Women and Alcoholism: Self-Efficacy for drinking refusal and social support for abstinence as predictors of treatment outcomes

Lynn Garber
Marietta College
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Abstract

Research has shown significant differences between men and women seeking treatment for alcohol-related problems. These differences include physiological differences, psychological differences and social barriers. Even though gender differences have been identified, the amount of research focusing on women with dependency problems is still overwhelmingly less than that of research among male populations (Schneider, et al, 1995). The focus of the present study utilizes the specific variables of self-efficacy for drinking refusal and social support for abstinence from the Project MATCH (Matching Alcohol Treatments to Client Heterogeneity) public data set, obtained through the University of Connecticut, School of Medicine. Three types of treatments were assigned to participants of the MATCH study: Cognitive Behavioral Therapy (CBT), Motivational Enhancement Therapy (MET), and Twelve-Step Facilitation Therapy (TSF). Using only the data from female participants of the MATCH public data set (N = 419), it was predicted that CBT would have a significantly greater impact on sustained abstinence than do the other two types of treatment and that self-efficacy for drinking refusal and social support for abstinence will predict treatment outcomes. Correlation and regression analyses of the data set did not support the predictions. Possible reasons for the findings and directions for further research are discussed.
Women and Alcoholism: Self-Efficacy for drinking refusal and social support for abstinence as predictors of treatment outcomes

The present study investigates three different alcohol-dependency treatment types, the utilization of these treatments, and the use of self-efficacy for drinking refusal and social support for abstinence as possible predictors to abstinence outcomes for female participants.

Alcohol abuse and dependency continue to be a significant problem today. Based on its 2004 Global Status Report on Alcohol, the World Health Organization (WHO) estimates that of the nearly 30% of the world’s population that consumes alcohol, over 76 million people are estimated to have a diagnosable alcohol usage disorder. Overall, more than 60 types of diseases and injuries can be attributed to alcohol consumption, including certain types of cancer, epilepsy and homicide (WHO, 2004). Comorbidity of alcohol dependence and depression of alcohol-dependent persons occurs at a rate of three times higher than that of the general population baseline for depression alone (Grant & Harford, 1995). The sad impact of alcohol abuse can also be seen in statistics about alcohol-related motor vehicle deaths. As reported between 1980 – 1997, an average of over 50,000 alcohol-related vehicle deaths occurred per year, with alcohol as a factor in 43% of all motor vehicle crashes in the United States (Villaveces, Cummings, Koepsell, Rivera, Lumley, & Moffat, 2003).

The severity of dependency issues, at least within the United States, can be evidenced through statistics from adolescence through adulthood. The Center for Disease Control estimated an average of 230,000 emergency room visits per year from underage drinkers for the years 2002, 2003, and 2004. For young adults, research has reported that, in 2005, 67% of male current
drinkers and 41% of female current drinkers between the ages of 18 and 24 reported consuming five or more alcoholic beverages on at least one day in the past year, which is above “normal” usage standards (CDC, 2008). According to the WHO Global Status Report (2004), in the United States it is estimated that nearly 18 million adults would be considered problem drinkers, in that alcohol has had a negative impact on their lives.

Finfgeld reports that, in the United States, over 4 million women age 18 or older have a drinking problem, with 10% of those under the age of thirty drinking excessively (2002). In reviewing statistics outside of the United States, it was found that researchers from the United Kingdom’s Department of Health reported almost 50% of women exceeded the safe weekly recommended amounts of alcohol consumption (i.e. fourteen drinks per week for men and seven drinks per week for women), with women in the 18-24 year age group being the highest in alcohol dependency (Angove & Fothergill, 2003).

Although on the rise and widely researched, alcohol dependency rates differ in the estimate of the ratio of problem female drinkers to problem male drinkers, with some estimates ranging from one female to every five males to one in every three women as problem drinkers to almost one-half of problem drinkers being women (Schneider, Kviz, Isola, & Filstead, 1995). While researchers may differ on their estimates of rates of dependency between men and women, there seems to be general agreement that the consequences of alcohol-related problems have more of a negative impact on alcohol-dependent women that they do on alcohol-dependent men (Nolen-Hoeksema, 2004). With dependency rates among females increasing, research focusing on women should increase as well, especially if there is a more severe negative impact on
women. As this may be the case, it is reasonable to examine issues that may be exclusive to women in current research, such as barriers to treatment.

**Barriers to Treatment**

Although traditionally more men have sought treatment for alcohol-related problems and dependencies (Jakobsson, Hensing & Spak, 2008), female treatment-seekers are now being studied at a somewhat higher rate than in the past. From 1929 – 1970, over 265 studies on men and alcoholism had been published, whereas a mere 28 English-language studies published during the same time frame focused on women and alcoholism (Schneider, et al, 1995). Some of the more recent research focusing on women has identified females as having different drinking patterns (i.e. starting drinking careers later in life) and differing courses of alcohol dependencies than men (i.e. “telescoping”, which is the term used to describe accelerated trajectory from the onset of drinking to treatment seeking), (Schneider, et al, 1995; Diehl, Croissant, Batra, Mundle, Nakovics & Mann, 2007), potentially resulting in differing treatment needs and outcomes. Challenges faced by women seeking treatment include physiological differences, psychological differences, and social barriers unique to women, as well as challenges in treatment types and facilities.

**Physiological Differences**

Research focusing on physiological differences has identified the following: women’s bodily fat ratio to water is greater than men’s, plus women tend to be much smaller in size, resulting in metabolic differences. Blood alcohol concentrations remain higher in women for longer periods of time because women possess lower levels of gastric mucosal alcohol metabolizing enzymes (Angove & Fothergill, 2003; Walter, Gutierrez, Ramskogler, Hertling,
Dvorak, & Lesch, 2003; Diehl, et al, 2007). It is also noted that alcohol-dependent women develop diseases such as alcoholic cirrhosis, alcohol hepatitis and some types of cancer more quickly than alcohol-dependent men (Angove & Fothergill, 2003; Diehl, et al, 2007). Physical risks to women that are alcohol-dependent also include the consequences to drinking during pregnancy. For example, alcohol consumption during pregnancy can lead to premature labor, stillbirths, lowered birth weights, mental and physical abnormalities, and fetal alcohol syndrome (Angove & Fothergill, 2003; Nolen-Hoeksema, 2004). Also, alcohol-dependent women are at risk for earlier onset menopause, fertility disorders and increased rates of sexually transmitted diseases and the death rate of alcoholic women is more than twice that of alcoholic men (Finfgeld, 2002).

**Psychological Differences**

In addition to physical conditions related to alcohol dependency, psychological conditions affect both men and women; however, rates of prevalence for women with certain conditions are much higher than those for men. For instance, alcohol-dependent women show an earlier onset of cognitive deficits and accelerated brain atrophy (Diehl, et al, 2007). Some research has shown that alcohol-dependent women experience higher rates of depression, suicidal tendencies, eating disorders, anxiety, phobias and psycho-sexual functioning than alcohol-dependent men (Del Boca & Mattson, 2001; Finfgeld, 2002; Walter, et al, 2003; Diehl, et al, 2007). From a psychological perspective, women have been found to “self-medicate” more often than do men, associating alcohol with pain-relief, while men tend to associate drinking with enhancing their feelings of well-being and “good times” (Walter, et al, 2003; Jakobsson, et al, 2008).
Social Barriers and Treatment Issues

Social and cultural attitudes toward the roles of women and men may also impact dependency issues. Palm (2002) suggests that roles of women in society have changed significantly in the past eighty years. Situations that were either rare or socially unacceptable are no longer the case. For instance, a woman in the United States can walk into virtually any bar unaccompanied and be served alcohol, providing she is of legal drinking age.

Whereby men have experienced alcohol-dependency problems in the past such as homelessness and family and employment issues, some women now face these same problems. Many women that have joined the workforce now may have incomes that provide for the purchase and consumption of alcohol in open environments. Some research suggests that these women are thought to be at greater risk of developing drinking problems (Ames & Rebhun, 1996). Many working women identifying alcohol-dependency problems in their lives are in a low socio-economic status, often earning less than $10,000 per year. Some research has even shown that female alcoholics seeking treatment are often unemployed and the recipients of public assistance (Del Boca & Mattson, 2001). As a result of their household budgets, working and non-working women may be unable to afford to take time off work for treatment, obtain reliable child-care while in treatment, or even afford the treatment options that are available (Schneider, et al, 1995).

A woman’s presence in a bar may be widely accepted, yet drinking to excess and getting drunk is still considered deviant behavior in many communities (Angove & Fothergill, 2003). Small-knit communities, such as many Mexican-American, consider it a taboo for women to drink excessively and strongly discourage this behavior (Finfgeld, 2002).
Nolen-Hoeksema (2004) reports that, “social sanctions are perceived to be greater for women drinking than for men drinking.” (pp. 985), but results are inconsistent as to the perception matching the data. Regardless of society’s acceptance of women consuming alcohol, research reports many women seeking treatment for alcohol dependencies have the tendency to drink alone and secretly (Del Boca & Mattson, 2001).

Factors such as perceived stigma and even the disproportionate focus on male research have created a reticence for women to initially seek treatment (Walter, et al, 2003). Many women are unaware of their treatment options (Jakobsson, et al, 2008), are ashamed to seek treatment (Finfgeld, 2002; Angove & Fothergill, 2003) and when they do seek treatment, are more likely to do so from a family physician or other healthcare facility (Schneider, et al, 1995), because of physical symptom severity (Jakobsson, et al, 2008).

Of women seeking treatment, many are married to or cohabitating with their drinking companions. In these relationships, women are less motivated by their partners to seek initial treatment than are men (Walter, et al, 2003; Jakobsson, et al, 2008), and may even be discouraged from seeking any type of treatment at all (Finfgeld, 2002; Walter, et al, 2003). Family and society’s expectations of women can exacerbate a woman’s self-perception of acceptable drinking behaviors and may increase a woman’s feelings of shame, guilt and inadequacy. Denial that a problem exists, especially within the family unit, is often present in atmospheres where alcoholism is not widely accepted as being a disease (Finfgeld, 2002; Angove & Fothergill, 2003) and can be perceived as helping to reduce marital discord in families where the drinking patterns of spouses are very similar (Nolen-Hoeksema, 2004).
Social barriers can be significant in rural areas where treatment options are limited to church groups or community based self-help groups, such as Alcoholics Anonymous (2001). In smaller, rural communities stigma towards women with alcohol dependencies is magnified and anonymity is virtually non-existent (Finfgeld, 2002), making some women reticent to participate in these treatment options.

Although somewhat limited, in the last decade researchers have begun to focus on alcohol-dependent women and their specific treatment issues. For example, researchers have suggested two barriers for alcohol-dependent women that seek treatment are (1) treatment facilities sometimes do not cater to women only and (2) clinicians and staff often have preconceived notions regarding women that enter treatment (Finfgeld, 2002; Angove & Fothergill, 2003; Palm, 2006; Niv & Hser, 2007; Jakobsson, et al, 2008).

Treatment facilities have operated under basic guidelines that accept both men and women; however, research has shown that women differ in the way that they become dependent and in their efforts to cease dependency. In addition, alcohol-dependent women have different needs while in treatment and even view treatment settings differently than men (Palm, 2006).

Palm also found that female patients in treatment facilities are treated differently by staff; being described as sicker, seeing them as having lower self-confidence and lacking in significant relationships with other women (2006). Staff have identified that in residential treatment programs where drug and alcohol dependent women are inpatients, these women are likely to have been sexually abused as children, are involved in relationships where their significant others are also alcohol and / or drug dependent and come from violent or abusive home environments (Del Boca & Mattson, 2001; Niv & Hser, 2007). Also noted by staff is that the
number of men in treatment generally doubles that of women in treatment and in many cases it has been reported that men appear to dominate the treatment setting, with women reporting feeling intimidated and victimized (Del Boca & Mattson, 2001; Palm, 2006; Niv & Hser, 2007).

With women being under-represented within the treatment setting, and, as Finfgeld has pointed out, with an estimation of nearly 22% of adult women considered to be problem drinkers (2002), it is logical to examine specific issues that may be unique to women, specifically identifying which of three types of treatment might be most beneficial to sustained abstinence among alcohol-dependent women. As recently as 2001, social support data from Project MATCH (Matching Alcohol Treatments to Client Heterogeneity), (NIAAA, 1997) was used to predict treatment outcome, however, this research did not focus on women exclusively (Zywiak, Longabaugh & Wirtz, 2001).

*Project MATCH and Treatment Options*

Though alcohol abuse and dependency are prevalent in the United States, treatment is sometimes non-specific and can range from long-term intensive inpatient detoxification treatment to individual psychotherapy to family interventions. Problems such as the decline in residential and inpatient treatment options, reduced coverage from the health insurance industry and cost to the individual have been a concern for the therapeutic community. It is imperative that clinicians and researchers alike understand the validity and efficacy of treatments that are more widely available to the general population of alcohol abusers and specifically to female alcohol abusers. Clinicians should be able to readily determine which treatment is most effective for what type of problem drinker and what treatments are most cost-effective, not only to the healthcare system, but to the individual as well. In an effort to determine effective treatment
options, the Project MATCH Research Group began a multi-site clinical study in 1991 to match participants with the most effective treatment path utilizing three proven and effective treatment methods (Witkiewitz, van der Mass, Hufford & Marlatt, 2007).

To date, the most ambitious study of its kind has been Project MATCH, which continues at the present time with follow-up studies. Funded by grants from the National Institute on Alcohol Abuse and Alcoholism (NIAAA), Project MATCH was conducted at multiple sites utilizing trained researchers and clinicians to include a sample of 1726 total participants, both inpatient and outpatient. The demographics of participants were recorded using age, gender, ethnicity, employment and marital status, current dependency diagnoses according to the Diagnostic and Statistical Manual of Mental Disorders, 3rd edition, years of problem drinking, criminal history and current illicit drug use. Most of the variables in Project MATCH Public Data Set were derived from questionnaires and interviews completed at four assessment sessions conducted at Baseline (Quick Screen, Diagnostic Evaluation, Pre-Treatment Evaluation, and Psychological Evaluation) and at each of five follow-up evaluations conducted at three-month intervals following the initiation of treatment (i.e., 3, 6, 9, 12, and 15 months post-treatment). A three year follow-up assessment was also conducted at all the Project MATCH outpatient sites.

Following initial assessment, participants were randomly assigned to one of three treatment conditions, which included 12 sessions of Twelve-Step Facilitation Therapy (TSF), 12 sessions of Cognitive Behavioral Therapy (CBT), or 4 sessions of Motivational Enhancement Therapy (MET), conducted over a 12-week period. All therapies were facilitated by trained therapists and supervised throughout the study. Detailed manuals were developed for each of the treatment types administered (MATCH, 1997).
Historically, total abstinence rates and relapse occurrences have been utilized as the measurement of success for treatment outcomes, as indicated by nearly 75% of available research literature (Schneider, et al, 1995). These criteria have been utilized for both male and female treatment seeking individuals and continue to be the preferred measurement for treatment providers ((Maisto, Connors, & Zywiak, 2000; Walter, et al, 2003; Diehl, et al, 2007). Project MATCH was launched in an effort to determine which of the following three treatments, if any, would show the most promise to recovering individuals.

**Twelve-Step Facilitation (TSF)**

Twelve-Step Facilitation Therapy is rooted in the familiar and popular Alcoholics Anonymous Program (AA), begun in 1935 by William Wilson (Anonymous, 2001). AA is a group-oriented type of treatment that generally operates in public venues at no cost to the individual and meetings are typically one-hour in duration. Among the 12-Steps of AA are those that encourage the treatment-seeker to realize his or her “powerlessness” over alcohol and rely on a “higher power” (i.e. God) to bring about and maintain sobriety. Group members are responsible for the content of the meetings and the facilitation of such in public settings, and while trained clinicians may help facilitate the group in more formal treatment settings, Alcoholics Anonymous is available to any treatment-seeker at any time a meeting is being held (Anonymous, 2001). The 12-Steps are designed in such a way as to rely on one’s own “higher power”, other individuals, and the group as a whole to accomplish and maintain sobriety. It is through continuation of the program that many individuals meet the goal of total abstinence for sustained periods of time, also known as full recovery (Anonymous, 2001). The Twelve Step Facilitation Therapy conducted at the Project MATCH treatment sites differs in traditional AA in
that each session was conducted by a trained facilitator utilizing comprehensive treatment manuals designed by the Project MATCH research group (MATCH, 1997).

*Cognitive Behavioral Therapy*

Cognitive Behavioral Therapy (CBT) focuses on the role that a person’s thoughts have in directing his behavior and focuses on re-directing negative, self-defeating thinking into positive thinking and behaviors. This type of therapy is designed to equip patients with cognitive skills and coping behaviors that will not only help the patient maintain sobriety, but can also provide tools to resist tempting situations. CBT can also help if a person does relapse by assisting with thought processes that encourage getting back on track and achieving abstinence once again rather than giving up on sobriety altogether (MATCH, 1997).

*Motivational Enhancement Therapy*

Motivational Enhancement Therapy focuses on the individual’s willingness to change the current and past behaviors by helping the individual identify and build on personal strengths that can help improve readiness to change. Beginning with the premise that a patient is in denial, MET works through the following 5 stages: Pre-Contemplation, Contemplation, Preparation, Action, and Maintenance, using a patient’s progress through the stages as success indicators (MATCH, 1997).

All three of the above therapies were utilized with the same intent for the outcome of abstinence and low rates of relapse. Self-efficacy and social support were two variables that the Project MATCH Research Group included in baseline and follow-up assessments of participants, however, no study could be found on the predictive value of these two variables exclusively for
women’s treatment outcomes. As women do differ from men in the course of alcohol dependency and abuse, it is important to examine if there are significant sex differences in the predictive values of certain variables, specifically self-efficacy as related to drinking refusal and social support for continued abstinence.

Theory for Each Type of Treatment

Both MET and CBT are designed to enhance and increase general self-efficacy in individual clients, while TSF teaches that admitting “powerlessness” over alcohol and relying on a “higher power” rather than oneself are the keys to maintaining sobriety, essentially discounting the importance of self-efficacy to recovery (DiClemente, Carbonari, Daniels, Donovan, Bellino & Neavins, 2001). Research suggests that alcohol-dependent women possess lower levels of self-efficacy at baseline than do their male counterparts (Del Boca & Mattson, 2001), thus the need for comparing the treatment assignment groups. With more intense focus on permanent change in thought processes through Cognitive Behavioral Therapy, it is anticipated that CBT will provide for greater rates of continued abstinence than the other two types of treatment. Also, as increasing self-efficacy is a substantial component of CBT, it is important to examine whether this component provides a predictive value in treatment outcome. While the Project MATCH hypotheses include gender differences in treatment outcomes, there are no analyses that examine gender differences for treatment outcomes utilizing self-efficacy for drinking refusal and social support for abstinence as predictive variables to sustained abstinence.

General Self-Efficacy and Drinking Refusal Confidence

Albert Bandura (1977) pointed out that sources of self-efficacy included personal mastery, modeling behaviors from another person, social persuasion, and a high level of
emotional response to the situation, which furthers the idea that task specific self-efficacy may be more relevant to the recovery of the alcohol abuser. Research has shown that severely dependent drinkers have lowered self-efficacy in negative emotionally charged situations, whereas mild to moderate drinkers have lowered self-efficacy in positive emotionally charged situations (Breslin, Sobell, Sobell, & Agrawal, 2000). The negative affect situations tend to be those that involve adverse consequences; such as legal ramifications, conflict emotions, unpleasant emotions, and physical discomfort. Attributions (such as blaming drinking behaviors on arguments with a spouse or increased life pressures) and excuse-making (such as “everyone else was drinking” or that somehow it is the alcohol’s fault for the behavior) also seem to be a component of task-specific self-efficacy (Snyder, Higgins, & Stucky, 1983).

Self-efficacy can be one of the most profound predictors of behavior, particularly when specific tasks are involved and the situation is familiar to the individual (Oei, Hasking, & Phillips, 2007). If the situation is a new one, the general self-efficacy of the individual appears to be more relevant to behavior. As most alcohol abusers are familiar with situations that promote drinking, coping skills within the individual are sometimes developed to avoid these situations (Coon, Pena, & Illich, 1998). Self-efficacy can also be used as an effective predictor for future abstinence, as self-efficacy can determine under what circumstances and to what extent a recovering person may relapse (McKellar, Ilgen, Moos, & Moos, 2008). Those with higher levels of self-efficacy tend to believe that failures or lapses in behavior are due to the circumstances or that they themselves didn’t try hard enough to succeed. Individuals with lower self-efficacy tend to believe their failures are a result of personal incompetence (Pervin & John, 1999).
Women and Alcoholism

Project MATCH data includes reports of confidence levels associated with the self-efficacy of drinking refusal in social situations.

**Social Support for Drinking Behaviors and Social Support for Abstinence**

Men often experience an increased social support for drinking behaviors early in their drinking careers, forming relationships with other men that are fellow drinkers and experiencing a form of ego self-inflation during their drinking episodes (Steele & Josephs, 1990). Women tend to emphasize relationships themselves based on the participants, rather than the behaviors surrounding those relationships (Niv & Hser, 2007).

Men also tend to believe that their inhibitions decrease and social acumen increases while consuming alcohol, they have an increased sense of well-being and make friendships easier, often preferring drinking situations to other activities (Jakobsson, et al, 2008). Married men often have increased support for treatment seeking than do married women, potentially because more women are married to drinking partners than men are married to alcoholic women and women are much more susceptible to interpersonal conflicts and marital issues (Walitzer & Dearing, 2006). The findings of the Walitzer and Dearing (2006) study suggest that “involving the spouse of the alcoholic or drug abuser in treatment improves general treatment outcome relative to individual treatment” (pp 135). Because more women than men are likely to have alcohol-dependent, and possibly drug-abusing, spouses, women may face an additional barrier to treatment if their spouse neither wants treatment for him, nor wants his spouse to receive treatment for her.

Drinking behaviors in men tend to be viewed as more masculine (Palm, 2006; Jakobsson, et al, 2008), whereas women problem drinkers are considered negligent in their responsibilities
Women and Alcoholism (Jakobsson, et al, 2008). Women may experience a different type of social standard when engaging in drinking behaviors, such as a generation of the feelings of shame and guilt (Angove & Fothergill, 2003).

Though non-gender specific, support for drinking behaviors has been found to be a better predictor of treatment outcomes than general support to the participant (Longabaugh, Wirtz, Zweben & Stout, 2001), with support for drinking behaviors posing greater risk to a recovering individual. It has also been suggested by this research that alcohol-dependent treatment seekers participating in Cognitive Behavioral Therapy are less affected by social networks that are unsupportive of abstinence, but does not address social networks in support of abstinence behaviors. Since women tend to emphasize the role their relationships play in their lives, higher levels of social support for abstinence may prove to have a significant impact on treatment outcomes. Cognitive Behavioral Therapy may produce the most significance due to its focus on positive thinking and behaviors.

Need for Study

Differences between men and women and alcohol dependency have been identified by several studies (Schneider, et al, 1995; Del Boca & Mattson, 2001; Finfgeld, 2002; Angove & Fothergill, 2003; Walter et al, 2003; Nolen-Hoeksema, 2004; Palm, 2006; Walitzer & Dearing, 2006; Diehl, et al, 2007; Niv & Hser, 2007; Jakobsson, et al, 2008), however, since research concentrating on women exclusively has been sparse, it seems appropriate to research female treatment-seekers only in an effort to identify appropriate treatment courses (Schneider, et al, 1995). In fact, when referring to treatment implications, Walter, et al (2003) states that, “This unequal distribution underlines the necessity of taking gender differences into account for
therapy planning and of paying special attention even to discrete symptoms from the affective spectrum.” (p. 254). In general, few studies have investigated the differences between alcohol-dependent men and alcohol-dependent women seeking treatment and have produced inconsistent results (Jakobsson, et al, 2008), thus it is reasonable that women may respond differently to different treatments (Walitzer & Dearing, 2006).

Utilizing the data of female participants only for short term (3 month) and longer term (9 month) abstinence, it is the hypotheses of this study that (1) women will possess higher abstinence rates from Cognitive Behavioral Therapy, as compared to Motivational Enhancement Therapy and Twelve-Step Facilitation Therapy, and (2) that self-efficacy for drinking refusal and social support for abstinence will have predictive value to sustained abstinence after treatment for both the short term and longer term time frames in Cognitive Behavioral Therapy.

To date, no research has been found that utilizes self-efficacy for drinking refusal and social support for continued abstinence as predictive variables for treatment matching exclusively to women.

For this reason, the current study utilizes the Project MATCH public data set, extracting the data of female participants only, in an attempt to identify these predictive values, if indeed they exist, and to also determine if Cognitive Behavioral Therapy might be most effective for women with alcohol-dependency problems.

**Methods**

**Participants**

Data were re-analyzed using only female participants ($N = 419$) from Project MATCH. These participants were recruited over a 2-year period from 1991 – 1993 in two separate, but
parallel, arms of the trial; an aftercare arm and an outpatient arm. Each participant had a history of alcohol-related life problems, ranging in low to high dependency. The following characteristics were assessed utilizing a variety of valid instruments: severity of alcohol involvement, cognitive impairment, conceptual level, gender, meaning-seeking, readiness for change, psychiatric severity, social support for drinking, sociopathy, typology classification (Type A – Type B), alcohol dependence, anger, anti-social personality, assertion of autonomy, psychiatric diagnosis, prior engagement in Alcoholics Anonymous, religiosity, self-efficacy and social functioning. Each participant had to be at least 18 years of age, have a minimum of a 6th grade reading level, and have been actively drinking within the past 3 months (MATCH, 1997). Each participant had to agree to randomization of treatment assignment and complete detoxification prior to the beginning of treatment. Participants were excluded if they had acute psychosis or severe organic impairment or proved to be a danger to themselves or others. In addition to these criteria, participants were also excluded if they didn’t have a regular place of residence or could not be reliably contacted in the future for follow-up assessment. Each participant was screened and evaluated for possible detoxification, interviewed, completed questionnaires and computer-assisted assessments, and was asked to give blood and urine samples for identification of drugs and / or alcohol.

Average age for participants was between 38 and 42 years, mostly Caucasian in ethnicity (80%), around 34 % were currently married and nearly half were currently employed (MATCH, 1997).

Baseline assessments for participants included chosen elements of the Structured Clinical Interview for DSM-III-R (Spitzer, Williams, Gibbon & First, 1992), the Addiction Severity
Index (McLellan, et al, 1980) and the Computerized Diagnostic Interview Schedule (Blouin, Perez, & Blouin, 1988). The form 90 (Miller, 1996), an interview that combines drinking pattern estimation methods and calendar prompts was used to obtain estimates of alcohol consumption. Other measurements were used to identify participant characteristics such as self-efficacy and drinking refusal confidence. A full assessment battery is available (see Connors et al, 1994) which includes psychological, neuropsychological, and social support assessments.

Follow-up assessments were given at the end of the treatment and continued at 3-month intervals for one year. These assessments included a follow-up version of the Form 90 and the Drinker Inventory of Consequences (Miller, Tonigan, & Longabaugh, 1995). Urine and blood samples were also taken at follow-up assessments to identify toxicology (MATCH, 1997).

The data for primary drinking treatment outcome measures represent transformed values utilizing monthly summaries of Percent Days Abstinent and Drinks Per Drinking Day. These data were calculated using the Form 90 interview data and reflect drinking behavior for the 90-day period prior to the study entry, each of the 12 weeks (per treatment) during treatment, and for each of 12-months during post treatment follow-up (Months 4 – 15). The treatment variable set and summary variables were derived from the Working Alliance Inventory (WAI), as well as a measure of treatment compliance (i.e. number of therapy sessions attended).

Percent Days Abstinent and Drinks per Drinking Day were computed over specific time periods: the end of each week in the treatment phase from week 1 to week 12. Similarly, posttreatment measures were computed over 30-day intervals to represent the months between 4 – 15.
In addition to the core variable set of social support networking, summary scores from the Important People and Activities (IPA) interview, the Social Support questionnaire (SS1 and SS2), and Your Work Place (YWP), were included.

Based on the evidence provided from the Project MATCH Research Group (1997), a high degree of confidence can be placed on the accuracy of the verbal report data obtained in Project MATCH.

Treatments

Each of the three treatment options were chosen based on past effectiveness in clinical settings, their differences from one another, potential matching with existing participant characteristics, feasibility of implementation in trial settings, and potential applicability in existing treatment options (MATCH, 1997).

Initial assessments were completed and participants were randomly assigned to one of the three treatment types using the urn randomization method, which attempts to ensure that primary participant characteristics are evenly distributed across treatments (see Stout, et al, 1994). Procedure results produced no significant differences across treatment assignments on the matching variables at baseline, thus indicating success of the method (MATCH, 1997). In the randomization, 419 men and 148 women were assigned to CBT \( (N = 567) \); 449 men and 128 women were assigned to MET \( (N = 582) \); 439 men and 143 women were assigned to TSF \( (N = 577) \). All therapies were delivered over a 12-week period: Cognitive Behavioral Therapy and Twelve Step Facilitation consisted of 12 weekly sessions and Motivational Enhancement Therapy was conducted in 4 sessions, held in weeks one, two, six, and twelve. Each of the
therapies utilized detailed treatment manuals and were conducted by trained and certified therapists.

With all three treatments, participants were informed that total abstinence was the goal of the treatment. As each of the treatment types vary, it was recognized that TSF would be most likely the firmest in resolution to abstinence, while CBT would boost skill deficiencies that contribute to drinking and MET would seek to build motivation for behavioral change (MATCH, 1997).

Data Analyses

To analyze differences between treatment types and abstinence rates, a one-way Analysis of Variance was conducted at the .05 alpha level, revealing no significant differences between the treatments, $F(2, 390) = .754, p = .471$. Group mean ratings for abstinence varied only slightly, with the TSF group having the highest rating ($M = 1.24, SD = .44$), followed closely by the CBT group ($M = 1.19, SD = .45$). The lowest rates of abstinence were found in the MET group ($M = 1.17, SD = .48$). Table 1.

To determine the predictive value of both self-efficacy for drinking refusal and social support for abstinence behaviors, a regression analysis was conducted. The resulting regression model did not support any significance in the predictability for abstinence outcome, $F(2, 268) = 2.57, p = .078$. The resulting regression equation was: $percentage \ of \ days \ abstinent = (-.040* \ self-efficacy \ for \ drinking \ refusal) + 1.32$ and $(-.006* \ social \ support \ for \ abstinence) + 1.32$, $R^2 = .019$. Table 2.
Neither self-efficacy for drinking refusal nor social support for abstinence were significant predictors of abstinence after 12 months post-treatment, with less than 2% of the variance of behavior explained by these variables.

These results did not support the hypotheses, so to examine other possible relationships, further investigation into the data was conducted. The original MATCH analyses (MATCH, 1997) showed little significant differences in treatment type for all participants, with TSF fairing slightly better than the other two, and even this treatment failed to show significance after a 12 month time frame. To extend the original hypotheses utilizing only female data, at this time only male data was considered. Conducting a one-way Analysis of Variance at the .05 alpha level, revealed no significant differences between the treatments, $F(2, 1,307) = .754, p = .471$. Group mean ratings varied only slightly, with the TSF group having the highest rating ($M = 1.19, SD = .49$), followed closely by the CBT group ($M = 1.16, SD = .49$) and the MET group ($M = 1.16, SD = .52$). Table 3.

As with the women only results, regression analysis provided no significance in treatment type using self-efficacy for drinking refusal and social support as predictors for abstinence at the 12 month evaluation, $F(2, 1,201) = .435, p = .647$. The resulting regression equation was:

\[ \text{percentage of days abstinent} = (-.028*\text{self-efficacy for drinking refusal}) + 1.16 \text{ and } (-.201*\text{social support for abstinence}) + 1.16, R^2 = .007. \] Table 4.

**Discussion**

In the original MATCH analyses, both percentages of days abstinent (transformed) and average drinks per drinking day (transformed) were considered as primary dependent variables. The rationale for using only these two variables was to preserve the power of the analyses and
total abstinence was not included because of the lack of indication of a drinking pattern among abusers. Abstinence rates among both genders were low, even with substantial treatment participation, possibly indicating a belief by participants that “controlled drinking” could be accomplished. Controlled drinking is a method utilized by some psychotherapists as a way to modify the destructive effects of active alcoholism, but was not given as an alternative in the Project MATCH research study. To date, there are varying opinions on controlled drinking therapies, however many researchers agree that personal motivation is a key factor in the success of any treatment type.

Gender differences were used to determine effectiveness of treatment type, however, neither self-efficacy nor social support was used as predictors for sustained abstinence. The gender matching hypothesis of the original MATCH study was not supported, whereby gender differences obtained at baseline (i.e. external stressors / negative mood, role demands, psychopathology / emotional problems and self-esteem / instrumentality) had no significant effect on treatment outcome, although researchers did posit that gender-treatment matching may improve outcomes when other treatment factors, such as female therapists and all female group sessions, are considered. Generally speaking, pretreatment self-efficacy was not directly associated with post-treatment outcome. This result was obtained through an evaluation of both the outpatient arm of the trial and the aftercare arm of the trial.

Self-efficacy was used as a matching hypothesis in the original MATCH study, but again, not separated by male or female participants. Each group (outpatient and aftercare) showed slight mean improvements at 15 months post-treatment from baseline assessment, however, nearly all declined from the 3 month assessment (DiClemente, et al., 2001). A future direction of research
for this study suggested matching different prevention strategies (i.e. social support for abstinence) with self-efficacy, thus reinforcing the interest in the present study.

Alcohol abuse and dependency prevalence rates are on the rise worldwide (WHO, 2004, CDC, 2008). Differences in dependency statistics and trajectories between women and men have been identified in several areas of research (i.e. psychologically, physiologically and socially). Traditionally studies that examine dependency among men exclusively have far outweighed those that have studied women exclusively. Extracting data for women exclusively from the Project MATCH public data set, the present study attempted to identify the most positive outcomes for abstinence utilizing three different treatment types. This study also attempted to identify the effectiveness of alcohol abuse treatment utilizing self-efficacy for drinking refusal and the participants’ social support for abstinence networks as predictor variables.

Despite the hypotheses that women would experience a greater rate of abstinence in Cognitive Behavioral Therapy and that self-efficacy for drinking refusal and social support for abstinence would be two predictors of treatment outcomes, the results did not support the hypotheses. Not only was there no single treatment type that exceeded the other two, but all three treatment types were extremely similar in their outcome efficacy. These results did not support the theory that one type of treatment might prove the best for alcohol-related dependencies in women.

Following the same line of thought that self-efficacy for drinking refusal and social support for abstinence might be predictors for male alcohol-dependent participants as well, I conducted additional analyses. These results also showed no significance in different treatment methods after a 12 month period.
In terms of the predictive nature of certain variables for treatment outcome, it appears that self-efficacy for drinking refusal and social support for abstinence held little weight for positive outcome. Perhaps other variables such as number of negative consequences experienced and number of relapses would hold more weight in outcome prediction. Regardless of the results, the need for research concentrating on women exclusively remains, if only to balance the scales for female only treatment options and acknowledge that alcohol-dependency among women is steeply rising. Changes in standardized healthcare and treatment options demand that the best possible treatment options be available to women who experience alcohol-related dependencies. Researchers should keep in mind the changing components of healthcare and treatment options along with the rise of alcohol-dependent women. Then perhaps there can be more effective strategies of matching participant to treatment type.
References


Women and Alcoholism  30


WHO Collaborative Study Group, 2004. WHO Collaborative Study on Alcohol and Injuries. Final Report, Department of Mental Health and Substance Abuse and Department of Injuries and Violence Prevention, World Health Organization, Geneva, Switzerland.

Table 1

*Means, Standard Deviation, and % of Days Abstinent according to Treatment Assignment*

(N = 393)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Behavioral Therapy</td>
<td>1.19</td>
<td>.453</td>
<td>.754</td>
<td>.471</td>
</tr>
<tr>
<td>Motivational Enhancement Therapy</td>
<td>1.17</td>
<td>.476</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twelve-Step Facilitation Therapy</td>
<td>1.24</td>
<td>.443</td>
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<td></td>
</tr>
</tbody>
</table>

*p > .05*
Table 2

Regression Analysis for Self-Efficacy: Temptation-Confidence and Social Support for Abstinence Behaviors (N = 270)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Efficacy: Temptation-Confidence</td>
<td>-.040</td>
<td>.019</td>
<td>-.125</td>
</tr>
<tr>
<td>Support for Abstinence</td>
<td>-.006</td>
<td>.008</td>
<td>-.047</td>
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<tr>
<td>Constant</td>
<td>1.322</td>
<td>.165</td>
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</table>

*Note. R² = .019; F(2, 270) = 2.570, p > .05*
Table 3

*Means, Standard Deviation, and % of Days Abstinent according to Treatment Assignment*

\(N=1,307\)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>.647</td>
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<tr>
<td>Motivational Enhancement Therapy</td>
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<td>.523</td>
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<td></td>
</tr>
<tr>
<td>Twelve-Step Facilitation Therapy</td>
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<td>.495</td>
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</table>

\(p > .05\)
Table 4

Regression Analysis for Self-Efficacy: Temptation-Confidence and Social Support for Abstinence Behaviors (N = 1,203)

<table>
<thead>
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<th>Variable</th>
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<th>SEB</th>
<th>β</th>
</tr>
</thead>
<tbody>
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<td>Self Efficacy: Temptation-Confidence</td>
<td>-.022</td>
<td>.026</td>
<td>-.065</td>
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<tr>
<td>Support for Abstinence</td>
<td>-.201</td>
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<td>-.194</td>
</tr>
<tr>
<td>Constant</td>
<td>1.16</td>
<td>.026</td>
<td></td>
</tr>
</tbody>
</table>

Note. $R^2 = .007; F(2, 1,201) = .435, p > .05$