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Chapter I

Introduction

In the United States, substance abuse is among the most prevalent mental health issues professionals face (Kessler, 1994). A recent survey by the Substance Abuse and Mental Health Services Administration (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003b) showed that an estimated 8.2% of Americans over the age of 12 are currently using illicit drugs. The problem is even greater in the homeless population, where it believed that 20-35% of the estimated 750,000 homeless suffer from a drug or alcohol problem (Zerger, 2002). Many of these individuals suffer from a mental illness as well. Estimates of the homeless dually diagnosed -- those with co-occurring substance abuse problems and mental illness -- are believed to be between 10-20% (Drake & Brunette, 1998). The high comorbidity rate in this population makes treatment more important and necessary, but also serves to increase the risk of leaving treatment prematurely.

Treatment Costs and Retention Efforts

The cost to provide substance abuse, mental health, and shelter services to the homeless is enormous. The estimated cost per individual is over $75.00 per day, averaging $2250.00 per month (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003a). Given the very real funding constraints that most public agencies face, it is important that those who enter treatment remain long enough to
accrue benefits. Early termination – especially in the days/week following admission -- is a tremendous drain on resources. This is a significant problem as drop-out rates can reach as high as 80% (Substance Abuse and Mental Health Services Administration [SAMHSA, 2003b). The identification of effective interventions that reduce premature termination is important as it can help to maximize the return on limited treatment resources.

**Evidence Based Treatments**

Evidence Based Treatments (EBTs) are treatments that have been shown to be safe and effective for individuals with a particular disorder or problem. In order to be classified as an EBT, a treatment must meet the following criteria: 1) it must be replicated by researchers other than its creator; 2) it must be examined through meta-analysis or systemic review; 3) it must be shown to work in the real world; 4) it must be shown to be relatively safe, with any associated risks being minimal compared to the benefits. Many conceptualize the steps taken to determine EBTs as analogous to the pharmaceutical process used by the FDA. In both cases, the highest credence is given to randomized clinical trials; however, quasi-experimental and correlational studies can sometimes lend support as well (Miller, Zweben, & Johnson, 2005).

EBTs are not derived from practitioners’ own experiences, the experiences of their colleagues, or the experiences of their clients. This type of evidence is considered limited for several reasons. First, it does not allow for a distinction to be made between changes that happen as a result of treatment and changes that happen because of factors like maturation and family assistance. Secondly, it may only describe the experiences of a select group of people, which may differ from what others would experience. Finally, it
is particularly subject to bias. Invested practitioners may want the treatment to work so much that they perceive it has worked when, in actuality, it has been ineffective (Leff, 2002).

In the area of substance use, there are a variety of EBTs. For instance, pharmacotherapies using drugs such as naltrexone and buprenorphine have been shown to be highly effective in reducing alcohol and opiate use (McGovern & Carroll, 2003). Cognitive-Behavioral therapy (CBT) appears effective in helping individuals develop new cognitive and coping skills relating to their substance use behavior (McGovern & Carroll). Meanwhile, Contingency Management (CM), has been found to be successful in encouraging abstinence and treatment compliance by systematically reinforcing positive behavior with tangible goods or money (McGovern & Carroll).

While these types of EBTs are effective, they contain drawbacks. One primary drawback is that they often require more time, resources, and training to implement than community programs can afford. Increasing funding constraints, overloaded staffs, and differences in education levels between program leaders and treating therapists are just a few of the obstacles program leaders have difficulty overcoming when trying to use these types of EBT's (Willenbring, Kivlahan, Kenny, Grillo, Hagedorn, & Postier, 2004). Such problems have led to a call for practical treatment interventions that staff at a variety of levels of training can competently administer.

**Brief Interventions**

One promising avenue of practical, easy to implement EBTs appears to be brief interventions (Miller & Rollnick, 2002). In the area of substance abuse, brief interventions are generally defined as a limited number of counseling sessions (e.g., 1-
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12), which take place over a relatively brief period of time (e.g., 1-6 months), and typically require limited resources and training. The interventions usually have the singular focus of targeting problematic behaviors in a systematic, specific way and can take many forms, such as brief advice, screening, and counseling (Levy, Vaughan, & Knight, 2002). Since the timeframe does not allow for new coping skills to develop or personality changes to take place, it is believed that the changes are motivational in nature (Miller & Rollnick).

One way to present the brief intervention is through the traditional therapeutic approach of confrontation. Using the confrontational model, clinicians directly aim to confront and break down resistance in treatment. Resistance is identified by clients’ use of defense mechanisms such as denial, rationalization, and projection. All feedback is given in a confrontational manner in an effort to push clients to acknowledge and label themselves as alcoholics or addicts. Any failures to cooperate with treatment are thought to be the result of clients’ ongoing resistance to change, deficient character structures or “weak wills” (Schneider, Casey, & Kohn, 2000).

Recently the confrontation model has been criticized with some researchers arguing that trying to combat resistance only heightens it, making clients less likely to engage in treatment. For example, Miller, Benefield, and Tonigan (1993) examined the effects of a 2-session motivational check-up with problem drinkers, during which participants were randomly assigned to either an immediate check-up with confrontational counseling, an immediate check-up with client-centered counseling, or a delayed check-up -- which served as the control group. The results showed that the confrontational style elicited significantly more resistant behaviors than the client-
centered counseling style. The resistance in turn predicted poorer treatment outcomes for the confrontational counseling group one year later.

*Development of Motivational Interviewing Model*

Miller and Rollnick (Miller, 1983; Miller & Rollnick, 1991), believing that the confrontational model was not the most effective approach, developed a different style known as motivational interviewing (MI). Miller first introduced the concept of MI, which evolved from experience with problem drinkers, in an article on behavioral psychotherapy (1983). Later, the approach was elaborated upon by both Miller and Rollnick (1991). The underlying belief of the approach is that clients will move toward change when they see a high utility in changing and are confident in their ability to successfully change. Thus, the overall aim of MI is to elicit and reinforce change talk in clients regarding the value of change or their ability to change.

Clinicians carry out this process in two ways. First, clinicians collaborate with clients in an effort to help clients explore both the benefits and drawback of change. In the process, the clinician seeks to aid the client in seeing possible discrepancies between his/her goals/values and his/her current situation. For instance, with an adolescent athlete using drugs, the clinician might point out the discrepancy between his goal to play sports and his marijuana use, which is hindering his performance. The more discrepancies clients recognize, the more uncomfortable clients are predicted to become with their current situation and the more motivated they will become about changing (Levy et al., 2002). The second way clinicians encourage change talk is by building confidence in their clients. Clinicians build confidence by collaborating with clients in a manner that allows their clients to think about and bring up personal strengths that clients believe will
allow them to successfully change. Each time clients bring up their strengths, clinicians reinforce the talk (Miller & Rollnick, 2002).

MI is founded in several approaches, with its main pillar being client-centered therapy. MI is similar to client-centered therapy in that both place a heavy emphasis on demonstrating empathy. However, MI differs from client-centered therapy in that it is therapist-driven. Here, the goal is not to solely meet individuals where they are, but to use selective reinforcement to push them towards an identified outcome (Miller & Rollnick, 2002).

The second MI pillar, the trans-theoretical model (TTM), conceptualizes change as a series of discrete cognitive stages through which clients progress (Prochaska & Diclemente, 1982). The stages are pre-contemplation, contemplation, preparation, action, and maintenance. Clients may enter treatment at the precontemplation stage, not realizing there is a problem; they may come in at the contemplation stage, where they know a problem exists, but are not ready to make changes for up to six months. Clients may enter treatment at the preparation stage where they realize change is needed and want to take action within the next month; or enter treatment in the action stage where they are beginning to take concrete steps towards changing. Finally, clients may begin treatment at the maintenance stage, where they follow new behavior patterns and develop strategies to prevent relapse.

MI holds that clinicians must take into account the individual’s stage when they enter treatment. In order to effectively provide treatment, clinicians must acknowledge and meet each individual in their current stage. Clients in the precontemplation stage need help thinking through and considering change, while clients in the action stage are
likely to benefit more from concrete behavioral plans. For example, if clinicians give a client in the action stage an intervention to help them consider change, they likely thwart the client’s progress because the client has already passed this point. Likewise, if clinicians try to push clients in the precontemplation stage to take action, when they have not yet committed to change, progress will not be made. Instead, such mis-matches between the type of treatment provided and individuals’ needs result in resistance.

Resistance, which is understood as an interpersonal dynamic by Miller and Rollnick (2002), occurs when the therapist missteps, or suggests something that the client is not ready to do. In this conceptualization, resistance rests not within the client but between the therapist and the client and it is the therapist’s responsibility to notice resistance and adjust treatment accordingly.

Factors Relating to the Effectiveness of Motivational Interviewing

Since its development in the 1980’s MI has rapidly become a prominent treatment in the area of substance abuse. While the overall effectiveness of MI has been well established, not all studies have supported MI. The impact of MI appears to depend on the stage of change individuals are in when they enter treatment. For instance, Mullins, Suarez, Ondersma, and Page (2004) found no significant difference in retention rates and illicit drug use when they compared the results from three 1 hour MI sessions vs. watching two educational videos and participating in a home visit. Both groups showed very limited success in treatment. However, they pointed out that the participants, who consisted of women referred for substance abuse treatment by child welfare, likely entered treatment at different stages of motivation. Consequently, the MI sessions and the education videos -- which mainly focused on motivating participants to stay in
treatment -- may have been effective only for participants in the early stages of change and who had not yet committed to treatment.

Stotts, Schmitz, Rhoades, and Grabowski (2001), using an MI intervention in a cocaine detoxification program, found that as a group the MI participants achieved a higher rate of abstinence by the end of the program and had developed better coping strategies than the detoxification-only participants. However, on an individual level, the key factor in determining which specific participants benefited the most from the MI intervention was the participant's stage of change. The MI intervention was relatively more effective for participants in the precontemplation stage -- those with low motivation -- while it actually hurt those in the preparation and action stages, who had higher initial levels of motivation. Thus, MI techniques may not only be ineffective when matched with the wrong stage of change, but the techniques may even be counterproductive. MI interventions focusing on the pros and cons of change are best suited for those in the early stages of change and who are ambivalent about changing. Interventions focusing more on goal setting and self-monitoring techniques are preferred with individuals in the later stages of change who have already made a decision to take action (Annis, Schober, & Kelly, 1996).

A related factor that also may play a role in the effectiveness of MI interventions is the amount of time that elapses between when a client enters treatment and when he receives the MI intervention. Miller, Yane, and Tonigan (2003) studied the impact of timing on the effectiveness of an MI intervention. They sought to give participants an MI intervention immediately after they enrolled in treatment. However, in some cases the clinicians were not able to do so and the MI intervention was administered much later in
treatment. The results showed no significant difference in drug use outcome between the participants who received the MI intervention and the treatment-only participants. Timing may have been critical in that the MI intervention did not match well with the stages participants were in by time the intervention was given.

The Effectiveness of MI

While often used as a prelude to other treatments, MI has also been shown to be effective as a stand-alone treatment. Schneider, Casey, and Kohn (2000) demonstrated that MI can be effective as a stand-alone treatment for substance abusers when compared to confrontational interviewing (CI). For the study, either two MI sessions or two CI sessions were given and the groups compared at follow-up periods. Both MI and CI participants showed comparable improvement, with 21% of the MI group and 19% of the CI group still maintaining their abstinence after 9 months. Consequently, researchers concluded that clinicians using the MI style and can be as effective as those using the traditional confrontational style.

Tevyaw and Monti (2004) showed that MI as a stand alone treatment for drug use can be more effective than no treatment. For their study, drug users were either assigned to a 1-session MI condition or a control condition in which no treatment was given. At 3 month follow-up, Tevyaw and Monti found that the drug users who received the MI intervention showed significant improvement over those in the control group: 23% of the intervention group reported a decision to cut back on drinking compared to 6% of the control group. Meanwhile, the MI intervention clients were twice as likely to have made a decision to cut down on cigarette smoking when compared with the control group; they also were 3.5 times more likely to have decided to cut down on cannabis use than the
control group. Finally, the MI group reported engaging in less risky drug related behaviors and having significantly fewer interactional problems with friends and family than the control group.

Carroll, Libby, Sheenan, and Hyland (2001) examined the effectiveness of MI interventions in getting clients to engage with treatment. Here, clients referred for a substance abuse evaluation received either a standard evaluation or an evaluation enhanced by MI. Results of the study showed significant differences in treatment engagement rates, with 59% of the clients who received the MI-enhanced evaluation attending one more session, compared to only 29% of the clients who received the standard evaluation. However, further treatment engagement declined substantially in both groups. Carroll et al. (2001) offered one possible reason for the decline was that the clinicians who delivered the initial evaluations were not the same clinicians who delivered further treatment, and that the clinicians who provided further treatment were likely to use more confrontational approaches. They hypothesized that MI may help clients to initially engage in additional treatment, but its influence may wane if shifts in treatment are later adopted without clients' knowledge.

However, another study by Brown and Miller (1993) suggests that the addition of MI to routine care may be beneficial regardless of which treatment styles are later adopted. Brown and Miller looked at the effectiveness of an MI intervention as a supplement to routine care and concluded that retention rates significantly increased when an MI intervention was used as an addition to routine care. The focus of their study was on the use of two sessions of MI (given shortly after intake) plus routine care vs. routine care only. Overall, both groups showed a significant decrease in alcohol
Motivational Interviewing Intervention

consumption after treatment. However, the MI intervention group reported a significantly larger reduction in consumption amount than the routine care group (64% vs. 29%). This reduction was mediated by their higher levels of participation in treatment (as reported by the clinicians).

*Essential Elements in Brief Motivational Interviewing Interventions*

Many BI’s are incorrectly labeled as MI in nature because they possess some elements of motivational interviewing. Yet, these BI’s contain additional elements that make them distinctly different from MI interventions (Rollnick & Miller, 1995). The underlying ingredients in most brief interventions can be found in the acronym FRAMES, which was created by Miller and Sanchez (1994). The letters of FRAMES refer to the use of Feedback, Responsibility for change lying with the individual, Advice-giving, providing a Menu of change options, an Empathetic counseling style, and the enhancement of Self-efficacy. Brief interventions which are truly motivational interviewing interventions do not contain such elements as advice-giving and personalized directive feedback (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005.)

The core elements in MI interventions include: elicitation of client change talk, therapist empathy, a focus on the discrepancy between client behaviors and values, encouraging confidence, and nonconfrontational responses to resistance. However, two elements are thought to be the most essential for the effectiveness of MI interventions. The first element is the elicitation and reinforcement of client change talk (Moyers & Martin, 2005). MI therapists elicit change talk through their emphasis on client autonomy concerning the target behavior and affirming optimism about client characteristics that facilitate change. They reinforce change talk with praise and
encouragement to continue expanding on the issue of change. Eliciting and reinforcing change talk is critical because research has shown that clients who speak in favor of change actually may be convincing themselves to change as they speak (Miller, Benefield, & Tonigan, 1993). Furthermore, the more that the client's change talk is related to specific intended actions, the more likely the talk will progress to subsequent changes in behavior. Thus, it is hypothesized that MI may lead to change through its focus on eliciting change talk, which serves as a mechanism for actual change (Moyers & Martin). The second element believed to an essential part of MI interventions relates to therapist empathy or interpersonal skills (Moyers, Miller, & Hendrickson, 2005). Moyers, Miller, & Hendrickson, in a study where they examined videotaped MI sessions, found that therapist involvement reflective of the spirit of MI (e.g., empathy, acceptance, and egalitarianism) was related to client involvement (e.g., disclosure, cooperation, and engagement). The greater the level of therapist involvement, or interpersonal skills, the more clients engaged in MI sessions. Thus, they concluded that MI guided therapist involvement may facilitate client engagement. Therapist involvement may even be a precursor to eliciting change talk.

However, based on additional findings, Moyers, Miller, and Hendrickson (2005) also put forth other possibilities. In the same study, they found that therapist instances of MI inconsistent behaviors (e.g., confrontation, giving direct advice) did not decrease client involvement as long as the techniques were looked at in the larger context of therapist interpersonal skills. When therapists connected with clients, the clients responded favorably to MI inconsistent techniques such as advise-giving and confrontation. Thus, the researchers suggested that the type of style a therapist adopts or
the techniques used may not make as much of a difference as nonspecific therapy factors. If a therapist can connect with a client and form a genuine relationship, the therapist may be effective with a client regardless of the style or technique employed. Consequently, the ingredients that make MI effective may not be the MI specific content, but human contact only (e.g. empathy and reflective listening). At present, the research is not clear as to whether the evidence in support of MI is evidence truly supporting the specific MI content and techniques, or if the evidence is actually supporting the human contact only that accompany MI. The question remains as to whether there is any therapeutic value gained by adding MI content to the therapeutic process, or if it the only true value is in the nonspecific therapy factors themselves.

Substance Abuse Treatment with the Homeless Population

One of the primary differences between the homeless population and other individuals is the type of coping style that is adaptive for them. Many coping styles or behaviors that are considered maladaptive by non-homeless individuals are very adaptive for the homeless. For instance, Lafuente, and Lane (1995) found that the majority of homeless individuals are used to being socially isolated; they survive and cope by remaining distrustful, detaching themselves, and staying alone. Such coping strategies are the result of the rejection they have experienced from family members, friends, and people in the community. Among the subset of the homeless who abuse substances, many have been rejected by, and lost access to, family and friends secondary to their continued drug use; employers have discriminated against them because of their dirty clothes, and individuals on the streets haven stolen from them. Consequently, becoming and remaining socially isolative serves a protective function. The difficulty develops
when such individuals arrive at shelters and are forced to interact and be involved with others. The defenses developed to survive on the streets are still ingrained, even though they are no longer adaptive. An additional complicating factor is that many of these individuals are dealing with a mental illness (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003b). As a result, when homeless individuals enter a shelter environment, they commonly have difficulty forming appropriate relationships with staff members and fellow residents, and with following treatment plans—particularly those which require active engagement with others (Orwin, Garrison-Mogren, Jacobs & Sonnefield, 1998). Given such issues, these individuals may particularly struggle with the typical 45-60 minute MI sessions that have been tested to date (Dunn, Deroo, & Rivara, 2001). Instead, it maybe that shorter sessions would prove more beneficial by allowing homeless clients to actively engage and have some control in the treatment process, while not overwhelming them (B. McBrady, Personal Communication, 01/24/06).

A second factor to consider is how ready homeless individuals are to engage in treatment and make lifestyle changes when they arrive at a shelter. A small group of individuals come in ready to change, but most have developed learned helplessness and no longer consider that change is even possible (Drake, Wallach, & Hoffman, 1989). It is hard for these individuals to engage in treatment when their experiences on the street have taught them that the best way to cope is to remain separated from others. Thus, it is common for homeless clients to participate in treatment only because it is a requirement they must meet in order to have a place to eat and sleep (Drake, Wallach, & Hoffman). However, because they feel forced to comply and suffer from learned helplessness,
investment in treatment is usually minimal. Instead, they begin treatment in the early level stages of readiness to change (e.g., precontemplation and contemplation) and when pushed too quickly towards changing are often become resistant to treatment and less willing to change (Miller & Rollnick, 2002). Thus, these clients may need more time devoted to considering the possibility of changing, how they might go about changing and what strengths they can rely on when changing.

A third factor to look at is what motivates individuals to stay in treatment. Kasprow, Frisman, & Rosenheck (1999) concluded that individuals are more satisfied and likely to stay in treatment programs that provide housing, order, and peer support. Zerger (2002) reported that the strongest predictor of program completion is the client’s willingness to interact socially and develop social supports. On the other hand, individuals are more likely to leave programs when: 1) they do not see the value in staying, 2) are dissatisfied with living conditions, 3) believe that the staff is inaccessible, or 4) feel alienated by their peers (Orwin, Garrison-Mogren, Jacobs & Sonnefield, 1998). Consequently, individuals may benefit more from early interventions designed to help them see some value in simply staying in the program, tolerating the inconveniences, and working to engage with others, than interventions immediately focused on helping individuals weigh the pros and cons of actively engaging in treatment per se.

A fourth factor to think about is whether the gender of the treatment provider may impact the ease with which homeless men are able to engage in the treatment process. Little research has been conducted looking specifically at the influence of therapist gender on therapy with homeless men. However, research examining the role of therapist gender on the psychotherapy process in general has yielded mixed results. Bowman,
Scogin, Floyd, & McKendree-Smith (2001) conducted a meta-analysis and found that therapist gender was a poor predictor of outcome for both male and female clients. Similarly, Hatchet & Park (2004) examined the relationship between client gender, therapist gender, and dyad matching on gender, and found that neither therapist gender nor dyad matching on gender significantly impacted the duration of counseling. However, Fisher (1989) has suggested that female therapists are more effective than male therapists with both genders of clients. Finally, Beutler, Machado, & Neufeldt (1994) have argued that female therapists are more effective treating female clients and male therapists are more effective treating male clients.

A fifth factor to take into account is the needs of homeless shelters. Shelters are becoming increasingly overcrowded and short-staffed. At the same time, many public agencies are facing considerable funding constraints (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003a). Limited resources and time make it difficult for staff to carry out new and elaborate treatment plans. Instead, shelters are in need of brief, structured interventions that are cost-efficient and easy for staff members to learn.

The first focus of the current study will be on examining the efficacy of a brief MI intervention vs. a brief therapy session focused on human-contact-only (HCO) vs. routine care (RC). It is hypothesized that the therapeutic relationship is necessary for successful treatment, but that its impact is small compared to the impact on treatment when MI content is added. Therefore, it is expected that MI participants will have higher rates of participation and retention and lower rates of early termination when compared to the HCO and RC. The second focus of the current study will be examining the impact
that therapist’s gender has on treatment participation, retention, and termination rates. It is expected that the therapist’s gender will not have a significant impact on participation, retention, or termination rates in either the MI or the HCO groups. The third focus of the current study will be on examining whether the factors that residents’ rate as important in their decision to stay in treatment vary as a function of time. It is believed that the residents will find shelter and routine less important over time and find peer support more important over time.
Chapter II

Rationale and Hypothesis

The purpose of this study is to investigate the efficacy of two types of BIs on termination, retention, and participation in a substance abuse treatment program. The first type of BI will be called human contact only (HCO). Some believe that human contact may be the most potent ingredient in therapy and argue that this factor could be the only important part of therapy, with the specific content of therapy playing a very small role (Moyers, Miller, and Hendrickson, 2005). Thus, the goal with the first BI will be to engage with participants by actively listening, offering support and being warm and nonjudgemental. While warm and supportive, this intervention will explicitly avoid therapeutic elements, thereby providing a measure of the impact of relationship alone on participants’ retention in substance abuse treatment.

The second BI will have the same elements, but also will contain two of MI’s most salient elements. The first of these elements is the elicitation of change talk. The second essential element is the therapist’s conveyance of the spirit of MI. An equal partnership between the therapist and client will be heavily emphasized, as well as the participant’s choice as to whether to stay in the program. Comparing the results of the MI intervention vs. the HCO intervention, will help to determine the impact that including MI content has over simply making connections with homeless men and demonstrating to them that someone cares.
It is hypothesized that:

1) The MI intervention group will show superior outcomes compared to the HCO group, which will have better outcomes than the RC. As such, it is predicted that there will be a linear increase in treatment retention and participation rates such that the RC < HCO (both male and female therapist groups) < MI (both male and female therapist groups).

2) Therapist gender will not effect treatment and participation rates.

3) The MI intervention group will report greater overall satisfaction with Mt. Airy Shelter compared to the HCO group, which will report greater satisfaction than the RC. Therapist gender will not influence satisfaction effects. As such, it is predicted that there will be a linear increase in satisfaction such that the RC < HCO (both male and female therapist groups) < MI (both male and female therapist groups).

4) The variables (e.g. shelter, routine, peer support) residents find most important will vary as a function of time, with residents finding shelter and routine less important over time and finding peer support more important over time.

Additionally, exploratory analyses will be conducted to examine the following two areas:

1) If a relationship exists between therapists’ perceived comfort of interaction during the individual sessions (MI and HCO) and treatment outcome.

2) The changes and patterns of the residents’ mood (on a group level) over the course of the study.
Chapter III

Method

Program Description

The Mt. Airy homeless shelter is operated by the Hamilton County Job and Family Services Department of Substance Abuse Services in conjunction with the Cincinnati Alcoholism Council. There are 65 beds at the shelter, approximately 20 of which are reserved for veterans and emergency admissions. The shelter generally runs at full capacity. Intake admissions average 6-8 per week, with the number of intakes ranging from 3-13. The average length of time residents stay at the shelter is approximately 7 weeks (B. McBrady, personal communication, 01/19/07).

The majority of men at the Mt. Airy homeless shelter are men of color, who come from low socioeconomic backgrounds and lack family support. Their economic and social resources are extremely limited. Most have criminal records, over half are functionally illiterate, and all of them have struggled with substance abuse problems. They come to the shelter after having experienced significant isolation as a result of losing most significant relationships due to their maladaptive behaviors. They are used to coping with issues by avoiding them through the use of drugs and alcohol. Consequently, staying at the shelter is often seen as stressful, given that they are required to live with other men, remain substance-free, and begin confronting their problems (B. McBrady, personal communication, 01/24/06).
The general approach of the staff is not necessarily to force the residents' to change maladaptive behaviors, given that the behaviors have sometimes helped them to survive in dangerous environments, but to teach the residents alternative ways of interacting and handling various situations and to facilitate the willing adoption of these alternatives. The program's objective is to help residents learn to build and rely on peer relationships for support as they will not always be able to locate professionals (staff) or use professionals as a resource once they leave the shelter. The specific treatment program followed is a Substance Abuse Management Services (SAMS) program. The program has four stages, which the participants pass through by attending resident meetings and earning points. The goal of Stage 1 is to help residents learn to live with peers and adjust to a schedule. The goal of Stage 2 is to increase peer interaction and receive dental and health services. The goal of Stage 3 is help the residents start to identify and use off-site sources of support to help them meet their needs and stay abstinent. The goal of Stage 4 is help the residents strengthen a healthy life routine, maintain supportive peer relationships, and move to a stable place of residence (B. McBrady, personal communication, 01/24/06).

Resident meetings are large, drop-in groups and utilize an open format. Men are encouraged to come and go as they see fit during the two hour meeting. Attendance at meetings ranges between 35 – 50 residents. Participants earn points as follows: 1 point for attending 1 residents' meeting at all - including walking in and back out, 1.5 points for attending half of 1 residents' meeting and speaking, 3 points for staying for an entire residents' meeting, and 4 points for staying for an entire session and speaking. The residents are able to pass through Stage 1 by earning 64 points (typically earned between
14-30 days), Stage 2 by earning 124 points (typically earned within 31-60 days), Stage 3 by earning 200 points (typically earned within 61-90 days), and Stage 4 by earning 300 points (typically earned within 91-120 days).

Participants

Participants in this study will include a minimum of 120 men (40 men per arm), ages 18-65, who are residents at the Mt. Airy homeless shelter. A sample of 120 was selected as a sample of 80 (40 per group) is needed to determine a moderate effect size for a comparison of two means (Cohen, 1983). Determining the power required to detect an effect across three means is considerably more complex. While no power tables exist for a comparison of three means, a "rule of thumb" that has been advanced is to increase the sample size by the number required in each group of a two-means test at the desired power level as, while this will provide an overestimate of the power needed, it eliminates the need to consult a statistician but ensures detection of an effect (Dawson-Saunders & Trapp, 1990). In this case, an addition of 40 participants is warranted and results in the proposed sample size of 120. The demographic composition of residents at the shelter is expected to be primarily men of color. Between February and July, 2006, 62% of residents were African American, 28% Caucasian, 8% mixed, 2% Hispanic (Jurek & Kenford, 2006). It is anticipated that the demographic composition will be similar during the proposed study's data-collecting period. All residents meeting criteria for residence at the shelter will be eligible to participate in the study, with the exception of the men who are referred through the Veterans Administration and receive treatment at the VA. The participants will be encouraged to provide weekly data during the study, by receiving
a voucher each time they complete the necessary questionnaires. The voucher will allow the resident to attend an ice cream social at the end of that week.

**Interventions**

Both active interventions will consist of two brief meetings (each about 10 – 15 minutes). The interventions will take place during the participants’ first two weeks at the shelter, during stage 1, where the goal is to help residents learn to live with peers and adjust to a schedule. Consequently, the focus of the Motivational Interviewing intervention will not be on drug and alcohol use per se, but rather on motivating the men to stay at the shelter and tolerate the stress that may accompany living with peers for the first time in a long time and being on a schedule. Both interventions will be brief to promote both the generalizability of findings and the feasibility of implementation at other sites with limited funding. Detailed information about both interventions is contained in Appendices B and C.

**Motivational Interviewing (MI)**

The intention of the first MI session will be to help participants resolve ambivalence about being at the shelter and to assist them in identifying personal strengths that will help them stay at the shelter and succeed. As such, the session will have two primary goals. The first will be to help participants recognize the high utility of remaining at the shelter. The second will be to boost participants’ confidence in their ability to stay at the shelter despite frustrations.

The intention of the second MI session is to build upon the first meeting and to increase participants’ likelihood of staying at the shelter. The benefits and drawbacks of remaining at the shelter will be revisited, as will the personal strengths that should help
them succeed. This session will have two primary goals. The first goal will be to further reduce ambivalence and solidify commitment to staying at the shelter. The second goal will be to further promote self-efficacy and heighten confidence in further success.

**Human Contact Only Intervention (HCO)**

The intention of the HCO intervention will be to control for the effects of human kindness and empathic interest. The goal of the HCO intervention will be to show interest in the residents but not to engage in an intentionally therapeutic encounter. Here, the therapist will spend time getting to know each resident (e.g. family history, interests). The therapist will display empathy while talking with the resident. However, the therapist will not engage in any form of therapy and will not discuss with residents their motivation, treatment progress, etc. If a resident does bring up such issues, the therapist will acknowledge them, but quickly redirect the conversation.

**Routine Care (RC)**

The intention of RC will be to provide a measure of standard-care effects. Residents in this group will not have individual meetings with a therapist and will receive only the standard services offered by Mt. Airy Shelter. This group will serve as the comparison group and allow for tests of the impact of the two active interventions.

**Procedure**

Xavier University IRB will review the study protocol and upon approval, participant enrollment will begin. Participants will be recruited during routine intake procedures for six months or until a minimum of 120 participants are recruited (40 per arm). The Mt. Airy staff will review the informed consent by reading it to each resident upon intake (See Appendix A). Residents who agree to participate in the study will be...
assigned to one of the three study arms in alternating order (e.g. starting with the first arm, second arm, third arm and then beginning again with the first arm). The participants in the first arm will receive the MI intervention. Participants in the second arm will receive the HCO intervention. The participants in the third arm will receive RC. Participants who are assigned to the MI or HCO interventions will receive the first session of the intervention within the first 7 days at the shelter; the second meeting will occur within days 8-14 at the shelter. The interventions will be administered by two master's level therapists, one female and one male, who will be trained in MI through direct instruction and role plays. As men are randomized to MI and HCO groups, they will be assigned to the female or male therapist on an alternating basis, resulting in 20 participants in each treatment group being treated by the female therapist and 20 participants in each treatment group being treated by the male therapist. To ensure treatment integrity, the sessions will be audio taped and a trained undergraduate research assistant will listen, blinded to session type, to 30% of the sessions and code what elements are present. At the end of each session, the therapist will rate how comfortable they believed the interaction was, with 1 being completely uncomfortable, 5 being somewhat comfortable, and 10 being completely comfortable.

Beginning at the end of the second week of treatment and continuing each week for 9 months (6 months of study enrollment plus 3 months for the final enrollee to complete the SAMS program) Mt. Airy staff will rate four resident meetings a week in terms of overall group “mood” and will note any atypical events that occurred during the week. A 1-10 rating scale will be used with 1 standing for a completely
pessimistic/depressed group mood, 5 standing for a somewhat neutral group mood, and 10 standing for a completely optimistic group mood.

During the same time period, participants will be asked to answer 8 questions regarding what factors at the shelter were most important to them (e.g., shelter, set routine, treatment, peer support), whether they considered leaving the shelter in the past week, and if so for what reason (See Appendix D). Data from the residents’ first 10 weeks at the shelter will be used for this study. Data collection will occur during five (three morning, two afternoon) of the eight 2-hour resident meetings held each week. Each week the participants who complete the questionnaires will earn a voucher for an ice cream social at the end of the week. However, all resident-meeting attendees will be allowed to answer the questions and earn vouchers, regardless of whether they are actual participants in the study, so that they are not discriminated against for not participating. Information from non-participants will be provided to Mt. Airy staff for ongoing program evaluation efforts.

Data collection will be done by trained undergraduate research assistants (RAs). The RAs will meet individually with residents at a designated table located in the far corner of the meeting room. The placement was selected as it is removed from the meeting attendees and protects the confidential nature of the resident’s responses but still allows the resident to return quickly to the meeting. The RA will have a master list that includes each participant’s name and study number. The RA will ask each resident for his name and code his questionnaire with his study number. If a resident is not a study participant (e.g., they entered the facility prior to the study initiation or they declined to participate in the study intervention) but wishes to provide questionnaire data to earn a
voucher for the ice-cream social, the questionnaire will be coded with the participant’s current stage and the number of days he has been at the shelter. No name will ever be recorded on a questionnaire. The RA will read each item on the questionnaire to the participant. On the table will be a card with both a text and graphical representation of a 1-5 likert-type scale (see appendix D). Residents will indicate their response by pointing to the appropriate number on the card. This process will both further safeguard the confidentiality of participant responses and facilitate valid responding in participants with lower cognitive skills and/or illiteracy.

**Outcome Measures**

The primary outcome measures will be: 1) total number of days at the shelter and 2) Mt. Airy Shelter’s routine, weekly staff rating of compliance and engagement. This is a single number that the staff generates for reporting and program evaluation purposes. The secondary outcome measure will be the data from the Importance Questionnaire.
Chapter IV

Proposed Analyses

Prior to analyses, all variables will be examined for normalcy and transformed as necessary.

Demographic data (age, race, education, etc) will be summarized and assessed for its relation to outcome. Any demographic information that is significantly related to outcome will be used as a control variable (covariate) when testing the primary hypothesis.

Two primary, and two secondary hypotheses will be tested. Additionally, two exploratory analyses will be conducted. Listed below are the hypotheses and proposed analyses.

Primary Hypotheses

Hypothesis 1: It is hypothesized that the MI intervention group will show superior outcomes compared to the HCO group, which will have better outcomes than the RC. As such, it is predicted that there will be a linear increase in treatment retention and participation rates such that the RC < HCO (both male and female therapist groups) < MI (both male and female therapist groups).

Hypothesis 1 will be tested using two 1x5 ANOVAS. Five groups are needed because of the therapist’s gender factor, which is not fully crossed with treatment. Two separate DVs will be assessed: retention and participation rate.

The DV retention will be operationally defined as days in treatment.
The DV participation rate will be operationally defined as the sum of the weekly staff ratings of resident participation.

For both ANOVAs, the grouping variable will be treatment-type and will have five levels: 1 = MI/female therapist, 2 = MI/male therapist, 3 = HCO/female therapist, 4 = HCO/male therapist and 5 = RC. The level of significance will be $p<.05$. Planned post-HCO tests will be conducted to determine pairwise differences between the means. If the five groups show equal variances, pair-wise comparisons will be conducted using a Tukey test. If the five groups show unequal variances, a Dunnett's C test will be used.

**Hypothesis 2:** It is hypothesized that therapist gender will not effect treatment and participation rates.

Hypothesis 2 will be tested using two 2x2 ANOVAs. Two separate DV’s will be tested: retention and participation rate.

The DV retention will be operationally defined as days in treatment.

The DV participation rate will be operationally defined as the sum of the weekly staff ratings of resident participation.

For both ANOVA’s the grouping variables will be gender (two levels: male and female) and treatment type (MI and HCO). Both main effects and interaction effects will be assessed. The level of significance will be set at $p<.05$.

**Secondary Hypotheses**

**Hypothesis 3:** It is hypothesized that the MI intervention group will report greater overall satisfaction with Mt. Airy Shelter compared to the HCO group, which will report greater satisfaction than the RC. Therapist gender will not influence satisfaction effects. As such,
it is predicted that there will be a linear increase in satisfaction such that the RC < HCO (both male and female therapist groups) < MI (both male and female therapist groups).

**Hypothesis 3** will be tested using a 1x5 ANOVA. The DV *resident satisfaction* will be operationally defined as the sum of the first four weeks of responses on the Importance Questionnaire. The grouping variable will be treatment-type and will have five levels: 1 = MI/female therapist, 2 = MI/male therapist, 3 = HCO/female therapist, 4 = HCO/male therapist and 5 = RC. The level of significance will be *p* < .05. Planned post-HCO tests will be conducted to determine pairwise differences between the means. If the five groups show equal variances, pair-wise comparisons will be conducted using a Tukey test. If the five groups show unequal variances, a Dunnet's C test will be used.

**Hypothesis 4:** It is hypothesized that the variables (e.g. shelter, routine, peer support) residents find most important will vary as a function of time, with residents finding shelter and routine less important over time and finding peer support more important over time.

**Hypothesis 4** will be tested using a series of one-way, within subjects ANOVA's. The DVs will be items 1, 2, 3, 4, 5, 6, 7 and 8 on the Importance Questionnaire. Data from the first 8 weeks of data collection (weeks 2 – 10 at the shelter) will be examined. The data will collapsed into four assessment points as follows: collections 1 and 2 = time 1; collections 3 and 4 = time 2; collections 5 and 6 = time 3; and collections 7 and 8 = time 4. The standard significance level of *p* < .05 will be used for the overall tests. Follow-up. pair-wise comparisons, using paired samples t-tests, will be conducted on all significant results. Escalation of family-wise error in follow-up tests will be controlled for by using the Holm’s sequential Bonferroni procedure.
Exploratory Analyses:

**Exploratory Analysis 1:** The first exploratory analysis will assess for a possible relationship between therapists’ perceived comfort of interaction during the individual sessions (MI and HCO) and treatment outcome.

These will be examined using multiple regression. The DV retention will be operationally defined as days in treatment. The predictor variable (IV) will be therapists’ ratings of perceived comfort of interaction for the MI and HCO conditions.

**Exploratory Analysis 2:** The second exploratory analysis will focus on tracking and describing the residents’ mood on a group level over the course of the study.

The second exploratory analysis will be examined by reviewing the ratings of group mood and looking for particular patterns. Summary scores will be created to give a descriptive picture of the climate during the course the study. However, data will not be used in formal analysis.
References


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homelessness among aftercare patients of an urban state hospital. *Hospital and Community Psychiatry*, 40, 46-51.


Appendix A

Informed Consent

You are being given the opportunity to volunteer to participate in a study conducted through Xavier University and the Mt. Airy Homeless Shelter. You have been selected because you will be a resident at the Mt. Airy Homeless Shelter. The purpose of the study is to learn about what brought homeless men to treatment, to explore your views on living at the shelter, and to conduct program evaluation. If you decide to participate in the study you may be asked to talk individually to a researcher and/or to answer some questions about your experience at the shelter. The sessions may be audiotaped. The audiotape will be used to make sure the interviewer is using the proper interview format and treating you with respect. There are no known risks associated with participating in this project. By participating in the study you will be benefiting the Mt. Airy Homeless Shelter and others in treatment, by allowing us to learn about what staying at the shelter is like for you and how we might better meet your needs.

All information will be kept confidential. Your name will not appear on any research questionnaires and your name will only be linked to the questionnaires through a unique identification number. All research material will be kept in a secure, locked file cabinet at Xavier University.

By participating in the study, you will receive a voucher each week that you may trade-in for one dish of ice-cream.

Refusal to participate in the study will have no effect on your treatment here at the Mt. Airy Homeless shelter or any future services you may be entitled to at Xavier University.

If you have questions at the anytime during the study you may contact Dr. Kenford at (513) 745-3451 or The Chair of the Xavier University’s Institutional Review Board at (513) 745-2870.

I have been given information about the project, including its risk and benefits, and have had the opportunity to ask questions and have my questions answered to my satisfaction. By signing, I freely give my consent to participate in the study.

Participant’s Name  Date  Researcher’s Name  Date
Appendix B

Motivational Interviewing Intervention Script

Session 1: Approximately 10-15 minutes

Introduction: Hi, my name is .... and I am meeting with people here at Mt. Airy, for about 10-15 minutes each, to talk about how it has been for them living here so far. Can you tell me about your experience since you got here?

Discuss Pros/Cons of Treatment (Decision Balance):
Cons:
-What don’t you like about being at the shelter?
-What makes you unhappy about staying here?
-What worries you about staying here?

Pros:
-What do you like about living at the shelter?
-What things about the shelter make you the happiest?
-How do you think being at the shelter might make things better for you?
-What do you think will happen if you don’t follow through with your plan to stay at the shelter?

Summarize Pros/Cons: On one hand (mention cons related to staying at shelter), but on the other hand, you recognize that staying at the shelter (amplify pros of shelter).

-Use reflection when discussing the pros/cons of staying at the shelter with participants to encourage them to elaborate on their thoughts. Affirm pros of shelter that participants mention.

-If participants cannot think of pros/cons of staying at shelter, help them by probing for feelings regarding legal, financial, health, and interpersonal issues w/ the use of statements such as: “Some people like staying at the shelter because they have some place to live, a route, people to talk to. How do these reasons fit with you?” or “Often people don’t like the shelter because they don’t like being told what to do by others or they find it hard to live with other people”. How do those reasons fit with what you?

**If participant does not have much to say, offer drug use feedback. Let participant know that “what they do with it is up to them” and state the feedback in a manner such as “In a typical week you are drinking X times more alcohol than other adult men in the U.S.”

Obstacles & Factors for Success (Building Efficacy)
- Have you ever stayed at a shelter before/been in any program like this?
- What difficulties/struggles have you had in the past or now with staying at the shelter?
- What gives you confidence that you can stick it out at the shelter?
Summarize Obstacles/Strengths: One on hand (mention obstacles) but on the other hand (build up strengths).

**Again use reflection to help participants elaborate on their thoughts. Affirm personal strengths that participants mention.

**If participants cannot come up with reasons that they are confident they can succeed, interviewer may point out past successes with sticking with something, being brave by seeking out help etc. Ex: “I know that you mentioned in the past you tried other programs...you seem pretty determined that you aren’t going to give up just because things are hard.” Use the statement “When else?” when participants mention personal strengths/times of success, to help participants talk about other times of success.

Conclusion: Thanks for talking with me today. Ill stop by one more time next week to see how things are going for you.

Session 2 (approximately: 10-15 minutes)

Introduction: My name is ...., and I met with you a week ago to talk about how things were going for you here at the shelter. I just wanted to talk with you again today to get an update on how you have been doing.

Revisit Pros/Cons of Treatment & Obstacles/Strengths with being at the shelter
- Tie in how participant has been doing to pros/cons of shelter that participant mentioned in first session.
- Review cons & let participant express feelings about them.
- Reinforce pros and ask if there are any other pros of being at the shelter
- Summarize pros/cons as participant now sees them.

- Ask client about obstacles/problems that participant has experienced at shelter since last session.
- Ask what strengths the client has that will help him overcome the problem.
- If client mentions none, mention past strengths the client has shown etc.
- Review problems discussed in first session & how strengths were used to make it past obstacles and remain at the shelter until now.
- Summarize obstacles/strengths related to staying at shelter & amplify strengths.

- Throughout session continue to use reflection & affirmation to maximize change talk.

Conclusion: Thanks for talking to me today. I am glad I had a chance meet with you and learn about your experience here at Mt. Airy.
Appendix C

Human Contact Only Script

Session 1

Introduction: Hi, my name is .... Thanks for meeting with me. I am interested in what leads people to be homeless and just to learn more about you as a person. So I am not here to discuss treatment. Instead I was hoping to spend about 10-15 minutes with you just hearing your story and really discussing anything that you want me to know. – With that being said “What had gone on that has lead you to be homeless”?

Topics for Conversation
What brought you to Mt. Airy?
What is the food like?
Did you grow up around here/tell me more about your family, brothers, sisters etc.?
How long did you know your drinking buddies?
What was school like for you?
What is your dream job/tell me about the work that you did?
Is there anything that you would want me to know about you that you haven’t discussed?

Summarize what client has said...

Conclusion: Thanks for talking with me today. I would like to stop by one more time next week to talk some more so that I can learn more about you.

Goal: Be a “Nice” person, do not encourage change talk

Session 2

Introduction: My name is ...., and I met with you a week ago to hear your story and learn what led you to be homeless. So I thought we could just spend a little more time today talking further. I know you said last week....bring up something about person and start conversation from there...

See above Topics for Conversation

Conclusion: Thanks for talking to me today. I am glad I had a chance meet with you and learn more about you as a person.

Goal: Be a “Nice” person, do not encourage change talk!
Appendix D

Participant Number: ____________________ Date: ____________
Stage/Length of time in Treatment: ____________ Researcher's Name: _______

Importance Questionnaire

I am going to read you some questions. I want you to tell me how true each statement was for you this PAST week using this 1 – 5 scale. If it was NOT AT ALL TRUE FOR YOU, you would answer 1. If it was the ENTIRELY TRUE FOR YOU, you would answer 5.

1) “Having a place to eat/sleep” is the reason why I stayed at the shelter this past week.
   1  2  3  4  5

2) “Having a schedule/routine to follow made me know what to expect and what my day would be like” (e.g. when I would eat, go to group, sleep) is the reason I stayed at the shelter this past week.
   1  2  3  4  5

3) “Participating in groups/treatment and working on my problems” is the reason I stayed at the shelter this past week.
   1  2  3  4  5

4) “Having the Mt. Airy Center/SAMS staff listen to me and help me with difficult situations” was the reason I stayed at the shelter.
   1  2  3  4  5

5) “Having friends who I could talk to and be around” is the reason I stayed at the shelter this past week.
   1  2  3  4  5

Now I want you to tell me which was the MOST important reason you stayed this past week. In other words, tell me the main reason that you stayed.

   A) I had somewhere to stay/sleep
   B) I had a routine to follow
   C) I was receiving treatment/could participate in groups
   D) I connected w/ people and have made friends

Now I am going to ask you a couple questions about your experiences this PAST week. Again, I want you to tell me how true each statement is for you, using the same 1 – 5 scale, with 1 being NOT AT ALL TRUE and 5 being ENTIRELY TRUE.

7) I feel like I have connected to people and have made friends here at the shelter.
   1  2  3  4  5

8a) I thought about leaving the shelter this past week.
   1  2  3  4  5

8b) (If applicable) Why did you think about leaving the shelter?
Chapter V
Dissertation
Abstract

This project investigated the effect of a brief motivational interviewing (MI) intervention administered during the first two weeks on substance abuse treatment retention rates in a sample of homeless men. The identification of a low-cost, low-intensity, easy to implement intervention would have considerable value in both clinical and financial terms. 120 men participated in the study and were randomly assigned to a 15 minute individual motivational interviewing intervention (MI); a 15 minute individual human contact control intervention (HCO); or a routine care (RC), no contact condition. The two interventions were crossed with therapist sex to assess for the impact of a female verses male therapist. Results indicated that neither intervention type, no contact, nor therapist sex influenced days in treatment. The mean number of days in treatment for each group was as follows: MI/Female therapist: 46.85 days (SD 28.28), MI/Male therapist: 53.95 days (SD =27.27), HCO/Female therapist: 59.15 days (SD = 29.70), HCO/Male therapist: 51.50 days (SD = 27.98), RC: 47.65 days (SD = 27.69). No significant difference across groups was found, F (4,115) =.727, p = .58. The current results are somewhat inconsistent with prior research demonstrating the effectiveness of brief MI interventions for substance abuse treatment. Clinical implications from the study are addressed, as well as future research directions.

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Brief Motivational Intervention for Substance Abuse Treatment Retention in Homeless Men

In the United States, substance abuse is among the most prevalent mental health issues professionals face (Kessler, 1994). A recent survey by the Substance Abuse and Mental Health Services Administration (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003b) showed that an estimated 8.2% of Americans over the age of 12 are currently using illicit drugs. The problem is even greater in the homeless population, where it believed that 20-35% of the estimated 750,000 homeless suffer from a drug or alcohol problem (Zerger, 2002).

Treatment Costs and Retention Efforts

The cost to provide substance abuse, mental health, and shelter services to the homeless is enormous. The estimated cost per individual is over $75.00 per day, averaging $2250.00 per month (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003a). Given the very real funding constraints that most public agencies face, it is important that those who enter treatment remain long enough to accrue benefits. Early termination is a tremendous drain on resources. This is a significant problem as drop-out rates can reach as high as 80% (Substance Abuse and Mental Health Services Administration [SAMHSA, 2003b). The identification of effective interventions that reduce premature termination is important as it can help to maximize the return on limited treatment resources.

Evidence Based Treatments

Evidence Based Treatments (EBTs) are treatments that have been shown to be safe and effective for individuals with a particular disorder or problem. In order to be classified as an EBT, a treatment must meet the following criteria: 1) it must be
replicated by researchers other than its creator; 2) it must be examined through meta-
analyses or systemic review; 3) it must be shown to work in the real world; 4) it must be
shown to be relatively safe, with any associated risks being minimal compared to the
benefits (Miller, Zweben, & Johnson, 2005).

EBTs are not derived from practitioners’ own experiences, the experiences of
their colleagues, or the experiences of their clients. This type of evidence is considered
limited for several reasons. First, it does not allow for a distinction to be made between
changes that happen as a result of treatment and changes that happen because of factors
like maturation and family assistance. Secondly, it may only describe the experiences of
a select group of people, which may differ from what others would experience. Finally, it
is particularly subject to bias. Invested practitioners may want the treatment to work so
much that they perceive it has worked when, in actuality, it has been ineffective (Leff,
2002).

In the area of substance use, there are a variety of EBTs. For instance,
pharmacotherapies using drugs such as naltrexone and buprenorphine have been shown
to be highly effective in reducing alcohol and opiate use (McGovern & Carroll, 2003).
Cognitive-Behavioral therapy (CBT) appears effective in helping individuals develop
new cognitive and coping skills relating to their substance use behavior (McGovern &
Carroll). Meanwhile, Contingency Management (CM), has been found to be successful
in encouraging abstinence and treatment compliance by systematically reinforcing
positive behavior with tangible goods or money (McGovern & Carroll).

While these types of EBTs are effective, they contain drawbacks, such as
requiring more time, resources, and training to implement than community programs can
Motivational Interviewing Intervention

afford. Increasing funding constraints, overloaded staffs, and differences in education levels between program leaders and treating therapists are just a few of the obstacles program leaders have difficulty overcoming when trying to use these types of EBT's (Willenbring, Kivlahan, Kenny, Grillo, Hagedorn, & Postier, 2004). Such problems have led to a call for practical treatment interventions that staff at a variety of levels of training can competently administer.

**Brief Interventions**

One promising avenue of practical, easy to implement EBTs appears to be brief interventions (Miller & Rollnick, 2002). In the area of substance abuse, brief interventions are generally defined as a limited number of counseling sessions (e.g., 1-12), which take place over a relatively brief period of time (e.g., 1-6 months), and typically require limited resources and training. The interventions usually have the singular focus of targeting problematic behaviors in a systematic, specific way and can take many forms, such as brief advice, screening, and counseling (Levy, Vaughan, & Knight, 2002). Since the timeframe does not allow for new coping skills to develop or personality changes to take place, it is believed that the changes are motivational in nature (Miller & Rollnick). As a result, Miller and Rollnick (Miller, 1983; Miller & Rollnick, 1991) developed a brief intervention style known as motivational interviewing (MI).

**Development of Motivational Interviewing Model**

The underlying belief of MI is that clients will move toward change when they see a high utility in changing and are confident in their ability to successfully change.

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Thus, the overall aim of MI is to elicit and reinforce change talk in clients regarding the value of change or their ability to change (Miller & Rollnick, 1991).

Clinicians carry out this process in two ways. First, clinicians collaborate with clients in an effort to help them explore both the benefits and drawbacks of change. In the process, the clinician seeks to aid the client in seeing possible discrepancies between stated goals/values and their current situation. As clients recognize more discrepancies, they become more uncomfortable with their current situation and more motivated about changing (Levy et al., 2002). The second way clinicians elicit change is by building confidence in their clients - encouraging clients to think about and bring up personal strengths that clients believe will allow them to successfully change (Miller & Rollnick, 2002).

MI is founded in several approaches, with its main pillar being client-centered therapy. MI is similar to client-centered therapy in that both place a heavy emphasis on demonstrating empathy. However, MI differs from client-centered therapy in that it is therapist-driven. Here, the goal is not to solely meet individuals where they are, but to use selective reinforcement to push them towards an identified outcome (Miller & Rollnick, 2002).

The second MI pillar, the trans-theoretical model (TTM), conceptualizes change as a series of discrete cognitive stages through which clients progress (Prochaska & Diclemente, 1982). The stages are pre-contemplation (no recognition of a problem by client), contemplation (recognize problem but not ready to make changes), preparation (realize change is needed and want to take action soon), action (begin to take steps towards changing), and maintenance (following new behavior patterns). MI holds that
clinicians must take into account the individual’s stage when they enter treatment. For example, clients in the precontemplation stage need help thinking through and considering change, while clients in the action stage are likely to benefit more from concrete behavioral plans. Mismatches between the type of treatment provided and individuals’ needs result in resistance. Resistance, which is understood as an interpersonal dynamic by Miller and Rollnick (2002), occurs when the therapist missteps, or suggests something that the client is not ready to do.

**Factors Relating to the Effectiveness of Motivational Interviewing**

Since its development in the 1980’s, MI has rapidly become a prominent treatment in the area of substance abuse. While the overall effectiveness of MI has been well established, not all studies have supported MI. The impact of MI appears to depend on the stage of change individuals are in when they enter treatment. For instance, Mullins, Suarez, Ondersma, and Page (2004) found no significant difference in retention rates and illicit drug use when they compared the results from three 1 hour MI sessions vs. watching two educational videos and participating in a home visit. However, the participants entered treatment at different stages of motivation, and the MI sessions may have been effective only for participants in the early stages of change, who had not yet committed to treatment. Similarly, Stotts, Schmitz, Rhoades, and Grabowski (2001), using an MI intervention in a cocaine detoxification program, found that the key factor in determining which participants benefited from the MI intervention was the participant’s stage of change. The MI intervention was more effective for participants in the precontemplation stage -- those with low motivation -- while it actually hurt those in the preparation and action stages, who had higher initial levels of motivation.
A related factor that may play a role in the effectiveness of MI interventions is the amount of time that elapses between when a client enters treatment and when the MI intervention is conducted. Miller, Yane, and Tonigan (2003) sought to give participants an MI intervention as a supplement immediately after they enrolled in an established treatment. However, in some cases the clinicians were not able to do so and the MI intervention was administered much later in the treatment. The results showed no significant difference in drug use outcome between the participants who received the MI intervention and the established treatment-only participants. Timing may have been critical in that the MI intervention did not match well with the stages participants were in by time the intervention was given.

*The Effectiveness of MI*

Schneider, Casey, and Kohn (2000) demonstrated that MI can be effective as a stand-alone treatment for substance abusers when compared to confrontational interviewing (CI), while Tevyaw and Monti (2004) showed that MI as a stand alone treatment for drug use can be more effective than no treatment. Moreover, Carroll, Libby, Sheenan, and Hyland (2001) examined the effectiveness of MI interventions in engaging clients in treatment and found significant differences in treatment engagement rates, with significantly more clients who received the MI-enhanced evaluation attending one more session, compared to clients who received the standard evaluation. Finally, Brown and Miller (1993) looked at the effectiveness of an MI intervention as a supplement to routine care and concluded that retention rates significantly increased when an MI intervention was used as an addition to routine care.

*Essential Elements in Brief Motivational Interviewing Interventions*
Many BI's are incorrectly labeled as MI in nature because they possess some elements of motivational interviewing. Yet, these BI's contain additional elements that make them distinctly different from MI interventions (Rollnick & Miller, 1995). The underlying ingredients in most brief interventions can be found in the acronym FRAMES, which was created by Miller and Sanchez (1994). The letters of FRAMES refer to the use of Feedback, Responsibility for change lying with the individual, Advice-giving, providing a Menu of change options, an Empathetic counseling style, and the enhancement of Self-efficacy. Brief interventions which are truly motivational interviewing interventions do not contain such elements as advice-giving and personalized directive feedback (Moyers, Martin, Manuel, Hendrickson, & Miller, 2005.)

The core elements in MI interventions include: elicitation of client change talk, therapist empathy, a focus on the discrepancy between client behaviors and values, encouraging confidence, and nonconfrontational responses to resistance. However, two elements are thought to be the most essential for the effectiveness of MI interventions. The first element is the elicitation and reinforcement of client change talk (Moyers & Martin, 2005). MI therapists elicit change talk through their emphasis on client autonomy concerning the target behavior and affirming optimism about client characteristics that facilitate change. They reinforce change talk with praise and encouragement to continue expanding on the issue of change. Eliciting and reinforcing change talk is critical because research has shown that clients who speak in favor of change actually may be convincing themselves to change as they speak (Miller, Benefield, & Tonigan, 1993). The second element believed to an essential part of MI interventions relates to therapist empathy or interpersonal skills (Moyers, Miller,
Hendrickson, 2005). Moyers, Miller, & Hendrickson, in a study where they examined videotaped MI sessions, found that therapist involvement reflective of the spirit of MI (e.g., empathy, acceptance, and egalitarianism) was related to client involvement (e.g., disclosure, cooperation, and engagement). The greater the level of therapist involvement, or interpersonal skills, the more clients engaged in MI sessions.

However, based on additional findings, Moyers, Miller, and Hendrickson (2005) also put forth other possibilities. In the same study, they found that therapist instances of MI inconsistent behaviors (e.g., confrontation, giving direct advice) did not decrease client involvement as long as the techniques were looked at in the larger context of therapist interpersonal skills. When therapists connected with clients, the clients responded favorably to MI inconsistent techniques such as advise-giving and confrontation. Thus, the researchers suggested that the type of style a therapist adopts or the techniques used may not make as much of a difference as nonspecific therapy factors (e.g. empathy, reflective listening, genuinely connecting). At present, the question remains as to whether there is any therapeutic value gained by adding MI content to the therapeutic process, or if it the only true value is in the nonspecific therapy factors themselves.

Substance Abuse Treatment with the Homeless Population

One of the primary differences between the homeless population and other individuals is the type of coping style that is adaptive for them. Lafuente and Lane (1995) found that the majority of homeless individuals are used to being socially isolated; they survive and cope by remaining distrustful, detaching themselves, and staying alone. As a result, when homeless individuals enter a shelter environment, they commonly have
difficulty forming appropriate relationships with staff members and fellow residents, and with following treatment plans – particularly those which require active engagement with others (Orwin, Garrison-Mogren, Jacobs & Sonnefield, 1998). These individuals may particularly struggle with the typical 45-60 minute MI sessions that have been tested to date (Dunn, Deroo, & Rivara, 2001).

A second factor to look at is what motivates individuals to stay in treatment. Zerger (2002) reported that the strongest predictor of program completion is the client’s willingness to interact socially and develop social supports. Consequently, individuals may benefit more from early interventions designed to help them see some value in simply staying in the program, tolerating the inconveniences, and working to engage with others, than interventions immediately focused on helping individuals weigh the pros and cons of actively engaging in treatment per se.

A third factor to think about is whether the sex of the treatment provider may impact the ease with which homeless men are able to engage in the treatment process. Little research has been conducted looking specifically at the influence of therapist sex on therapy with homeless men. However, research examining the role of therapist sex on the psychotherapy process in general has yielded mixed results. Bowman, Scogin, Floyd, & McKendree-Smith (2001) conducted a meta-analysis and found that therapist sex was a poor predictor of outcome for both male and female clients. However, Fisher (1989) has suggested that female therapists are more effective than male therapists with both sexes of clients, while Beutler, Machado, & Neufeldt (1994) have argued that female therapists are more effective treating female clients and male therapists are more effective treating male clients.
A fourth factor to take into account is the needs of homeless shelters. Shelters are becoming increasingly overcrowded and short-staffed. At the same time, many public agencies are facing considerable funding constraints (Substance Abuse and Mental Health Services Administration [SAMHSA], 2003a). Limited resources and time leave shelters in need of brief, structured interventions that are cost-efficient and easy for staff members to learn.

The first focus of the current study will be on examining the efficacy of a brief MI intervention vs. a brief therapy session focused on human-contact-only (HCO) vs. routine care (RC). It is hypothesized that the therapeutic relationship is necessary for successful treatment, but that its impact is small compared to the impact on treatment when MI content is added. Therefore, it is expected that MI participants will have higher rates of participation and retention and lower rates of early termination when compared to the HCO and RC. Additionally, the current study will examine the impact that therapist's sex has on treatment participation, retention, and termination rates. It is expected that the therapist's sex will not have a significant impact on participation, retention, or termination rates in either the MI or the HCO groups. Finally, the current study will examine if the factors that residents' rate as important in their decision to stay in treatment vary as a function of time. It is believed that the residents will find shelter and routine less important over time and find peer support more important over time.

Method

Program Description

The Mt. Airy homeless shelter is operated by the Hamilton County Job and Family Services Department of Substance Abuse Services in conjunction with the
Motivational Interviewing Intervention

Cincinnati Alcoholism Council. There are 65 beds at the shelter. The average length of time residents stay at the shelter is approximately 7 weeks (B. McBrady, personal communication, 01/19/07).

The general approach of the staff is not to force the residents to change maladaptive behaviors, given that the behaviors have sometimes helped them to survive in dangerous environments, but to teach the residents alternative ways of interacting and handling various situations and to facilitate the willing adoption of these alternatives. The program’s objective is to help residents learn to build and rely on peer relationships for support as they will not always be able to locate professionals (staff) or use professionals as a resource once they leave the shelter. The specific treatment program followed is a Substance Abuse Management Services (SAMS) program. The program has four stages, which the participants pass through by attending resident meetings and earning points. The goal of Stage 1 is to help residents learn to live with peers and adjust to a schedule. The goal of Stage 2 is to increase peer interaction and receive dental and health services. The goal of Stage 3 is help the residents start to identify and use off-site sources of support to help them meet their needs and stay abstinent. The goal of Stage 4 is help the residents strengthen a healthy life routine, maintain supportive peer relationships, and move to a stable place of residence. Residents are expected have progressed to Stage 4 within 91-120 days (B. McBrady, personal communication, 01/24/06).

Participants

Participants in this study were 120 men (40 men per arm), who sought residential treatment at the Mt. Airy homeless shelter. The sample size was selected in order to detect a moderate effect (Cohen, 1983; Dawson-Saunders & Trapp, 1990). Demographic
information was able to be obtained for 117 of 120 men in the sample. The remaining
three men’s charts could not be located at the time of demographic data collection. The
sample was primarily composed of men of color: 70.1% identified as African American
(n=82); 25.6% identified as Caucasian (n=30) and 4.3% identified as other (n=5). The
age range of the sample was 19 to 76 years old, with a mean age of 45.15 years old
(standard deviation = 10.70 years). The range in education of the sample was 6 to 18
years of schooling, with a mean of 11.53 years (standard deviation = 2.02 years). GEDs
were counted as 12 years of education. Regarding current use of psychotropic
medication, the majority of men reported none (76.9%). Likewise, the majority of men
(59.8%) reported no history of mental health treatment. However, most men did report
previous substance abuse treatment (69.2%).

Interventions

Both active interventions consisted of two brief meetings (each about 10 – 15
minutes) during the participants’ first two weeks at the shelter. The focus of the
Motivational Interviewing intervention was not on drug and alcohol use per se, but rather
on motivating the men to stay at the shelter and tolerate the stress that may accompany
living with peers and being on a schedule. Both interventions were brief to promote both
the generalizability of findings and the feasibility of implementation at other sites with
limited funding. Detailed information about both interventions is contained in
Appendices C and D.

Motivational Interviewing (MI)

The intention of the first MI session was to help participants resolve ambivalence
about being at the shelter, and to assist them in identifying personal strengths that would
help them stay at the shelter and succeed. As such, the session had two primary goals. The first was to help participants recognize the high utility of remaining at the shelter. The second was to boost participants’ confidence in their ability to stay at the shelter despite frustrations.

The intention of the second MI session was to build upon the first meeting and to increase participants’ likelihood of staying at the shelter. The benefits and drawbacks of remaining at the shelter were revisited, as well as the personal strengths that could help them succeed. This session had two primary goals. The first goal was to further reduce ambivalence and solidify commitment to staying at the shelter. The second goal was to further promote self-efficacy and heighten confidence in further success.

**Human Contact Only Intervention (HCO)**

The intention of the HCO intervention was to control for the effects of human kindness and empathic interest. The goal of the HCO intervention was to show interest in the residents but not to engage in an intentionally therapeutic encounter. Here, the therapist spent time getting to know each resident (e.g. family history, interests). The therapist displayed empathy while talking with the resident. However, the therapist did not engage in any form of therapy and did not discuss with residents their motivation, treatment progress, etc. If a resident did bring up such issues, the therapist acknowledged them, but quickly redirected the conversation.

**Routine Care (RC)**

The intention of RC was to provide a measure of standard-care effects. Residents in this group did not have individual meetings with a therapist and received only the
standard services offered by Mt. Airy Shelter. This group served as the comparison group and allowed for tests of the impact of the two active interventions.

Procedure

Xavier University IRB reviewed and approved the study protocol and. Participants were recruited during routine intake procedures until a 120 participants were recruited (40 per arm). 7 men declined to participate in the study. The Mt. Airy staff reviewed the informed consent by reading it to each resident upon intake (See Appendix B). Residents who agreed to participate in the study were assigned to one of the three study arms in alternating order. It was intended that participants who were assigned to the MI or HCO interventions would receive the first session of the intervention within the first 7 days at the shelter and second within days 8-14 at the shelter. However, due to logistical issues related to entering treatment and gaining access to needed medical care, 54 residents (MI= 28; HCO; 26) were not available for their first session until 8-14 days after beginning treatment, and until 14-28 days for their second session.

The interventions were administered by two master's level therapists, one female and one male, who were trained in MI through direct instruction and role plays. As men were randomized to MI and HCO groups, they were assigned to the female or male therapist on an alternating basis. To ensure treatment integrity, sessions were audio taped and subsequently reviewed and classified by trained raters who were blind to session type. At the end of each session, the therapist rated the perceived session comfort level, or degree to which the therapist felt rapport was developed with the resident.

Beginning at the end of the second week of treatment and continuing each week for 11 months (8 months of study enrollment plus 3 months for the final enrollee to
Motivational Interviewing Intervention 57

complete the SAMS program), Mt. Airy staff rated one to four resident meetings a week in terms of overall group "mood". This information was gathered to monitor the emotional climate and morale at the shelter over the course of the study.

During the same time period, all residents who attended resident meetings were invited to complete the Importance Questionnaire in exchange for a voucher to a weekly ice-cream social. Data from the participants' first 10 weeks at the shelter was used for this study. Information from non-participants was provided to Mt. Airy staff for ongoing program evaluation efforts.

Survey data collection was done by trained undergraduate research assistants (RAs). The RAs met individually with the residents and read each item on the questionnaire to the resident to ensure comprehension. On the table was a card with both a text and graphical representation of a 1-5 likert-type scale (see appendix E). Residents indicated their response by pointing to the appropriate number on the card. This process facilitated valid responding in participants with lower cognitive skills and/or illiteracy.

**Outcome Measures**

The primary outcome measures were as follows:

Retention: This was operationally defined as total number of days in treatment.

Treatment Engagement: This was operationally defined as Mt. Airy Shelter's routine, weekly staff rating of compliance and engagement. This is a single number ranging from 0-24 that the staff generates each week for reporting and program evaluation purposes. At the end of each week, each resident's points are added to create a "total point score" for that resident. Residents attend treatment groups and receive points based on their degree of participation. The points are earned as followed: 1 point for coming to the first
half of the group but not speaking; 1.5 points for coming to the first half of the group and speaking; 2 points for attending the whole group but not speaking; and 3 points for attending the whole group and speaking. The range of points typically earned in Phase 1 (first 30 days) is 0-64 points; Phase 2 (30-60 days) is 65-124 points; Phase 3 (over 60 days) is 125-200 points; and Phase 4 (over 90 days): 201-300 points.

The secondary outcome measures were as follows:

Importance Questionnaire: The Importance Questionnaire (Appendix E) was comprised of 9 questions targeting treatment elements. The survey asked residents to rate the perceived importance of five domains in the prior week on a 1-5 likert-type scale and to indicate which was most important. The five domains were: 1) Shelter- operationally defined as “Having a place to eat/sleep”; 2) Routine-operationally defined as “Having a schedule/routine to follow”; 3) Treatment- operationally defined as “Participating in groups/treatment and working on problems”; 4) Connection to treatment providers: operationally defined as “Having staff listen and help”; 5) Peer Support: operationally defined as “Having friends who I could talk to and be around”. Residents also indicated if they had thought about leaving the shelter in the prior week and if yes, why.

Therapist rating of session comfort: This was operationally defined as the degree to which the therapist felt rapport (i.e., residents’ openness to engage in discussion with the therapist) was developed. The level of rapport was rated on a scale from 0-10, with 1 being the therapist perceived that the resident felt completely uncomfortable, 5 being the therapist perceived that the resident felt somewhat comfortable, and 10 the therapist perceived that the resident felt completely comfortable).
Staff rating of overall group mood: This was operationally defined as the shelter atmosphere during afternoon groups, indicated by the frequency of discouraging statements vs. statements of hope and level of interpersonal support. Overall group mood was rated on a scale from 0-10, with 0 standing for a completely pessimistic/depressed group mood, 5 standing for a somewhat neutral group mood, and 10 standing for a completely optimistic group mood. The numbers were then averaged weekly to obtain one weekly group mood rating.

Results
Prior to analyses, all variables were examined for normalcy and transformed as necessary. No transformations were needed. To ensure treatment integrity, sessions were audio taped and a random sample was subsequently reviewed and classified by trained raters who were blind to session type. A total of 63 (79%) of sessions were reviewed by at least one rater; 44% were reviewed by two raters to check for inter-rater reliability. All of the sessions were correctly classified by at least one rater; one session was classified differently by the two raters, leading to a total agreement of 98% across raters. The repeated measures analyses used to examine hypotheses 3 and 4 could not be conducted as planned due to missing data. It was anticipated that most of the same residents would choose to answer the surveys each week. However, the composition of the responding group varied considerably (due to residents attending groups at different times each week, being absent for medical appointments etc.) and only one person provided data at all collection points. Consequently, no formal tests of mean differences could be conducted.

Primary Hypotheses
**Hypothesis 1:** It was hypothesized that the MI intervention group would show superior outcomes compared to the HCO group, which would have better outcomes than the RC. As such, it was predicted that there will be a linear increase in treatment retention and participation rates such that the RC < HCO (both male and female therapist groups) < MI (both male and female therapist groups).

Hypothesis 1 was tested using two 1x5 ANOVAS. Five groups were needed because the therapist sex factor was not fully crossed with treatment as RC had no individual contact. Two separate dependent variables were assessed: retention and participation rate.

For both ANOVAs, the grouping variable was treatment-type and had five levels: 1 = MI/female therapist, 2 = MI/male therapist, 3 = HCO/female therapist, 4 = HCO/male therapist and 5 = RC. The level of significance was set at p<.05.

The mean number of days in treatment and participation rates based on therapist’s sex can be found in Table 1. No significant difference in the mean number of days in treatment across groups was found, F(4, 115) = .73, p = .56. The difference in mean participation rates across groups was also not significant, F(4, 115) = .54, p = .71.

**Hypothesis 2:** It was hypothesized that therapist sex would not effect treatment and participation rates.

Hypothesis 2 was tested using two 2x2 ANOVAs. Two separate DV’s were tested: retention and participation rate.

For both ANOVA’s the grouping variables was sex (two levels: male and female) and treatment type (MI and HCO). Both main effects and interaction effects were assessed. The level of significance was set at p<.05.
The mean number of days in treatment and participation rates based on therapist’s sex can be found in Table 1.

The results of the ANOVA indicated no significant main effect for retention based on treatment type: $F(1, 115) = .61, p = .44$, partial $n^2 = .01$; no significant main effect for retention based on sex: $F(1, 115) = .00, p = .97$, partial $n^2 = .00$; and no significant sex by treatment interaction on retention: $F(1, 115) = 1.38, p = .24$, partial $n^2 = .02$.

The results of the ANOVA indicated no significant main effect for treatment type on participation: $F(1,115) = .63, p = .43$, partial $n^2 = .01$; no significant main effect for sex on participation: $F(1,115) = .00, p = .98$, partial $n^2 = .00$; and no significant sex x treatment interaction on participation: $F(1,115) = .50, p = .48$, partial $n^2 = .00$.

Given that no significant differences were found for therapist sex on length of treatment, a logistic regression was conducted to examine whether therapist’s sex influenced the reasons residents left $^\dagger \beta = -.039$, Wald $X^2 = .007$, Odds Ratio = .96, $p = .93$

**Hypothesis 3:** It was hypothesized that the MI intervention group would report greater overall satisfaction with Mt. Airy Shelter compared to the HCO group, which would report greater satisfaction than the RC. Therapist sex would not influence satisfaction effects. As such, it was predicted that there would be a linear increase in satisfaction such that the RC < HCO (both male and female therapist groups) < MI (both male and female therapist groups).

The repeated measures analyses used to examine hypotheses 3 could not be conducted due to missing data.
Hypothesis 4: It was hypothesized that the variables (e.g. shelter, routine, peer support) residents would find most important would vary as a function of time, with residents finding shelter and routine less important over time and finding peer support more important over time.

The repeated measures analyses used to examine hypotheses 4 could not be conducted due to missing data.

Exploratory Analyses:

Exploratory Analysis 1: The first exploratory analysis assessed for a possible relationship between therapists' perceived session comfort during the individual sessions (MI and HCO) and treatment outcome.

This was examined using univariate regression. The outcome variable was retention. The predictor variable was the therapists' ratings of perceived comfort of interaction across both MI and HCO conditions.

Results of the univariate regression indicated no significant relationship between therapists' ratings of perceived comfort of interaction (MI and HCO) and retention, $R^2 = .01$, $F = (1, 78) = .33, p = .57$.

Exploratory Analysis 2: The second exploratory analysis focused on tracking and describing the shelter's emotional climate and group morale over the course of the study and examining any relationship with treatment retention.

This was examined by reviewing the ratings of group mood and looking for particular patterns. Summary scores in Table 2 give a descriptive picture of the climate during the course of the study. Overall, average weekly group mood ratings remained between 4 and 8 on a scale from 0-10. Group mood did not seem to influence responses.
on the Importance Questionnaire survey or be systematically related to the number of participants/residents generally discharged in a given week. However, data did show that the weeks the group morale was rated “6” were associated with more discharges than if morale was rated as higher or lower.

Additional Post-hoc Analyses:

Additional analyses were conducted in an attempt to further understand the population being studied.

Post-hoc Analysis 1: Residents’ responses on the Importance Questionnaire were reviewed to determine the most frequent reasons men considered leaving the shelter. Reasons study participants listed for leaving the shelter were found to primarily fall into one of five categories: 1) program dissatisfaction, 2) experiencing negative emotions (anxiety, depression etc.), 3) belief of greater value in going home -e.g., going to take care of “responsibilities” as more valuable than remaining at the shelter, 4) progress in program, 5) other (e.g. saying “it is time to move on”, “my mind feels different now” etc.). In all, 56% of the study participants left for positive reasons (e.g. finding a job, housing, completing program etc.), 41% left for negative reasons (e.g. program dissatisfaction, experiencing negative emotions etc) and 3% left for neutral reasons (e.g. citing a desire to “move on”).

Post-hoc Analysis 3:

A 1-way ANOVA was used to assess the impact of previous mental health treatment on retention rates (number of days at shelter).

No significant differences in retention rates were found based on participants history of previous mental health treatment $F(1,115) = .06$, $p = .81$ partial $n^2 = .01$. 

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Post-hoc Analysis 3:

A series of 1-way ANOVAs was used to examine whether there was a significant interaction between previous mental health treatment, previous substance abuse treatment or past/present use of psychotropic medication and type of treatment received (MI, HCO, or RC) on retention.

There was no significant interaction between previous mental health treatment and type of treatment on retention rates $F(5,111) = .25, p = .94, \text{ partial } n^2 = .00$. There also was no significant interaction between previous substance abuse treatment and type of treatment on retention rates $F(5,111) = .12, p = .99, \text{ partial } n^2 = .01$. Finally, there was no significant interaction between past/present use of psychotropic medication and type of treatment on retention rates $F(5,111) = .72, p = .61, \text{ partial } n^2 = .03$.

Post-hoc Analysis 4:

Means and frequencies were calculated to assess for differences in retention rates based on race. Tables 3 and 4 contain information about days in treatment by race. Caucasian participants left treatment at higher rates in the first 14 days. However, the difference was not significant $F(1,6) = .13, p = .73, \text{ partial } n^2 = .01$. After this initial period retention rates appear to remain relatively equal across racial categories and there were no significant difference in retention rates overall based on race $F(2,114) = 1.37, p = .26, \text{ partial } n^2 = .02$.

Discussion

The primary aim of the current study was to investigate the influence of a brief motivational intervention (MI) on substance abuse retention rates among homeless men. Contrary to predictions, participating in the motivational intervention did not increase
treatment retention. Results showed no differences across treatment conditions; the hypothesis that there would be a linear increase in treatment retention and participation rates such that the RC < HCO < MI was not supported. This is in contrast to prior research demonstrating MI’s effectiveness (Libby, Sheenan, & Hyland, 2001; Schneider, Casey, & Kohn, 2000; Tevyaw & Monti, 2004). Results also showed no difference in outcome based on therapist sex. In the current sample, the MI and HCO interventions were highly distinct and represented very different experiences for the participants. Increased human connection provided by both the MI and HCO interventions had no impact on retention rates when compared with routine care, indicating that attention and interest alone did not increase treatment participation.

One factor that was related to retention rates was race. Caucasian participants left treatment at significantly higher rates in the first 14 days. However, after this initial period retention rates remained equal across racial categories. One explanation for this initial difference may be that there were many fewer Caucasian participants at the shelter and may not have been comfortable with their minority status.

While unexpected, this study is not the first to find MI ineffective (Miller, Yane, and Tonigan, 2003). Consistent with this prior study, one possible reason there were no significant differences amongst the interventions may be related to timing. The interventions were administered early in treatment, given previous research showing individuals often progress through various stages of change (Prochaska & Diclemente, 1982) and that MI interventions may be optimal when matched with individuals in the early stages of change (Miller, Yane, & Tonigan). However, while typically those entering general treatment are in the earlier change stages, this may not be true for
homeless individuals seeking residential treatment. For example, Jurek and Kenford (2006) found that 53% of a sample of homeless men entering residential treatment were classified as in the Action stage and, more importantly, their stage of change at treatment entry was unrelated to progression or participation in treatment. Similarly, during the course of this study, it was noted in the initial MI session that most of the participants did not seem to be ambivalent about treatment. Instead, they were more likely to be express what could be described as “flight into health”, during which they were overly optimistic (e.g., believing life is perfect now that they are in treatment) and not willing to consider or explore any potential problems or difficulties. Thus, timing may have been critical in that the MI intervention did not match well with the stage participants were in when the interventions were given. It may be that with this population, MI interventions need to be administered later in treatment when individuals begin to have doubts, become more realistic and may be more open to actively exploring difficulties.

Conversely, the interventions may have had no significant influence due to their potency. The interventions were much shorter in length (e.g. 10-15 minutes) compared to typical 45-50 minute sessions, and as such they may not have had enough strength. However, the length of the interventions was given careful consideration during study development. Two primary concerns that gave shape to the interventions were 1) a fear 45 minute sessions would be too long and require more individual contact than homeless individuals would be able to tolerate upon first entering treatment; and 2) the interventions should require limited training and implementation resources to be maximally useful to a community homeless facility. It was believed that most public sector facilities would not have the staff or time to incorporate more elaborate
interventions – even if they proved efficacious. Additionally, it was felt important to
determine if nonspecific brief human contact from someone not associated with the
treatment program had any influence on retention as this would have considerable
implications for the optimal use of volunteers. Given that the results showed neither
nonspecific brief human contact, nor brief motivational interventions impacted treatment
outcomes, it is likely that more intense interventions by well-trained staff are needed.
However, for this to occur the homeless population must first be made a priority in
regards to policy initiatives and funding. Specifically, policy changes at the local, state
and federal levels are needed to delegate greater financial resources for the treatment of
the homeless. This, in turn, would allow for more intensive and empirically supported
programs to be implemented.

Another factor that needs to be considered when evaluating these results is that
leaving the residential treatment and the shelter seemed not to be equivalent to quitting
treatment or failure. Participants commonly left treatment for reasons unrelated to
treatment. For instance, according to the current results, 59% of the sample left for
positive or neutral reasons (e.g., secured housing, reunited with family, found a job, etc.).
These are individuals who typically have very chaotic lives, making it difficult to predict
when they may leave treatment based on family or friend circumstances (e.g. family
member in jail, friend wanting protection in drug-related confrontation, etc).

While treatment type did not influence participation and retention rates as
expected, results regarding therapist sex effect were as predicted. Based on a meta­
analysis conducted by Bowman et al. (2001) in which they found no significant
differences based on therapist’s sex, it was predicted that the current study would also
show no differences. This prediction was accurate in that there was no significant impact of therapist’s sex on participation rates, retention rates, and no interaction between sex and treatment type on retention rates of reasons for leaving (positive or negative). However, it should be noted that this prediction and subsequent findings varied from the experiences of the therapists during the course of the study. Both study therapists observed participants much more willing to talk to the female therapist. Consequently, while it may be that homeless men are more open to talking to a female therapist, ultimately their treatment outcome is not impacted by the therapist’s sex.

Due to missing data, the effect of treatment condition on overall program satisfaction could not be tested. Additionally, it remains unclear as to whether program satisfaction changes over time and if the elements of residential treatment (e.g., shelter, routine, peer support, treatment, etc.) most valued by homeless men remain constant or vary as treatment progresses.

Exploratory analyses showed that the therapist’s perception of session comfort (MI and HCO) was not related to treatment retention. Consequently, while some residents’ presented as more willing to interact, it was not indicative of the length of time they remained in treatment. Instead, residents who are very open left for non-program unrelated reasons. Some of the most common reasons participants listed for leaving the program included: negative emotions, wanting to take care of outside responsibilities (e.g. work, family etc.), or program dissatisfaction, which all may be possibly influenced by emotions. Similarly, group mood or morale did not play a significant role as exploratory analyses found group moral did not influence reported program satisfaction,
thoughts about leaving, etc. It may be that more transient emotions (vs. overall group mood) impact treatment outcome.

Finally, additional analyses indicated that previous mental health treatment did not influence participation or retention rates or significantly interact with previous substance abuse treatment or past/present use of psychotropic medication and type of treatment received to influence treatment outcomes. This finding was somewhat unexpected given prior work with a different sample at the same location found history of mental health treatment to be a significant predictor of early termination (Jurek, 2006). The discrepancy between the percentages of men reporting previous mental health treatment vs. previous substance abuse treatment in our sample was also unexpected and not consistent with the literature suggesting high rates of comorbidity between mental illness and substance abuse (Substance Abuse and Mental Health Services Administration [SAMHSA, 2003b]). One possible reason for this discrepancy may be that the men received mental health treatment under the umbrella of substance abuse treatment — and therefore did not report “previous mental health treatment” but only “previous substance abuse treatment”. However, another explanation is that many of these men simply had not received proper mental health diagnoses and care, despite receiving specific substance abuse treatment.

There are two major limitations with this study. The first limitation is that data was only collected at one homeless shelter, and included only substance abusing men. As such, generalizability is limited, both in terms of generalizing to the entire homeless population and to homeless women. The second major limitation of the study is that while the interventions were supposed to be administered in the first 14 days, 54 residents
(28 MI residents, 26 HCO residents) received the interventions as late as 15 -30 days, with 18 days being the average number of days the first intervention was administered to these residents and 20 days being the average number of days the second intervention was administered to these residents. This was due to scheduling difficulties and residents making use of access to medical and dental care immediately upon entering the shelter. However, there were no significant differences in treatment outcome between the groups of residents who received the interventions on time and those that received the interventions late.

Future research is needed to examine whether MI interventions timed later in treatment, dispersed throughout treatment, or longer in session length could prove more effective. Most people experience ambivalence when they first enter treatment, but the homeless appear to be a unique population in that their ambivalence appear to emerge after an initial period of being overly optimistic. Thus, MI interventions timed later in treatment and/or interventions that are more potent (i.e., longer session length) may be more effective. Additionally, future research also could investigate if MI interventions coupled with specific skills training aimed at helping combat transient emotions and/or impulses to leave treatment are effective. It is possible that within the homeless population, the issue is not motivation, but more impulse control. Finally, future research should continue to explore whether the variables homeless men find most important in treatment change as a function of time.
References


Leff, H. S. (2002). A brief history of evidence-based practice and a vision for the


Schneider, R. J., & Casey, J., & Kohn, R. (2000). Motivational versus confrontational...


Table 1

*Mean Retention and Participation Rates Based on Treatment Type and Therapist’s Sex*

<table>
<thead>
<tr>
<th>Treatment Type/Therapist’s Gender</th>
<th>Mean Number Days in Treatment (SD)</th>
<th>Mean Participation Rates (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI/F</td>
<td>46.85 (SD = 28.28)</td>
<td>106.53 points (SD 55.35)</td>
</tr>
<tr>
<td>MI/M</td>
<td>53.95 days (SD = 27.26)</td>
<td>115.25 points, (SD = 53.45)</td>
</tr>
<tr>
<td>HCO/F</td>
<td>59.15 days (SD = 29.70)</td>
<td>124.45 points (SD = 46.19)</td>
</tr>
<tr>
<td>HCO/M</td>
<td>51.50 days (SD = 27.98)</td>
<td>116.33 points (SD = 55.11)</td>
</tr>
<tr>
<td>RC</td>
<td>47.65 days (SD = 27.69)</td>
<td>105.06 points (SD = 55.31)</td>
</tr>
</tbody>
</table>

*Note.* MI/F - motivational interviewing intervention administered by female therapist; MI/M - motivational interviewing intervention administered by male therapist; HCO/F - human-contact only intervention administered by female therapist; HCO/M - human-contact only intervention administered by male therapist; RC - routine care
Table 2

*Emotional Climate and Treatment Retention*

<table>
<thead>
<tr>
<th>Group Mood Rating</th>
<th># Weeks Rating Given</th>
<th>Avg. # Residents Discharged</th>
<th>Avg. # Participants Discharged</th>
<th>Importance Questionnaire Mean Scores</th>
<th>Importance Questionnaire Range of Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>22</td>
<td>12-31</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>23</td>
<td>7-35</td>
</tr>
<tr>
<td>6</td>
<td>13</td>
<td>9</td>
<td>3</td>
<td>22</td>
<td>7-35</td>
</tr>
<tr>
<td>7</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>23</td>
<td>12-35</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>22</td>
<td>14-31</td>
</tr>
<tr>
<td>9-10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note.* Group moods rated on scale 0-10 with 0 being completely pessimistic and 10 being completely optimistic. Number of weeks group mood recorded by shelter staff = 34 (out of 44 week study period).
### Table 3

*Mean Number of Days in Treatment by Race*

<table>
<thead>
<tr>
<th>Quartiles of Participants</th>
<th>Overall</th>
<th>Caucasian</th>
<th>African Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>28.00</td>
<td>22.50</td>
<td>29.00</td>
</tr>
<tr>
<td>2</td>
<td>47.50</td>
<td>48.00</td>
<td>50.50</td>
</tr>
<tr>
<td>3</td>
<td>74.75</td>
<td>64.50</td>
<td>78.75</td>
</tr>
<tr>
<td>4</td>
<td>84.50</td>
<td>76.50</td>
<td>88.75</td>
</tr>
</tbody>
</table>

*Note.* N = 120.
### Table 4

*Drop-Out rates Over Time Based on Race*

<table>
<thead>
<tr>
<th>Number of Days</th>
<th>Overall</th>
<th>Caucasian</th>
<th>African American</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-14</td>
<td>7%</td>
<td>16%</td>
<td>6%</td>
</tr>
<tr>
<td>15-30</td>
<td>31%</td>
<td>40%</td>
<td>27%</td>
</tr>
<tr>
<td>31-60</td>
<td>64%</td>
<td>71%</td>
<td>61%</td>
</tr>
<tr>
<td>61-90</td>
<td>91%</td>
<td>97%</td>
<td>88%</td>
</tr>
</tbody>
</table>

*Note.* N = 120. Caucasian participants left treatment at higher rates in the first 14 days, but the difference was not statistically significant. After this initial period retention rates appear to remain relatively equal across racial categories. Overall, there were no significant differences in retention rates based on race.
Appendix A

Approval Letter from Xavier University IRB

XAVIER UNIVERSITY

Institutional Review Board
3800 Victory Parkway
Cincinnati, Ohio 45207-7361
Phone 513-745-2870
Fax 513-745-4267

April 30, 2007

Kelly A. Ickes, M.A.
5219 South Eaglesnest Dr., Apt. 62
Cincinnati, OH 45248

Dear Ms. Ickes:

The IRB has received by email the revised informed consent form for your study #0450-3 Accessing the Efficacy of a Brief Motivational Intervention for Substance Abuse Treatment: Retention in a Sample of Homeless Men. You appropriately addressed the items listed with one exception: You need only list the IRB as a contact for questions related to rights as a research participant. The enclosed ICF has been revised to eliminate the other contacts in the paragraph that begins “If you have questions regarding your rights . . .”

Your study is approved in the Expedited Review category. Approval expires 4/30/08. A progress report must be filed with XU's IRB by the expiration date. The form is enclosed for your convenience and is also available at www.xu.edu/IRB/IRBforms.htm.

If there are any adverse events or modifications to the study, please notify the IRB immediately.

We wish you success with your research!

Sincerely,

Kathleen J. Hart, Ph.D.
Interim Chair

C: Dr. Susan Kenford, Dissertation Chair, ML 6511

Enclosed: Approval-stamped Informed Consent Form
Progress Report Form

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Appendix B

Informed Consent

You are being given the opportunity to volunteer to participate in a study conducted through Xavier University and the Mt. Airy Homeless Shelter. You have been selected because you will be a resident at the Mt. Airy Homeless Shelter. The purpose of the study is to learn about what brought homeless men to treatment, to explore your views on living at the shelter, and to conduct program evaluation. If you decide to participate in the study you may be asked to talk individually to a researcher and/or to answer some questions about your experience at the shelter. The sessions may be audiotaped. The audiotape will be used to make sure the interviewer is using the proper interview format and treating you with respect. There are no known risks associated with participating in this project. By participating in the study you will be benefiting the Mt. Airy Homeless Shelter and others in treatment, by allowing us to learn about what staying at the shelter is like for you and how we might better meet your needs.

All information will be kept confidential. Your name will not appear on any research questionnaires and your name will only be linked to the questionnaires through a unique identification number. All research material will be kept in a secure, locked file cabinet at Xavier University.

By participating in the study, you will receive a voucher each week that you may trade-in for one dish of ice-cream.

Refusal to participate in the study will have no effect on your treatment here at the Mt. Airy Homeless shelter or any future services you may be entitled to at Xavier University.

If you have questions at the anytime during the study you may contact Dr. Kenford at (513) 745-3451 or The Chair of the Xavier University’s Institutional Review Board at (513) 745-2870

I have been given information about the project, including its risk and benefits, and have had the opportunity to ask questions and have my questions answered to my satisfaction. By signing, I freely give my consent to participate in the study.

Participant’s Name    Date    Researcher’s Name    Date
Appendix C

Motivational Interviewing Intervention Script

Session 1: Approximately 10-15 minutes

Introduction: Hi, my name is .... and I am meeting with people here at Mt. Airy, for about 10-15 minutes each, to talk about how it has been for them living here so far. Can you tell me about your experience since you got here?

Discuss Pros/Cons of Treatment (Decision Balance):
Cons:
- What don’t you like about being at the shelter?
- What makes you unhappy about staying here?
- What worries you about staying here?

Pros:
- What do you like about living at the shelter?
- What things about the shelter make you the happiest?
- How do you think being at the shelter might make things better for you?
- What do you think will happen if you don’t follow through with your plan to stay at the shelter?

Summarize Pros/Cons: On one hand (mention cons related to staying at shelter), but on the other hand, you recognize that staying at the shelter (amplify pros of shelter).

- Use reflection when discussing the pros/cons of staying at the shelter with participants to encourage them to elaborate on their thoughts. Affirm pros of shelter that participants mention.

- If participants cannot think of pros/cons of staying at shelter, help them by probing for feelings regarding legal, financial, health, and interpersonal issues w/ the use of statements such as: “Some people like staying at the shelter because they have some place to live, a route, people to talk to. How do these reasons fit with you?” or “Often people don’t like the shelter because they don’t like being told what to do by others or they find it hard to live with other people”. How do those reasons fit with what you?

**If participant does not have much to say, offer drug use feedback. Let participant know that “what they do with it is up to them” and state the feedback in a manner such as “In a typical week you are drinking X times more alcohol than other adult men in the U.S.”

Obstacles & Factors for Success (Building Efficacy)
- Have you ever stayed at a shelter before/been in any program like this?
- What difficulties/struggles have you had in the past or now with staying at the shelter?
- What gives you confidence that you can stick it out at the shelter?
Summarize Obstacles/Strengths: One on hand (mention obstacles) but on the other hand (build up strengths).

**Again use reflection to help participants elaborate on their thoughts. Affirm personal strengths that participants mention.**

**If participants cannot come up with reasons that they are confident they can succeed, interviewer may point out past successes with sticking with something, being brave by seeking out help etc. Ex: “I know that you mentioned in the past you tried other programs...you seem pretty determined that you aren’t going to give up just because things are hard.” Use the statement “When else?” when participants mention personal strengths/times of success, to help participants talk about other times of success.**

Conclusion: Thanks for talking with me today. I’ll stop by one more time next week to see how things are going for you.

Session 2 (approximately: 10-15 minutes)

Introduction: My name is ...., and I met with you a week ago to talk about how things were going for you here at the shelter. I just wanted to talk with you again today to get an update on how you have been doing.

Revisit Pros/Cons of Treatment & Obstacles/Strengths with being at the shelter
- Tie in how participant has been doing to pros/cons of shelter that participant mentioned in first session.
- Review cons & let participant express feelings about them.
- Reinforce pros and ask if there are any other pros of being at the shelter
- Summarize pros/cons as participant now sees them.

- Ask client about obstacles/problems that participant has experienced at shelter since last session.
- Ask what strengths the client has that will help him overcome the problem.
- If client mentions none, mention past strengths the client has shown etc.
- Review problems discussed in first session & how strengths were used to make it past obstacles and remain at the shelter until now.
- Summarize obstacles/strengths related to staying at shelter & amplify strengths.

- Throughout session continue to use reflection & affirmation to maximize change talk.

Conclusion: Thanks for talking to me today. I am glad I had a chance meet with you and learn about your experience here at Mt. Airy.
Appendix D

Human Contact Only Script

**Session 1**

**Introduction:** Hi, my name is …. Thanks for meeting with me. I am interested in what leads people to be homeless and just to learn more about you as a person. So I am not here to discuss treatment. Instead I was hoping to spend about 10-15 minutes with you just hearing your story and really discussing anything that you want me to know. – With that being said “What had gone on that has lead you to be homeless”?

**Topics for Conversation**
- What brought you to Mt. Airy?
- What is the food like?
- Did you grow up around here/tell me more about your family, brothers, sisters etc.?
- How long did you know your drinking buddies?
- What was school like for you?
- What is your dream job/tell me about the work that you did?
- Is there anything that you would want me to know about you that you haven’t discussed?

**Summarize** what client has said…

**Conclusion:** Thanks for talking with me today. I would like to stop by one more time next week to talk some more so that I can learn more about you.

**Goal:** Be a “Nice” person, do not encourage change talk

**Session 2**

**Introduction:** My name is …., and I met with you a week ago to hear your story and learn what led you to be homeless. So I thought we could just spend a little more time today talking further. I know you said last week….bring up something about person and start conversation from there…

See above **Topics for Conversation**

**Conclusion:** Thanks for talking to me today. I am glad I had a chance meet with you and learn more about you as a person.

**Goal:** Be a “Nice” person, do not encourage change talk!
Appendix E

Participant Number: ____________________________ Date: __________
Stage/Length of time in Treatment: ________________ Researcher’s Name: ______

Importance Questionnaire

I am going to read you some questions. I want you to tell me how true each statement was for you this PAST week using this 1 – 5 scale. If it was NOT AT ALL TRUE FOR YOU, you would answer 1. If it was the ENTIRELY TRUE FOR YOU, you would answer 5.

1) “Having a place to eat/sleep” is the reason why I stayed at the shelter this past week.
   1  2  3  4  5

2) “Having a schedule/routine to follow made me know what to expect and what my day would be like” (e.g. when I would eat, go to group, sleep) is the reason I stayed at the shelter this past week.
   1  2  3  4  5

3) “Participating in groups/treatment and working on my problems” is the reason I stayed at the shelter this past week.
   1  2  3  4  5

4) “Having the Mt. Airy Center/SAMS staff listen to me and help me with difficult situations” was the reason I stayed at the shelter.
   1  2  3  4  5

5) “Having friends who I could talk to and be around” is the reason I stayed at the shelter this past week.
   1  2  3  4  5

Now I want you to tell me which was the MOST important reason you stayed this past week. In other words, tell me the main reason that you stayed.

   A) I had somewhere to stay/sleep
   B) I had a routine to follow
   C) I was receiving treatment/could participate in groups
   D) I connected w/ people and have made friends

Now I am going to ask you a couple questions about your experiences this PAST week. Again, I want you to tell me how true each statement is for you, using the same 1 – 5 scale, with 1 being NOT AT ALL TRUE and 5 being ENTIRELY TRUE

7) I feel like I have connected to people and have made friends here at the shelter.
   1  2  3  4  5

8a) I thought about leaving the shelter this past week.
   1  2  3  4  5

8b) (If applicable) Why did you think about leaving the shelter?
Footnotes

1 As only one participant who was associated with either active intervention condition left for a "neutral" reason, the logistic regression was applied to the 79 participants who left for either positive or negative reasons.