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An Investigation Of Methadone Detoxification Fear Components.

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AN INVESTIGATION OF METHADONE DETOXIFICATION FEAR COMPONENTS

by

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A DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Medical Psychology, The University of Alabama at Birmingham

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ABSTRACT OF DISSERTATION
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This study sought to add three hypothesized fear components (fear of living a drug-free lifestyle, fear of returning to drugs, and fear of acquiring AIDS) to the 14-item Detoxification Fear Survey Schedule (DFSS-14). Samples from two geographically, culturally, and racially disparate populations of methadone maintenance clients (N=226) were used in the scale development analysis, where 31 items and three factors (fear of relapse, fear of AIDS, and fear of withdrawal symptoms) emerged. A test validation sample (N=159) came from two geographically distinct populations of methadone maintenance clients. A final scale of 27 items that best discriminated between interview-diagnosed detoxification fear (91.8% correctly classified) and nonfear (85.4% correctly classified) subjects was created. The psychometric properties of this scale, along with information on its factor structure,

are presented. The clinical usefulness of the DFSS-27 in the detection and treatment of detoxification fear clients is discussed.

Abstract Approved by: Committee Chairman _____

Program Director _____

Date 7/5/91 Dean of Graduate School _____

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INTRODUCTION

Drug addiction is typically defined in terms of physical dependence on a substance. Its etiology can be divided into five major areas: psychological, physiological, pharmacological, social, and economic (Milby, 1981). Khantzian (1982) stated that addictions are a place "where the biology and psychology of the mind meet" (p.24). Effects of addiction often lead to devastation, not only for addicted individuals, but also for their families, social circles, and the communities at large. Loss of time, money, job, family, and self-esteem often marks the downward spiral path of addiction. Data suggest that one in five hospital beds is occupied by a person suffering from some substance abuse related medical or psychiatric problem (Senay, 1985).

Opiate Addiction

The majority of published work on the etiology and treatment of drug dependence is focused upon the opiate addict. Although many individuals have been exposed to opiates, only some use them often enough to become addicted. A sizeable number of opiate-dependent persons are able to discontinue their use spontaneously. This may apply most to young, recently addicted persons, who may be experimenting with drugs rather than chronically abusing them. Robins, Helzer, and Davis' (1975) epidemiological study of Vietnam

veterans who had used opiates in Vietnam revealed low rates of continuing opiate use after return to the United States. These data suggest that cultural and environmental factors play a role in this addictive process. Contributing factors include the easy availability of drugs, peer group delinquency, dysfunctional families, and adolescent curiosity. These factors, although statistically associated with addiction, are also correlated with drug exposure. They do not explain why, with apparently equal exposure, some persons become lifelong addicts, whereas others do not (Dole & Joseph, 1978).

The most abused opiate, heroin, is an illegal substance. Its use is often associated with large numbers of dysfunctional abusers whose use becomes chronic, who are criminally active, and whose activities and health needs have a large impact on the quality of life for their communities (Senay, 1985). In fact, for a period of time in the early 1970s, heroin addiction was considered to be the single leading cause of death for men between the ages of 15 and 35 (Stimmel, Goldberg, Rotkopf, & Cohen, 1977). Narcotic addiction continues to take a heavy toll on drug users as well as society. The Alcohol, Drug Abuse, and Mental Health Administration estimates that 500,000 citizens are addicted to heroin, causing an annual loss of 6.4 billion dollars, which includes costs of medical and drug treatment, drug-related crime, and lost productivity (Vischi, Jones, Shank, & Lima, 1980).

Underlying Factors in Narcotic Addiction

Addiction is often viewed as self-medication or the addict's attempt to avoid depression, anxiety, and other psychiatric symptoms (Wurmser, 1979). Ausubel (1958) described the opiate effect as primarily depressant, consisting of analgesia, sedation, decreased motor activity, drowsiness, and lethargy. In a 1976 study by Babor, Meyer, Mirin, McNamee, and Davies, volunteers were allowed to self-administer heroin for a 10-day period as part of a longer study of opiate antagonists. Subjects were found to sleep less and withdraw from social contact after heroin administration. This loss of vitality during addiction appears to decrease motivation for physical, mental, and social activity. Thus, many opiate addicts who have not been drug-free since adolescence, by adulthood may show marked impact on lifestyle, self-esteem, brain chemistry, and psychological and social functioning. However, the question remains as to whether these social, psychological, and medical disabilities seen in chronic addicts are the cause of addiction, or simply an outcome of the unhealthy lifestyle the addicts lead.

Narcotic addiction is often a lifelong process of usage, treatment, and relapse. At least two theories exist to explain the danger of relapse for detoxifying addicts. The first, offered by Cushman and Dole (1973), hypothesizes that narcotic addiction is a metabolic disease that creates permanent physiological changes, which produce permanent craving for the addicting drug. Jackman's (1973) hypothesis,

however, proposes that addicts bypass, through their drug use, the challenge and personality growth normally experienced in adolescence. Thus, it seems easier for these addicts to continue hiding, with drugs, from the painful maturation process than to face, alone, the conflicts, frustrations, aggression, sexual growth, and identity crises that should have been worked through earlier. This hypothesis does not, however, account for those addicts who establish their addiction during adulthood.

The Development and Use of Methadone Maintenance

For people addicted to heroin, giving up their drug of choice may be a most challenging task. Because of heroin's expense, addictive properties, and the criminality associated with its use, these addicts comprise a group that is rejected by society. This societal rejection makes the change from addiction to abstinence even more formidable. In the 1950s, a Joint Commission of the New York State Medical Society and the American Bar Association, in an effort to help these addicts, called for an evaluation of legal narcotics substitution therapy for heroin addicts (Musto, 1973). This paved the way for Dole and Nyswander's work in the mid-1960s at Rockefeller University (Dole & Nyswander, 1965). In their original work, they studied heroin addicts who were admitted to a hospital for a period of weeks. During this time methadone was administered daily in increasing doses, until street doses of heroin would be blocked. This was achieved by cross-tolerance, which is the ability of a drug within a

pharmacological class to increase tolerance and alleviate the abstinence or withdrawal syndrome of any drug in that class when substituted for it. Patients were then discharged to the community and attended outpatient clinics, where they received daily doses of methadone. The researchers found almost 80% of the addicts were markedly improved with methadone maintenance therapy.

Since Dole and Nyswander's work, the most common method of treating the withdrawal syndrome of opiate addiction is to substitute methadone for the opiate. Methadone is a convenient opioid agonist that is orally effective and long-acting. Because of cross tolerance, it can substitute for any other opioid. Under optimal treatment conditions, methadone maintenance usually provides freedom from withdrawal effects for at least 24 hours. Its own withdrawal syndrome is less intense, but longer-lasting than that of heroin or morphine (Peachey & Franklin, 1988).

The immediate clinical goal of methadone maintenance therapy is to provide a dose of methadone which will suppress opioid abstinence symptoms for the entire 24-hour period between doses without producing euphoria, sedation, or dulling of consciousness. Another treatment goal is to provide the addict with social, vocational, legal, and psychological services (Senay, 1985). Methadone maintenance treatment, thus, permits treatment to start with social and psychological rehabilitation, and the stress of detoxification can then be undertaken when the patient is ready for it. Numerous studies have established that treatment with methadone interrupts

heroin use and criminality and allows addicts a chance to obtain employment (National Institute on Drug Abuse, 1981).

Methadone maintenance is most often provided as an outpatient treatment. It is currently available to about 75,000 long-term heroin addicts in the United States (Wermuth, Brummett, & Sorensen, 1987). Although methadone is not a cure, it does provide a pharmacological alternative to heroin's criminal lifestyle. After several decades of experience with methadone maintenance treatment for narcotic addiction, given to well over 300,000 patients throughout the world, there remain widely divergent views about its effectiveness, because it is extremely difficult for individuals to detoxify from methadone without returning to heroin. A study of the attitudes of methadone maintenance patients and staff noted significant barriers to methadone detoxification being expressed. The patients estimated the likelihood of completing a successful detoxification as only 14%, whereas the staff estimated it to be 10% (Gold, Sorensen, McCanlies, Trier, & Dlugosch, 1988). Cushman (1978) referred to detoxification from methadone maintenance as a stage in the treatment of narcotic addiction, and not a goal in itself. Even during methadone maintenance treatment 20-40% of the patients show at least an occasional opiate-positive urine test over a screening period of several months (Stitzer, McCaul, Bigelow, & Liebson, 1984). The critics of methadone maintenance point out that this treatment modality has even created a group of patients iatrogenically addicted to methadone (Ausubel, 1983).

Psychosocial Factors Influencing Methadone Detoxification

Of the approximately 80,000 individuals maintained on methadone in the United States, 10,000 are in the process of withdrawing at any one time (Kleber & Riordan, 1982). Although figures vary from study to study, in general, no more than 50% of the patients trying to detoxify from methadone are able to achieve zero dosage at any one time, and at best, only 50% of these are able to maintain abstinence for substantial periods (Kleber, 1977).

The reasons for the difficulties seen in the detoxification of methadone are numerous and complex. Narcotic addiction is both a psychosocial and physiological condition (Kleber & Riordan, 1982). Physiological symptoms, such as increased perspiration, lacrimation, abdominal cramps, nausea, and diarrhea, are prominent features of the withdrawal syndrome. Some clinicians believe that biochemical factors are largely responsible for the failure of many patients' successful detoxification from methadone. It is postulated that the high rate of relapse to opiate use after detoxification with methadone is due to a persistent derangement of the endogenous ligand-narcotic receptor system, and that methadone, in adequate daily doses, compensates for this defect (Dole, 1988). Yet, some patients with long histories of heroin use and subsequent rehabilitation on a maintenance program do well when the treatment is terminated. Research has shown that psychological factors may have a powerful effect on aspects of this withdrawal process.

Senay, Dorus, Goldberg, and Thornton (1977) observed that the methadone maintenance patient's expectation for withdrawal is an important factor in the production of symptoms during withdrawal. They divided 127 methadone maintenance patients randomly into four groups for a 30-week study. These groups consisted of: 1) those openly maintained on methadone, 2) a double-blind maintenance group, 3) a double-blind group undergoing rapid withdrawal at a rate of 10% of initial dose drop per week, and 4) a double-blind gradual withdrawal group at a rate of 3% of initial dose droppage per week. Fifty-three percent of the patients in the double-blind gradual reduction group were able to achieve zero dosage, which was a significantly higher rate than those with the faster withdrawal procedure. Their findings also revealed that those subjects who were maintained on methadone without dose changes, but were blind to their study status, complained of withdrawal symptoms, including anxiety and reported narcotic cravings, and had an average heroin use rate as high as the group that was blind to the gradual withdrawal procedure. This finding suggests that at least some of the anxiety and other symptoms experienced by these subjects was due to psychological factors.

Other authors have noted that psychological factors may have a powerful effect on the withdrawal syndrome. The personality of the patient, state of mind at the time of withdrawal, the setting in which withdrawal takes place, expectations as to the severity of the symptoms, and the possibility of obtaining relief from them have all been

suggested to have a marked effect on the severity of withdrawal (Kleber, 1981). The personality factor of neuroticism and the degree of distress expected by the patient were found by Phillips, Gossup, and Bradley (1986) to be significantly related to the subsequent severity of withdrawal symptoms. They discussed both of these factors as anxiety-related features that may serve to amplify withdrawal symptoms. Cushman (1981) stated that methadone patients may have difficulty distinguishing between opiate abstinence and this anxiety.

Whitehead (1972) identified the agonizing subjective distress, longing for drugs, as well as the physical symptoms of cramps and coryza, which are the hallmark of opiate withdrawal symptoms, in several addicts who were consistently maintained on methadone. He coined the term for these phenomena as the methadone pseudowithdrawal syndrome. He stated that the most intriguing observation of these methadone patients experiencing pseudowithdrawal symptoms was that in 73% of the cases it was associated with psychological stresses. These stressors included increased program responsibility, the gaining of employment, or financial problems. Krueger (1981) identified stressful life events as being significantly related to patients' not adhering to methadone maintenance and returning to heroin use. Some significant precipitating events he found for these patients were recent loss of spouse, close friend, or job, as well as recent depression, anger, or sadness. The most frequently stated reasons for the narcotic addict's return to heroin were

the desire for euphoria or the avoidance of pain due to intense affect. Heroin, thus, may appear to the addict as the best regulatory mechanism for dealing with intense and overpowering affect.

The lack of sufficient coping skills of addicts who use drugs to solve their problems points out the unanswered "chicken or egg" dilemma of addiction. In essence, do they lack coping skills and turn to drugs? Or is their use of drugs responsible for their failure to have learned better coping skills? Clinicians have noted a high degree of psychopathology displayed by opiate addicts, and that the use of illicit substances frequently occurs in response to psychiatric symptoms (Woody, Luborsky, McLellan, O'Brien, Beck, Blaine, Herman, & Hole, 1983). In fact, these authors stated that they conceived of "drug dependence as being related to life events such as social or psychiatric problems"(p.639), noting depression as the most commonly diagnosed psychiatric disorder. Woody, McLellan, Luborsky, and O'Brien (1987) reported other primary diagnoses of these methadone maintenance patients as anxiety, phobias, alcoholism, and antisocial personality disorder. Interestingly, clinical and laboratory studies of endorphins have indicated that both endogenous and exogenous opiates, including methadone, may actually have antidepressant, antianxiety, and antipsychotic effects (e.g., Gold, Pottash, Sweeney, Kleber, & Redmond, 1979).

Social networks also appear to play an important role in an addict's ablility to detoxify from methadone. Wermuth et

al. (1987) gathered data that suggested that clinical problems with intimacy and social isolation are barriers to the addict's recovery. These findings are consistent with work by Treece and Nicholson (1980), who noted a strong relationship between personality disorder and methadone dose. They found that patients with schizoid-like disorders had significantly higher stabilization doses than patients with other types of diagnoses. Metzger and Platt (1987) demonstrated a significant negative correlation between mean methadone dose and the number of contacts by the patient with the patient's father. This may indicate that addicts who have maintained frequent contacts with their fathers may also be able to establish and maintain other relationships, such as those with the clinic staff, who are often placed in an authoritarian and paternalistic role. The findings of Grey, Osborn, and Reznikoff (1986) suggest that methadone patients stay in treatment, but abuse drugs in response to the presence of increased stress, somatic symptoms, and perception of low family support. Sorensen, Gibson, Bernal, and Deitch (1985) examined methadone maintenance attrition in groups with and without program sponsors and concluded that the use of family or friends as sponsors was beneficial to treatment goals. A study by Abrahms (1979) polled 40 methadone maintenance patients regarding the factors they viewed as necessary for a drug-free existence. Their survey found that patients believed that a supportive relationship, particularly with a drug-free individual, a satisfying job, and personal coping skills were essential to their successful recovery. Also, the

absence or withdrawal of these factors were stated as those associated with subsequent reinvolvement with excessive drug use. Stimmel, Goldberg, Cohen, and Rotkopf (1978) noted there was an association between detoxification of clients from methadone maintenance prior to the staff's decision that treatment was complete and the client's subsequent risk of returning to drug use. Stimmel, Hanbury, and Cohen (1982) found that successful detoxification from methadone was not related to the duration of methadone treatment, the rate of withdrawal, or the use of illicit drugs in the year prior to detoxification, but rather to the success of the individual in demonstrating a maximum rehabilitative response while on methadone maintenance. Overall, these data suggest powerful psychosocial variables at play in achieving successful detoxification from methadone. These factors need to be examined more closely to enhance our understanding of how they affect detoxification so that specific treatment strategies can be devised and implemented.

Anxiety's Role in the Detoxification Process

Another issue discussed in the methadone maintenance literature is whether patients are more successful in detoxification with or without information regarding their dosage reduction. Stitzer, Bigelow, and Liebson (1982) demonstrated that giving the individual information regarding his or her dose reduction schedule reduced withdrawal distress. This issue was also addressed by Green and Gossup (1988), who divided 30 inpatient addicts randomly into two groups: one group was informed as to their withdrawal program

procedures, and the other group was uninformed. They found that the informed group reported significantly lower levels of withdrawal symptoms and were more likely to complete the methadone withdrawal program than were the uninformed group. These results are interesting in view of the findings of Gossup, Bradley, and Phillips (1987), who reported that for 116 opiate addicts on methadone detoxification dose was not a primary determinant of withdrawal severity. This suggests that much of the withdrawal syndrome may be a direct result of anxiety and uncertainty.

Anxiety or uncertainty concerning detoxification has been consistently reported by addicts who have been asked how they feel. Berger and Schwegler (1973) polled 17 addicts and found all used the word "fear" in describing their reactions to being in a drug-free environment. Phillips et al. (1986) reported in their study that psychological factors' influence on the opiate withdrawal syndrome "shows that the more frightened of withdrawal the addict is, the more discomfort he is likely to report during the actual process of being withdrawn from drugs"(p.237). Many patients report that their fear of persistent physical and emotional discomfort prevents them from even attempting withdrawal.

The anxiety and fear associated with detoxification has been labeled in a variety of ways, including: negative expectancy (Senay et al., 1977), abstinence phobia (Hall, 1979; 1984), and detoxification fear (Milby, Gurwitch, Wiebe, Ling, McLellan, & Woody, 1986). The underlying components and features of this psychological phenomenon appears to be an

important link to the development of adjunct treatments which could lead to higher abstinence rates.

The Detection and Enhancement of Detoxification Fear Components

Milby and associates (1986) and Milby, Gurwitch, Hohmann, Wiebe, Ling, McLellan, and Woody (1987) have conducted systematic investigations into the prevalence and detection of this phenomenon they termed "detoxification fear." Their investigations have yielded a brief 14-item questionnaire called the Detoxification Fear Survey Schedule (DFSS-14) (Milby et al., 1987). This self-report instrument has been shown to possess a three-factor structure accounting for 62.1% of total item variance in the validation sample. The first factor appears to reflect a preoccupation with the potential withdrawal symptoms or the actual physiological states of detoxification. The second factor, replicated in all populations, was viewed as reflecting a fear of dose reduction. The other factors were more idiosyncratic and varied from one population to another. The incidence of this detoxification fear ranged from 22-35% of the methadone maintained addicts tested (Milby et al, 1986). Although this scale can successfully identify potential high detoxification fear candidates, the underlying components of this overall fear, beyond the potential fear of withdrawal symptoms with decreasing dosage, remain elusive. Psychophysiological assessment of two groups of fear and nonfear patients found significantly higher pulse volume in the fear group than in the nonfear group to recorded descriptions of detoxification

scenes (Raczynski, Wiebe, Milby, & Gurwitch, 1988). These findings suggest the presence of greater anxiety to detoxification scenes in this fear group. It was the intent of the current study to further delineate detoxification fear by identifying other underlying fear components. This scale enhancement would thus serve to provide more specific knowledge for the development of treatment interventions likely to increase the number of successful methadone detoxifications. It was hoped that it would also reduce the 45.4% level of false positives detected in the prescribed cut-off score of the DFSS-14 (Milby et al., 1987).

One potential component of detoxification fear to be addressed was the fear of living a drug-free lifestyle. This concept stems from work done by Hall (1979; 1984). Hall conceptualized what she termed "abstinence phobia" as consisting of at least two components. The first is the overreaction to mild withdrawal symptoms, eliciting fear. This fear may become conditioned because such symptoms have previously been followed by more severe symptoms, or the drug user believes they will be, due to street misinformation. For example, a study done by Hunt, Lipton, Goldsmith, Strug, and Spunt (1985-1986) performed two structured interviews at four methadone maintenance clinic sites on 368 current methadone maintenance patients, as well as 142 narcotic users not in treatment. They observed a number of pervasive inaccurate perceptions about methadone. Many addicts believed methadone has adverse side effects because it is "synthetic." Another widely believed myth was that methadone has 6-10 times the

opiate of heroin, which might lead an addict to expect profound withdrawal symptoms. This fear of withdrawal symptoms was found to be a factor of detoxification fear in the data of Milby and associates (1987). The second component of this fear or phobia hypothesized by Hall is related to the anticipation of being "drug-free" and subject to demands of behavior which were avoided by drug use. For example, there is perceived discomfort about specific interpersonal skills needed for important drug-free life events, such as keeping a job, raising children, or forming interpersonal relationships, that do not involve the street culture and/or drug usage. This is consistent with Jackman's (1973) hypothesis that addicts bypass, through their drug use, the necessary social growth and resultant coping skills. This conceptualization also stems directly from Bandura's (1977) description of a phobia as the perception of low self-competency in an important area. This definition applied to the former street drug user who wants to live drug-free might encompass his or her feelings of low self-competency in the areas of emotional coping skills, social support, and interpersonal skills. Kraft (1971) maintained that social fear is one of the main components contributing to continued drug use. It is also a possibility that methadone maintenance, with its institutionalized infantilization of patients, may begin to act as a deterrent to increased social responsibility after awhile. In essence, methadone maintenance treatment may spare addict patients from experiencing much of the conscious discomfort resulting from

the ordinary frustrations, irritations, and anxieties which are an inevitable aspect of living and coping in the world. The measurement of these methadone maintenance individuals' perceived ability to cope and relate to others may be related to their overall detoxification fear. As such, it may prove useful to uncover the relationship to help design treatment interventions. For example, the addict may benefit from training in assertiveness and social skills as an adjunct intervention.

Another potential component of detoxification fear, as yet unstudied, may be the fear of returning to drug use. Given the addict's potential low self-competency at remaining drug-free, these individuals may assume readdiction is an inevitable outcome if they become detoxified from methadone. Sudden cessation of this daily drug intake, around which many of their daily activities have been scheduled, is often felt as an acute loss or a disorienting factor, with resultant depression and confusion. This could then lead to their return to drug use because one of their long-standing coping mechanisms for meeting all of life's stressors has been drug usage.

In addition to the fear of returning to drug use is the fear of contracting acquired immunodeficiency syndrome (AIDS) from shared needle use. Methadone treatment is currently one of the most helpful means of reducing the risk of AIDS (Cooper, 1989). Intravenous drug users represent the second-highest risk group for acquiring AIDS (Centers for Disease Control, 1988). Heterosexual IV drug users make up 17% of the

population with AIDS, and another 9% of the cases are homosexual men who have used IV drugs (Ginzburg, Weiss, MacDonald, & Hubbard, 1985). Intravenous users are also believed to be the chief source of transmission of AIDS to newborns and to the heterosexual non-addicted population (Newman, 1987). When one considers the threat that AIDS presents to those who relapse to IV drug usage, the wise course is to identify subgroups of methadone detoxification patients at risk for relapse due to high fear levels and treat them in a preventive fashion.

The focus of the following study was to evaluate, in a sample of opiate addicts on methadone maintenance, items theorized as being potential components of detoxification fear. Theorized fear components included: (a) fear of living a drug-free lifestyle, (b) fear of returning to drug use, and (c) fear of acquiring AIDS. The first component encompassed the addict's perceived coping skills, interpersonal conflict levels, social support, and social interaction. The second included items directed at returning to drug use, such as negative emotions related to detoxification, frustration levels at home and work, and irrational expectancies. The third included items that addressed the individual's concern over shared needle use if he or she returned to street drug use.

The test construction strategy to study these various components of detoxification fear consisted of three individual studies, in which each built upon the results of the previous one and refined elements of the test. The first

study was the item-selection phase, in which items of the three proposed components of fear were constructed and given to expert judges for rating. Using items selected by the judges as indicating high detoxification fear, a scale development questionnaire, including the DFSS-14 items, was given to a sample of methadone maintenance clients for rating. This second study's data were then factor analyzed to create the test validation questionnaire. This questionnaire, composed of the items most salient upon factor analysis, was then given to a new sample of methadone-maintenance clients. These clients were also interviewed for the presence of detoxification fear as a validation procedure of the test questionnaire data. The final scale consisted of those items best discriminating clients with diagnosed detoxification fear from those without fear. These items, when factor analyzed, were hypothesized to include the new theoretically proposed factors of fear of living a drug-free life, fear of returning to drug use, and fear of contracting AIDS.

Item Selection

The creation of items to add to the DFSS-14 was undertaken first. The conceptualization of the theoretical components of the fear of living a drug-free lifestyle, the fear of returning to drug use, and the fear of contracting AIDS were formulated into 94 statements for potential item use. These items were generated, for the most part, from statements made in 271 clinical interviews with methadone maintenance clients concerning their fears of detoxification (Milby et al.,1986). The items used from these clinical

interviews were the statements most often given by the clients as their expressed fears of detoxification. Other statements were created to represent aspects of the fear components proposed for study.

These items were then distributed to five expert judges, who rated them on a 7-point Likert scale, where 1 indicated no detoxification fear, up to 7, representing extreme detoxification fear. These judges included: Jesse Milby, Ph.D., a clinical researcher of detoxification fear; Norman Huggins, M.D., the director of the University of Alabama at Birmingham's (UAB) methadone clinic; Linda Garner, a UAB methadone clinic counselor; Joseph Schumacher, M.A., a research assistant in the area of detoxification fear; and Joseph Rice, Ph.D., a clinical researcher in the area of substance abuse. Sharon Hall, Ph.D., who proposed the fear component of living a drug-free lifestyle, also participated as an expert judge, but returned her ratings too late for utilization.

A Thurstone analysis approach was used to calculate the mean and standard deviation for each item from the judges' ratings. The 94 items, their means, and standard deviations are listed in Appendix A. Small standard deviations indicated agreement among the judges. The criteria for item inclusion during scale development were (a) a judges' mean score rated the item 5 or greater on a 7-point scale, and (b) the item had a standard deviation less than one-half of the highest item standard deviation. The highest item standard deviation was

2.83. Thus, all items required standard deviations lower than 1.42 to meet inclusion criteria.

Though none of the fear of AIDS items met the prescribed criteria, it still seemed valuable to test their proposed contribution to detoxification fear, especially because experts at the National Institute on Drug Abuse recommended their inclusion. To this end, consultation with David Metzger, M.S., a clinical-researcher in the area of AIDS and substance abuse, produced three new fear of AIDS items for the scale development questionnaire. One other item, although meeting criteria, was dropped due to redundance with a DFSS-14 item. Another item, not meeting criteria, was retained because it had only one low outlier in the judges' ratings.

Thirty-one final items emerged at this stage. The scale development questionnaire included the items from the DFSS-14 (Appendix B) to create a total of 45 items. A copy of the questionnaire used for the scale development portion of this study appears as Appendix C.

Scale Development

Because the recommended number of subjects for factor analysis is at least five times the number of items (Kleinbaum, Kupper, & Muller, 1988), the 45 face-valid items comprising the scale development questionnaire were given to 226 methadone-maintained opioid addicts. Subjects volunteered after learning that a study was being conducted on the emotional aspects of methadone maintenance. They were asked to fill out the scale development questionnaire, containing

demographic information, two consent forms, and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) (Appendix D). Subjects were paid $5.00 for their participation.

The subjects came from two Veterans Administration methadone clinics located in Philadelphia, Pennsylvania, and Sepulveda, California. These clinics represent geographically, culturally, and ethnically different populations. Subject self-reported demographics are listed separately by clinic site in Table 1.

Table 1

Scale Development Subject Demographics

	Philadelphia (N=127)	Sepulveda (N=99)
Males	126	97
Females	1	2
Caucasian	47	68
Afro-American	72	6
Hispanic	4	19
Oriental	1	2
Indian	0	2
Race not listed	3	2
Means and standard deviations in years:		
Age	40.1 ± 6.0	44.0 ± 9.0
Duration of opioid addiction	16.3 ± 7.4	18.6 ± 9.5
Duration of methadone maintenance	7.5 ± 5.6	10.5 ± 6.4
Education	12.3 ± 1.7	12.5 ± 1.8

Factor analysis of the scale development items was performed using a principal components analysis. An oblique rotation matrix solution was selected *a priori* because the factors were assumed to be highly correlated as they were

hypothesized as fear components of an overall detoxification fear. This statistical approach was used previously in the construction of the DFSS-14 (Milby et al., 1987).

The scree test of the scale development items (Cattell, 1966) suggested a six-factor solution. Examination of fixed factors in the oblique rotation pattern matrix revealed that several factors had two or fewer items. A restricted factor solution using the oblique rotation matrix to reduce the six-factor solution revealed the three-factor solution as offering the best number of items per factor to interpret sensibly. The criterion for salient items was that they load on only one factor, with a factor loading greater than 0.40 and on no other factor greater than 0.35. The factor loadings used in the scale development of this three factor oblique rotation pattern matrix are listed in Table 2. The full pattern matrix loadings are listed in Appendix E. The first factor appears to be a combination of the theorized fear of living a drug-free lifestyle and fear of returning to drug use. This scale was interpreted as fear of relapse. The second factor contained only two items, which was considered reasonable (Tabachnick & Fidell, 1989), given the original three-item pool for defining fear of AIDS. This scale was interpreted as the fear of AIDS. The third factor scale is best described as fear of symptoms related to detoxification.

The overall correlation of the Marlowe-Crowne Social Desirability Scale to the scale development items was -0.12, indicating a lack of significant bias of the subjects towards producing perceived socially desirable responses. Thus, these

final 31 items were prepared for use in the test validation portion of this test construction. A copy of this questionnaire is included as Appendix F.

Table 2

Scale Development Oblique Rotation Pattern Matrix Loadings

Scale development item number	Factor loadings	Factor 1 statements
33	.886	After I detoxify I may become readdicted to narcotics
21	.840	Wonder if I can function in society without chemicals
30	.835	Something will pull me down and get me started on drugs again
15	.827	Will resort to drugs off methadone
17	.822	Lack ability to cope with life off drugs
39	.817	Feeling bad off drugs will lead me to old friends to get drugs
31	.807	Feeling unsteady off drugs
29	.780	Unsure I can say no to people on the street
36	.776	Unsure if I can cope with my life straight
25	.776	I will go back to my drug of choice if I detoxify
19	.762	Stress of living will lead me back to drugs

Table 2 (Continued)

Scale development item number	Factor loadings	Factor 1 statements
41	.761	Afraid to fall back to where I was before I began methadone
27	.761	Scared of becoming readdicted
34	.744	May be unable to do my job without drugs
44	.688	Uncertainty of making it without drugs
12	.685	Scared of going back to heroin
28	.664	Going off all drugs will bring back old scary feelings
38	.655	If I detoxify afraid positive things in my life will crumble
23	.500	Unable to hold down a decent job

Scale development item number	Factor loadings	Factor 2 statements
32	-.448	Concerned that I may have already been exposed to the AIDS virus
42	-.417	Worried about getting the AIDS virus if I detoxify

Scale development item number	Factor loadings	Factor 3 statements
8	.846	Feeling backache

Table 2 (Continued)

Scale development item number	Factor loadings	Factor 3 statements
10	.694	Irritability on lower doses
13	.693	Feeling leg cramps
9	.633	Loss of everything accomplished on methadone if I detoxify
2	.578	Noticing dose is less than usual quantity
24	.555	Being told at nursing station you have almost completed detox
22	.476	Having "goose bumps"
5	.460	Spending evening alone during detoxification
18	.420	Difficulty sleeping
7	.411	Going to jail

Validation Study

This study's purpose was to find those items from the scale development factor analysis that best discriminated interview-assessed methadone detoxification fear subjects from nonfear subjects. Replication of the scale development sample's scales was also completed in this phase of the test construction.

METHOD

Subjects. Using the criterion (Kleinbaum et al., 1988) of five times the number of subjects per item number, 159 methadone maintenance clients participated in this study. These subjects came from two geographically distinct clinics. One hundred sixteen subjects came from UAB's methadone clinic in Alabama and 43 came from Community Substance Abuse Centers in Westfield, Massachusetts. Table 3 reports demographic variables for each clinic population. Subjects were recruited by volunteering to participate in a study on the emotional aspects of methadone maintenance. They gave their informed consent for the study and were paid $5.00 for their participation.

Table 3

Test Validation Subject Demographics

	Birmingham	Westfield
Males	55	28
Females	61	15
Caucasian	109	35
Afro-American	7	2
Hispanic	0	6
Means and Standard Deviations in years:		
Age	36.3 ± 7.4	32.1 ± 6.8
Duration of opioid addiction	11.7 ± 6.9	11.3 ± 7.0

Table 3 (Continued)

	Birmingham	Westfield
Mean and Standard Deviation in years:		
Duration of methadone maintenance	5.4 ± 4.8	3.0 ± 4.7
Education	12.5 ± 2.2	12.3 ± 1.9

Procedure

Subjects completed a consent form, test validation questionnaire, and the Marlowe-Crowne Social Desirability Scale. They also completed a structured interview (Appendix G), which assessed their attitudes and emotional responses to detoxification. The diagnosis of pathological fear of detoxification was based on the subject's reported moderate or strong fear of detoxification associated with any of the following: (a) preoccupation with intense or bizarre withdrawal symptoms; (b) preoccupation with certain failure to detoxify or with becoming readdicted to illicit opiates; (c) preoccupation with loss, such as loss of job, family, or freedom; (d) expressed preference not to detoxify from methadone despite the attainment of reasonable rehabilitation criteria; and (e) preoccupation with readdiction and associated risk of contracting AIDS from IV use. These interview criteria were found to have reliability of $r=0.88$ ($t=14.41$, $p < 0.0001$) (Milby et al., 1987) when assessed by agreement between two interviewers, each blind to the data from the other. This interview was conducted by the experimenter, who was previously trained in this interview process by Dr. Jesse Milby to reach over 90% agreement as to

fear status, using his decision as the criterion. The interviewer was blind to the total fear questionnaire scores at the time of the rating. Approximately 14 days later (range 10-20), 79 subjects were asked again to complete the test validation questionnaire for use as a test-retest reliability measurement of the scale.

RESULTS

The overall 2-week test-retest reliability of the test validation questionnaire was r=0.78. The questionnaire's correlation with the Marlowe-Crowne Social Desirability Scale score was r=-0.14, suggesting that subjects demonstrated little or no response bias toward producing perceived socially acceptable responses.

Factor Analysis. Factor analysis of the test validation data was performed using a principal components analysis and an oblique rotation matrix solution. The scree test of these items suggested a three-factor solution. The oblique rotation pattern matrix solution obtained is listed in Table 4. The full pattern matrix is listed in Appendix H. The criterion for salient items was to load on only one factor greater than 0.40 and on no other greater than 0.35. The scales created were similar to those of the scale development factor analysis although fewer items appeared on the symptom scale, and the order of scales two and three were reversed. Thus, the scales represented fear of relapse (scale 1), fear of detoxification symptoms (scale 2), and fear of AIDS (scale 3). The Cronbach alphas, which examined the reliabilty coefficients of these three scales to the overall scale, were: Scale 1, alpha=0.97; Scale 2, alpha=0.76; and Scale 3, alpha=0.74. These results demonstrated good interscale-overall scale correlations and

suggested retaining each scale. The 2-week test-retest correlation coefficients for these three scales were: Scale 1, r= 0.77; Scale 2, r=0.75; and Scale 3, r=0.71.

Table 4

Test Validation Oblique Rotation Pattern Matrix Loadings

Test validation item number	Factor loadings	Factor 1 statements
24	.962	Unsure if I can cope with my life straight
30	.921	Uncertainty of making it without drugs
12	.874	Wonder if I can function in society without chemicals
26	.834	If I detoxify afraid positive things in my life will crumble
22	.828	After I detoxify I may become readdicted to narcotics
20	.791	Feeling unsteady off drugs
15	.788	I will go back to my drug of choice if I detoxify
9	.762	Lack ability to cope with my life off drugs
17	.759	Going off all drugs will bring back old scary feelings
27	.748	Feeling bad off drugs will lead me to old friends to get drugs

Table 4 (Continued)

Scale development item number	Factor loadings	Factor 1 statements
23	.736	May be unable to do my job without drugs
16	.723	Scared of becoming readdicted
11	.707	Stress of living will lead me back to drugs
19	.690	Something will pull me down and get me started on drugs again
28	.668	Afraid to fall back to where I was before I began methadone
8	.626	Will resort to drugs off methadone
18	.562	Unsure I can say no to people on the street
31	.498	Being told at the nursing station you have almost completed detox

Scale development item number	Factor loadings	Factor 2 statements
4	.808	Feeling backache
7	.776	Feeling leg cramps
1	.618	Noticing dose is less than usual quantity
10	.602	Difficulty sleeping
6	.551	Irritability on lower doses

Table 4 (Continued)

Scale development item number	Factor loadings	Factor 3 statements
21	.838	Concerned that I may have already been exposed to the AIDS virus
29	.829	Worried about getting the AIDS virus if I detoxify

Discriminant Analysis. The total number of detoxification fear subjects in the sample was 57, with 42, or 36.2%, of the Birmingham sample and 15, or 34.9%, of Westfield sample. To look at the efficiency of the overall scale at predicting detoxification fear, a discriminant analysis was run. These data were based on files without any missing data points (N=138), where 89 were assessed as nonfear and 49 were assessed to be detoxification fear subjects. The ability of the overall scale to predict accurately detoxification fear was 89.8%, while its ability to accurately assess the nonfear status was 85.4 percent. Thus, the average of the grouped cases correctly classified was 87.0%. In an effort to create the most efficient final scale for the detection of methadone detoxification fear, a stepwise discriminant analysis was run. Using the results of this stepwise analysis as an indication of discriminating abilities, it was found that the exclusion of the last four items (1, 15, 17, and 26) created a scale that best discriminated between the fear and nonfear subjects. The discriminate analysis of the remaining 27 items found an

overall correct classification rate of 87.7%, with 91.8% of the detoxification fear subjects and 85.4% of the nonfear subjects accurately classified.

Clinical relevance of the final scale was the priority, thus, these 27 items were decided upon because they best discriminated between fear and nonfear methadone clients. A factor analysis of just these 27 items was run and the oblique rotation pattern matrix loadings are listed in Table 5. The full pattern matrix is listed in Appendix I. The scale formations and interpretations remained similar to the 31-item analysis. The psychometric properties of this 27-item scale included a correlation with the Marlowe-Crowne of $\underline{r}$= -0.14 and a 2-week test-retest reliablility score of $\underline{r}$= 0.77. The Cronbach alphas, which examined the reliability coefficients of the three scales to the overall scale, were Scale 1 (fear of relapse) = 0.96; Scale 2 (fear of withdrawal symptoms) = 0.74; and Scale 3 (fear of AIDS) = 0.74.

The diagnostic interview for detoxification fear has one self-report item asking clients to rate their detoxification fear from "scared to death" to "not concerned, not anxious" on a 4-point Likert scale. This item was found independently to classify correctly nonfear clients at a rate of 99.0% and fear clients at 71.9%. When this item was added to the 27-item scale, nonfear clients were correctly classified 93.3% of the time and fear clients at 95.9%.

Table 5

Final Scale Oblique Rotation Pattern Matrix Loadings

Test validation item number	Factor loadings	Factor 1 statements
24	.962	Unsure if I can cope with my life straight
30	.923	Uncertainty of making it without drugs
12	.869	Wonder if I can function in society without chemicals
22	.818	After I detoxify I may become readdicted to narcotics
20	.810	Feeling unsteady off drugs
9	.765	Lack ability to cope with life off drugs
27	.754	Feeling bad off drugs will lead me to old friends to get drugs
23	.746	May be unable to do my job without drugs
16	.701	Scared of becoming readdicted
11	.701	Stress of living will lead me back to drugs
19	.697	Something will pull me down and get me started on drugs again
28	.676	Afraid to fall back to where I was before I began methadone
8	.644	Will resort to drugs off methadone

Table 5 (Continued)

Test item validation number	Factor loadings	Factor 1 statements
18	.572	Unsure I can say no to people on the street
31	.516	Being told at the nursing station you have almost completed detox
Test item validation number	**Factor loadings**	**Factor 2 statements**
7	.815	Feeling leg cramps
4	.812	Feeling backache
10	.618	Difficulty sleeping
6	.527	Irritability on lower doses
Test item validation number	**Factor loadings**	**Factor 3 statements**
21	.848	Concerned that I may have already been exposed to the AIDS virus
29	.845	Worried about getting the AIDS virus if I detoxify

The final scale was analyzed for the sensitivity analysis properties discussed by Baldessarini, Finkelstein, and Arana (1983). These properties are (a) the sensitivity or percent of positive test results among subjects with criterion fear, (b) the specificity or the percent of negative test results among those who do not have the criterion fear, (c) the

positive predictive power or the ratio of true positive results to all positive results, (d) the negative predictive power or the ratio of true negative results to all negative results, and (e) the overall diagnostic power or the ratio of true results both positive and negative to all results. In an effort to examine the optimal cut-off score for detection of detoxification fear, these properties were found for a range of total test scores. These data are listed in Table 6. As can be seen, the greatest overall diagnostic power occurred at the cut-off scores of 70 and 80. Because the sensitivity or true positive results rate is much higher at 70, and its false positive rate of 21.4% is reasonable, this was selected as the optimal cut-off score for this self-report instrument.

Table 6

Sensitivity Analysis of DFSS-27 Cut-off Scores

DFSS-27 cut-off core %	Sensitivity %	Specificity	Positive predictive power	NPP*	Overall power
50	93.88	49.44	50.55	93.62	65.22
55	89.80	53.93	51.76	90.57	66.67
60	89.80	57.30	53.66	91.07	68.84
65	89.80	74.16	65.67	92.96	79.71
70	87.76	78.65	69.35	92.10	81.88
75	77.55	82.02	70.37	86.90	80.43
80	67.35	89.89	78.57	83.33	81.88
85	51.02	95.51	86.21	77.98	79.71
90	36.73	95.51	81.82	73.28	74.64

* NPP= negative predictive power.

DISCUSSION

The original hypothesis proposing that there were three additional fear components of detoxification fear (fear of living a drug-free lifestyle, the fear of returning to drug use, and the fear of acquiring AIDS) was not entirely confirmed in the final test validation factor analysis data. Instead, the data revealed the three fear components of fear of relapse, fear of withdrawal symptoms, and fear of AIDS. Thus, two new scales were developed, one of which (fear of AIDS) was hypothesized, and the fear of withdrawal symptoms from the DFSS-14 was retained, although its items were modified. The fear of relapse scale combined items from the two proposed components: fear of living a drug-free lifestyle and fear of returning to drug use.

The new 27-item questionnaire (DFSS-27) remains consistent with the initial judges' ratings in that the fear of relapse scale, which accounts for most of the variance of detoxification fear, represents many of the top initial items selected by the judges. Fear of relapse items were also the most commonly made statements found in the 271 clinical interviews of the methadone maintenance clients describing their fears and concerns about detoxification that were originally used in the item selection process. These clients often stated being afraid to go off methadone, despite

achieving high levels of rehabilitation, because they saw themselves as returning to drug use. These individuals may thus attribute their successes to the methadone and not their own competency levels.

The items from the fear of withdrawal symptoms scale were also often stated by the methadone maintenance clients in the original 271 clinical interviews. This fear of withdrawal symptoms scale replicates the previous work done by Milby and associates (1987) in the creation of the DFSS-14. It emphasizes the stable and important contribution of this fear component to the overall detoxification fear of these clients.

The fear of AIDS was an additional fear component to be added to overall detoxification fear in this study. This may have been a byproduct of the fear of relapse, but it also demonstrated some concern over having already been exposed to the AIDS virus. This scale can be a useful detection for the necessity of intervention by the treatment staff to those clients endorsing high levels of fear. Treatment could include assessing the client's current HIV status, as well as providing education about HIV infection and risk reduction.

The use of the DFSS-27 is subject to specific clinical need, although the recommendation for a useful cut-off score from the sensitivity analysis (Table 6) appears to be 70. This level represents a scale enhancement process that used geographically, culturally, and ethnically diverse populations, which adds to its overall generalizability. This level of sensitivity is likely to detect most of the fear clients (87.8%), and a brief follow-up interview could

adequately assess the false positives (21.4%). This appears to be consistent with clinical judgment that the detection of detoxification fear (increased sensitivity) be the priority so that interventions can be implemented. It may also be of clinical use to include directly the self-report 4-point Likert scale item assessing detoxification fear to further increase the correct classification of fear and nonfear clients.

The overall contribution of the DFSS-27 over the DFSS-14 is its increased ability to discriminate between detoxification fear and nonfear methadone maintenance clients. The DFSS-27 used with the self-report item asking clients to rate their detoxification fear on a 4-point Likert scale evidences correct classification of the detoxification fear subjects at 95.9% and nonfear subjects at 93.3%. The DFSS-27 used alone at the prescribed cut-off score demonstrates a sensitivity level of 87.8%, which surpassed the 80.5% sensitivity seen in the DFSS-14. This cut-off score also significantly decreases the rate of false positives (21.4%) from the 45.4% found in the DFSS-14 (Milby et al.,1987).

Milby, Gentile, Sims, McLellan, and Woody (1990) presented some preliminary data on 105 methadone maintenance clients followed for 6 years after assessment of detoxification fear status. They found that previously diagnosed fear subjects evidenced significantly longer time on methadone maintenance and fewer overall, as well as fewer successful, detoxification attempts over their nonfear counterparts. These data suggest detoxification fear may be

one of the important variables affecting methadone treatment outcome.

The DFSS-27 increases the ability to establish specific detoxification fear intervention strategies for those methadone maintenance clients choosing to detoxify. Using an individual's self-reported items of high fear, a more individually designed treatment, specifically a tailored hierarchy for systematic desensitization and/or topic areas for cognitive/behavioral therapy, could be established and implemented. This knowledge of the specific areas of an individual's detoxification concerns, as well as the overall level of fear, may help unblock the passage of some from methadone maintenance to achieved opioid abstinence.

Future areas of research might examine treatment and control groups of high detoxification fear clients using this scale not only as the source for areas of treatment interventions, but also as an outcome measure in the assessment of overall fear levels. Under these controlled procedures, the effectiveness of various interventions strategies could be explored and refined.

Although detoxification fear is an important variable in the rehabilitation of the opioid addict who is on methadone maintenance, it is only one of a number of factors contributing to successful detoxification and a drug-free lifestyle. Drug addiction has many components, including psychological, physiological, pharmacological, social, and economic aspects (Milby, 1981). These components are also present as potential relapse mechanisms. These components

need to be assessed adequately and treated to increase the overall success of detoxification and an enduring drug-free lifestyle in this population.

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APPENDIX A

RATINGS MADE BY EXPERT JUDGES

1 no detoxification fear
2 very slight detoxification fear
3 slight detoxification fear
4 average detoxification fear
5 moderate detoxification fear
6 high detoxification fear
7 extreme detoxification fear

		MEANS	STANDARD DEVIATIONS
1)	There is really no one I can depend on	3.00	2.83
2)	Afraid of going to jail after detoxification	3.60	2.41
3)	My life is dull and boring	1.80	0.84
4)	Unsure if I can cope with my life straight	5.00	0.71
5)	Without methadone I fear marital problems	3.00	2.00
6)	I see my life as a failure	2.00	1.22
7)	Feel I need a crutch to survive	5.00	1.58
8)	Loneliness awaits me	2.80	1.30
9)	Going back on the street	6.00	1.00
10)	People are out to get me	1.60	0.89
11)	Wonder if I can function in society without chemicals	6.00	1.00
12)	I feel unworthy	2.00	0.71
13)	Afraid I cannot hold down a job without methadone	6.20	0.84

	MEANS	STANDARD DEVIATIONS
14) My family is screwed up	3.40	1.52
15) Lack of concentration as dosage decreases	4.80	1.30
16) Life is unfair	2.40	1.52
17) If detoxify I am worried about dying	4.40	1.82
18) People do not listen to me	1.60	0.89
19) Uncertainty of making it without drugs	6.40	0.89
20) My life is like a soap opera	1.40	0.55
21) Unsure I can say no to people on the street	6.40	0.55
22) Contracting AIDS if I relapse	4.00	1.58
23) Cannot cope with spouse	2.60	1.82
24) Unable to hold down a decent job	5.20	1.30
25) Lack of support	4.00	1.22
26) Feeling things emotionally off drugs	4.80	1.79
27) I am a loner	2.20	1.30
28) Will resort to drugs off methadone	6.60	0.55
29) Losing people I have gotten close to	4.00	2.34
30) Methadone has made my habit stronger	4.40	2.30
31) I cannot deal with others without drugs	4.60	1.14
32) I will go back to my drug of choice if I detoxify	6.00	1.22
33) I am argumentative much of the time	2.80	1.48
34) Losing control	6.00	1.00

	MEANS	STANDARD DEVIATIONS
35) My ability to deal with stress is gone	4.80	1.92
36) My life is full of fear and worry	4.20	1.48
37) Afraid if I detoxify I will be on street and get AIDS	4.60	1.14
38) Having mood swings off drugs	5.60	1.14
39) I see others as mistreating me	2.00	0.71
40) Going off all drugs will bring back old scary feelings	6.00	1.00
41) No one really cares about me	1.80	1.10
42) My life is unstable	4.20	1.92
43) I need to have the last word	1.60	0.89
44) May be unable to do my job without drugs	6.40	0.55
45) My feelings do not seem to matter	2.00	1.41
46) Irritability on lower doses	6.60	1.22
47) Being sorry about my past	2.60	1.52
48) After I detoxify I may become readdicted to narcotics	6.20	0.84
49) I am afraid to share needles	5.00	2.00
50) Not having enough support to detoxify	5.60	1.14
51) Not having a goal	4.20	1.30
52) People do not really like me	1.60	0.89
53) Feeling unsteady off drugs	5.60	1.14
54) People take advantage of me	1.60	0.89
55) I still need to grow up before I can detoxify	3.00	1.87
56) Concerned about getting into other drugs	6.20	1.30

	MEANS	STANDARD DEVIATIONS
57) I am frequently losing my temper around people	3.80	1.30
58) Something will pull me down and get me started on drugs again	6.40	0.89
59) People do not forgive me	2.40	1.34
60) There is not enough support in my life to go without drugs	4.00	1.22
61) I get used by others	2.00	1.22
62) Thinking about what I will replace methadone with	5.00	2.34
63) I do not know how to relate with others	3.40	1.14
64) Feeling that I have no control over my life	3.60	1.67
65) Afraid to fall back to where I was before I began methadone	6.60	0.55
66) Meeting new people when straight	4.20	1.30
67) If methadone is gone I would be more exposed to people and get hurt more	3.60	2.07
68) Scared of becoming readdicted	6.80	0.45
69) Feeling down	3.20	1.30
70) Going to jail	5.60	1.14
71) People do not trust me	2.20	0.84
72) Going through detoxification alone	4.60	1.82
73) I continue to make mistakes	2.60	1.82
74) My friends all do some sort of mind-altering substance	4.60	1.67
75) Conflicts with others	3.20	1.30
76) Loss of everything accomplished on methadone if I detoxify	7.00	0.00

	MEANS	STANDARD DEVIATIONS
77) Lack ability to cope with life off drugs	6.20	0.84
78) Being alone	3.00	1.41
79) It is hard for me to let go	5.20	1.92
80) Feeling bad off drugs will lead me to old friends to get drugs	6.20	0.84
81) I am uncomfortable with myself	3.40	1.52
82) Going drug-free will lead me back to needles and I may get AIDS	3.80	1.79
83) Change upsets me	4.40	2.19
84) People often aggravate me	3.60	1.95
85) Street pressure to use	5.00	2.00
86) People leaving me	2.60	2.19
87) If detoxify afraid positive things in my life will crumble	6.80	0.45
88) I have no real friends	2.40	1.67
89) Scared of going back to heroin	6.40	0.55
90) Expect getting off methadone to be harder than getting off narcotics	6.20	1.10
91) Have difficulty getting along with others	3.40	1.14
92) Stress of living will lead me back to drugs	5.20	2.39
93) Not enough help from others	3.40	1.14
94) I am unlovable	1.80	1.10

APPENDIX B

DFSS-14

Directions: The items in this questionnaire refer to situations and experiences that may cause you fear or other unpleasant feelings. Read each item and decide how much you are disturbed by it. Circle the number next to each item according to the following scale categories:

0. If you are not disturbed at all
1. If you are a little disturbed
2. If you are more disturbed
3. If you are much more disturbed
4. If you are very much disturbed

1. Noticing dose is less than usual quantity
2. Spending evening alone during detoxification
3. Feeling backache
4. Being told at nursing station you have almost completed detox
5. Being with someone who is going "cold turkey"
6. Feeling leg cramps
7. Experiencing frustration on job during detoxification
8. Missing scheduled dose
9. Being told at nursing station you have completed detox last week
10. Having "goosebumps"
11. Difficulty sleeping

12. Being told at nursing station you have complete one-half the detox

13. Crowds

14. Losing control of yourself

APPENDIX C

SCALE DEVELOPMENT ITEMS

Name_____

Age_____ Sex _____ Race _____

Previous drug of choice_____

Length of opioid addiction_____

Length of time on methadone_____

Occupation_____

Education_____

Directions: The items in this questionnaire refer to situations and experiences that may cause you fear or other unpleasant feelings. Read each item and decide how much you are disturbed by it. Circle the number next to each item according to the following scale categories:

0 If you are not disturbed at all

1 If you are a little disturbed

2 If you are more disturbed

3 If you are much more disturbed

4 If you are very much disturbed

1. Going back on the street..... 0 1 2 3 4
2. Noticing dose is less than usual quantity. 0 1 2 3 4
3. Afraid I cannot hold down a job without methadone..... 0 1 2 3 4
4. Being told at the nursing station you have completed one-half the detox..... 0 1 2 3 4
5. Spending evening alone during detoxification..... 0 1 2 3 4

0 If you are not disturbed at all
1 If you are a little disturbed
2 If you are more disturbed
3 If you are much more disturbed
4 If you are very much disturbed

6. Having mood swings off drugs..... 0 1 2 3 4

7. Going to jail..... 0 1 2 3 4

8. Feeling backache..... 0 1 2 3 4

9. Loss of everything accomplished on methadone if I detoxify..... 0 1 2 3 4

10. Irritability on lower doses..... 0 1 2 3 4

11. Being with someone who is going "cold turkey"..... 0 1 2 3 4

12. Scared of going back to heroin..... 0 1 2 3 4

13. Feeling leg cramps..... 0 1 2 3 4

14. Not having enough support to detoxify..... 0 1 2 3 4

15. Will resort to drugs off methadone..... 0 1 2 3 4

16. Experiencing frustration on job during detoxification..... 0 1 2 3 4

17. Lack ability to cope with life off drugs..... 0 1 2 3 4

18. Difficulty sleeping..... 0 1 2 3 4

19. Stress of living will lead me back to drugs..... 0 1 2 3 4

20. Missing scheduled dose..... 0 1 2 3 4

21. Wonder if I can function in society without chemicals..... 0 1 2 3 4

22. Having "goose bumps"..... 0 1 2 3 4

23. Unable to hold down a decent job..... 0 1 2 3 4

24. Being told at nursing station you have almost completed detox..... 0 1 2 3 4

25. I will go back to my drug of choice if I detoxify..... 0 1 2 3 4

0 If you are not disturbed at all
1 If you are a little disturbed
2 If you are more disturbed
3 If you are much more disturbed
4 If you are your much disturbed

26. Afraid if I detoxify I might share needles and get AIDS..... 0 1 2 3 4

27. Scared of becoming readdicted..... 0 1 2 3 4

28. Going off all drugs will bring back old scary feelings..... 0 1 2 3 4

29. Unsure I can say no to people on the street..... 0 1 2 3 4

30. Something will pull me down and get me started on drugs again..... 0 1 2 3 4

31. Feeling unsteady off drugs..... 0 1 2 3 4

32. Concerned that I may have already been exposed to the AIDS virus..... 0 1 2 3 4

33. After I detoxify I may become readdicted to narcotics..... 0 1 2 3 4

34. May be unable to do my job without drugs..... 0 1 2 3 4

35. Losing control of yourself..... 0 1 2 3 4

36. Unsure if I can cope with my life straight..... 0 1 2 3 4

37. Crowds..... 0 1 2 3 4

38. If I detoxify afraid positive things in my life will crumble..... 0 1 2 3 4

39. Feeling bad off drugs will lead me to old friends to get drugs..... 0 1 2 3 4

40. Expect getting off methadone to be harder than getting off narcotics..... 0 1 2 3 4

41. Afraid to fall back to where I was before I began methadone..... 0 1 2 3 4

42. Worried about getting the AIDS virus if I detoxify..... 0 1 2 3 4

0 If you are not disturbed at all
1 If you are a little disturbed
2 If you are more disturbed
3 If you are much more disturbed
4 If you are very much disturbed

43. Concerned about getting into other drugs..... 0 1 2 3 4

44. Uncertainty of making it without drugs..... 0 1 2 3 4

45. Being told at the nursing station you have completed detox last week..... 0 1 2 3 4

APPENDIX D

MARLOWE-CROWNE (20)

Please read each of the following items and decide whether it is either true or false about you. Circle "T" if you feel this item is true about you or "F" if you feel this item is false about you.

1. I never hesitate to go out of my way to help someone in trouble..... T F

2. I have never intensely disliked anyone..... T F

3. I sometimes feel resentful when I don't get my way..... T F

4. I like to gossip at times..... T F

5. There have been times when I felt like rebelling against people in authority even though I knew they were right..... T F

6. I can remember "playing sick" to get out of something..... T F

7. There have been occasions when I took advantage of someone..... T F

8. I'm always willing to admit it when I make a mistake..... T F

9. I always try to practice what I preach..,..... T F

10. I sometimes try to get even rather than forgive and forget..... T F

11. When I don't know something I don't at all mind admitting it..... T F

12. I am always courteous, even to people who are disagreeable..... T F

13. At times I have really insisted on having things my own way..... T F

14. There have been occasions when I felt like smashing things..... T F

15. I would never think of letting someone else be punished for my wrong doings..... T F

16. I never resent being asked to return a favor..... T F

17. I have never been irked when people expressed ideas very different from my own..... T F

18. There have been times when I was quite jealous of the good fortune of others..... T F

19. I am sometimes irritated by people who ask favors of me..... T F

20. I have never deliberately said something that hurt someone's feelings..... T F

APPENDIX E

SCALE DEVELOPMENT OBLIQUE THREE FACTOR PATTERN MATRIX

ITEM NUMBER	FACTOR 1	FACTOR 2	FACTOR 3
33	.89	.02	-.02
21	.84	-.03	-.05
30	.84	-.07	-.08
15	.83	.29	.04
17	.82	.07	.03
39	.82	-.04	.00
31	.81	-.13	-.02
29	.78	-.08	-.02
36	.78	-.29	-.06
25	.78	-.04	.02
19	.76	.10	.13
41	.76	-.05	.06
27	.76	.14	.10
34	.74	-.16	.05
44	.69	-.24	.04
12	.68	.33	.03
28	.66	-.08	.11
38	.65	-.24	.06
35	.56	-.40	.07
23	.50	-.04	.20
1	.40	-.06	.15

ITEM NUMBER	FACTOR 1	FACTOR 2	FACTOR 3
40	.37	-.09	.31
26	.37	-.32	.26
3	.35	-.02	.34
43	.34	-.20	.21
37	.36	-.55	-.04
45	.21	-.47	.38
32	.29	-.45	.06
42	.32	-.42	.17
8	-.19	.04	.84
10	.05	-.09	.69
13	.05	.19	.69
4	-.05	-.46	.66
9	.18	.08	.63
2	.04	-.26	.58
24	.14	-.33	.56
16	.37	.13	.54
22	.10	-.30	.48
5	.15	-.07	.46
18	.36	.24	.42
7	.16	.25	.41
11	.21	-.03	.39
20	.34	-.02	.38
14	.35	.13	.38
6	.33	-.12	.35

APPENDIX F

TEST VALIDATION QUESTIONNAIRE

Name_____

Age_____ Sex _____ Race _____

Previous drug of choice_____

Length of opioid addiction_____

Length of time on methadone_____

Occupation_____

Education_____

Directions: The items in this questionnaire refer to situations and experiences that may cause you fear or other unpleasant feelings. Read each item and decide how much you are disturbed by it. Circle the number next to each item according to the following scale categories:

0 If you are not disturbed at all

1 If you are a little disturbed

2 If you are more disturbed

3 If you are much more disturbed

4 If you are very much disturbed

*1. Noticing dose is less than usual quantity.....	0	1	2	3	4
2. Spending evening alone during detoxification.....	0	1	2	3	4
3. Going to jail.....	0	1	2	3	4

0 If you are not disturbed at all
1 If you are a little disturbed
2 If you are more disturbed
3 If you are much more disturbed
4 If you are very much disturbed

4.	Feeling backache.....	0	1	2	3	4
5.	Loss of everything accomplished on methadone if I detoxify.....	0	1	2	3	4
6.	Irritability on lower doses.....	0	1	2	3	4
7.	Feeling leg cramps.....	0	1	2	3	4
8.	Will resort to drugs off methadone.....	0	1	2	3	4
9.	Lack ability to cope with life off drugs.....	0	1	2	3	4
10.	Difficulty sleeping.....	0	1	2	3	4
11.	Stress of living will lead me back to drugs.....	0	1	2	3	4
12.	Wonder if I can function in society without chemicals.....	0	1	2	3	4
13.	Having "goose bumps".....	0	1	2	3	4
14.	Unable to hold down a decent job.....	0	1	2	3	4
*15.	I will go back to my drug of choice if I detoxify.....	0	1	2	3	4
16.	Scared of becoming readdicted.....	0	1	2	3	4
*17.	Going off all drugs will bring back old scary feelings.....	0	1	2	3	4
18.	Unsure I can say no to people on the street.....	0	1	2	3	4
19.	Something will pull me down and get me started on drugs again.....	0	1	2	3	4
20.	Feeling unsteady off drugs.....	0	1	2	3	4
21.	Concerned that I may have already been exposed to the AIDS virus.....	0	1	2	3	4
22.	After I detoxify I may become readdicted to narcotics.....	0	1	2	3	4

0 If you are not disturbed at all
1 If you are a little disturbed
2 If you are more disturbed
3 If you are much more disturbed
4 If you are very much disturbed

23. May be unable to do my job without drugs..... 0 1 2 3 4

24. Unsure if I can cope with my life straight..... 0 1 2 3 4

25. Scared of going back to heroin..... 0 1 2 3 4

*26. If I detoxify afraid positive things in my life will crumble..... 0 1 2 3 4

27. Feeling bad off drugs will lead me to old friends to get drugs..... 0 1 2 3 4

28. Afraid to fall back to where I was before I began methadone..... 0 1 2 3 4

29. Worried about getting the AIDS virus if I detoxify..... 0 1 2 3 4

30. Uncertainty of making it without drugs... 0 1 2 3 4

31. Being told at the nursing station you have almost completed detox..... 0 1 2 3 4

* those items deleted in the final DFSS-27 questionnaire

APPENDIX G

STRUCTURED INTERVIEW TO ASSESS DETOXIFICATION PHOBIA

A. How do you feel about detoxing?

(a) Very afraid, scared to death

(b) Moderately afraid, anxious and concerned

(c) Concerned, somewhat anxious but NOT afraid

(d) Not concerned, not anxious

(If not anxious, skip to question D.)

B. What about detox makes you anxious?

(record comments)

C. What is this "anxious" feeling like?

(1) What real-life situation is it comparable to?

(2) Where are you when you feel this anxiousness and fear?

(3) When is this feeling present?

(4) What triggers the feelings of anxiety or fear?

(5) What do you do to reduce the intensity of these feelings?

D. What do you think methadone does to you?

(1) How does it affect your body?

(2) What do you think happens during the detox process? (Symptoms, side effects)

E. If you were ready for detox, would you go through it?

___ yes ____ no

(1) What does it mean to be "ready"?

F. (Ask any other questions necessary to determine whether the DSM-III criteria for simple phobia is met)

* A persistent, irrational fear of, and compelling desire to avoid, an object or situation._____

* Significant distress from the disturbance and recognition by the individual that his or her fear is excessive or unreasonable._____

* Not due to another mental disorder._____

All 3 criteria met for simple phobia ___

Criteria met for detox phobia_____

APPENDIX H

TEST VALIDATION OBLIQUE THREE FACTOR PATTERN MATRIX

ITEM NUMBER	FACTOR 1	FACTOR 2	FACTOR 3
24	.96	-.08	-.18
30	.92	-.01	-.07
12	.87	-.10	-.17
26	.83	.02	.01
22	.83	.00	.11
20	.79	.07	-.02
15	.79	.07	.04
9	.76	-.02	.05
17	.76	.06	-.10
27	.75	.10	.01
23	.74	-.08	.08
16	.72	-.04	.09
11	.71	-.02	.17
19	.69	.07	.15
28	.67	.15	.01
8	.63	.14	.10
18	.56	-.04	.22
31	.50	.16	.08
14	.32	.18	.21
4	-.18	.81	-.07
7	-.05	.78	.09

ITEM NUMBER	FACTOR 1	FACTOR 2	FACTOR 3
1	.03	.62	.02
10	.06	.60	.08
6	.32	.55	.06
13	.38	.49	-.21
5	.33	.39	.12
2	.18	.28	.04
21	-.07	-.02	.84
29	-.01	.09	.83
25	.37	-.09	.44
3	.12	.08	.30

APPENDIX I

FINAL SCALE OBLIQUE THREE FACTOR PATTERN MATRIX

ITEM NUMBER	FACTOR 1	FACTOR 2	FACTOR 3
24	.96	-.09	-.17
30	.92	-.02	-.07
12	.87	-.09	-.17
22	.82	.02	.10
20	.81	.06	-.03
9	.76	-.01	.03
27	.75	.11	.00
23	.75	-.10	.09
16	.70	.00	.08
11	.70	-.10	.17
19	.70	.09	.14
28	.68	.17	-.01
8	.64	.14	.08
18	.57	-.04	.21
31	.52	.17	.06
14	.32	.21	.19
7	-.05	.81	.09
4	-.18	.81	-.05
10	.08	.62	.06
6	.34	.53	.07
13	.36	.51	-.19

ITEM NUMBER	FACTOR 1	FACTOR 2	FACTOR 3
5	.35	.36	.12
2	.20	.25	.05
21	-.07	-.02	.85
29	-.03	.11	.84
25	.35	-.07	.44
3	.18	.01	.28

GRADUATE SCHOOL
UNIVERSITY OF ALABAMA AT BIRMINGHAM
DISSERTATION APPROVAL FORM

Name of Candidate Mary A. Gentile

Major Subject Medical Psychology

Title of Dissertation An investigation of methadone detoxification fear components

Dissertation Committee:

Jem B. Mulby, Chairman

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Dean, UAB Graduate School

Date 7/5/91

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