	23	46.4	28	50.0	26
6-months	36.8	19	50.0	22	52.6	19
12-months	35.7	14	26.7	15	42.9	14

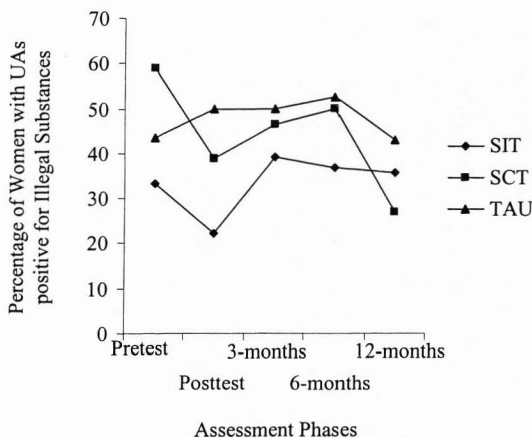


Figure 2. Percentage of women with UAs positive for illegal substances by assessment phase.

from administering repeated measures ANOVA on ASI composite scores for each of the seven subscales over assessment phases for all of the participants in general were statistically significant for each of the seven subscales ($p < .01$). These results support previous studies that suggest that women substance abusers can improve in all areas of functioning according to the ASI subscales by engaging in substance abuse treatment regardless of treatment modality. McCollum and colleagues (2003) found that women in substance abuse treatment, regardless of modality, showed a decrease in severity on the ASI drug and alcohol subscales during treatment. Winters and colleagues (2002) reported that women in both BCT and standard substance abuse treatment showed improvements on the ASI drug, alcohol, family, and psychiatric subscales.

Results from the preliminary analysis show that ASI scores become more positive through assessment phases and also show that UA results remain relatively the same throughout assessment phases. These results indicate that women in treatment, whether SIT/SCT or TAU, improve in all areas of functioning even though their substance use remains relatively the same. This suggests that women may not need to reduce their substance abuse in order to obtain healthier functioning, but rather may need to change other behaviors, thoughts, and/or areas in their lives. Implications for practice regarding this finding are reviewed later.

Finally, preliminary analyses were conducted to determine if there were any statistical pretest differences between those participants who completed treatment and those who dropped out of treatment. *t*-test analyses were administered to data for women's intimacy and autonomy levels, outcomes of each ASI subscale, and various

demographic variables. *Chi-square* test analysis was also administered to UA outcome results. These analyses were administered in order to determine if there were any statistical pretest differences between those participants who completed treatment and those who dropped out of treatment.

After completing the analyses, the results revealed no statistical differences for the women's intimacy and autonomy levels, demographic variables, and UA outcome results according to those participants who completed treatment and those who dropped out of treatment. However, with regard to differences found in subscales of the ASI, results showed statistical differences between those participants who completed treatment and those who dropped out of treatment for the drug ($p < .05$), legal ($p < .05$), and psychological ($p < .05$) subscales. Those who completed treatment had pre-treatment mean scores of .15 for the drug subscale, .06 for the legal subscale, and .37 for the psychological subscale. Those who did not complete treatment had pre-treatment mean scores of .21 for the drug subscale, .17 for the legal subscale, and .27 for the psychological subscale. These scores indicate that those who dropped out of treatment had worse scores in drug and legal functioning at pre-treatment than those who stayed in treatment. Interestingly, those who dropped out of treatment had better scores in psychological functioning at pretreatment than those who stayed in treatment. These results will be reviewed further in the discussion chapter.

Current Study Analyses

Changes in the women's levels of intimacy and autonomy at different assessment

phases were examined. Women's levels of intimacy and autonomy were also examined in relation to the women's ASI and drug screening outcomes according to the treatment modality they received. Analyses are described for each research question.

1. Is there a statistically significant amount of change in the women substance abuser's levels of intimacy and autonomy over the duration of treatment for the participants in general? Repeated measures analysis of variance (ANOVA) was used to examine changes of the participants' levels of intimacy and autonomy over assessment phases for all of the participants involved.

2. Are there statistically significant differences in the amount of change in the levels of intimacy and autonomy over the duration of treatment according to the treatment modality the participants received? Repeated measures ANOVA was used to examine changes of the participants' levels of intimacy and autonomy over assessment phases by treatment modality.

3. Do participants who have more positive functioning during treatment increase more in their intimacy and autonomy levels than those participants who have poorer functioning during treatment? Repeated measures ANOVA was used for pretest and immediate posttest assessments to examine changes in levels of intimacy and autonomy between women who had more positive ASI outcomes (composite scores of 0.0) compared to women who had negative outcomes (composite scores > 0.0).

4. What is the relationship between women's levels of intimacy and autonomy and their actual drug use at each assessment phase for the participants in general? Logistic regression analysis was used to examine relationships between the women's

levels of intimacy and autonomy and their drug screening outcomes at each assessment phase. Logistic regression is a form of regression that is used when the dependent variables are dichotomous and the independent variables are continuous. Logistic regression estimates the probability of a certain event occurring. In this case, that "event" was a positive or negative UA.

5. Are there relationship differences between women's levels of intimacy and autonomy and their actual drug use at each assessment phase according to the treatment modality the participants received? Logistic regression was used to examine differences between women's levels of intimacy and autonomy and their drug screening outcomes at each assessment phase according to the treatment modality they received.

CHAPTER IV
RESULTS

Changes in Intimacy and Autonomy Levels by Assessment Phase

Is there a statistically significant amount of change in the women substance abusers' levels of intimacy and autonomy over the duration of treatment for the participants in general? Results from the repeated measures ANOVA on intimacy and autonomy levels over assessment phases for all of the participants in general showed some change over assessment phases for both intimacy and autonomy, but this change was not statistically significant (Intimacy: $F = .137, p > .05$; Autonomy: $F = .049, p > .05$). The intimacy and autonomy means over assessment phases are shown in Tables 8 and 9.

To reiterate the scoring procedures, z score means are centered around zero which makes many of the intimacy and autonomy means negative. This does not mean however, that a negative score indicates that the women's intimacy or autonomy levels are poor or severe. Scoring of the women's levels of intimacy and autonomy is derived from

Table 8

Intimacy Levels of All Participants Over Time

Assessment phase	Mean	SD
Pretest	-0.13	9.81
Posttest	-2.40	8.87
3-months	-1.33	9.52
6-months	-1.80	8.96
12-months	-0.35	8.32

$N = 45$

Table 9

Autonomy Levels of All Participants Over Time

Assessment phase	Mean	SD
Pretest	0.12	4.67
Posttest	1.20	4.56
3-months	-0.25	4.84
6-months	0.25	3.88
12-months	0.65	5.13

N = 32

comparing post-treatment mean scores (i.e., immediate posttest, 3-month posttest, etc.) to the "baseline" mean score derived at the pretest assessment (i.e., comparing a pretest "baseline" score of -0.13 to a 12-month posttest score of -0.35 in Table 8). This was done so as to determine if women's levels of intimacy and autonomy changed during or after treatment. Pretest scores do not show whether the women have "appropriate or healthy levels" of intimacy or autonomy; rather, they give a starting point or "baseline" from which to observe and compare post-treatment scores.

Intimacy

The participants' overall levels of intimacy decreased between pretest and immediate posttest, signifying a decrease in intimacy level during treatment. However, levels of intimacy increased from immediate posttest to 3-months posttest, decreased slightly from 3-months posttest to 6-months posttest, and increased to a level slightly lower than the initial baseline from 6-months to 12-months posttest (see Figure 3).

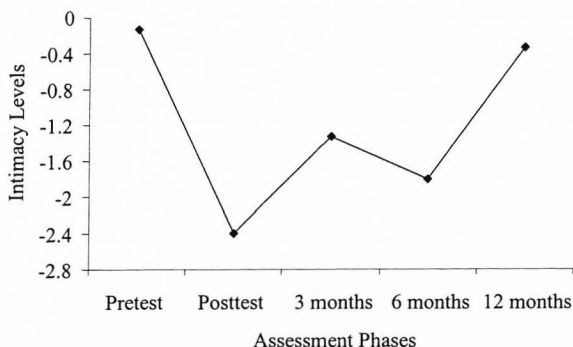


Figure 3. Intimacy levels of all participants.

Autonomy

The participants' overall levels of autonomy increased between pretest and immediate posttest signifying an increase in autonomy level during treatment. However, levels of autonomy decreased from immediate posttest to 3-months posttest, increased from 3-months posttest to 6-months posttest, and then increased more from 6-months posttest to 12-months posttest to a level higher than the initial baseline (see Figure 4).

Changes in Intimacy and Autonomy by Treatment Modality

When repeated measures ANOVA was used to examine changes of the participants' levels of intimacy and autonomy over assessment phases according to participants' treatment modality, slight differences among the modalities were noted, but

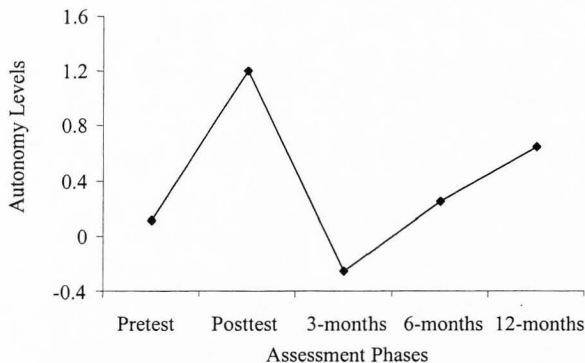


Figure 4. Autonomy levels of all participants.

none were statistically significant (see Table 10). The intimacy and autonomy means over assessment phases according to treatment groups are shown in Tables 11 and 12.

Intimacy by Treatment Modality

The participants' levels of intimacy decreased for the SIT and SCT modalities during treatment (between pretest and immediate posttest) and increased for the TAU modality during the same time period. From that point on, the levels in TAU modality gradually decreased during posttest assessment phases until reaching a level at 12-months posttest almost identical to the initial baseline at pretest. The levels in the SIT modality increased and decreased until eventually reaching a level at 12-months posttest higher than the initial baseline. The levels in SCT modality gradually increased during posttest assessment phases until reaching a level at 12-months posttest that was still lower than the initial baseline at pretest (see Figure 5).

Table 10

Changes in Intimacy and Autonomy by Treatment Modality

Modality	Time	Group	Time X Group
Intimacy	$F = .00, p > .05$	$F = 1.32, p > .05$	$F = .33, p > .05$
Autonomy	$F = .03, p > .05$	$F = .54, p > .05$	$F = 2.01, p > .05$

Table 11

Intimacy Levels by Treatment Modality

Assessment phase	Treatment modality	<i>N</i>	Mean	<i>SD</i>
Pretest	SIT	15	.86	8.37
	SCT	14	-.67	12.97
	TAU	12	-.73	7.73
	Total	41	-.13	9.81
Posttest	SIT	15	-3.68	7.83
	SCT	14	-4.05	8.52
	TAU	12	1.14	10.16
	Total	41	-2.40	8.87
3 months	SIT	15	-.58	12.06
	SCT	14	-3.77	8.42
	TAU	12	.60	6.95
	Total	41	-1.33	9.52
6 months	SIT	15	-1.91	9.34
	SCT	14	-3.09	10.15
	TAU	12	-.17	7.34
	Total	41	-1.80	8.96
12 months	SIT	15	2.37	8.81
	SCT	14	-2.73	8.56
	TAU	12	-.96	6.96
	Total	41	-.35	8.32

Table 12

Autonomy Levels by Treatment Modality

Assessment phase	Treatment modality	<i>N</i>	Mean	<i>SD</i>
Pretest	SIT	12	-.48	4.17
	SCT	10	.74	5.81
	TAU	10	.22	4.36
	Total	32	.12	4.67
Posttest	SIT	12	2.13	4.81
	SCT	10	.50	3.87
	TAU	10	.78	5.15
	Total	32	1.20	4.56
3 months	SIT	12	-1.35	5.84
	SCT	10	.73	3.97
	TAU	10	.07	4.51
	Total	32	-.25	4.84
6 months	SIT	12	.38	4.59
	SCT	10	1.40	2.89
	TAU	10	-1.07	3.80
	Total	32	.25	3.88
12 months	SIT	12	-1.64	4.87
	SCT	10	3.73	3.74
	TAU	10	.33	5.50
	Total	32	.65	5.13

Autonomy Levels by Modality

Changes in participants' levels of autonomy for the SIT and SCT modalities across assessment phases were quite different (see Figure 6). The levels in the SIT modality increased and decreased throughout the phases until eventually reaching a level at 12-months posttest lower than the initial baseline. However, levels in the SCT modality decreased slightly at first but maintained levels close to the initial baseline until

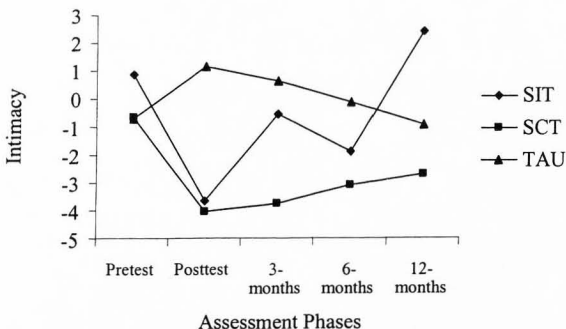


Figure 5. Intimacy levels by treatment modality.

increasing at the end, reaching a level at 12-months much higher than the initial baseline and much higher than the SIT modality. The levels in TAU modality gradually decreased during posttest assessment phases until reaching a level at 12-months posttest almost identical to the initial baseline at pretest (see Figure 6).

Differences in Intimacy and Autonomy Levels Between Women's Best and Worst ASI Outcomes

Repeated measures ANOVA was administered to data from participants who showed the best outcomes on the ASI subscales (composite scores of 0.0: no severity) at pretest and immediate posttest to determine if participants with more positive treatment outcomes showed differences with regard to changes in their intimacy and autonomy levels over assessment phases from those with more negative outcomes (composite scores > 0.0). The analysis showed no statistical significance for changes in levels of

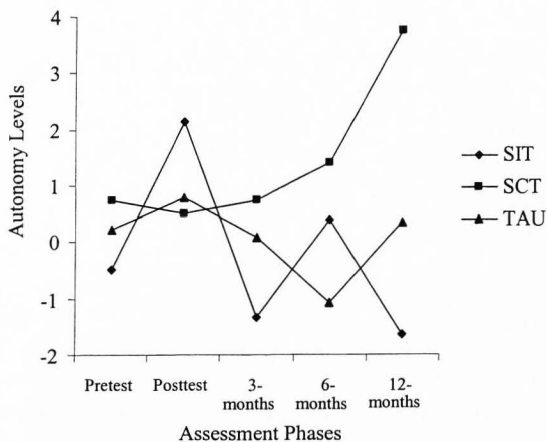


Figure 6. Autonomy levels by treatment modality.

intimacy and autonomy over assessment phases for participants who had more positive ASI outcomes at pretest and immediate posttest.

Relationship Between Drug Screen Outcomes and Levels of Intimacy and Autonomy

Logistic regression analysis was used at each assessment phase to determine the significance between the women's levels of intimacy and autonomy at each assessment and the women's UA results at each assessment for all of the participants. Logistic regression was used because the UA results were dichotomous variables and the intimacy and autonomy outcome variables were continuous. By using logistic regression the

researcher was able to estimate the probability of a positive or negative UA occurring in relation to the intimacy and autonomy levels of the women. The analysis showed no statistical significance for this relationship at each assessment phase; that is, intimacy and autonomy levels did not predict UA outcomes with statistical significance ($p > .05$; see Table 13).

The beta coefficients (B) shown in Tables 13 and 14 represent the amount of slope or change of regression lines (lines which are used to predict correlations) generated by the logistic regression analyses. Also, the standard errors of estimates (SE) shown in Tables 13 and 14 are variability estimates of all the data points around the regression lines generated by the logistic regression analyses. SE s are used to assess the accuracy of the predicted variable in the analyses. In these analyses, the predicted variables are the UAs.

Table 13

Relationship Between Drug Screen Outcomes and Levels of Intimacy and Autonomy for All Participants

Phase	Intimacy (B) ^a	Intimacy (S.E.) ^b	Autonomy (B)	Autonomy (S.E.)
Pretest	.01	.02	.04	.04
Posttest	.03	.04	.08	.07
3-months	.06	.05	-.06	.10
6-months	.12	.09	.01	.17
12-months	.45	.29	.29	.27

^aBeta coefficient

^bStandard error of estimate

Table 14

*Relationship Between Drug Screen Outcomes and Levels of Intimacy and Autonomy
According to Treatment Modality*

Phase	Intimacy (B) ^a	Intimacy (S.E.) ^b	Autonomy (B)	Autonomy (S.E.)
Pretest	.01	.03	.01	.05
Posttest	-.03	.04	.04	.08
3-months	.04	.06	-.07	.11
6-months	.13	.10	.12	.24
12-months	47.40	1318.26	56.20	1415.81

^aBeta coefficient

^bStandard error of estimate

Logistic regression analysis was also used at each assessment phase to determine the significance between the women's levels of intimacy and autonomy at each assessment and the women's UA results at each assessment according to their treatment modality. The analysis also showed no significance for this relationship according to treatment modalities at each assessment phase ($p > .05$; see Table 14). The 12-month assessment sample size was too low to obtain valid results.

After the analyses were conducted for each research question at every assessment phase, an identical analysis was administered for each question but at only two assessment phases: pretest and immediate posttest. This was done because of attrition at the 3-, 6-, and 12-month assessment phases. No additional significance was determined by conducting these analyses.

CHAPTER V

DISCUSSION

Preliminary Analyses of Completers Versus Dropouts

With regard to possible differences between women who completed treatment and those who dropped out, analyses showed statistical differences for the drug ($p < .05$), legal ($p < .05$), and psychological ($p < .05$) subscales. Results indicated that those who dropped out of treatment had worse scores in drug and legal functioning at pre-treatment than those who stayed in treatment. Also, those who dropped out of treatment had better scores in psychological functioning at pre-treatment than those who stayed in treatment.

These results seem logical for all three areas. Women who struggle more with drug and legal problems may have more obstacles to overcome in order to stay in treatment than those who do not. Likewise, those who struggled more with psychological problems may have felt as though they needed counseling even more and stayed with treatment throughout its entirety. Practitioners may need to be more aware of these implications for treatment by including interventions directed at these areas. By intervening early, clinicians and agency administrators may be able to keep women with severe drug and legal problems and better psychological functioning in treatment longer.

Change in Intimacy and Autonomy Levels by Assessment Phase

Is there a statistically significant amount of change in the women substance abusers' levels of intimacy and autonomy over the duration of treatment for the

participants in general? Results from repeated measures ANOVA on intimacy and autonomy levels over assessment phases for all of the participants in general showed some change over assessment phases for both intimacy and autonomy, but this change was not statistically significant.

In looking at what changes did occur, the women's levels of intimacy decreased during the 12 sessions of treatment (SIT, SCT, and TAU) and then increased slightly at each assessment phase from immediate posttest to 12-months posttest until reaching an intimacy level at 12-months posttest that was slightly higher than the initial intimacy level at pretest. For autonomy, the women's levels increased during the 12 sessions of treatment (SIT, SCT, and TAU) and then decreased during the three months right after treatment. Autonomy levels slowly increased from 3-months posttest to 12-months posttest until reaching levels at 12-months posttest that were slightly higher than the autonomy levels before treatment began.

With no statistical significance reported, these results do not show strong support for the hypotheses regarding women's levels of intimacy and autonomy changing during substance abuse treatment regardless of modality. Because both intimacy and autonomy reached pretest levels at 12-months posttest, women may have fallen into old patterns once counseling stopped and the positive behaviors and interactions they learned in treatment may have been forgotten or replaced. Some of the women may also have replaced their partners during or after treatment and lost the levels of intimacy and autonomy they had gained. Relational patterns and dynamics with a new partner who was not involved with or not around during couple's therapy may have resulted in falling back

into old patterns that existed before treatment began. These results may also be due to chance.

Another possible explanation for these results may be found in the theory used to drive the questions in this study. Bowen's (1978) concept of self-differentiation is complex and has many variables that affect the process of change that individuals go through in therapy and in life. It may not be possible for one to attain the goals that are delineated by Bowen's theory, such as increasing one's levels of intimacy and autonomy, by participating in the Systemic Couple's Therapy model and standard substance abuse treatment over a twelve week period. Bowen's theory would suggest that attaining healthy self-differentiation takes more time and effort than was administered in this particular research project. This is not to imply that the model or approach used in this particular study was not helpful, but rather that the constructs of one's levels of intimacy and autonomy are more stable or static than researchers and/or practitioners realize.

The fluctuation in levels of intimacy and autonomy may be related to the women's levels of satisfaction in their significant relationships and their partners' levels of satisfaction in the relationship. In a similar secondary analysis on Systemic Couple's Therapy regarding relationship satisfaction (McCollum, Nelson, Lewis, & Trepper, in press), researchers found that women's and their partners' levels of satisfaction in the relationship were significant variables in the women's treatment outcomes. They found a statistically significant relationship between the women's poor treatment outcomes (more drug use) and their partners' increased level of relational satisfaction. This finding may support the hypothesis that women substance abusers' partners are influential in the

women's substance abuse relapse and poor outcomes. When women's autonomy levels decreased after the 12 sessions of treatment, it is possible that the women's partners wanted them to return to "status quo" as described by other researchers (Laudet et al., 1999; Stanton, 1997).

One variable that may have been assumed throughout this study was that these women were committed to the relationships they were in. This may have been assumed because the women were the identified patient, who were many times self-referred and reporting that they were desiring couples therapy when in reality some of them may have had ulterior motives for entering therapy, some perhaps to stay clean, receive money, or to obtain therapy to help them get out of the current relationship. Discovering information related to this assumption could provide some useful explanations for the results derived in this study.

With changes occurring at each phase of assessment after treatment, the booster sessions at those times may have contributed to increasing or decreasing the levels of intimacy and autonomy for the women. The booster sessions occurred after the assessments were administered at each phase and it may be that these sessions contributed to subsequent phase changes. The booster sessions may have helped remind and recondition women and their partners to return to positive habits. They also may have contributed to the women's partners' pressuring or manipulating the women to return to their initial levels of intimacy and autonomy or back to "status quo" in the relationship. Bowen theory (Bowen, 1978) suggests that individuals' changes are met with resistance. These women may not have been strong enough to maintain their levels of intimacy and

autonomy. It is possible that the slight gains the women made after sessions could have been amplified with stronger "doses" of therapy that could have influenced their levels of intimacy and autonomy. Gains in functioning may have thus been amplified or solidified.

Previously noted literature suggested that a woman's substance abuse may be closely tied to her partner's co-occurring substance abuse (Amaro et al., 1989; Boyd & Guthrie, 1996; Finkelstein, 1994; Laudet et al., 1999; Rosenbaum, 1981; Scheff, 1990). It is probable that some of the partners were concomitantly using drugs or alcohol with the participants throughout the study. Participants' levels of intimacy and autonomy returning to levels close to their original baseline may be related to the influence of co-occurring substance abuse of the women's partners. It should be noted that the women's substance abusing partners in this study were not necessarily involved in their own treatment for substance abuse problems. Implications for future applications regarding this issue will be discussed later.

The finding that women's levels of intimacy decreased and levels of autonomy increased during the 12 weeks of treatment may support the idea that treatment, regardless of modality, helps women change their levels of intimacy and autonomy during treatment. Because of the potentially weak validity of the intimacy and autonomy measures used, it is possible that the measures did not accurately measure intimacy and autonomy with regard to the concept of healthy self-differentiation in which both intimacy and autonomy increases. Thus, it may be possible that a decrease in women's levels of intimacy during treatment may actually be an increase in women's levels of autonomy. Despite procedures that were done to ensure validity of the measures, further

work needs to be done to better measure the constructs of intimacy and autonomy.

Results indicating that ASI treatment scores of healthy functioning improved over treatment and results indicating that autonomy levels increased may support the hypothesis that an increase in women substance abusers' levels of autonomy may lead to healthier functioning and better treatment outcomes even when drug use continues (Bailly et al., 1991; Laudet et al., 1999; Madanes et al., 1980; Nelson et al., 1996). Also, logistic and practical issues that are obstacles for women substance abusers in treatment, such as non-supportive partners, child care problems, difficulty with finances, inadequate transportation (McCollum & Trepper, 1995), and running a household (CASA, 1996) may be more significant toward treatment outcomes than are intimacy, autonomy, and self-differentiation issues.

Change in Intimacy and Autonomy by Treatment Modality

Are there statistically significant differences in the amount of change in the levels of intimacy and autonomy over the duration of treatment according to the treatment modality the participants received? When repeated measures ANOVA was used to determine if there were any significant differences between the participants' levels of intimacy and autonomy over assessment phases according to their treatment modality, some differences among the modalities were noted, but none were statistically significant.

These results suggest there is not strong support for the hypotheses regarding women substance abusers' levels of intimacy and autonomy changing more significantly

during substance abuse treatment with supplemental couple's therapy than without. However, it also tells us that because there were no significant differences among the treatment modalities that supplemental couple's therapy was not damaging or contraindicated in any way. These results support the findings from the parent study (McCollum et al., 2003) that systemic couple's therapy is as helpful to women substance abusers as is TAU and shows no results of being harmful to women's functioning. If anything, systemic couple's therapy is more helpful in long term outcomes (McCollum et al.), as supported by results of the parent study.

It may also be that the concept of increasing one's levels of intimacy and autonomy, or increasing one's level of healthy self-differentiation, may be helpful to women substance abusers' recovery and healthy functioning, but that the treatment model used for the study (systemic couple's therapy) may not be as effective model as other models may be in helping women obtain these levels. It may also be that Bowen theory and constructs of Bowen theory within the systemic couple's therapy model were too diluted for the treatment model to have enough impact on significantly changing the constructs of intimacy and autonomy for the women.

Results of data analysis for this question also show quite a contrast between the SIT and SCT modalities. The SIT modality showed an overall increase in intimacy and decrease in autonomy. On the other hand, the SCT modality showed an overall decrease in intimacy and increase in autonomy. The different modalities may explain these interesting differences. In SCT, the partners' direct involvement in counseling may be associated with a decrease in intimacy and an increase in autonomy for the women.

Direct involvement in counseling from the women's partner may decrease the partners' attempts to control the women's autonomy (Bailly et al., 1991; Laudet et al., 1999; Nelson et al., 1996), thus allowing her to become more autonomous and higher functioning through the treatment process. Obviously, this was not the case for intimacy levels. This result of lower intimacy levels may be related to a woman's partner's attempts to suppress his urges to squelch her autonomy. By doing so, he withdraws inadvertently when reacting to her increased autonomy, leaving her with a feeling of having less intimacy with him. It may also be that the intimacy and autonomy measures used for this study are measuring these constructs as opposite points of a continuum and not as "separate but related processes" (Bowen, 1978) as Bowen has indicated. Thus, when intimacy is reported as decreasing, autonomy is reported as increasing, which is not congruent with the theory that is driving this study.

Differences in Intimacy and Autonomy Levels Between Women's Best and Worst ASI Outcomes

Do participants who have more positive functioning during treatment increase more in their intimacy and autonomy levels than those participants who have poorer functioning during treatment? When repeated measures ANOVA was used to examine data of participants with more positive outcomes on the ASI subscales at pretest and immediate posttest to determine if they showed any difference with regard to significant changes in their intimacy and autonomy levels over assessment phases than those participants with more negative outcomes, the analysis showed no statistical significance

for changes in levels of intimacy and autonomy for participants who had better ASI outcomes compared to those with more negative outcomes.

These results are congruent with the results of the previous analyses that suggest there are no statistically significant changes in levels of intimacy and autonomy for women substance abusers during or after treatment. The results also suggest that women's positive functioning in various areas of life may not be related to their levels of intimacy and autonomy in their relationships with significant others/partners.

Relationship Between Drug Screen Outcomes and Levels of Intimacy and Autonomy

What is the relationship between women's levels of intimacy and autonomy and their actual drug use at each assessment phase for the participants in general? Logistic regression analysis was used to determine the significance of the relationship between the women's intimacy and autonomy levels and the women's UA results at each assessment phase for all of the participants in general. The analysis showed no statistical significance for this relationship. This result does not support the hypothesis that women's levels of intimacy and autonomy are related to their treatment outcomes (in this case, UAs) and supports the results reported for Research Question 1, which shows that intimacy and autonomy levels do not change significantly over assessment phases. It also supports Research Question 3, which shows that intimacy and autonomy levels are not related to other treatment outcomes (ASI scores).

Relationship Between Drug Screen Outcomes and Levels of Intimacy
and Autonomy by Treatment Modality and Post Hoc Results

Are there relationship differences between women's levels of intimacy and autonomy and their actual drug use at each assessment phase according to the treatment modality the participants received? Logistic regression analysis was also used to determine if there was any significant difference between intimacy and autonomy levels and women's UA results at each assessment phase according to their treatment modality. The analysis showed no significance for this relationship according to treatment modalities.

ASI subscale composite scores were also used as variables in the logistic regression for outcomes related to drug screenings. In pursuing other possible results for this study, the relationship between ASI subscale composite scores and women's UA results over assessment phases according to treatment modality were examined. This analysis provided some significant findings.

At immediate posttest, results showed statistical significance that women in the SIT modality ($SIT, B = -2.99, S. E. = 1.15, p < .01$) were much more likely to have negative UA results than were women in the TAU modality. No statistical significance was found between TAU or SIT and the SCT modality ($SCT, B = -1.10, S. E. = .81, p = .17$). This supports the premise that supplemental couple's therapy with women alone (SIT) may have been more helpful to women staying drug free at discharge than TAU alone. This result was not reported in the parent study. This indicates that women in this sample may have better treatment outcomes when relational issues are treated in therapy,

but with the woman's partner not present in treatment. Further research with the SIT modality or similar treatment models may reveal further theories that would explain this result.

Women who had an increase in severity in ASI medical subscale scores also had an increase in their positive UAs at 3- and 12-months posttreatment. Similarly, women who had an increase in severity in ASI legal subscale scores had an increase in positive UAs at 3-months posttreatment. These results were not provided in the parent study but do provide further evidence that there is a significant relationship between increased drug abuse and difficulties in medical and legal areas of functioning for women substance abusers (Blume, 1998; CASA, 1996).

Implications

Implications for Research

It would be helpful to use standardized assessments for the constructs of intimacy and autonomy in future research to have some sense of the participants' levels of intimacy and autonomy at pretest and posttest and if they enter treatment with healthy levels or not. Unfortunately, the intimacy and autonomy measures used in this study are not standardized and have no way of identifying the woman's "healthy" levels.

Many studies have reported that women's substance abuse may be closely tied to partners' co-occurring substance abuse (Amaro et al., 1989; Boyd & Guthrie, 1996; Finkelstein, 1994; Laudet et al., 1999; Rosenbaum, 1981; Scheff, 1990). It may be useful to correlate any co-occurring substance abuse of the participants' partners during the

assessment phases with the participants' levels in intimacy and autonomy. It is probable that some of the partners were concomitantly using with the participants throughout the study and it would be interesting to determine the effects of this variable on the women's use and treatment outcomes. It may also be wise to examine the partner's levels of intimacy and autonomy in relation to the participant's levels as well as any other significant variables such as level of functioning and drug use.

Researchers may want to examine other variables such as specific demographics and/or partner functioning. It may be valuable to correlate women's outcomes with partner variables such as changes in levels of intimacy and/or autonomy, UA results, and ASI outcomes according to treatment modality. All of these variables may have potential interactive effects with variables and outcomes pertaining to women substance abusers.

Implications for Treatment and Policy

With varying results encountered in this study, more questions have been raised than answered regarding how to best handle these issues for women substance abusers in treatment. Existing literature coupled with results from this study show that it is more helpful than harmful to have partners involved in some way in treatment. With the partners' concomitant use and/or lack of support making it difficult for women to progress in treatment and maintain healthy functioning in areas of life, clinicians, human service administrators, and government officials should be aware that partners may need to undergo substance abuse treatment simultaneously with the women to target their own difficulties and issues with substance abuse. Clinicians, human service administrators, and government officials who facilitate this in legislation, human service agencies, and

treatment may be helping both women and their partners make immediate and long-term gains in treatment and in healthy functioning in areas of life.

With regard to autonomy levels' increasing more in SCT than SIT, it would be important for clinicians to be aware of partner effects on the women's attempts at increasing autonomous thoughts and behaviors by dealing with those effects in or out of session in some manner. Also, women's movement towards autonomy in the beginning stages of treatment may be more important than movement towards intimacy. Women may need to initiate and maintain autonomous behaviors at first to make necessary changes in substance use and functioning separate from their partners. They may then need to move toward higher levels of intimacy in latter stages of treatment in order to alter, regain, or maintain significant relationships. These significant relationships would be vital for support, encouragement, and love throughout the remainder of treatment and afterwards.

However, women may need to increase levels of intimacy and autonomy simultaneously in the initial stages of treatment. If women were able to do this, they may not be as disheartened by initial decreases in intimacy (which were shown at the beginning of therapy in this study) and this may help them to work harder on recovery during and after treatment. At any rate, clinicians may need to warn women about the possibility of initial decreases in intimacy when treatment begins so that the women may be better prepared for the difficult changes that accompany those decreases. Initial decreases in women's intimacy levels may be one of the factors related to women's dropping out of treatment early and often. These suggested approaches to intimacy and

autonomy in women's substance abuse treatment may be helpful to women and their partners in making immediate and long-term positive changes in treatment and in areas of life functioning.

With regard to women in SIT having more clean UAs at three months than TAU with statistical significance, it would be important for clinicians to identify and amplify women's behaviors that were occurring during SIT and to identify other variables that may be related to these positive outcomes. Doing so would help clinicians make necessary changes in their delivery of treatment in order to help women and their partners achieve more positive treatment outcomes. It would also be important for clinicians to identify what was not occurring for women in SCT and TAU that accounted for poorer UA results.

Results from the preliminary analysis showed that ASI scores become more positive through assessment phases and that UA results remained relatively the same. These results indicate that women in treatment, regardless of treatment modality, improve in all areas of functioning even though their substance use remains relatively the same. This suggests that women may not necessarily need to reduce their substance abuse in order to obtain healthier functioning, but rather may need to change other behaviors, thoughts, and/or functioning in areas of their life. A woman's positive functioning could be related more significantly to her maintaining positive relationships and having good health than simply abstaining from use of substances. This premise is supported by literature previously cited (Beckman & Amaro, 1986; Blume, 1998; Boyd & Guthrie, 1996; Williams & Klerman, 1984). It may be more important for clinicians to identify

to identify and amplify what women are doing differently to maintain positive changes while using substances rather than focusing so much on UA results.

Limitations

Several limitations in this study suggest that results should be viewed with caution. Strong validity and reliability for the intimacy and autonomy measures used in this study are questionable. However, in attempting secondary analysis on variables with no assessments that directly measured the constructs of intimacy and autonomy, conducting the best procedures in obtaining high levels of reliability and validity was not possible. In future studies, the best procedures for obtaining strong reliability and validity could be used to more accurately measure these constructs with regard to their significance in couple's therapy with substance abusing women. It may be that some of the hypotheses of this study would be supported more strongly through more reliable and valid measurement of these constructs.

A second limitation was the attrition rate of participants as assessment phases progressed (see Table 3). As the attrition progressed, analysis power decreased and statistical significance of the results dropped. Future studies could attempt to take measures to prevent attrition throughout the assessment phases by offering participants higher payments or other incentives. Future studies could also attempt other engagement strategies such as warning women about possible drops in levels of intimacy with their partners or preventing those drops in intimacy levels in order to keep participants involved in the study. It is also a possibility that the high attrition rate in this study may have been a result of the treatment itself. Other types of treatment models may retain

more participants than the model used in this study. It could be that further refinement and studies could be done with systemic couple's therapy to reach more efficiency and efficacy.

Threats to internal and external validity also created limitations in this study. Threats to internal validity included weak validity and reliability of the intimacy and autonomy measures, women's sensitization to repeated assessments given throughout the study, and data of the study being based on self-report items in the assessments. Threats to external validity included limitations in the sample such as participants as a whole not being randomly sampled, high attrition as assessment phases progressed, and the possibility of women's partners changing during assessment phases. The occurrence of covariance of the intimacy and autonomy variables may also have been possible. This would have potentially weakened the variables' effects.

There may also have been limitations in the treatment provided to the women. The model used may not have targeted the most crucial therapeutic variables in treatment, the treatment may have been too short, and the variables for screening (e.g., drug of choice) may have not been the best screening variables to use. There were also two different types of treatment in the TAU modality, intensive outpatient treatment and methadone-maintenance, which may have contributed to variability in the results.

This particular study on the changes in intimacy and autonomy levels for substance abusing women in couple's therapy is an exploratory study. The results obtained could not be compared to existing studies or measures except for theoretical assumptions regarding intimacy, autonomy, and self-differentiation in relation to

substance abuse issues for women. If other researchers in this particular field produce more research in this area, results from this study could be supported, replicated, and/or challenged, which could lead to more answers and conclusions in this area of interest and concern.

Conclusion

No statistical significance was reported with regard to changes in women's levels of intimacy and autonomy over assessment phases for participants in general and according to treatment modality. There may be several reasons for these findings. First, other variables may be more significant in changing treatment outcomes than are levels of intimacy and autonomy (i.e., logistic issues, relational satisfaction, application of relapse prevention skills, methadone maintenance, the therapeutic alliance, etc.). Second, this study did not have measures of intimacy and autonomy with strong validity and/or reliability to ensure valid and reliable results. Finally, a high attrition rate contributed to low statistical significance.

Results of this study support existing literature that show couple's therapy helps women have positive treatment outcomes as much as standard treatment and with more positive outcomes in some areas of functioning. However, findings from this study show little support for the exploratory hypothesis that women substance abusers' levels of intimacy and autonomy may be significant variables in supplemental couple's therapy for substance abuse treatment. There are some promising and consistent results, however, and future researchers may find more significant results that would add to the literature

and implications for treatment for substance abusing women if these hypotheses are explored further.

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APPENDICES

Appendix A

Text and Instructions Sent to Each of the Three Raters

Text and Instructions Sent to Each of the Three Raters

Drs. Nelson, Bray, and McCollum,

Thank you for taking the time to help me with this project. I have gone through all the measures that were used in the original study and have selected the items that I felt best measured the constructs of intimacy and autonomy. As part of validating these items I have asked that you **rate the items on a Likert scale** as to how well you think they accurately represent and/or measure the constructs of intimacy and autonomy.

For the purposes of this study, the following definitions for the constructs of intimacy and autonomy have been used. These definitions of autonomy and intimacy have been derived from the theoretical underpinnings and concepts of Bowen Family Systems Theory (Bowen, 1978) and the differentiation of self in family systems.

Data from responses to these questions will be analyzed to determine how the constructs of intimacy and autonomy relate to client outcomes. The data have been collected as part of a larger study examining the effects of couples program of therapy for substance abusing women.

Definitions of Intimacy and Autonomy

Togetherness (as emotional closeness) and separateness (as individuality) (Bowen and Kerr, 1981) will be used to define the constructs of intimacy and autonomy for the purposes of this study. Togetherness (intimacy) and separateness (autonomy) are not opposite points of a continuum; they are separate but related processes. That is, it is possible to have high levels of both in a system. The well-differentiated person is one who can be emotionally close to others while retaining a clear sense of a separate self (Bowen, 1978).

There is a pair of counterbalancing forces in human relationship systems (Bowen, 1978). The first is togetherness (intimacy). Togetherness keeps people "interdependent and emotionally connected to each other." Individuation, or separateness (autonomy), is the second and has a dual purpose. First, it encourages people to develop their own identities within relationship systems and second, it encourages people to differentiate thinking from emotional processes.

These forces are complementary, not oppositional (Bowen, 1978). During times of emotional need, the togetherness force allows people to borrow emotional strength from each other, to be in communion with each other, and to help each other. When togetherness is not immediately needed or desired, the individuating or separating force helps people experiment and try out new behaviors that may be more adaptive for them. It also allows for a link to society to allow for the exchange of information and the

possibility of an increased repertoire of behaviors (Bowen 1978).

Behavioral indicators of intimacy and autonomy that may be seen in the items-

- In regards to a significant other, time spent *together or apart* in daily activities
- *Expression or non-expression* of thoughts and/or feelings to a significant other
- *Many or few* relationships with significant others have been established in an individual's life

What the item should measure-

In regards to interpersonal dynamics, what does the individual value more, intimacy or autonomy? (We are measuring intimacy and autonomy in relation to the client's significant other.)

The raters answered the following two questions in regards to each extrapolated item:

1. What construct does this item best measure?

Intimacy Autonomy Aspects of Both (Differentiation of Self) Neither

2. How well does the item measure the chosen construct? (If "Neither" was chosen, leave blank)

Extremely well
 Moderately well
 Well
 Poorly
 Not well at all

Extrapolated Items

SCL-90-R- (Derogatis, 1983)

Interpersonal Sensitivity

41. Feeling inferior to others.
 69. Feeling very self-conscious with others.

Psychoticism

77. Feeling lonely even when you are with people.
 88. Never feeling close to another person

DFI- (Lewis, 1973) "Other person" refers to significant partner

Dyadic Exclusiveness-

4. How often do you go by yourself (alone) to parties or other social events?
 a. About once a week
 b. More than once a week
 c. About once a month

- d. About once every other month
- e. A few times a year
- f. Never

7. When you and the other person have had limited time to be together and a close friend of *YOURS* continually appeared to spend some time with both of you, how have you felt? (If this has never happened to you, how do you think you would feel?)

- a. Extremely irritable toward your close friend
- b. Considerably irritable
- c. Somewhat irritable
- d. Neutral (no feeling)
- e. Somewhat kindly
- f. Considerably kindly
- g. Extremely kindly

8. When you and the other person have had limited time to be together and a close friend of the *OTHER PERSON* continually appeared to spend some time with both of you, how have you felt?

- a. Extremely irritable toward your close friend
- b. Considerably irritable
- c. Somewhat irritable
- d. Neutral (no feeling)
- e. Somewhat kindly
- f. Considerably kindly
- g. Extremely kindly

Because of your relationship with the other person, have you had to give up (or have you lost) some of the closeness you formerly had experienced: (Please answer yes or no for each question)

- 9. With your mother?
- 10. With your father?
- 11. With a friend of the opposite sex?
- 12. With a friend of the same sex as yours?
- 13. With a former "old flame" or lover?

Dyadic Exclusiveness-

15. Whenever you and the other person have been separated for any period of time, how long was it before your situation was emotionally unbearable? (If you have not been separated, how long do you imagine it might be?)

- a. a year or more
- b. six months or more
- c. three months or more
- d. a month or more
- e. two weeks or more

- f. one week or more
- g. a couple of days or more

16. When you have been separated from the other person for a period of time and had to make an important decision alone, how difficult was it to make the decision by yourself without thinking about what the other person would want you to do?

- a. no difficulty
- b. a little difficulty
- c. mild difficulty
- d. moderate difficulty
- e. much difficulty
- f. extreme difficulty
- g. impossible to make a decision without thinking about what the other person would want you to do

Value Consensus-

Please indicate the extent of the agreement or disagreement between you and the other person on the following items using the following scale:

- always disagree-1
- usually disagree-2
- more often disagree-3
- half and half-4
- more often agree-5
- usually agree-6
- always agree-7

- 17. Concerning finances
- 18. Matters of recreation
- 19. Demonstrations of affection
- 20. Friends
- 21. Sex relations
- 22. Philosophy of life
- 23. Ways of dealing with parents
- 24. Aims, goals and ideals
- 25. Conventionality (proper conduct)

Dyadic Commitment

36. Of course, most couples differ on some things. For you two, when disagreements arise, what do they usually result in?

- a. male giving in
- b. female giving in
- c. neither giving in
- d. agreement by mutual give and take

33. How often do you confide in that person?
- almost never
 - rarely
 - occasionally
 - in most things
 - in everything or almost everything
34. When problems arise, how often do you talk things over together?
- always
 - most of the time
 - occasionally
 - never
 - rarely
35. To what extent do you both engage in outside interests together?
- all or almost all of them together
 - most of them
 - some of them
 - very few of them
 - none of them
45. How many evenings in a week do you spend the evening with your spouse/partner?
- every night
 - nearly every night
 - 3 or more times a week
 - twice a week
 - once a week
 - once every 2 weeks
 - once a month
 - less than once a month

Dyadic Interaction-

When you have leisure time on evenings and weekends, to what extent have you both done the following things together? (Please mark one number for each item. If you do not do one or more of these things at all, make a guess as to how you probably would engage in that activity. Please do not leave any item unanswered.)

Please answer the next questions using the following scale

- Always without your partner-1
- Almost always without-2
- Sometimes with/without-3
- Almost always with-4
- Always with your partner-5

46. go to the theater
47. go to a movie
48. visit friends
49. visit relatives
50. watch sports
51. go out to dinner/dancing
52. go shopping
53. go partying/or drinking
54. read for pleasure
55. study
56. listen to radio/stereo
57. watch TV

Dyadic Preference-

Thinking hypothetically, if all the people mentioned below were all equally available, whom would you want to tell first?

1. a good friend (same sex)
 2. a good friend (opposite sex)
 3. your partner or mate
 4. your father or mother
 5. a sister or brother
 6. no one
-
58. If you had just received a sizeable amount of money?
 59. If you had just met a famous person?
 60. If you had had a very depressing day?
 61. If you had just received a bad grade at school or had a bad report of your work by a superior?
 62. If you had been told by a physician that you had cancer?
 63. If you had just been accused of a felony (crime)?

FAD- (Epstein et al., 1983)

Instructions:

This booklet contains a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your own family.

For each statement there are four possible responses:

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

General Functioning-

6. In times of crisis we can turn to each other for support.

11. We cannot talk to each other about the sadness we feel.
21. We avoid discussing our fears and concerns.
26. We can express feelings to each other.
56. We confide in each other.

Affective Responsiveness-

9. We are reluctant to show our affection for each other.
19. Some of us just don't respond emotionally.
28. We do not show our love for each other.
49. We express tenderness.

Communication-

22. It is difficult to talk to each other about tender feelings.
52. We don't talk to each other when we are angry.

Affective Involvement-

5. If someone is in trouble, the others become too involved.
25. We are too self-centered.
54. Even though we mean well, we intrude too much into each other's lives.

ECS- (McCullum, 1991)

Participants respond to the items on a five-point scale (1= Strongly Agree; 5= Strongly Disagree)

1. I would prefer not to have much contact with my MOTHER if I could avoid it.
2. I would prefer not to have much contact with my FATHER if I could avoid it.
3. I have contact with my MOTHER more out of a sense of enjoyment than out of a sense of obligation.
4. I have contact with my FATHER more out of a sense of enjoyment than out of a sense of obligation.
5. My mood is better if I don't spend too much time around my MOTHER.
6. My mood is better if I don't spend too much time around my FATHER.
7. I sometimes discuss my personal problems with my MOTHER.
8. I sometimes discuss my personal problems with my FATHER.
9. I can openly share feelings of love with my MOTHER.
10. I can openly share feelings of love with my FATHER.

Appendix B

Results From Raters' Validation of Items

Results From Raters' Validation of Items

Constructs

I = Intimacy
 A = Autonomy
 B = Both
 N = Neither

Rating

5=Extremely Well
 4=Moderately Well
 3=Well
 2=Poorly
 1=Not Well

Raters

R1=Rater 1
 R2=Rater 2
 R3=Rater 3

Rcon= Number of raters converging on item
 Con= Construct converged upon

* Items deleted

Construct Selection Item	R1	R2	R3	Rcon	Con	Construct Rating				
						Item	R1	R2	R3	
SCL										
SCPY77	I	I	N	2	I	SCPY77	5	4		
SCPY88	I	I	I	3	I	SCPY88	5	4	5	
DFI										
DFDE04	A	A	B	2	A	DFDE04	4	3	4	
DFDE07	I	I	I	3	I	DFDE07	4	4	5	
DFDE08	I	I	I	3	I	DFDE08	4	4	5	
DFDE09	A	A	I	2	A	DFDE09	4	4	5	
DFDE10	A	A	I	2	A	DFDE10	4	4	5	
DFDE11	A	A	I	2	A	DFDE11	4	4	4	
DFDE12	A	A	I	2	A	DFDE12	4	4	4	
*DFDE13	N	A		0		DFDE13		4		
DFDE15	A	A	I	2	A	DFDE15	4	4	4	
DFDE16	A	A	B	2	A	DFDE16	4	5	4	
DFVC17	A	N	A	2	A	DFVC17	3		4	
DFVC18	A	N	A	2	A	DFVC18	4		4	
DFVC19	I	I		2	I	DFVC19	4	3		
*DFVC20	B	B	B	3	B	DFVC20	4	4	4	
DFVC21	I	B	I	2	I	DFVC21	4	3	4	
*DFVC22	A	N	N	0		DFVC22	4			
DFVC23	A	N	A	2	A	DFVC23	4		4	
DFVC24	A	N	A	2	A	DFVC24	5		4	
DFVC25	A	N	A	2	A	DFVC25	4		4	
*DFDC36	B	B	A	2	B	DFDC36	4	3	5	
DFDC33	I	I	I	3	I	DFDC33	5	5	5	

Construct Selection						Construct Rating				
Item	R1	R2	R3	Rcon	Con	Item	R1	R2	R3	
DFDC34	I	I	B	2	I	DFDC34	5	4	4	
DFDC35	A	I	A	2	A	DFDC35	5	4	4	
DFDC45	I	I		2	I	DFDC45	4	5		
*DFDI46	I	B	A	0		DFDI46	4	4	3	
*DFDI47	I	B	A	0		DFDI47	4	4	3	
*DFDI48	N	B	B	2	B	DFDI48		4	3	
*DFDI49	B	B	B	3	B	DFDI49	3	4	3	
*DFDI50	N	B	A	0		DFDI50		4	2	
*DFDI51	I	B	B	2	B	DFDI51	4	4	3	
*DFDI52	N	B	B	2	B	DFDI52		4	3	
*DFDI53	I	B	B	2	B	DFDI53	4	4	3	
*DFDI54	N	B	B	2	B	DFDI54		4	3	
*DFDI55	N	B	N	0		DFDI55		4		
*DFDI56	N	B	N	0		DFDI56		4		
*DFDI57	I	B	B	2	B	DFDI57	4	4	3	
DFDP58	I	I	I	3	I	DFDP58	5	3	3	
DFDP59	I	I	I	3	I	DFDP59	5	3	2	
DFDP60	I	I	I	3	I	DFDP60	5	4	3	
DFDP61	I	I	I	3	I	DFDP61	5	4	4	
DFDP62	I	I	I	3	I	DFDP62	5	4	4	
DFDP63	I	I	I	3	I	DFDP63	5	4	4	
FAD										
FAGF06	I	I	B	2	I	FAGF06	5	5	4	
FAGF11	I	I	I	3	I	FAGF11	5	5	5	
FAGF21	I	I	I	3	I	FAGF21	5	5	5	
FAGF26	I	I	I	3	I	FAGF26	5	5	5	
FAGF56	I	I	I	3	I	FAGF56	5	5	5	
FAAR09	I	I	I	3	I	FAAR09	5	5	4	
FAAR19	I	N	I	2	I	FAAR19	5		3	
FAAR28	I	I	I	3	I	FAAR28	5	5	4	
FAAR49	I	I	I	3	I	FAAR49	5	5	5	
FACM22	I	I	I	3	I	FACM22	5	5	5	
FACM52	I	I	I	3	I	FACM52	5	5	3	
FAAI05	A	A	B	2	A	FAAI05	5	3	3	
FAAI25	N	A	A	2	A	FAAI25		4	3	
FAAI54	A	A	A	3	A	FAAI54	5	4	4	
ECS										
*EC01	I	B	A	0		EC01	5	4	3	
*EC02	I	B	A	0		EC02	5	4	3	

Construct Selection						Construct Rating				
Item	R1	R2	R3	Rcon	Con	Item	R1	R2	R3	
EC03	I	A	I	2	I	EC03	5	3	4	
EC04	I	B	I	2	I	EC04	5	3	4	
*EC05	I	B	B	2	B	EC05	5	4	3	
*EC06	I	B	B	2	B	EC06	5	4	4	
*EC07	B	I	B	2	B	EC07	5	4	4	
*EC08	B	I	B	2	B	EC08	5	4	4	
EC09	I	I	I	3	I	EC09	5	4	4	
EC10	I	I	I	3	I	EC10	5	4	4	

Results

Intimacy	30	Converged on
Autonomy	16	Converged on
*Both	13	Delete (Item denoted with *)
*No Conv	9	Delete (Item denoted with *)

Total Items 68

List of Items Retained

Intimacy

SCL-90-R- (Derogatis, 1983) Rated on Likert Scale

Psychoticism

77. Feeling lonely even when you are with people.
88. Never feeling close to another person

DFI- (Lewis, 1973) "Other person" refers to significant partner

Dyadic Exclusiveness-

7. When you and the other person have had limited time to be together and a close friend of *YOURS* continually appeared to spend some time with both of you, how have you felt? (If this has never happened to you, how do you think you would feel?)

- Extremely irritable toward your close friend
- Considerably irritable
- Somewhat irritable
- Neutral (no feeling)
- Somewhat kindly
- Considerably kindly
- Extremely kindly

8. When you and the other person have had limited time to be together and a close friend of the *OTHER PERSON* continually appeared to spend some time with both of you, how have you felt?

- a. Extremely irritable toward your close friend
- b. Considerably irritable
- c. Somewhat irritable
- d. Neutral (no feeling)
- e. Somewhat kindly
- f. Considerably kindly
- g. Extremely kindly

Value Consensus-

Please indicate the extent of the agreement or disagreement between you and the other person on the following items using the following scale:

- always disagree-1
- usually disagree-2
- more often disagree-3
- half and half-4
- more often agree-5
- usually agree-6
- always agree-7

19. Demonstrations of affection

21. Sex relations

Dyadic Commitment

33. How often do you confide in that person?

- a. almost never
- b. rarely
- c. occasionally
- d. in most things
- e. in everything or almost everything

34. When problems arise, how often do you talk things over together?

- a. always
- b. most of the time
- c. occasionally
- d. never
- e. rarely
- f. none of them

45. How many evenings in a week do you spend the evening with your spouse/partner?
- every night
 - nearly every night
 - 3 or more times a week
 - twice a week
 - once a week
 - once every 2 weeks
 - once a month
 - less than once a month

Dyadic Preference-

Thinking hypothetically, if all the people mentioned below were all equally available, whom would you want to tell first?

- a good friend (same sex)
- a good friend (opposite sex)
- your partner or mate
- your father or mother
- a sister or brother
- no one

- If you had just received a sizeable amount of money?
- If you had just met a famous person?
- If you had had a very depressing day?
- If you had just received a bad grade at school or had a bad report of your work by a superior?
- If you had been told by a physician that you had cancer?
- If you had just been accused of a felony (crime)?

FAD- (Epstein et al., 1983)

Instructions:

This booklet contains a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your own family.

For each statement there are four possible responses:

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

General Functioning-

- In times of crisis we can turn to each other for support.
- We cannot talk to each other about the sadness we feel.
- We avoid discussing our fears and concerns.
- We can express feelings to each other.

56. We confide in each other.

Affective Responsiveness-

9. We are reluctant to show our affection for each other.
 19. Some of us just don't respond emotionally.
 28. We do not show our love for each other.
 49. We express tenderness.

Communication-

22. It is difficult to talk to each other about tender feelings.
 52. We don't talk to each other when we are angry.

ECS- (McCullum, 1991)

Participants respond to the items on a five-point scale (1= Strongly Agree; 5= Strongly Disagree)

3. I have contact with my MOTHER more out of a sense of enjoyment than out of a sense of obligation.
 4. I have contact with my FATHER more out of a sense of enjoyment than out of a sense of obligation.
 9. I can openly share feelings of love with my MOTHER.
 10. I can openly share feelings of love with my FATHER.

(30 total intimacy items)

Autonomy

DFI- (Lewis, 1973) "Other person" refers to significant partner

Dyadic Exclusiveness-

4. How often do you go by yourself (alone) to parties or other social events?
 a. About once a week
 b. More than once a week
 c. About once a month
 d. About once every other month
 e. A few times a year
 f. Never

Because of your relationship with the other person, have you had to give up (or have you lost) some of the closeness you formerly had experienced: (Please answer yes or no for each question)

9. With your mother?
 10. With your father?
 11. With a friend of the opposite sex?
 12. With a friend of the same sex as yours?

Dyadic Exclusiveness-

15. Whenever you and the other person have been separated for any period of time, how long was it before your situation was emotionally unbearable? (If you have not been separated, how long do you imagine it might be?)

- a. a year or more
- b. six months or more
- c. three months or more
- d. a month or more
- e. two weeks or more
- f. one week or more
- g. a couple of days or more

16. When you have been separated from the other person for a period of time and had to make an important decision alone, how difficult was it to make the decision by yourself without thinking about what the other person would want you to do?

- a. no difficulty
- b. a little difficulty
- c. mild difficulty
- d. moderate difficulty
- e. much difficulty
- f. extreme difficulty
- g. impossible to make a decision without thinking about what the other person would want you to do

Value Consensus-

Please indicate the extent of the agreement or disagreement between you and the other person on the following items using the following scale:

- always disagree-1
- usually disagree-2
- more often disagree-3
- half and half-4
- more often agree-5
- usually agree-6
- always agree-7

17. Concerning finances
18. Matters of recreation
23. Ways of dealing with parents
24. Aims, goals and ideals
25. Conventionality (proper conduct)

Dyadic Commitment

35. To what extent do you both engage in outside interests together?
- all or almost all of them together
 - most of them
 - some of them
 - very few of them

FAD- (Epstein et al., 1983)Instructions:

This booklet contains a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your own family.

For each statement there are four possible responses:

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

Affective Involvement-

5. If someone is in trouble, the others become too involved.
25. We are too self-centered.
54. Even though we mean well, we intrude too much into each other's lives.

(16 total autonomy items)

Appendix C

Final List of Items Retained

Final List of Items Retained

Intimacy

SCL-90-R- (Derogatis, 1983) Rated on Likert Scale

Psychoticism

77. Feeling lonely even when you are with people.
88. Never feeling close to another person

DFI- (Lewis, 1973) "Other person" refers to significant partner

Dyadic Exclusiveness-

7. When you and the other person have had limited time to be together and a close friend of *YOURS* continually appeared to spend some time with both of you, how have you felt? (If this has never happened to you, how do you think you would feel?)

- a. Extremely irritable toward your close friend
- b. Considerably irritable
- c. Somewhat irritable
- d. Neutral (no feeling)
- e. Somewhat kindly
- f. Considerably kindly
- g. Extremely kindly

8. When you and the other person have had limited time to be together and a close friend of the *OTHER PERSON* continually appeared to spend some time with both of you, how have you felt?

- a. Extremely irritable toward your close friend
- b. Considerably irritable
- c. Somewhat irritable
- d. Neutral (no feeling)
- e. Somewhat kindly
- f. Considerably kindly
- g. Extremely kindly

FAD- (Epstein et al., 1983)

Instructions:

This booklet contains a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your own family.

For each statement there are four possible responses:

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

General Functioning-

- 6. In times of crisis we can turn to each other for support.
- 11. We cannot talk to each other about the sadness we feel.
- 21. We avoid discussing our fears and concerns.
- 26. We can express feelings to each other.
- 56. We confide in each other.

Affective Responsiveness-

- 9. We are reluctant to show our affection for each other.
- 19. Some of us just don't respond emotionally.
- 28. We do not show our love for each other.
- 49. We express tenderness.

Communication-

- 22. It is difficult to talk to each other about tender feelings.
- 52. We don't talk to each other when we are angry.

ECS- (McCullum, 1991)

Participants respond to the items on a five-point scale (1= Strongly Agree; 5= Strongly Disagree)

- 3. I have contact with my MOTHER more out of a sense of enjoyment than out of a sense of obligation.
- 4. I have contact with my FATHER more out of a sense of enjoyment than out of a sense of obligation.
- 9. I can openly share feelings of love with my MOTHER.
- 10. I can openly share feelings of love with my FATHER.

(19 total intimacy items)

AutonomyDFI- (Lewis, 1973) "Other person" refers to significant partnerDyadic Exclusiveness-

15. Whenever you and the other person have been separated for any period of time, how long was it before your situation was emotionally unbearable? (If you have not been separated, how long do you imagine it might be?)

- a. a year or more
- b. six months or more
- c. three months or more
- d. a month or more
- e. two weeks or more
- f. one week or more
- g. a couple of days or more

16. When you have been separated from the other person for a period of time and had to make an important decision alone, how difficult was it to make the decision by yourself without thinking about what the other person would want you to do?

- a. no difficulty
- b. a little difficulty
- c. mild difficulty
- d. moderate difficulty
- e. much difficulty
- f. extreme difficulty
- g. impossible to make a decision without thinking about what the other person would want you to do

Value Consensus-

Please indicate the extent of the agreement or disagreement between you and the other person on the following items using the following scale:

- always disagree-1
- usually disagree-2
- more often disagree-3
- half and half-4
- more often agree-5
- usually agree-6
- always agree-7

- 17. Concerning finances
- 18. Matters of recreation
- 23. Ways of dealing with parents
- 24. Aims, goals and ideals
- 25. Conventionality (proper conduct)

Dyadic Commitment

35. To what extent do you both engage in outside interests together?
- a. all or almost all of them together
 - b. most of them
 - c. some of them
 - d. very few of them

FAD- (Epstein et al., 1983)**Instructions:**

This booklet contains a number of statements about families. Please read each statement carefully, and decide how well it describes your own family. You should answer according to how you see your own family.

For each statement there are four possible responses:

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

Affective Involvement-

5. If someone is in trouble, the others become too involved.

54. Even though we mean well, we intrude too much into each other's lives.

(12 total autonomy items)

Appendix D
Factor Analyses

The results of the initial factor analysis showed that the items from the pretest assessment separated into nine different factors and explained 72% of the total variance. The first factor, which explained 17% of the total variance, contained nine items, all of which were identified as intimacy items by the three experts. The second factor, which explained 9% of the total variance, contained six items, all of which were identified as autonomy items by the three experts. The remaining factors can be seen in the table and the clean split of the intimacy and autonomy items can be observed.

Table D1

Total Variance Explained With Nine Factors at Pretest

Factor	Rotation sums of squared loadings		
	Total	% of variance	Cumulative %
1	5.059	17.446	17.446
2	2.600	8.965	26.411
3	2.496	8.608	35.020
4	2.038	7.028	42.048
5	1.975	6.811	48.859
6	1.933	6.667	55.526
7	1.843	6.357	61.882
8	1.744	6.014	67.896
9	1.263	4.356	72.252

Table D2

Rotated Component Matrix With Nine factors at Pretest

Items	Component								
	1	2	3	4	5	6	7	8	9
Zscore(cfacm222)	.861	.149	-.128						
Zscore(cfagf262)	.780	.143			-.118			-.163	
Zscore(cfagf112)	.713	.242	-.176				-.105		
Zscore(cfaar492)	.702	.127				.117	-.201	-.359	-.173
Zscore(cfaar092)	.694	-.217	.181	-.144		-.156	.124		
Zscore(cfaar282)	.683	-.253		-.226		-.144		.131	
Zscore(cfagf062)	.605	.146		-.129	.149	.114	.109	-.170	.423
Zscore(cfagf212)	.604	.266	-.303			-.145	-.281	.140	
Zscore(cfagf562)	.598	.357		-.113		-.152	-.141	-.287	
Zscore(cfaar192)	.407	.356	.112		-.147	-.130		-.344	.290
Zscore(cscopy772)		.778	-.104	.131		-.172	.154		
Zscore(cscopy882)	.314	.759				.101	.104		
Zscore(cdfvc172)	-.257	-.597	.339	.356					-.285
Zscore(cdfvc252)	-.260		.818				.131		
Zscore(cdfvc232)			.758	-.238		.204	-.198		
Zscore(cdfvc242)	-.110		.691		.154	.229		.482	
Zscore(cdfvc182)		-.379	.532			.350		.456	
Zscore(cdfde072)		-.116	-.106	.898			.151		
Zscore(cdfde082)		.141		.850	-.115	-.180	.100		.132
Zscore(cec102)					.909				
Zscore(cec042)			.179	-.115	.833		.164	-.151	.117
Zscore(cdfde162)		.256		.146	.212	.724			
Zscore(cfaai542r)	-.101	-.188	.197	-.162	-.107	.691		.111	
Zscore(cfaai052r)		-.222	.208	-.120	-.401	.494	.201		-.280
Zscore(cfacm522)	.352	.302		.145	-.234	-.461	-.162	.352	
Zscore(cec092)					.153	.124	.876	.172	
Zscore(cec032)	-.248	.199		.204			.794		
Zscore(cdfdc352r)	-.184		.147		-.180		.130	.792	
Zscore(cdfde152)	-.108			.111					.828

The same analysis was administered on the data at the 12-months posttest assessment. The items separated into eight different factors and explained 80% of the total variance. The first factor, which explained 14% of the total variance, contained four items, all of which were identified as intimacy items by the three experts. The second factor, which explained 13% of the total variance, contained five items, all of which were identified as autonomy items by the three experts. The remaining factors can be seen in the table as well. The split of the intimacy and autonomy items was not as clean as the pre-treatment analysis but still separated fairly cleanly. After the analyses were run, none of the items were dropped.

Table D3

Total Variance Explained With Eight Factors at 12 months

Factor	Rotation sums of squared loadings		
	Total	% of variance	Cumulative %
1	4.221	14.554	14.554
2	3.781	13.038	27.592
3	3.159	10.895	38.487
4	3.059	10.547	49.034
5	2.453	8.458	57.492
6	2.413	8.321	65.813
7	2.142	7.386	73.199
8	2.008	6.923	80.122

Table D4

Rotated Component Matrix With Eight Factors at 12 months

Items	Component							
	1	2	3	4	5	6	7	8
Zscore(cfagf566)	.858		.242		-.183	-.109		
Zscore(cfacm226)	.817		.170	.173	.170	-.133	.137	-.237
Zscore(cfaar286)	.725		.376		-.105		.162	-.165
Zscore(cfacm526)	.647	-.125	.141		.241	.156	.160	.190
Zscore(cfaai546r)	-.627	.134	.232	.163	-.407		-.284	-.101
Zscore(cfaar096)	.603	-.200	.283		.468	-.149		
Zscore(cdfvc246)		.907	-.121					-.102
Zscore(cdfvc256)	-.168	.856		-.141	-.171		.103	-.188
Zscore(cdfvc176)		.846	.174		.125			
Zscore(cdfvc186)	-.349	.717			-.148	-.269		-.162
Zscore(cdfvc236)	.287	.715		-.136	-.127	.172	-.175	.465
Zscore(cfaar496)	.284	.113	.871		.240	-.111		.122
Zscore(cfagf266)	.344		.804	.149	.109	-.203		
Zscore(cdfde166)		.230	-.656	-.259	.128	-.191	.128	.181
Zscore(cfagf216)	.159	.160	.643	.113	.225	-.112		.150
Zscore(cfagf066)		-.120		.853	.209			-.117
Zscore(cec106)			.294	.817	-.235		.250	.144
Zscore(cec046)		-.134	.158	.802	-.330		.289	
Zscore(cfagf116)	.434		.133	.701	.199	-.128	-.306	
Zscore(cfaar196)	.228	-.216	.192		.772	-.202		.131
Zscore(cfaai056r)			-.176		-.724	-.361		
Zscore(cdfde076)		-.135		-.202		.873		-.116
Zscore(cdfde086)	-.125	-.298	-.183	-.250		.787		.119
Zscore(cdfdc356r)		.218		.272	.134	.685	.248	
Zscore(cec096)	.225		.109				.898	
Zscore(cec036)	.145	-.125	-.284	.191			.853	
Zscore(cscopy886)	-.123			.144				.773
Zscore(cdfde156)	.237	-.165		-.260	-.380	.243	.207	.661
Zscore(cscopy776)	-.497	-.128	.375		.399			.618

When the items were separated into three factors, the results of the factor analysis showed that the items from the pretest assessment explained 42% of the total variance. The first factor, which explained 20% of the total variance, contained 15 items, 11 of which were identified as intimacy items by the three experts. The second factor, which explained 13% of the total variance, contained nine items, six of which were identified as autonomy items by the three experts. The remaining factor can be seen in the table. The split of the intimacy and autonomy items was not as clean as the initial analysis with nine factors.

Table D5

Total Variance Explained With Three Factors at Pretest

Factor	Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %
1	5.863	20.218	20.218
2	3.747	12.921	33.139
3	2.445	8.430	41.569

Table D6

Rotated Component Matrix With Three Factors at Pretest

Items	Component		
	1	2	3
Zscore(cfacm222)	.816		-.108
Zscore(cfaar492)	.753		-.109
Zscore(cfagf112)	.742		
Zscore(cfagf262)	.730	-.154	-.135
Zscore(cfagf562)	.722	-.208	
Zscore(cfagf062)	.656		.240
Zscore(cfagf212)	.627	-.266	-.280
Zscore(cfaar282)	.585	.161	-.193
Zscore(cfaar092)	.572	.211	
Zscore(cdfvc172)	-.506	.275	-.131
Zscore(cscopy882)	.484	-.329	.216
Zscore(cfaai192)	.457	-.282	
Zscore(cdfdc352r)	-.338	.303	-.170
Zscore(cdfde152)	-.112		.111
Zscore(cdfvc182)	-.242	.739	
Zscore(cdfvc232)		.694	.137
Zscore(cdfvc242)	-.260	.616	.183
Zscore(cscopy772)	.165	-.599	.244
Zscore(cfaai542r)	-.121	.565	.130
Zscore(cdfde082)	-.270	-.538	
Zscore(cfaai052r)		.434	-.110
Zscore(cdfvc252)	-.353	.413	.148
Zscore(cdfde072)	-.348	-.353	
Zscore(cec042)			.776
Zscore(cec102)			.719
Zscore(cec092)	-.104	-.147	.517
Zscore(cec032)	-.329	-.387	.479
Zscore(cfacm522)	.298	-.288	-.403
Zscore(cdfde162)		.192	.396

The same 3-factor analysis was administered on the data at the 12-months posttest assessment and the results explained 46% of the total variance. The first factor, which explained 19% of the total variance, contained 12 items, 11 of which were identified as intimacy items by the three experts. The second factor, which explained 14% of the total variance, contained six items, five of which were identified as autonomy items by the three experts. The remaining factor can be seen in the table. The split of the intimacy and autonomy items again was not as clean as the initial analysis with nine factors.

Table D7

Total Variance Explained With Three Factors at 12 months

Rotation sums of squared loadings			
Factor	Total	% of Variance	Cumulative %
1	5.561	19.175	19.175
2	4.023	13.872	33.047
3	3.727	12.853	45.899

Table D8

Rotated Component Matrix With Three Factors at 12 months

Items	Component		
	1	2	3
Zscore(cfacm226)	.808		.182
Zscore(cfaar096)	.805	-.107	
Zscore(cfaar286)	.725		.134
Zscore(cfagf566)	.723	.177	.111
Zscore(cfacm526)	.712	-.153	-.114
Zscore(cfaar496)	.678	.248	.262
Zscore(cfagf266)	.661		.467
Zscore(cfaai546r)	-.633	.149	.342
Zscore(cfaar196)	.584	-.175	
Zscore(cfagf216)	.452	.231	.323
Zscore(cec096)	.395		
Zscore(cfaai056r)	-.352	.168	.190
Zscore(cdfvc246)	-.138	.862	
Zscore(cdfvc256)	-.268	.824	
Zscore(cdfvc176)		.782	
Zscore(cdfvc186)	-.408	.737	.173
Zscore(cdfvc236)		-.379	.532
Zscore(cec036)		-.116	-.106
Zscore(cscopy776)		.141	
Zscore(cscopy886)			
Zscore(cec106)			.179
Zscore(cec046)		.256	
Zscore(cfagf066)	-.101	-.188	.197
Zscore(cfagf116)		-.222	.208
Zscore(cdfde086)	.352	.302	
Zscore(cdfde076)			
Zscore(cdfde166)	-.248	.199	
Zscore(cdfde156)	-.184		.147
Zscore(cdfdc356r)	-.108		

When the items were separated into two factors, the results of the factor analysis showed that the items from the pretest assessment explained 33% of the total variance. The first factor, which explained 20% of the total variance, contained 21 items, 12 of which were identified as intimacy items by the three experts. The second factor, which explained 14% of the total variance, contained eight items, two of which were identified as autonomy items by the three experts. Again, the split of the intimacy and autonomy items was not as clean as the initial analysis with nine factors.

Table D9

Total Variance Explained With Two Factors at Pretest

Factor	Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %
1	5.702	19.662	19.662
2	4.006	13.815	33.477

Table D10

Rotated Component Matrix With Two Factors at Pretest

Items	Component	
	1	2
Zscore(cfacm222)	.809	-.172
Zscore(cfaar492)	.755	
Zscore(cfagf112)	.731	-.169
Zscore(cfagf262)	.725	-.221
Zscore(cfagf562)	.689	-.282
Zscore(cfagf212)	.643	-.311
Zscore(cfaar282)	.623	.110
Zscore(cfaar092)	.596	.155
Zscore(cfagf062)	.588	-.151
Zscore(cec032)	-.450	-.381
Zscore(cdfvc172)	-.443	.335
Zscore(cfaar192)	.418	-.329
Zscore(cscopy882)	.401	-.392
Zscore(cdfde072)	-.364	-.311
Zscore(cfacm522)	.344	-.291
Zscore(cec092)	-.216	-.168
Zscore(cdfde152)	-.134	
Zscore(cec042)	-.130	
Zscore(cec102)		
Zscore(cdfvc182)	-.165	.760
Zscore(cdfvc232)		.678
Zscore(cscopy772)		-.628
Zscore(cdfvc242)	-.234	.627
Zscore(cfaai542r)		.565
Zscore(cdfde082)	-.294	-.499
Zscore(cfaai052r)		.444
Zscore(cdfvc252)	-.336	.437
Zscore(cdfdc352r)	-.270	.348
Zscore(cdfde162)		.161

The same 2-factor analysis was administered on the data at the 12-months posttest assessment and the items explained 33% of the total variance. The first factor, which explained 21% of the total variance, contained 17 items. The second factor, which explained 14% of the total variance, contained 12 items. Again, the split of the intimacy and autonomy items was not as clean as the initial analysis with nine factors.

Table D11

Total Variance Explained With Two Factors at 12 months

Factor	Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %
1	6.072	20.938	20.938
2	4.022	13.868	34.806

Table D12

Rotated Component Matrix With Two Factors at 12 months

Items	Component	
	1	2
Zscore(cfacm226)	.801	
Zscore(cfagf266)	.794	.139
Zscore(cfaar096)	.753	-.143
Zscore(cfaar286)	.706	
Zscore(cfaar496)	.705	.265
Zscore(cfagf566)	.683	.149
Zscore(cfagf116)	.641	
Zscore(cfacm526)	.596	-.230
Zscore(cfagf216)	.531	.282
Zscore(cfaar196)	.527	-.213
Zscore(cfaai546r)	-.424	.287
Zscore(cdfde166)	-.396	
Zscore(cec106)	.387	
Zscore(cfagf066)	.370	
Zscore(cec096)	.350	-.127
Zscore(cec046)	.320	
Zscore(cfaai056r)	-.241	.240
Zscore(cdfvc246)	-.226	.804
Zscore(cdfvc256)	-.317	.791
Zscore(cdfvc186)	-.338	.783
Zscore(cdfvc176)		.751
Zscore(cdfde086)	-.399	-.596
Zscore(cdfvc236)		.535
Zscore(cdfde076)	-.276	-.448
Zscore(cec036)	.157	-.330
Zscore(cdfde156)		-.299
Zscore(cscopy776)		-.150
Zscore(cdfdc356r)		-.127
Zscore(cscopy886)		