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Cocaine Dependence: Causal Attributions for Real and Hypothetical Relapse

James W. Pier
Loyola University Chicago

COCAINE DEPENDENCE: CAUSAL ATTRIBUTIONS FOR REAL AND HYPOTHETICAL RELAPSE

By

James W. Pier

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TABLE OF CONTENTS

LIST OF TABLES

Table

CONTENTS OF APPENDICES

CHAPTER I

INTRODUCTION

The stimulant cocaine has seen widespread use and abuse in the United States since the mid-1970s (Smith, 1986). Cocaine is an alkaloid extracted from the leaves of the coca plant. In its most recognizable form, cocaine is a hydrochloride salt which has the appearance of a fine, white, crystalline powder (Spence, 1986).

Although cocaine does have a legitimate medical use (e.g., as a topical anesthetic), it has achieved its notoriety because of its nonmedical appeal. Cocaine is used in several different ways. Often the hydrochloride powder is "cut" into lines which are then inhaled through a straw or rolled up dollar bill. Since street cocaine is water soluble, it may be injected with a hypodermic needle directly into the veins (Spence, 1986). In the method of use known as "free-basing," the hydrochloride salt is alkalinized and the freed cocaine is extracted with solvents such as ether. Free-base cocaine is then smoked. Crack cocaine represents the most recent, and perhaps most serious, form of cocaine use. Crack is extracted from cocaine hydrochloride powder in a simple procedure using baking soda, heat and water (Washton, 1986a). The result is a potent, smokeable form of cocaine with an extremely high addiction potential (Washton, 1986a). Because crack is highly addictive, readily available, and cheap ($5 - $20 for a vial of crack), it is extremely popular, both with users and

pushers.

Stimulant abuse of epidemic proportions is not a new problem. According to Gawin and Ellinwood (1988), in the 1890's, cocaine use surged and was temporarily considered to be safe. Gawin and Ellinwood also indicate that as reports of severe abuse became more commonplace, cocaine use abated. This phenomenon repeated itself in the 1920's, and again in the early 1950's (with amphetamine) and late 1960's (with methamphetamine). In the mid-1970's, cocaine again emerged as the illicit drug of choice and status in middle class America (Gay, Inaba, Sheppard, & Newmeyer, 1975). By 1986, the National Institute on Drug Abuse (NIDA) estimated that 3 million people used cocaine regularly (Gawin & Ellinwood, 1988).

The current epidemic of cocaine use can be seen as a reenactment of the cyclical pattern described above. As recently as 1980, cocaine was described in the Comprehensive Textbook of Psychiatry, 3rd Edition, as a relatively safe, nonaddicting euphoriant agent (Ginspoon & Bakalar, 1980). Following historical precedent, published documentation of stimulant abuse failed to appear until premature or naive reports arguing the lack of abuse potential had proliferated (Gawin & Ellinwood, 1988; Schnoll, Karrigan, Kitchen, Daghestani, & Hansen, 1985; Siegel, 1985). This lag in literature pointing out the dangers of stimulant abuse contributed to and perpetuated a false sense of security with

regard to the use of cocaine.

In the absence of clinical research on cocaine addiction, historical reports of cocaine dependence were dismissed, and the interpretation that cocaine is not addictive gained credence (Gawin & Ellinwood, 1988). Gawin and Ellinwood (1988) argued persuasively that the combination of the above factors created a transient illusion of safety. Believing it to be safe, use of cocaine exploded as millions of people experimented with the drug and became addicted.

As cocaine abuse and its associated social and medical consequences have become abundantly evident, media, political and scientific attention have been focused on drug abuse in general and cocaine abuse in particular. In a televised speech, President Bush lamented that "the gravest domestic threat facing our nation today is drugs" (McNulty, 1989, p. 1). Researchers have concluded that cocaine is a serious threat to North American society because of the waste of human potential (NIDA, 1986).

Research by NIDA (1989a; 1989b) and the Department of Health and Human Services (DHHS; 1989) indicate that the total number of people using cocaine is actually declining. A recently released report by DHHS (1989) revealed that the number of current cocaine users decreased significantly from 5.8 million in 1985 to 2.9 million in 1988. Additional support for the notion that overall cocaine use is declining comes from the latest NIDA survey of college students one to

four years beyond high school. Of those surveyed, 10% reported using cocaine in the past year, a decline of 3.7% from 1987 (NIDA, 1989c). Similarly, of the high school seniors surveyed in 1988, 12.1% reported having used cocaine (NIDA, 1989d). This represents a decline of 3.1% from 1987, and a decline of 5.2% from 1985. The percentage of high school seniors who had used cocaine in the past year fell to 7.9% in 1988 from a level of 10.3% in 1987. Overall, the number of those surveyed in NIDA's household survey who used cocaine in the past year fell from 12 million to 8 million (NIDA, 1989b). It has been suggested that this overall decrease in the use of cocaine represents an increased awareness on the part of the public, and especially students, of the dangers of cocaine; and that people are avoiding its use (DHHS, 1989; NIDA 1988a). However, because of the highly illicit nature of cocaine in the United States, the available statistics regarding the usage of cocaine by Americans are likely to be underestimates.

Despite the encouraging downward trend in overall use of cocaine, there is considerable evidence that the intensity of cocaine use and the experience of adverse consequences among users of cocaine are actually increasing. Data from NIDA's Drug Abuse Warning Network (DAWN) reveal that the numbers of people admitted to emergency rooms following use of cocaine increased more than fivefold over the past five years (NIDA, 1988b; 1989e). Emergency room episodes related to crack have

increased from 549 cases in 1984 to 15,000 in 1988. This represents an increase of 28 fold. Cocaine use was related to 46,020 emergency room visits in 1988, up from 8,831 in 1984 (NIDA, 1989f). During this same time period, the number of people who died following the use of cocaine more than doubled (Adams, Blanken, Ferguson, & Kopstein, 1989). The trend toward more dangerous routes of administration (i.e., intravenous injection and free-basing) may be partly responsible for the increase in cocaine-related emergency room visits (Adams, et al., 1989). The greater dosage reaching the brain very quickly from these methods of administration is responsible for both the more intense high and the greater risk of complications such as cardiac arrest and cardio-vascular accidents.

NIDA's 1988 National Household Survey on Drug Abuse found continued intense use of cocaine within the cocaine user population. It was found that 862,000 people used cocaine once a week or more, representing an increase of 33% in the number of people using cocaine weekly compared to 1985 (NIDA, 1989b). This increase coincides exactly with the emergence of crack as a popular, lethal drug of choice in urban areas. The percentage of cocaine users who use the drug frequently (one or more times per week) has doubled since 1985 (DHHS, 1989). Almost 300,000 persons use cocaine nearly every day (NIDA, 1989b). In most urban centers across the United States, cocaine-related violence and crime continue to be a serious

problem (NIDA, 1989a). These data underscore the fact that cocaine remains perhaps the most noteworthy and troublesome drug of concern throughout the United States (NIDA, 1989a).

Demographic Trends

Along with an alarming increase in the frequency of cocaine use and its associated problems, the 1988 NIDA survey also found a disturbing trend regarding who is using cocaine. Cocaine use was found to be highest among the unemployed, and those individuals between the ages of 18-25. The survey also estimated that 600,000 young people age 12-17 have used cocaine within the last year. While lifetime prevalence rates of cocaine use among blacks and whites remained stable, a significant increase, from 7% to 11%, was found for the Hispanic population between 1985 and 1988 (DHHS, 1989). In addition to this upsetting trend, the Hispanic population surveyed did not experience any decrease in current use of cocaine (i.e., use in the 30 days prior to the survey being conducted). It appears that cocaine continues to be a scourge for minority and lower socioeconomic populations, perhaps even more today than in the past, as the availability of cocaine has steadily increased while there has been a concomitant decrease in price.

Effects of Cocaine Use and Associated Problems

As Smith (1984) notes, cocaine has a high potential for adverse consequences and abuse. Cocaine creates in the user an intense euphoria or high, stimulation, sense of well-being,

heightened feelings of alertness, creativity, and confidence (Gold, 1984; Horberg & Schnoll, 1983). The high is followed almost immediately by an equally intense "crash." This crash is characterized by extreme dysphoria, irritability, restlessness, lethargy, and an inability to feel emotions (Gold, 1984). This cycle is especially intense and rapid with the use of crack, which underlies the exceedingly addictive nature of crack cocaine (Landry, 1986; Washton, 1986a).

The user of cocaine risks many negative physiological consequences in pursuit of the high. Some of these are very dangerous and potentially life threatening (Gold, 1984). Among these effects are insomnia, fatigue, nausea and vomiting, tremors, weight loss, fever, constipation, nasal stuffiness, and blurred vision (Spence, 1986). In large doses, cocaine can precipitate psychotic reactions, confusion, extreme agitation, delusions (especially paranoid delusions), and hallucinations, especially tactile hallucinations of "bugs" crawling on or beneath the skin (Corry & Ambolic, 1985; Gold, 1984). In addition to these physiological complications, death resulting from cocaine-induced heart attack, stroke, seizure, asphyxiation, and cocaine-related suicide are reported with alarming frequency (Corry & Ambolic, 1985).

The frequency with which cocaine users also use alcohol and other illicit drugs compounds the serious risks and consequences facing these individuals. Data indicate that not

only do cocaine users use other drugs, but they also use these drugs in combination with cocaine (Adams, et al., 1987). For example, cocaine users may mix cocaine with heroin in the process known as "speedballing." It has been found that the concomitant abuse of alcohol, barbiturates, and tranquilizers is an effort to relieve the insomnia, anxiety, and restlessness experienced by cocaine abusers. Heavy marijuana smoking is common, and use of heroin or other opiates is not unusual to counteract the side effects of the cocaine crash (Morgan, 1988).

Cocaine is also a frequent source of problems in daily living. Difficulties which have been attributed to cocaine abuse include problems in occupational functioning, problems in familial and social relations, sexual dysfunction, marital discord, financial and legal problems, and a general erosion of the cocaine abuser's ability to function adequately (Gold, 1984; Smith, 1986, Washton, 1985).

The Question of Addiction

Central to an understanding of cocaine use and its devastating effects is the notion of its addictive potential. This has been a point of contention and confusion in the literature. The academic debate regarding the potential for addiction to cocaine continues, based on the criteria of tolerance and a withdrawal syndrome. Many researchers have commented on the erroneous belief expressed in the literature in the past that cocaine is not physically addicting because

of the absence of a well-defined withdrawal syndrome, which is clearly present with alcohol or barbiturate use (Corry & Ambolic, 1985; Gold, 1984; Smith, 1986). Considerable evidence has accumulated which indicates the existence of tolerance to (Corry & Ambolic, 1985) and withdrawal from cocaine (Horberg & Schnoll, 1983; Washton, 1985).

There is a growing body of literature that clearly indicates that habitual users of cocaine develop a physical tolerance to the drug, in that they need increasingly larger doses to experience the same desired effect which was previously experienced at a lower dose. Many abusers of cocaine will increase the frequency of use, dose, and or modify the route of administration to obtain a faster, more intense high (Gawin & Ellinwood, 1988). Unfortunately, while users often develop a tolerance to the cocaine high, there is no parallel tolerance to cocaine's effects on the body's cardiovascular system. As users combat the tolerance to the high, they increasingly risk damage to the heart and circulatory system (NIDA, 1986).

Withdrawal does ensue when the addicted person stops using cocaine. Withdrawal is characterized by profound depression, irritability, sleep disturbance (including extreme sleepiness and insomnia), loss of energy, and intense craving for cocaine (Gold, 1984; Smith, 1986). More recent research has confirmed these findings. Gawin and Ellinwood (1988) reported that cocaine abstinence after prolonged use follows

a three-phase course: crash, withdrawal, and extinction. The crash is described as an intense exhaustion that immediately follows binge use of cocaine. Initially, the cocaine addict experiences profound depression, agitation, and anxiety, followed by an increased desire for sleep approximately one to four hours after cessation of use (Gawin & Kleber, 1986; Kleber & Gawin, 1987). This is most often followed by prolonged sleep and, while awake, extensive eating. Mood may return to normal following prolonged sleep, although some dysphoric feelings may remain (Gawin & Ellinwood, 1988). The extinction phase involves episodic craving after the withdrawal period, which can remain for months or even years (Gawin & Ellinwood, 1988). These symptoms may also include decreased energy, decreased interest in the environment, and a limited capacity to experience pleasure (anhedonia). While withdrawal symptoms may be quite mild immediately following the crash, they increase in intensity during the next 12 to 96 hours (Gawin & Ellinwood, 1988). Currently, there is agreement within the drug treatment community that cocaine is addictive in that the drug creates in the user a compulsion for its use, loss of control, continued use in spite of severe and adverse consequences, an inability to function in the absence of the drug, and denial that any problem exists (Washton, 1985). It is clear that cocaine creates an overwhelming psychological dependence. Many users will lie, cheat, steal and commit other crimes and antisocial acts to

obtain cocaine (NIDA, 1986).

The vicious cycle of cocaine addiction is all too often one from which the user is unable to extricate him or herself. Memories of cocaine-induced euphoria starkly contrast with the intense depression, anhedonia, craving, and other characteristics of withdrawal (Gawin & Ellinwood, 1988). The cocaine addict is powerfully motivated to resume use of cocaine, often at a higher, more dangerous dose. This is especially true for crack, because of the more potent, nearly instantaneous rush and equally potent and immediate crash (Washton, 1986a).

Intrinsic to the cyclical process described above is a two-step pattern. This pattern consists of 1) chasing the high, and 2) avoiding the crash (Reuss, 1985). The first step in cocaine use is chasing the high. The initial use results in the euphoric rush, sense of well-being, heightened feelings of alertness, creativity and confidence (Horberg & Schnoll, 1983; Reuss, 1985; Siegel, 1984). However, these enormously attractive effects of cocaine are short-lived. Cocaine that is snorted produces a high within a few minutes that typically lasts from 20 to 30 minutes. Cocaine that is injected causes a significantly more immediate rush (15 seconds) which lasts from one to several minutes. Cocaine that is smoked (free-base or crack) reaches the brain in much higher doses than when snorted, delivering a much more explosive rush approximately seven seconds after inhaling. This rush wears

off in a matter of minutes (Gold, 1984; Morgan, 1988; Reuss, 1985; Spence, 1986).

The combination of the intensity and brevity of the cocaine high results in a compulsion to use again to attain that altered state of consciousness. However, because of increased tolerance, greater dosage will be required. The inevitable second step of this pattern emerges. The individual now uses cocaine to avoid the crash. Rather than using cocaine in pursuit of euphoria, the individual ultimately uses in an effort to flee the intolerable feelings of the crash and withdrawal (Morgan, 1988; Reuss, 1985).

Public Response to Cocaine Epidemic

It seems that not a newscast or newspaper edition passes that does not contain a story that addresses America's "war on drugs." Polls reflect the increasing distress with which the public views the drug problem. Public perceptions of crack epidemics, cocaine-related deaths, violence and crime, and an emerging notion of cocaine as an addictive agent have fueled the urgency for federal action. In communities across the United States, people are assuming an increasingly active role in the fight against cocaine and other drugs. In Chicago, two Catholic priests have received national attention for their efforts to combat drugs. In Kansas City, activists hold vigils outside suspected crack houses in order to pressure drug users out of their neighborhood (Shapiro, 1989). Many cities and towns are teaming up community, civil and church

organizations, local police forces, educators, and businesses in efforts to eliminate drugs. In Oakland, a federation of church and community groups notified police of suspected crack houses. The police, in turn, thoroughly inspected the houses for possible code violations in hopes of shutting them down. The American public has been awakened to the horrors associated with cocaine use. It is hoped that an increasingly aware and active public will hasten a decrease in the number of people who continue to risk the ravages which cocaine visits upon users of the drug.

Treatment of Cocaine Abuse

Given the increased awareness of and continued problem with the severe negative consequences of cocaine abuse, it is not surprising that there is a great demand for the treatment of cocaine addiction. Since 1981, data collected by NIDA reflect continuing increases in admissions to cocaine treatment programs (Adams, Gfroerer, Rouse, & Kozel, 1987). Recently, President Bush has proposed a $321 million increase in the funds allocated for drug treatment programs. President Bush went on to say that today, the most serious drug problem is cocaine, especially crack, and that more treatment programs are needed to deal with cocaine abuse (McNulty, 1989).

While there is a demand for increased services, there is a further demand that those services provided be demonstrably effective (Woody, McLellan, Lubursky, & O'Brien, 1986). An article in the Wall Street Journal reported that many

businesses are cutting drug treatment benefits due to the enigmatic nature of treatment for addictions and the enormous expense incurred in the process (Pereira, 1989). In essence, it seems that those responsible for paying for treatment of addiction are finding that employees and dependents are seeking help in greater numbers with questionable results (Pereira, 1989).

There are many approaches to the treatment of cocaine abuse, and no single approach can claim to be the definitive or best choice. In fact, single-focus treatment approaches generally are ineffective (Millman, 1988). Rather, integration of various approaches based on the individual's needs and the extent of the problem seems warranted (Kleber & Gawin, 1985; Morgan, 1988). Treatment approaches center around the need to help the abuser achieve abstinence from cocaine and all other drugs, including alcohol. Throughout the course of treatment, efforts are also focused on helping the cocaine abuser to understand his/her use of cocaine, to identify required life changes (Ehrlich & McGeeham, 1985; Siegel, 1985), to help the individual develop alternatives to cocaine use, to ameliorate problems secondary to cocaine use, to develop and maintain social and peer support groups (Millman, 1988), and to prevent relapse (Horberg & Schnoll, 1983; Millman, 1988; Morgan, 1988; Resnick & Resnick, 1985).

Treatment of cocaine abuse can be offered on an inpatient or outpatient basis. Structure seems to be an extremely

important component in the successful treatment of cocaine abusers. The formidable challenge to outpatient treatment is to create that structure and to foster in the individual a willingness to utilize it (Zweben, 1986). If an individual is without reliable supports and resources such as drug-free family and friends, a good job, and self-esteem, then inpatient treatment may be the preferred route (Millman, 1988; Morgan, 1988). Zweben (1986) has enumerated other indications for inpatient treatment. She proposes that it can serve as a launching platform for long-term recovery, or as the sole vehicle of treatment. Individuals who are homicidal or suicidal require inpatient treatment. Some abusers will experience a cocaine-induced psychosis, which clears quickly once use of the drug is terminated. However, during the time that the individual is acutely psychotic, an inpatient setting is advised. Inpatient treatment is also indicated when the cocaine abuser experiences severe depressive states or extreme debilitation (Millman, 1988). It has been suggested that users of crack cocaine must be treated initially in a hospital inpatient setting in order to evaluate the individual's physical and psychological condition, as well as to ensure that the drug is not available during the intense craving and withdrawal period following detoxification (Morgan, 1988).

Inpatient treatment can be conducted in a hospital setting or residential setting, such as a therapeutic community. In therapeutic communities, cocaine abusers live

in a highly structured environment and share responsibilities for running the community (e.g., cooking, cleaning). These therapeutic communities are full-time, drug-free environments which provide peer support and counseling to assist the individual in abandoning antisocial and destructive patterns of living. Inpatient treatment is frequently followed by outpatient follow-up to assist the abuser of cocaine in maintaining abstinence, effecting necessary life changes, and increasing self-understanding (Kleber & Gawin, 1985; Millman, 1988; Morgan, 1988). Both inpatient and outpatient treatment approaches often are used in the long-term struggle against cocaine abuse.

As noted, cocaine abusers most often use other drugs concomitantly with cocaine. If multiple drug dependencies are present, especially involving heavy alcohol and/or sedative use, a medical setting is indicated (Zweben, 1986). When an individual has experienced repeated failures with outpatient treatment, inpatient treatment should be considered (Zweben, 1986). Zweben (1986) notes that some individuals may be incapable of resisting the craving for cocaine, or are unable to eliminate easy access to the drug. If such is the case, a period of time in a residential setting can prove helpful. Millman (1988) relates that inpatient treatment may be necessary to interrupt a living situation which in some way reinforces continued drug use (i.e., the individual lives, works, or socializes with others who use cocaine).

A multiplicity of therapeutic orientations and techniques have evolved with regard to the treatment of cocaine abuse. These include psychotherapy (Millman, 1986; Resnick & Resnick, 1985; Rounsaville, Gawin, & Kleber, 1985; Schiffer, 1988; Woody, McLellan, Lubursky, & O'Brien, 1986; Wurmser, 1985); contingency contracts (Anker & Crowley, 1981; Magura, Casriel, Goldsmith, Strug, & Lipton, 1988); and 12-step programs such as Cocaine Anonymous and Alcoholics Anonymous (Millman, 1988; Muhleman, 1987; Wallen, Weiner, Mansi, & Deal, 1987).

Some treatment programs utilize pharmacologic interventions, especially in the beginning stages of treatment. Millman (1988) notes that pharmacologic intervention can be helpful in enhancing an effective therapeutic alliance and bolstering an abuser's resolve by alleviating painful symptoms of cocaine intoxication and withdrawal. Some of the severe symptoms experienced by cocaine abusers include agitation, anxiety, paranoia, and psychotic disorders (Millman, 1988). Millman (1988) argues that reducing these symptoms removes a potent reinforcer for the resumption of drug use, and increases the likelihood that the patient will view the therapist as an advocate. However, Millman (1988) cautions that pharmacologic measures must not be viewed as curative. Because cocaine abusers have pursued pharmacologic solutions to problems and needs in the past, it must be made abundantly clear to the abuser that medication is only one element in a comprehensive plan. He further cautions

that drugs with high abuse potential such as benzodiazepines or tricyclic antidepressants with powerful sedative properties should be avoided.

There seems to be agreement that pharmacologic intervention is appropriate in several instances. It can be helpful to treat the acute, intensely negative sequelae of cocaine, such as depression, anxiety, psychotic symptoms, and sleep disturbance. Because of its debilitating effects, associated psychopathology may serve as reinforcement for the use of cocaine with some individuals. In such cases, pharmacologic intervention is indicated. Other appropriate reasons for pharmacologic intervention are to prevent the euphoric effects of cocaine use and to mitigate the craving for cocaine (Gawin & Kleber, 1986; Millman, 1988; Morgan, 1988).

Relapse

Relapse refers to the process resulting in a return to drug use after a period (usually of several weeks or more) of abstinence (Washton, 1988). Relapse has traditionally been the nemesis of treatment for all chemical dependence problems, including cocaine (Washton, 1988). The ubiquitous problem of relapse calls into question the efficacy of cocaine abuse treatment and is a source of enormous frustration for those involved in the treatment effort. The problem of relapse tends to be misunderstood. Relapse is an avoidable process complete with warning signs, not an inevitable, instantaneous

event. The return to full-blown use is the end result, not the trigger of relapse (Washton, 1988).

Relapse is not indicative of treatment failure. Rather, it is a signal that recovery is not yet complete and that relapse should be approached as a valuable learning experience. The problems that emerge over the course of treatment may increase the likelihood of relapse. Washton (1988) notes that these problems are to be expected in the treatment of cocaine abuse. Individuals may self-sabotage, putting themselves in high-risk situations where they will be exposed to cocaine (i.e., continuing to socialize with friends who use cocaine). The cocaine abuser in treatment may feel cured after a period of abstinence and test his/her ability to control use of cocaine. Negative moods such as boredom, unhappiness, and irritability often function as precursors to relapse. Cocaine abusers often require assistance in identifying and combatting euphoric recall, which is the phenomenon in which the individual selectively remembers only the positive experiences and aspects of cocaine use (Millman, 1988; Washton, 1988).

As noted, some individuals believe that abstinence equates with complete recovery. In these cases, the abuser may not make any fundamental changes in his/her way of living, continuing to behave in a self-defeating and maladaptive manner. These individuals bear an enormous potential for relapse (Washton, 1988).

A growing number of researchers and clinicians conceptualize a two stage relapse process. In the first stage, the abuser experiences a "slip" or lapse following a period of abstinence (Marlatt & Gordon, 1985). When the lapse occurs and abstinence is violated, the individual usually experiences an array of cognitions and feelings which collectively have been referred to as the Abstinence Violation Effect (AVE; Marlatt & Gordon, 1985). The AVE is a dimensional construct comprised of two related factors. The first of these is a causal attribution of responsibility for the instance of use which interrupted a period of abstinence. The second factor is an affective reaction to the causal attribution for the lapse (Curry, Marlatt, & Gordon, 1987). The AVE may include feelings of guilt, personal weakness, helplessness, victimization, profound failure, a sense that all progress to date is nullified, and the expectation of continued failure (Washton, 1986b).

The occurrence or nonoccurrence of the second stage of relapse is primarily dependent upon the AVE and associated attributions concerning the cause of the lapse (Saunders & Allsop, 1987). This second stage (i.e., the full-blown relapse) is the resumption of use at a level similar to that level of use prior to the period of abstinence (Marlatt & Gordon, 1985).

The severity of the AVE is determined in large part by the types of attributions regarding the cause of the slip

which the patient makes. Washton (1986b) relates that certain attributions are characteristic of the AVE, exacerbate the negative reactions which are characteristic of the AVE, and make continued abstinence even more difficult. It is for this reason that a consideration of the process of causal attribution is central to an understanding of the relapse process.

Attribution Theory

At its most basic level, attribution theory attempts to explain the ways in which people explain behavior by associating it with particular causes; it is a collection of ideas about when and how people generate causal inferences (Fiske & Taylor, 1984). Attributions are important because they provide the foundation for future judgments, feelings, and behavior (Fiske & Taylor, 1984). The manner in which people construct and utilize causal attributions to a great extent determines perceptions of reality, and ultimately forms the basis from which people operate.

Attribution theory has been the focus of a great deal of research since the 1970's. Applications of attribution theory have included studies of causal attribution and achievement, sex stereotyping, prejudice, and helping (Fiske & Taylor, 1984).

One area in which a great deal of research has been done is in the relationship between causal attributions and depression. Abramson, Seligman, and Teasdale (1978) have

argued that individual differences exist in attributional styles, and that certain attributional styles increase one's vulnerability for depressive reactions. This notion is termed the reformulated model of learned helplessness and depression. It essentially states that depressed persons attribute negative outcomes to internal, stable, and global causes, and good outcomes to external, unstable, and specific causes. Research with college students who were to take a midterm examination found that those students who utilized an internal or global attributional style to explain a low, disappointing grade on a midterm examination experienced a depressive mood response, whereas students with an external or specific attribution were invulnerable to a depressive mood response in the face of a low midterm grade (Metalsky, Abramson, Seligman, Semmel, & Peterson, 1982). The stability - instability dimension did not appear to have an effect on the presence or absence of a depressive mood response. It is important to note that these researchers found that it is the combination of a depressive attributional style (internal, stable, and global causes) and a negative life event that leads to a depressive response. Persons with a depressive attributional style who scored well on the midterm examination showed no sign of depressed mood. In earlier research, depressed students were found to attribute good outcomes to more external, unstable causes relative to nondepressed students (Seligman, Abramson, Semmel, & von Baeyer, 1979).

Other researchers (Gong-Guy & Hammen, 1980) have suggested that, in addition to dimensions of internality-externality, stability-instability, and globality-specificity, other important features include whether or not the event was intended and expected. It was found that clients at a mental health clinic who were depressed described the causes of their most upsetting event as internal, intended, global, expected, and stable (Gong-Guy & Hammen, 1980).

Fiske and Taylor (1984) note that, more recently, attribution theory has been applied to clinical topics such as therapy and chemical and behavioral addictions. Within the realm of addiction, causal attributions have been posited to play an integral role in the phenomenon of relapse.

Relapse and Attribution of Causality

Marlatt and Gordon (1985) argue that the manner in which an addict attributes the cause of the lapse will determine whether or not the lapse will develop into a relapse. The argument follows that the severity of the AVE is directly related to the manner in which the individual attributes the cause of the lapse (Marlatt & Gordon, 1985; Washton, 1986b). In fact, in their clinical research, Curry, Marlatt, and Gordon (1987) have operationally defined the AVE "... as a combination of internal, stable, and global causal attributions..." (p. 145). The more severe the AVE, the more likely it is that a full-blown relapse will ensue; hence the relationship between the attributions and the probability of

escalation to relapse. It should be noted that the AVE occurs in degrees; it is not an all or none phenomenon. One individual may experience the AVE as a nagging frustration, another as complete devastation.

In general, it is suggested that when an individual attributes the cause of a lapse to internal, stable, global factors that are perceived to be uncontrollable, an AVE of increased severity will result (Marlatt & Gordon, 1985). Internal factors focus upon the individual's own behavior and characteristics, while external factors are located in the environment or in others. Stable factors are identified as long-term or recurrent, whereas unstable factors are short-term or intermittent. Global factors are those which affect a wide variety of outcomes across different situations, while specific factors do not (Abramson, Seligman, & Teasdale, 1978). However, the intensity of the AVE is mitigated when the individual attributes the cause of a lapse to external, unstable (i.e., changeable), and specific factors that are perceived to be under one's control. Examples of internal, stable, global attributions include the view of a lapse as resulting from lack of will power, or that one is a bad person, incapable of solving problems. Examples of external, unstable, specific attributions are a momentary difficulty in coping in a specific, high risk, stress-provoking situation, or simply being in the wrong place at the wrong time.

There is evidence that individuals with other forms of

addictions do indeed make these types of attributions. O'Connell and Martin (1987) found that, compared to individuals who experienced only a temporary lapse after a period of abstinence from smoking, those who experienced full-blown relapse were more likely to make internal attributions and less likely to make external attributions. McCormick and Taber (1988) studied attributional styles in pathological gamblers. They found that an attributional style utilizing internal, stable, global causes for negative events made a significant contribution to the prediction of the severity of gambling six months post treatment.

The Attributional Process

Given that the putative role of the AVE in relapse hinges on attributions of causality, an important question to be considered is whether or not people typically make causal attributions spontaneously in everyday living. It has been argued that the research indicating that people do make causal attributions was an artifact of the research. That is, it was argued that causal thoughts were elicited by research procedures rather than emitted spontaneously (Bem, 1972; Engle & Shopflocher, 1978; Wortman & Dintzer, 1978). However, Weiner (1985) reviewed research which looked for causal attributions in ways which the design of the study could not elicit them. Weiner unequivocally concluded that people do in fact make spontaneous causal attributions. The following are examples of methodologies utilized to demonstrate spontaneous

causal attributions without the attributions having been elicited.

Weiner (1985) reviewed research in which written material such as advice columns, newspaper reports of political elections and sporting events, and corporate annual reports were examined for the presence of causal attributions. In all, he reviewed six studies in which written material was examined. In his summary of the literature, he notes that the researchers using these methods did indeed find a great deal of causal attribution. Research conducted by Bettman and Weitz (1983) is an interesting example of the work done using written materials. These authors examined corporate annual reports from two years: one of economic prosperity and one of economic decline. Instances of causal reasoning were identified as a phrase or sentence which linked some performance outcome with an explanatory reason. Bettman and Weitz (1983) identified an average of 2.33 causal attributions per report, and found that most causal reasoning was displayed when companies performed worse or better than anticipated.

Another method Weiner (1985) reviewed was the coding of verbalizations. These studies included the random recording of conversations in which the participants were unaware that they were being listened to (Weiner did note the questionable ethics of such procedures), and the examination of causal verbalizations during task performance. In all of these studies, responses are free to vary and are not directed

toward causal attribution. Consistent with the research on written material, Weiner (1985) noted that this methodology also yielded abundant support for spontaneous causal attributions. Gioia and Sims (1983) studied causal verbalizations during task performance in an effort to overcome the problems associated with reactivity of methodology. The procedure was to have volunteers play the roles of a manager and an employee in a performance evaluation of the employee. The subjects were provided information regarding the employee's performance and work history. Results indicated that subjects role-playing managers asked questions which elicited attributions. Subjects role-playing employees tended to make frequent attribution statements. These findings were especially evident in the case of a role play of failure.

A final method reviewed involved indirect attributional indices. Experimenters assessed indices presumed to be influenced by causal attributions. These included selection of information, free recall, and the content of sentence completions. Subjects were presented with a story or information about a person, then given additional information about some trait or behavior. Causal attributions were indexed in the various studies by allowing subjects to choose additional information (Pyszczynski & Greenberg, 1981), by asking subjects to retell a story (Clary & Tesser, 1983), or by asking subjects to generate sentence completions (Hastie,

1984). In Hastie's (1984) work, subjects were presented with a description of a person and a set of behaviors that were either incongruent or congruent with the description (e.g., an intelligent person plays chess poorly). Following a pairing of each description and behavior, subjects were asked to generate sentence completions. In 24 percent of the completions, subjects included a causal attribution, a finding more likely when the behavior was incongruent with the description provided than when there was congruency between the description and behavior (Hastie, 1984). Weiner (1985) summarized that subjects often sought attribution-relevant information, included explanations for behavior when retelling stories which were not part of the original story, and completed sentences with causal explanations.

A review of the literature on attributions and attribution theory revealed an absence of research addressing attributions for hypothetical or imagined events. Although there is no reason to suspect that the findings from research reviewed by Weiner (1985) would differ significantly if research designs employed hypothetical events, empirical investigation of this issue would provide a useful addition to the body of literature on attributional processes.

In summary, Weiner (1985) reviewed 17 publications investigating spontaneous, causal attributions. Every publication reported substantial evidence to support the occurrence of spontaneous causal attribution. Harvey, Weary,

and Stanley (1985) concur with Weiner's conclusion, stating that attribution is a pervasive activity in daily living.

Weiner's review of the research revealed other noteworthy findings of spontaneous attributions which seem particularly relevant to the issue of relapse. Weiner (1985) concluded that spontaneous causal attributions are especially probable when an individual encounters an unexpected event, an unsuccessful event or failure, or when an event holds much importance for the individual. Anderson and Arnolt (1985) also note that people do not generate causal explanations or attributions for every observation. Rather, people are much more likely to do so when events are concrete, important, unusual, or surprising. For example, in the studies that Weiner (1985) reviewed, causal search was increasingly elicited when subjects were faced with information incongruous with what was already known about a person, such as an unusual willingness or unwillingness to help, inconsistent behavior, or unexpected academic success or failure. Unexpectedly good or poor performance by sports teams or companies also elicited increased causal search (Weiner, 1985). Fiske and Taylor (1984) summarized by stating that causal analysis assumes greater importance when people are surprised or threatened by events that undermine their beliefs and expectations. Relapse to cocaine use can certainly be regarded as an unsuccessful event of much importance. Additionally, there is also speculation that relapse is an unexpected event as well

(Washton, 1986b).

While causal attributions are a ubiquitous and important cognitive phenomenon, people do not always formulate these attributions accurately. Fiske and Taylor (1984) noted that there is a tendency for people to attribute another person's behavior to his or her dispositional qualities, rather than to situational factors. This has been referred to as the fundamental attribution error. A similar bias in the attribution process is the actor-observer effect. The actor-observer effect is the bias to consider one's own behavior as variable across time and situations, but to see others' behavior as stable across time and situations (Fiske & Taylor, 1984). Thus, for example, a person who is witness to a relapse by another individual is likely to attribute that relapse to internal, dispositional factors that are stable.

Research with male alcoholics in treatment found that these biases appear to be present in the causal attributions made by women whose alcoholic husbands experienced a relapse. In one study, it was found that wives made more dispositional attributions than their alcoholic husbands in treatment for relapse (McKay, O'Farrell, Maisto, & Connors, 1989).

Rationale

Cocaine abuse continues to be a major health and societal problem in the United States. As with other addictions, treatment of cocaine abuse is burdened with the necessity of confronting and managing relapse. Because relapse is such an

important component of the broader picture of treatment, efforts to understand, manage, and prevent relapse more completely and effectively are clearly warranted. The role of attributional search in the relapse process is one area that has received attention in the last several years. However, the body of literature on cocaine abuse treatment and relapse is in need of closer, empirical examination of the potential role and importance of causal attribution.

Efforts to make causal attributions by cocaine abusers who experience a lapse can be viewed as the individual's attempt to understand the lapse, and as an attempt at adaptation. As Weiner (1985) reminds us, the "Law of Effect" dictates that individuals are motivated to terminate or prevent negative experience. In order to cope effectively with the negative experience of relapse, the individual must locate its cause(s). Attributional search serves this purpose, and thus can be seen as an adaptive, hedonic function. It is intricately related to the process of relapse. Unfortunately, because of the complexity of real world events and the frequent need to meet conflicting goals (e.g., identify causes, protect self-esteem), attributions often will not be accurate or particularly adaptive (Harvey, et. al., 1985). Despite the potential for inaccuracy, people generally behave according to their perceptions and understandings.

In light of research indicating that people make causal

attributions when faced with unexpected, unsuccessful, and concrete events (Weiner, 1985), there is little doubt that cocaine abusers will do so in the event of a slip. The nature of these attributions and their relationship to relapse remain in question. It may be, with regard to relapse to cocaine use following a period of abstinence, that those individuals who do experience the full-blown relapse have attributed this slip to internal, stable, global factors. These types of attributions have a significant effect on the risk for relapse. It has been argued that one important aspect of treatment is to inoculate addicts against these attributions (Washton, 1986b). If indeed this phenomenon is present in the relapse process of cocaine addicts, then research efforts to identify more clearly and to understand the role of causal attributions are needed. Gong-Guy and Hammen (1980) have pointed out that other causal dimensions are theoretically important in the study of depression (e.g., expected - unexpected, intended - unintended, controllable - uncontrollable). These authors found that depressed individuals, when asked to make causal attributions regarding their most upsetting events, made attributions which tended to be more internal, intended, global, expected, and stable than nondepressed individuals. The additional dimensions that Gong-Guy and Hammen (1980) suggest merit investigation and may provide a more complete picture of the attributional and affective components comprising the AVE. For this reason, the

dimensions of intentionality, expectedness, and controllability of outcome will be included in the present study.

O'Donnell (1984) has actually found some support for the notion that other dimensions in addition to the internal, stable, and global ones may be important to consider in understanding the relapse process more completely. In his study of male alcoholic outpatients, O'Donnell (1984) found that subjects who experienced multiple relapses were more likely to return to familiar, cue-laden surroundings and to drink continually after the first drink, compared to subjects who lapsed but then resumed abstinence. These lapse-abstinent subjects were more likely to take the first drink in unfamiliar surroundings with fewer people known to them and without old drinking cues. It is suggested that these findings indicate perhaps a greater degree of intentionality in the individual who lapses and then relapses fully, compared to the person who lapses but then returns to abstinence. It may be, however, that the lapse-abstinent individual is actually displaying more intentionality, in that this person lapses with few or none of the external cues which are likely to signal a return to drinking.

Because attributional (cognitive) style is a dimension potentially amenable to psychological intervention (McCormick & Taber, 1988), research efforts in this area may ultimately impact favorably on treatment efforts. If the relationship

between causal attribution and the experience of relapse can be clarified, additional focal points for the treatment of cocaine addicts may be provided. If research supports such a relationship, these findings can be brought to bear in the effort to disrupt the AVE, and to mitigate the potential damage from attributions which are hypothesized to propel the patient further down the path toward full-blown relapse.

Given that persons suffering from cocaine dependence need to be treated (Millman, 1988; Morgan, 1988, Zweben, 1986), it is important to determine whether the types of attributions discussed above are present. Relapse is an unfortunate fact of life for those involved in the treatment of cocaine dependence. Those who enter treatment are likely to represent a variety of experiences with regard to relapse, and thus constitute an important starting point for the study of the potential role of attributional style, the process of relapse, and clinical treatment approach. Little has been written on the nature of causal attributions for relapse, lapse, and abstinence made by cocaine-dependent persons.

Finally, it is argued that the nature of causal attributions regarding relapse and the potential for relapse, which are made by a significant other of the individual in treatment, constitutes another important point of inquiry (McKay, et al., 1989). Because of the actor-observer effect and the fundamental attribution error, it is possible that the attributions made by the individual in treatment would differ

from attributions made by significant others. It could be very useful to know how attributions made by significant others are similar to, or different from, attributions made by the person in treatment. For example, a person in treatment, in an effort to limit the scope and duration of a lapse, might reframe a slip in terms of it being an educational experience due primarily to external, specific causes, but his/her spouse may conceptualize it as due to personal weakness (internal cause). This discrepancy could create important issues for the chemically dependent person in treatment. It would seem that this information could therefore suggest other focal points for intervention, especially in the context of marital and family therapy. Similarly, if one goal of treatment is to alter the manner in which a chemically dependent person thinks about the causes of a lapse, it might be important to include significant others in this process as well.

Hypotheses

The intent of this study was to examine the nature of causal attributions for hypothetical relapse, slip, and abstinence as well as actual relapse made by persons in treatment and a significant other. Participants' perceptions of these outcomes were also investigated. The relationships between attributions for the outcomes and perceptions of the outcomes, and variables such as depression, previous treatment, and abstinence were studied. The hypotheses of

this study were as follows:

Hypothesis I. The number of times a participant has been in treatment will be positively correlated with the subjective report of depression. Participants who have been in treatment more often in the past will report being more depressed.

Hypothesis II. Participants in treatment will make attributions which are most internal, stable, and global for the actual relapse and hypothetical outcome given as relapse, followed by outcome given as slip, and least for outcome given as abstinence. The extent to which participants in treatment perceive outcomes as intentional, expected, and uncontrollable will be greatest for the actual and hypothetical relapse outcome, followed by hypothetical slip, and least for hypothetical abstinence.

Hypothesis III. As participants report greater levels of depression, they will make attributions which are increasingly internal, stable, and global for hypothetical and actual relapse and slip and less so for the hypothetical abstinence outcome. Participants who report greater depression will rate the hypothetical and actual relapse and hypothetical slip outcomes as more intentional, expected, and less controllable compared to participants who report less depression. Participants who are more depressed will view the hypothetical

abstinence outcome as less intentional, expected, and controllable compared to participants who are less depressed.

Hypothesis IV. The number of previous treatments will be positively correlated with the degree to which subjects make attributions that are internal, stable, and global for hypothetical and actual relapse outcomes and the extent to which these outcomes will be rated as more intentional, expected, and
uncontrollable.

Hypothesis V. As the number of previous treatments increases, attributions for hypothetical abstinence will be less internal, stable, and global, and the outcome will be rated as less intentional, expected, and controllable.

Hypothesis VI. For participants who have been in treatment previously, the length of the most recent abstinent period will be negatively correlated with attributions that are internal, stable, and global for their actual relapse. That is, subjects who were abstinent for a longer period of time will make attributions that are less internal, stable, and global than subjects who experienced shorter periods of abstinence before entering treatment again. Participants who had longer periods of abstinence prior to returning to treatment will also view the relapse as less intentional,

expected, and uncontrollable.

Hypothesis VII. Participants' significant others will make attributions that tend to be more internal, stable, and global for the other person's hypothetical and actual relapse and hypothetical slip, but less so for the hypothetical abstinence, compared to the participants in treatment. Significant others will rate the actual relapse, hypothetical relapse and slip as more intentional, expected, and controllable compared to participants in treatment, but less so for the hypothetical abstinence outcome compared to participants in treatment.

Hypothesis VIII. As the number of previous treatments increases, participants' significant others will make attributions that are increasingly internal, stable, and global for the actual relapse, and they will rate the relapse as more intentional, expected, and controllable.

CHAPTER II

METHOD

Subjects

Participants in this study were 61 volunteers from Chicago, Illinois, Milwaukee, Wisconsin, and New Haven and Waterbury, Connecticut metropolitan area inpatient and outpatient cocaine dependence treatment programs who had indicated that cocaine was their primary drug of choice. Twenty-four (39.3%) of the subjects were being treated on an inpatient unit and 37 (60.7%) were being treated in an outpatient program. Thirty-three (54.1%) of the subjects had been in treatment at least once prior to the current treatment and 28 (45.9%) of the subjects were in treatment for the first time.

The mean age of subjects was 31.7 years and the range was from 19 to 52. Thirty-five (57.4%) of the subjects were male and 26 (42.6%) were female. Forty-three of the subjects (70.5%) were African-American and 18 (29.5%) were Caucasian. A majority of the subjects were single (41, 67.2%), with four (6.6%) divorced and 16 (26.2%) married. With regard to socioeconomic status, 5% of the participant primary wage earners were professionals, 3.3% were managers or owners of a large business, 15.0% were administrators or owners of a small business, 16.7% were in clerical, sales, or technical work, 23.3% were semi-skilled laborers, 3.3% were unskilled laborers, 32.4% were unemployed for a year or more. The

highest level of education obtained by the main wage earner of the household for this sample was as follows: 4.9% graduate education, 6.6% college degree, 24.6% one or more years of college without a degree, 32.8% high school diploma, 24.6% some high school, 1.6% grade school diploma, and 4.9% completed less than eight grade. Subjects came from households ranging in number of persons from one to 24, with a mean of 3.5 and a mode of three.

Participants in treatment were requested to enlist the participation of a "significant other" (e.g., "a close relative, friend, or lover, whose opinions concerning your drug use are important to the you"). These individuals, while not in treatment themselves, were asked to fill out a series of questionnaires regarding the patient's experience with cocaine and relapse.

The mean age of significant others was 32.6 years and the range was from 24 to 44. Five (50.0%) of the significant others were male and 5 (50.0%) were female. Six of the significant others (60.0%) were African-American, 2 (20.0%) were Hispanic, and 2 (20.0%) were Caucasian. A majority of the significant others were single (7, 70.0%), with 2 (20.0%) divorced and 1 (10.0%) married. With regard to socioeconomic status, 10% of the significant other main wage earner were professionals for 10.0% of the sample, 10% were managers or owners of a large business, 20% were administrators or owners of a small business, 10% were in clerical, sales, or technical

work, 30% were semi-skilled laborers, and 20 % were unemployed for a year or more. The highest level of education obtained by the main wage earner of the household for the significant other sample was as follows: 10% graduate education, 30% college degree, 20% one or more years of college without a degree, 20% high school diploma, and 20% some high school. Significant others came from households ranging in number of persons from one to eight, with a mean of 3.8.

Setting

The study was conducted on site at five substance abuse treatment facilities in Milwaukee, Wisconsin, Chicago, Illinois, and New Haven and Waterbury, Connecticut. Subjects were asked to complete a battery of questionnaires in a room large enough to ensure privacy and confidentiality for 1-8 subjects. "Significant other" participants were mailed materials, completed the questionnaires in their homes, and returned them in postage-paid, addressed envelopes.

Measures

Demographic Questionnaire (DQ)

The Demographics Questionnaire (DQ; Hollingshead, 1958) is a frequently used measure in psychological research designed to gather information on the age, sex, marital status, educational level, and occupation of the main provider in the family. According to Lorion (1974), this measure is

the most commonly used instrument for determining the socioeconomic status of an individual in psychotherapy research. Information obtained from this measure was used to describe the participants along demographic and socioeconomic variables and to ensure that these variables do not represent an unidentified confound. The DQ is presented in Appendix A.

Adapted Addiction Severity Index (AASI)

The Addiction Severity Index (ASI; McLellan, Luborsky, O'Brien, & Woody, 1980) is a clinical and research structured interview that has been widely used by experts in the field of substance abuse treatment and research. The ASI assesses alcohol consumption and drug use, family and social relations, employment and legal status, as well as other issues of mental and physical health. The measure was designed to be utilized with adults at screening and intake to assess the level of addiction and to determine the appropriate treatment modalities. One important aspect of this assessment is information regarding types of drugs used, frequency and duration, as well as previous treatment for chemical dependence. Test-retest studies have shown that the information obtained from the ASI is consistent, with an average concordance rate of .89 (McLellan, Luborsky, Woody, & O'Brien, 1980). These authors reported that comparisons of data obtained from the ASI and a battery of previously validated tests indicates strong evidence of discriminant

validity. Furthermore, the reliability and validity results are reported to be consistent across subgroups according to age, sex, race, and other socioeconomic variables.

In its original form, the ASI is a structured interview with multiple choice answers provided to the interviewer for recording responses, and covers areas such as demographic information in addition to drug and alcohol use. For the purposes of the current study, the ASI has been transcribed into a self-report questionnaire, and only questions addressing drug use and treatment for chemical dependence have been included. The reason for this adaptation is to decrease the amount of time needed to complete the questionnaires comprising the battery for the present research. It was important to the researcher, and to the clinicians and administrators at the various treatment facilities, that the time required to participate in the study not be overly burdensome. It is recognized that the psychometric properties of the ASI reported by the authors may not strictly apply to the adapted instrument (AASI), but it is argued that the original ASI does offer questions which can be used in an adapted format to obtain accurate, relevant information regarding level of drug use and addiction. This measure will be used to identify the nature of participants' experience with regard to the use of drugs, periods of abstinence, and previous treatment. The AASI is presented in Appendix B.

Beck Depression Inventory (BDI)

The Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) is one of the most commonly used self-report measures of depression (Knight, 1984). In its standard form, the BDI comprises 21 items chosen to assess the presence and severity of depression. The items reflect the attitudes, behaviors, and affect commonly manifested by clinically depressed patients. Respondents indicate on a scale from zero to three the presence and severity of each item presented, with zero indicating an absence of a particular symptom. Items are summed producing a range of 0-63, with higher scores reflecting greater severity of depression.

Split half reliability ranges from .78 to .93. Test-retest reliability ranges from .48 for psychiatric patients at three weeks to .74 for undergraduate students at three months (Corcoran & Fischer, 1987). The BDI correlates significantly with clinicians' ratings of depression, ranging from .61 to .66, and was found to have a correlation with the Hamilton Rating Scale of .82 (Beck & Beck, 1972). Measures of internal consistency yielded an alpha coefficient of .86 (Beck & Steer, 1984). A copy of the BDI is presented in Appendix C.

Multiple Affect Adjective Check List (MAACL)

The MAACL is a self-administered test which provides state measures of three negative affects: anxiety, depression, and hostility (Zuckerman & Lubin, 1965). The MAACL is a brief

measure, seldom taking more than five minutes to complete. The measure consists of 132 alphabetically arranged adjectives presented in three columns. All words are at or below an eighth grade reading level (Zuckerman & Lubin, 1965). The respondent simply places a check in the box next to each affect adjective if it describes how s/he is feeling today. A standard score for each affect (anxiety, depression, and hostility) is derived based on the number of items checked, with higher scores indicating greater levels of depression, anxiety, or hostility.

Normative data for the MAACL were obtained from 200 job applicants at the Indiana University Medical Center personnel office and 75 college students from introductory psychology classes at Adelphi College in New York (Zuckerman & Lubin, 1965). Subjects were stratified by age, sex, and education to match United States census distribution of those variables (Zuckerman & Lubin, 1965).

The validity of the MAACL has been assessed in a number of empirical studies. Zuckerman & Lubin (1965) found that students' scores on the anxiety scale of the MAACL were significantly higher when measured just prior to an examination. The level of anxiety as measured by the MAACL was highest for those students who did poorly and who indicated that they were worried about the examination. Other studies have replicated these findings, providing further evidence of the MAACL's validity (Winter, Ferreira, & Ransom,

1963; Zuckerman, Lubin, Vogel, & Valerius, 1964).

Zuckerman and Lubin (1965) concluded that the anxiety and depression scales of the MAACL are significantly related to ratings of anxiety and depression based on research utilizing perceptual isolation, hypnosis, test anxiety, and clinical observations. In research using clinical observations of psychiatric patients, the correlations were highest for anxiety ratings and the anxiety scale (.53, $p < .01$), and next highest for the depression rating and the depression scale (.49, $p < .01$). The depression scale was also found to correlate with the depression scale of the MMPI (.49, $p < .05$ for males; .41, $p < .01$ for females).

Investigation of the reliability of the MAACL revealed split half reliability of .79 for the anxiety scale, .92 for the depression scale, and .90 for the hostility scale (Zuckerman & Lubin, 1965). All of these are significant at the $p < .01$ level. Test - retest reliabilities are not significant with normal subjects when measured after seven days for any of the scales, although this is not surprising given that they were asked to respond according to how they felt today. When the subjects were psychiatric patients, split half reliabilities were significant for the anxiety scale (.73, $p < .01$) and the depression scale (.65, $p < .01$), but did not reach significance for the hostility scale. Retest reliabilities at seven days with psychiatric patients were .77, .79, and .84 for the anxiety, depression, and

hostility scales, respectively. These are significant at the .01 level (Zuckerman & Lubin, 1965). The MAACL is presented in Appendix D. Though this instrument was administered to participants, the data from the MAACL were unfortunately lost when the bag in which they were being temporarily carried was stolen from a lecture room of a mental health center.

Loyola Cocaine Relapse Attributional Style Questionnaire (LCRASQ)

This questionnaire is an adaptation of the Attributional Style Questionnaire (ASQ; Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982). The LCRASQ is closely patterned after a version of the ASQ used in research on relapse to cigarette smoking (Curry, Marlatt, & Gordon, 1987). The ASQ is a tool for assessing habitual tendencies in the attribution of causes. It has been used in research on depression (Metalsky, Abramson, Seligman, Semmel, & Peterson, 1982) and addictions (Curry, Marlatt, & Gordon, 1987; McCormick & Taber, 1988). The ASQ asks subjects to decide on the one major cause of an event, and to rate this cause on a seven point Likert scale along attributional dimensions of internality, stability, and globality. Composite scores are created by summing the items in the composite and dividing by the number of items in the composite; higher scores indicate attributions which are more internal, stable, and global. The present version of the ASQ consists of a prospective and

retrospective component, which are described in detail below.

Peterson et al (1982) conclude that "... the ASQ has considerable construct, criterion, and content validity" (p. 297). Research has found that ASQ scores predict depression in college students and correlate positively with therapists' ratings of client depression. Subjects who scored highly on the stability dimension showed helplessness which persisted for three days, and subjects who scored highly on the globality dimension showed helplessness for dissimilar tasks. Test-retest correlation at five weeks for composite ASQ scores was .64 ($p<.001$) for bad events and .70 ($p<.001$) for good events. Test-retest correlations for individual dimensions ranged from .57 to .69 ($p<.001$). Internal reliability of each subscale, estimated using Cronbach's (1951) coefficient alpha, was .75 (good events) and .72 (bad events).

The LCRASQ was developed to assess specifically the attributional tendencies of cocaine abusers (Pier, Crawford, & DeWolfe, 1990). Content analysis of this measure was conducted in which several experts in the field of substance abuse treatment rated the items comprising the measure for relevance, clarity, and ratability on a scale from four (excellent) to one (poor). Those items receiving a rating of one or two were dropped or amended according to raters' comments. The format and scoring procedures are identical to the ASQ. The measure was edited to make it more appropriate

for subjects participating in the study. These changes may affect the demonstrated psychometric properties of the ASQ. The prospective and retrospective components of the measure are described below.

Prospective Assessment of Attributions

Subjects were instructed to imagine vividly a situation in which they are tempted to use cocaine. Six hypothetical situations are presented three times, each with a different outcome. The three outcomes were continued abstinence, a slip followed by resumed abstinence, and a slip followed by a full-blown relapse. The six hypothetical situations included feeling depressed, being at a party where cocaine is available, having an unpleasant experience with an employer, being bored, having an argument with a significant other, and receiving a long-desired promotion at work (note that this last case differed from the others in that it is a positive event).

Subjects were then asked a series of questions, which began with an open-ended request to report the one major cause for the outcome. Subjects then assigned attribution scale ratings related to the cause identified. These ratings indexed the degree to which the cause was: 1) due to the subject (internal) or due to others or circumstances (external); 2) likely to be present in the future or not (stable or unstable); and 3) likely to influence other areas

of the subject's life (global) or likely to influence only cocaine abuse (specific). This rating index used a seven point scale, with seven being the most internal, stable, and global rating of causal attribution, and one being the least (i.e., most external, unstable, and specific). A total score was then derived by adding together the scores from each attribution question answered. Higher scores indicate an attributional style characterized more by an emphasis on internal, stable, and global dimensions, and lower scores indicate an attributional style characterized by a greater reliance on external, unstable, and specific dimensions. A copy of the prospective component of the LCRASQ is presented in Appendix D.

Retrospective Assessment of Attributions

Only those participants who have been in treatment previously completed the retrospective portion of the LCRASQ. Participants were instructed to describe briefly their actual, initial slip and course of relapse by answering several questions about this experience. Subjects were asked to specify the one major cause of the initial slip leading to relapse and to answer the attribution rating questions as in the prospective assessment. Subjects were then asked to choose from among five choices which one best characterized their process of relapse, to specify the major cause, and to answer the attributional questions about this cause. A copy

of the retrospective component of the LCRASQ is presented in Appendix E.

Procedure

Participation of patients in the treatment programs was solicited by treatment coordinators at the various treatment facilities. Prospective participants were introduced to the experimenter a Caucasian male graduate student in clinical psychology from Loyola University Chicago or a research assistant, a Caucasian male graduate student in clinical psychology from Marquette University in Milwaukee, Wisconsin, who was trained in the administration of the various measures. The experimenter or research assistant presented the study to persons in the treatment programs as an investigation into the issue of relapse in the treatment of cocaine dependence. Subjects were informed that they would be requested to enlist the participation of a "significant other" (e.g., spouse, relative, close friend, co-worker) who is familiar with the participant's drug use.

Those willing to participate were asked to sign an informed consent. A copy of the informed consent form is presented in Appendix F. Subjects were encouraged to ask questions regarding the study at the conclusion of their participation, at which time subjects were debriefed. Subjects were told they could discontinue participation at any point if they so desired, without any penalty or influence on

their treatment.

Participants' names did not appear on any of the data measures in order to maintain confidentiality. Only the experimenter and research assistant had contact with the participants regarding this study. Data collection was conducted in a manner to ensure that participants had adequate privacy when completing the measures. Data were coded by number to differentiate subjects and to identify sets of data so that they could be kept together for analysis. Participants were encouraged not to discuss any of the measures or their responses with each other until their participation was completed.

Participants who signed the informed consent form then completed the DQ, BDI, MAACL, AASI and LCRASQ, in that order, which took from 45-75 minutes, depending on the reading ability of the participant. The order of the measures was not varied because it was found that participants tended to become confused if not assisted with each measure. Based upon information from the AASI, subjects were grouped at this point according to whether or not they had been in treatment previously.

All participants completed the prospective LCRASQ. However, only those in the previous treatment group completed the retrospective assessment component of the LCRASQ. Because those subjects in treatment for the first time did not have the experience of relapse which this component investigated,

they were not administered this portion of the instrument.

"significant other" participants were mailed a version of the LCRASQ which requested them to consider real and/or hypothetical relapse situations for the person in treatment. The measure was identical to the LCRASQ administered to the participants in treatment, except for wording changes to reflect the fact that they were completing it for another person's real or hypothetical experience of relapse, as opposed to one's own experience. Copies of the prospective and retrospective LCRASQ for significant others are presented in Appendices G and H, respectively.

Along with the questionnaire, "significant other" participants were provided a consent form, a brief questionnaire addressing the nature of their relationship with the participant in treatment, and a short letter explaining the study and the nature of their participation. These detailed issues of confidentiality and the right to refuse to participate without penalty or effect on the course of treatment for the patient. A phone number was provided where participants could reach the examiner in the event that they wished to discuss the study. An addressed, stamped, return envelope in which the questionnaire was returned to the examiner was also provided to participants. Subjects were instructed not to put their name on any of the materials except for their signature on the consent form. A separate mailing envelope was provided for the consent form. To

maximize the return rate from significant others, a reminder letter was mailed one week later with additional materials and envelopes. Copies of these materials are presented in Appendix I.

Debriefing

Subjects were given a written debriefing statement upon the conclusion of their participation in the study. At this time, subjects also had an opportunity to submit any questions. Significant others were mailed a debriefing letter after several weeks explaining the research and encouraging them to call the examiner should they have questions left unanswered by the debriefing letter. A copy of the debriefing materials is presented in Appendix J.

CHAPTER III

RESULTS

Demographic Variables and Attributional Processes

One-way analyses of variance (ANOVA) were conducted to examine the possible influence of demographic variables on the nature of attributions made by participants. None of the demographic variables (race, occupation, or educational level) were found to be related in any systematic way to attributions made for hypothetical or real outcomes. These nonsignificant results related to race, occupation, and educational level are presented in Appendix K.

Treatment Setting, Cocaine Use, and Depression

A two-tailed, independent groups t-test revealed that participants from inpatient settings did not differ significantly from those from outpatient settings in terms of the total number of times they had been treated for cocaine dependence ($t(59) = 0.59$, N.S.). A two-tailed, independent groups t-test done to examine participant history of cocaine use revealed that participants ($M = 16.88$, $SD = 9.09$) in inpatient settings had used cocaine a significantly greater number of days over the past 30 days than participants ($M = 2.39$, $SD = 5.87$) from outpatient facilities ($t(58) = 7.51$, $p < .0001$). When asked about lifetime use of cocaine, however, outpatient participants ($M = 101.14$, $SD = 65.80$) reported

having used for a significantly greater number of months compared to those participants (M = 69.71, SD = 38.80) from inpatient settings ($t(59) = -2.11$, $p < .05$). Participants were asked to rate the extent to which drug use was currently troubling them on a seven point Likert scale (1 = not at all, 7 = a great deal). A two-tailed, independent groups t-test revealed that inpatients (M = 6.50, SD = 0.98) reported being significantly more troubled than outpatients (M = 3.03, SD = 2.30) by their drug use ($t(59) = 6.97$, $p < 0001$).

A two-tailed, independent groups t-test was also conducted to assess whether or not inpatients and outpatients were differentially depressed. Though not statistically significant, there was a near-significant trend for inpatients (M = 18.33, SD = 11.61) to report greater levels of subjective depression than outpatients (M = 13.05, SD = 10.10) as measured by responses to the BDI ($t(59) = 1.88$, $p < .10$).

Total Number of Treatments and Depression

It was hypothesized that there would be a positive relationship between the number of times a participant has been in treatment and the level of subjective depression as reflected by scores on the BDI. As predicted, there was a significant positive, albeit relatively modest, correlation between level of depression and the total number of times a participant has been in treatment for cocaine dependence ($r(59) = .26$, $p < .05$). These results provide modest support

for Hypothesis I, which stated that participants who have been in treatment more often in the past would report being more depressed.

Treatment Setting and the Attributional Process

A series of one-way ANOVA's revealed no significant differences among the five different treatment facilities in any of the dimensions (internal, stable, global, specific, intentional, expected, controllable) for causal attributions made by participants for the various outcomes (hypothetical relapse, slip, abstinence, and actual relapse). These nonsignificant results are presented in Appendix L. Two-tail, independent groups t-tests were also done to determine whether or not inpatients differed significantly from outpatients in the attributions made for various outcomes. A series of 24 two-tail, independent groups t-tests were conducted. No significant differences were revealed. These nonsignificant results are presented in Appendix M.

Attributions for Hypothetical Outcomes

Six repeated measures ANOVA's were conducted to examine each of the six attributional dimensions (i.e., to what extent the cause for an outcome is seen as internal, stable, and global, and to what extent the outcome is seen as intentional, expected, and controllable) for each of three hypothetical outcomes (relapse, slip followed by a return to abstinence,

and abstinence) as measured by the LCRASQ. Higher mean scores on the LCRASQ indicate an attributional style associated with a given dimension (e.g., internal, stable, etc.).

For all six ANOVA's, there was a significant main effect for the outcome (see Table 1). The pattern of the results was the same for five of the six analyses: the only significant finding revealed by Scheffe post hoc analyses was that participants made attributions which were significantly more internal, stable, and global for the hypothetical abstinence outcome than either the hypothetical relapse or slip outcomes. Further, the abstinence outcome was perceived as more intentional and expected than the relapse or slip outcomes. Scheffe post hoc analysis of the main effects for the controllable dimension revealed that participants perceived the abstinence outcome as more controllable than either relapse or slip, and the slip outcome as more controllable than the relapse outcome. These results are presented in Table 1.

In summary, these results fail to support most of the predictions of Hypothesis II. Rather than making attributions which were most internal, stable, global, intentional, and expected for the relapse outcome, attributions for the abstinence outcome tended to be more internal, stable, global, intentional, and expected compared to the relapse or slip outcomes. Hypothesis II did receive limited support, however, in that participants rated relapse as the least controllable

TABLE 1

Repeated Measures Analysis of Variance with Attributions at 3 Hypothetical Outcomes as Repeated Measures

Internal Attributions				
Source	df	MS	F	
Within people				
Between measures	2	191.674	6.38****	
Residual	116	30.066		
			M	SD
Internal attributions for relapse			33.17	6.4488
Internal attributions for slip			32.82	8.9562
Internal attributions for abstinence			36.10	8.0144

Stable Attributions				
Source	df	MS	F	
Within people				
Between measures	2	413.300	7.20***	
Residual	116	57.423		
			M	SD
Stable attributions for relapse			27.77	9.5655
Stable attributions for slip			27.13	10.5400
Stable attributions for abstinence			32.00	10.6722

Global Attributions				
Source	df	MS	F	
Within people				
Between measures	2	1417.88	24.56****	
Residual	116	57.731		
			M	SD
Global attributions for relapse			27.23	8.5005
Global attributions for slip			24.72	10.5423
Global attributions for abstinence			34.19	8.8288

*** $p < .001$
**** $p < .0001$

TABLE 1 (continued)

Repeated Measures Analysis of Variance with Intentional, Expected, and Controllable Ratings of 3 Hypothetical Outcomes as Repeated Measures

Outcome is Intentional				
Source	df	MS	F	
Within people				
Between measures	2	4049.93	52.96****	
Residual	116	76.469		
			M	SD
Ratings of relapse as intentional			20.79	9.9253
Ratings of slip as intentional			21.27	11.3697
Ratings of abstinence as intentional			35.37	8.6301

Outcome is Expected				
Source	df	MS	F	
Within people				
Between measures	2	1794.28	20.19****	
Residual	116	88.880		
			M	SD
Ratings of relapse as expected			24.82	10.4220
Ratings of slip as expected			23.00	11.4470
Ratings of abstinence as expected			33.36	10.3353

Outcome is Controllable				
Source	df	MS	F	
Within people				
Between measures	2	2861.68	33.62****	
Residual	116	85.116		
			M	SD
Ratings of relapse as controllable			21.32	11.0115
Ratings of slip as controllable			27.52	11.8281
Ratings of abstinence as controllable			35.22	10.5847

**** $p < .0001$

outcome, the slip outcome as more controllable than the relapse, and the abstinence outcome as more controllable than either the relapse or slip.

Attributions for Actual Relapse and Depression

Six 2x4 factorial ANOVA's were conducted in order to examine whether or not participants who had been in treatment previously made different attributions for their actual relapse experience compared to the three hypothetical outcomes on any of the six dimensions (i.e., internal, stable, global, intentional, expected, and controllable) and whether or not the level of depression had an effect on attributions. Participants were split into "high depression" and "low depression" groups based upon the median BDI score (median = 11.5). Attributional ratings served as the dependent variable and the independent variables were the depression grouping and the outcomes (three hypothetical and one actual relapse).

For these analyses, one randomly chosen score was used for the rating of each dimension (internal, stable, global, intended, expected, controllable) for each of the three hypothetical outcomes. This was necessary because, unlike the hypothetical outcomes in which the participants provided six ratings for each dimension in response to the six hypothetical situations presented for each outcome, only one actual relapse experience is investigated, resulting in only one rating per dimension for the actual relapse outcome. Means of the

ratings for the hypothetical outcomes were not used because the variances were heterogeneous.

There were no outcome by depression interactions for any of the six attributional dimensions. Of the six factorial ANOVA's performed, only the analysis of the internal dimension failed to yield significant or near-significant results. There was a significant main effect of the outcome variable for the stable, intentional, expected, and controllable dimension and a near-significant main effect for the global dimension (see Table 2). Scheffe post hoc analyses revealed a consistent pattern for the significant and near-significant main effects: the hypothetical abstinence outcome was seen as significantly more stable, intentional, and controllable compared to the actual relapse. In addition, the hypothetical abstinence outcome was rated as more intentional than either hypothetical slip or hypothetical relapse and more controllable than the hypothetical relapse. The attributions for the actual relapse did not differ significantly from attributions for either the hypothetical relapse or hypothetical slip outcomes on any of the six dimensions. These means and standard deviations are presented in Table 3.

In addition to these statistically significant findings, inspection of the means revealed a nonsignificant but interesting pattern: participants also rated the hypothetical abstinence outcome as caused by more internal and global factors and perceived it as more expected compared to the

actual relapse outcome, though these findings were not statistically significant (see Table 3). In summary, these analyses also failed to support Hypothesis II. As with the hypothetical relapse outcome, participants who had been in treatment previously did not make attributions for their actual relapse which were more internal, stable, global, intentional, or expected. The finding that participants did rate the actual relapse as less controllable than the hypothetical abstinence does provide partial support for Hypothesis II. Thus, the predictions of Hypothesis II with regard to the internal, stable, global, intentional, and expected dimensions failed to be supported by the results, while the prediction regarding the controllable dimension was supported.

A main effect for the depression variable was found for the stable and global dimensions and a near-significant trend was found for the controllable dimension (see Table 2). One-tail, independent groups t-test revealed a near-significant trend for those participants who fell in the "high depression" group (M = 3.93, SD = 2.60) to make attributions which were more stable than those participants who were in the "low" depression group (M = 2.43, SD = 2.13) for the actual relapse ($t(26) = 1.63$, $p < .10$). Participants in the "high depression" group (M = 5.64, SD = 1.76) made attributions that tended to be more global compared to participants in the "low depression" group (M = 3.79, SD = 2.14) for the actual relapse

outcome ($t(26) = 2.41$, $p < .025$). A final, nonsignificant trend was apparent for the controllable dimension, with participant's in the "low depression" group perceiving all the outcomes as more controllable compared to participants in the "high depression" group.

Correlational analyses were conducted to assess further whether or not there were systematic relationships between levels of depression and causal attributions for the various outcomes (hypothetical relapse, slip, and abstinence, and actual relapse). Results of these analyses yielded five significant correlations out of the 24 conducted. Participants' scores on the BDI were found to correlate positively with the extent to which participants made attributions that were stable ($r(57) = .36$, $p < .01$) and global ($r(57) = .42$, $p < .001$) for the hypothetical slip. BDI scores also correlated positively with the extent to which participants perceived the hypothetical slip as an outcome which was intentional ($r(57) = .30$, $p < .05$) and expected ($r(57) = .33$, $p < .02$). Persons who scored higher on the BDI were more likely to make causal attributions for the hypothetical slip outcome which were stable and global and to view this outcome as more intentional and expected.

For those participants who have been in treatment previously, there was a negative correlation between score on the BDI and how intentional they perceived their actual

TABLE 2

2x4 Factorial Analysis of Variance with Depression and Outcome as Independent Variables and Attributions as Dependent Variable

Source	df	MS	F	p
Internal Dimension				
Outcome (A)	3	3.63	1.03	N.S.
Depression (B)	1	0.89	0.25	N.S.
A x B	3	1.25	0.35	N.S.
Residual	104	3.54		
Stable Dimension				
Outcome (A)	3	23.77	4.21	< .01
Depression (B)	1	18.08	3.20	< .05
A x B	3	2.44	0.43	N.S.
Residual	104	5.65		
Global Dimension				
Outcome (A)	3	12.25	2.54	< .10
Depression (B)	1	25.08	5.19	< .01
A x B	3	3.75	0.78	N.S.
Residual	104	4.83		
Intentional Dimension				
Outcome (A)	3	45.65	9.71	< .0001
Depression (B)	1	0.08	0.02	N.S.
A x B	3	2.39	0.51	N.S.
Residual	104	4.70		
Expected Dimension				
Outcome (A)	3	17.80	3.55	< .05
Depression (B)	1	3.23	0.64	N.S.
A x B	3	6.93	1.38	N.S.
Residual	104	5.01		
Controllable Dimension				
Outcome (A)	3	50.87	12.00	< .0001
Depression (B)	1	10.94	2.58	< .10
A x B	3	0.72	0.17	N.S.
Residual	104	4.24		

TABLE 3

Means and Standard Deviations for Attributions for Hypothetical and Real Outcomes

	M	SD
Internal Attributions		
Internal attributions for "relapse"	5.46	1.92
Internal attributions for "slip"	5.61	2.13
Internal attributions for "abstinence"	6.29	1.36
Internal attributions for actual relapse	5.71	1.81
Stable Attributions		
	M	SD
Stable attributions for "relapse"	4.86	2.10
Stable attributions for "slip"	4.54	2.04
Stable attributions for "abstinence"	5.32	2.66
Stable attributions for actual relapse	3.18	2.49
Global Attributions		
	M	SD
Global attributions for "relapse"	4.07	2.36
Global attributions for "slip"	4.21	2.19
Global attributions for "abstinence"	5.54	2.04
Global attributions for actual relapse	4.71	2.17
Intentional Dimension		
	M	SD
"Relapse" is intentional	3.75	2.40
"Slip" is intentional	3.18	2.12
"Abstinence" is intentional	6.07	0.86
Actual relapse is intentional	3.82	2.59
Expected Dimension		
	M	SD
"Relapse" is expected	4.32	2.16
"Slip" seen is expected	3.93	2.30
"Abstinence" is expected	5.71	1.94
Actual relapse seen is expected	4.21	2.40
Controllable Dimension		
	M	SD
"Relapse" is controllable	3.04	2.12
"Slip" is controllable	4.54	2.04
"Abstinence" is controllable	6.25	1.40
Actual relapse is controllable	4.00	2.36

Note: " " denotes a hypothetical outcome

relapse to have been ($r(31) = -.36$, $p < .05$). Subjects who reported more subjective depression tended to view the relapse as less intentional. There was a positive relationship, however, between the extent to which subjects viewed the actual relapse as a controllable outcome and the degree to which they reported experiencing guilt on a seven point Likert scale (1 = no guilt, 7 = a great deal of guilt) as a result of the relapse ($r(31) = .43$, $p < .025$).

In summary, these results provide partial support for Hypothesis III. This support stems from the findings that, compared to participants in the "low depression" group, participants who were more depressed: 1) made attributions which were more stable and global for the hypothetical slip and the actual relapse; 2) tended to rate outcomes as less controllable; and 3) rated the hypothetical slip as more intentional and expected. No support was found for the aspects of Hypothesis III regarding the internal dimension, and results contrary to Hypothesis III were found in the negative correlation between depression and intentional ratings for the actual relapse.

Previous Treatment and the Attributional Process

An attempt was made to investigate the hypothesis that the number of previous treatments would be systematically related to the types of attributions made for the various outcomes along the six dimensions (internal, stable, global,

intentional, expected, controllable), but no support was found for this hypothesis. Correlational analyses failed to reveal a significant relationship between the total number of times a participant has been in treatment and the nature of causal attributions made for the hypothetical outcomes (relapse, slip, abstinence) or actual relapse. This was true for the internal, stable, and global attributional dimensions as well as for ratings of how intentional, expected, and controllable the various outcomes were perceived. To summarize, no support was found for Hypotheses IV and V regarding previous treatment and the nature of attributions made for the various outcomes.

Length of Abstinence, Previous Treatment, Guilt, and Attributions

It was hypothesized that Likert scale ratings of guilt, total number of previous treatments, and the length of the most recent abstinence of participants who had been in treatment previously would be related systematically to the nature of causal attributions made retrospectively for the actual relapse. To test this hypothesis, six multiple regression analyses were conducted, with length of most recent abstinence, total number of treatments, and guilt ratings serving as the independent (predictor) variables and ratings of one of the attributional dimensions (internal, stable, global, intentional, expected, controllable) serving as the dependent variable for each analysis. These three variables

were chosen as the independent variables because they are theorized to be related to the kinds of attributions that persons in treatment for cocaine dependence would make for slip, relapse, or the maintenance of abstinence. Following Marlatt and Gordon's (1985) formulations, knowledge of one addict's abstinence and treatment history and level of guilt experienced in reaction to previous slips and relapses, could hypothetically predict the nature of attributions being utilized by that person.

These analyses failed, however, to yield significant predictive power for any of these independent variables on any of the investigated attributional dimensions. None of the multiple linear regressions were significant.

To assess further the possibility that length of abstinence and attributions are systematically related, two one-tail, independent groups t-tests were conducted. For the first analysis, participants who had been in treatment previously were divided into groups according to how long they remained abstinent following their last treatment. The groups were divided by the median length of abstinence, which was two weeks. Using these two groups, a one-tail, independent groups t-test was conducted with length of abstinence until relapse as the independent variable to assess for differences in the extent to which attributions were internal, stable, global, or how intentional, expected, and controllable the relapse was perceived to be. None of the six t-tests approached

significance.

These analyses were then repeated using longest period of abstinence between the current treatment and the most recent previous treatment in the event participants had relapsed quickly, but then resumed abstinence without the assistance of treatment. The participants were split into two groups along the median of four weeks, but again one-tail, independent groups t-tests with length of abstinence between treatments as the independent variable failed to reveal any significant differences.

In summary, the results failed to provide any support for Hypothesis VI regarding length of abstinence and attributions. Neither length of abstinence nor guilt appear to be related to any of the attributional dimensions investigated (internal, stable, global, intentional, expected, controllable).

Significant Others' and Participants' Attributions

An important question to be addressed was whether or not participants in treatment made attributions which differed significantly from those attributions made by their significant others (S.O.'s) for the hypothetical outcomes and for the actual relapse. As suggested by Murphy, DeWolfe, and Mozdzierz (1984), a sign test using binomial probabilities was done to assess differences in the means for each of the six dimensions (internal, stable, global, intentional, expected, controllable) at each of the three hypothetical outcomes

(relapse, slip, abstinence) and the actual relapse outcome. The sign test revealed that there was a significantly consistent directional effect in which 22 out of 24 of the comparisons were in the predicted direction ($p < .01$). Some of the effects are not large, but based on the significant directional effect, means for the participants in treatment and significant others were explored separately on each of the 22 comparisons which were in the predicted direction by conducting one-tail, matched pairs t-tests. Significant differences were found on five of the 22 comparisons and a near significant trend was found for one other comparison. Results of these comparisons are presented below and are summarized in Table 4.

For the hypothetical relapse outcome, it was found that S.O.'s rated this outcome as significantly more expected than did participants who were receiving treatment (S.O.'s M = 30.6, SD = 8.52; subjects' M = 23.6, SD = 8.79). When asked to consider the hypothetical outcome of a slip, S.O.'s made attributions which tended to be more global (M = 28.8, SD = 8.27) compared to treatment recipients (M = 20.6, SD = 9.18). Additionally, there was a near-significant trend for S.O.'s to make attributions which were more stable (M = 33.7, SD = 8.50) compared to treatment recipients (M = 26.7, SD = 8.43) for the slip outcome.

When asked to imagine a hypothetical abstinence scenario, however, treatment recipients made attributions which were

more internal (M = 36.1, SD = 7.29) than did S.O.'s (M = 29.6, SD = 6.44). Treatment recipients also viewed the hypothetical abstinence outcome as more expected (M = 36.1, SD = 7.88) than did S.O.'s (M = 27.9, SD = 10.25), and more controllable (subjects M = 39.6, SD = 3.77; S.O.'s M = 33.8, SD = 6.95).

Though all but one of the comparisons between subjects and significant others were in the predicted direction for the actual relapse outcome, none of these were statistically significant. Only the ratings for how controllable the actual relapse is did not differ in the predicted direction, with treatment recipients rating it as a more controllable outcome than the significant others, but not at a statistically significant level.

Correlational analyses were conducted in order to explore the possibility that the attributions made by significant others for the actual relapse might be related systematically to the number of times that the treatment recipient of that pair had been in treatment. The extent to which S.O.'s made attributions which were internal was positively correlated with the total number of times in treatment for the treatment recipient ($r(4) = .88$, $p < .025$). Number of times in treatment for the participant was also positively correlated with the extent to which attributions for actual relapse made by the S.O. were stable, though this correlation was not quite statistically significant ($r(4) = .80$, $p < .10$). A positive correlation was found for number of treatments and the degree

TABLE 4

Planned Comparisons with One-tail, Matched Pairs t-test for Subject vs. Significant Other (S.O.) on Attributions

Comparisons for Hypothetical Relapse

Attribution/Perception	df	t-score	p
Internal: Subjects vs. S.O.'s	4	1.26*	N.S.
Stable: Subjects vs. S.O.'s	4	-0.88	N.S.
Global: Subjects Vs. S.O.'s	4	-0.31	N.S.
Intentional: Subjects vs. S.O.'s	4	-0.94	N.S.
Expected: Subjects Vs. S.O.'s	4	-1.84	< .05
Controllable: Subjects vs. S.O.'s	4	-0.93	N.S.

Comparisons for Hypothetical Slip

Attribution/Perception	df	t-score	p
Internal: Subjects vs. S.O.'s	4	-0.87	N.S.
Stable: Subjects vs. S.O.'s	4	-1.65	< .10
Global: Subjects Vs. S.O.'s	4	-3.17	< .01
Intentional: Subjects vs. S.O.'s	4	-0.88	N.S.
Expected: Subjects Vs. S.O.'s	4	-1.14	N.S.
Controllable: Subjects vs. S.O.	4	-0.85	N.S.

(continued next page)

* Difference is in the opposite direction from that predicted. All other differences are in the predicted direction.

TABLE 4 (continued)

Planned Comparisons with One-tail, Matched Pairs t-test for Subject vs. Significant Other (S.O.) on Attributions

Comparisons for Hypothetical Abstinence

Attribution/Perception	df	t-score	p
Internal: Subjects vs. S.O.'s	4	2.46	<.025
Stable: Subjects vs. S.O.'s	4	1.04	N.S.
Global: Subjects Vs. S.O.'s	4	0.61	N.S.
Intentional: Subjects vs. S.O.'s	4	1.32	N.S.
Expected: Subjects Vs. S.O.'s	4	1.85	< .05
Controllable: Subjects vs. S.O.'s	4	2.06	< .05

Comparisons for Actual Relapse

Attribution/Perception	df	t-score	p
Internal: Subjects vs. S.O.'s	4	-1.03	N.S.
Stable: Subjects vs. S.O.'s	4	-1.11	N.S.
Global: Subjects Vs. S.O.'s	4	-0.72	N.S.
Intentional: Subjects vs. S.O.'s	4	-1.36	N.S.
Expected: Subjects Vs. S.O.'s	4	-0.84	N.S.
Controllable: Subjects vs. S.O.'s	4	0.61*	N.S.

* Difference is in the opposite direction from that predicted. All other differences are in the predicted direction.

to which S.O.'s viewed relapse as an expected outcome ($r(4) = .93$, $p < .01$). A very large correlation was required to reach statistical significance in thesecorrelational analyses because they were based on only five pairs. Of the ten significant others who responded, only five had treatment recipients who had been in treatment previously.

In summary, these results provide partial support for Hypotheses VII and VIII. As hypothesized, compared to treatment recipients, S.O.'s rated the hypothetical relapse as more expected, made attributions for the hypothetical slip that were more stable and global, and made attributions for the hypothetical abstinence that were less internal, expected, and controllable. Predicted differences for the other dimensions did not reach statistical significance, but these differences were in the predicted direction for 22 of the 24 comparisons. Positive correlations between the number of previous treatments and the degree to which S.O.'s made attributions which were internal, stable, and expected for the actual relapse provide partial support for Hypothesis VIII, though the predicted correlations between number of treatments and the global, intentional, and controllable dimensions did not reach statistical significance.

Quality of Relationships and Drug Use

Participants rated their interpersonal relationships according to how stressful and satisfying they found them to

be along a seven point Likert scale (1 = not stressful and very satisfying, 7 = very stressful and unsatisfying). Not surprisingly, there was a positive correlation between self-report of cocaine use in the past 30 days and the degree to which participants rated their relationships as stressful and unsatisfying ($r(58) = .29$, $p < .05$). Similarly, there was a positive correlation between the degree to which participants rated themselves as troubled currently by drug use and having stressful and unsatisfying relationships ($r(59) = .39$, $p < .01$).

CHAPTER IV

DISCUSSION

A review of the literature reveals increasing attention to and awareness of the important influence that causal attributions have on the relapse process. Researchers have examined the role of attributional style in the process of relapse to opiate consumption (Bradley, Gossop, Brewin, Phillips, & Green, 1992), to alcohol use (O'Donnell, 1984), to pathological gambling (McCormick & Taber, 1988), and especially to cigarette smoking (Curry, Marlatt, & Gordon, 1987; Harackiewicz, Sansone, Blair, Epstein, & Manderlink, 1987; O'Connell & Martin, 1987; Schoeneman, Stevens, Hollis, Cheek, and Fischer, 1988). Despite the theoretical importance and accumulating empirical support of the role attributional processes play in relapse prevention, there is a dearth of research applying these theoretical notions and empirical findings to the specific study of relapse prevention with cocaine abusers.

The intent of this study was to extend this body of research to include a sample whose primary problem is with cocaine abuse. This was done by investigating the nature of causal attributions which people in treatment for cocaine dependence made for the experience of relapse as well as for hypothetical outcomes to situations in which there would be the temptation to use cocaine. Attributions made by patients'

significant other for these real and hypothetical outcomes were also examined in order to assess hypothesized differences in the way significant others would make causal attributions compared to the individual in treatment for cocaine dependence.

As hypothesized, there is a positive relationship between the number of times a subject has been in treatment and current level of depression. People who have been in treatment more often in the past tended to endorse slightly more signs and symptoms of depression compared to those who have been in treatment infrequently or not at all. This finding has considerable intuitive appeal. It is easy to imagine that an individual who repeatedly suffers the stress and disruptions of life that necessitate treatment for cocaine dependence would become depressed. In addition, it is theorized that part of the reason that some individuals relapse frequently and require repeated treatment is that they utilize an attributional style which predisposes them both to relapse (Marlatt & Gordon, 1985) and to depression (Gong-Guy & Hammen, 1980; Seligman, et. al., 1979). Despite this, the relationship between number of previous treatments and depression was quite modest.

One would expect that individuals who are more troubled by their drug use and have experienced greater problems in living associated with recent drug use would be more depressed. Participants who had used cocaine more frequently

over the past 30 days reported being more troubled by their drug use and having relationships which were described as stressful and unsatisfying. Though it is not difficult to imagine such a scenario increasing the likelihood of depression, no statistically significant correlation was found between the total number of times in treatment and these other variables, save the modest positive relationship with depression noted above.

The present study utilized volunteers from both inpatient and outpatient treatment facilities. There are some differences between the inpatient group of participants and the outpatient group which are worthy of mention. A number of authors (Millman, 1988; Resnick & Resnick, 1985; Washton, 1988) have commented on the need for inpatient treatment of cocaine dependence when the individual has few supports, is unable to cease or even moderate use of cocaine, or is severely depressed or suicidal. It appears that at least some of these conditions for warranting inpatient treatment characterize as a group those participants in this study who are from inpatient facilities. The use of cocaine by this group seems to have been more frequent in the recent past, more troubling and debilitating, and more disruptive of potentially supportive relationships. It is not surprising, therefore, that such individuals were being treated on an inpatient basis.

Despite the above differences, it is important to point

out that there was no evidence that inpatient participants differed from outpatient participants with regard to the number of times in treatment for cocaine dependence. Of equal importance is the finding that these two groups did not differ significantly in terms of the nature of causal attributions for real or hypothetical outcomes. Thus, while some differences appear to be related to treatment setting, these do not appear to influence the central variables in this study (attributions) in a systematic manner.

The data from the LCRASQ indicate that participants as a group made attributions for hypothetical abstinence which were significantly more internal, stable, and global compared to attributions for either the hypothetical relapse or hypothetical slip outcome. Additionally, participants made attributions for the hypothetical abstinence outcome indicative of a perception of this outcome as significantly more intentional, expected, and controllable compared to the hypothetical relapse or hypothetical slip outcomes. These findings, which were extremely robust, are contrary to the expected relationship between attributions and outcome that one might expect to see from individuals in treatment for cocaine dependence. It was hypothesized that the reverse trend would be observed, with participants making attributions that were more internal, stable, global, intentional, expected, and uncontrollable for the hypothetical relapse, followed by the slip, and finally abstinence outcomes.

The sample as a group made causal attributions which were strikingly similar to the pattern observed by Curry, Marlatt, and Gordon (1987) who found that subjects made attributions for a hypothetical relapse that were less internal, stable, and global compared to hypothetical abstinence - the exact opposite direction that one would predict based upon the confluence of attribution theory and relapse known as the AVE.

The pattern of causal attributions made by the participants of the present study, as with those in Curry et al.'s (1987) research, may reflect the presence of self-serving biases which are believed to be utilized by normal persons who are not clinically depressed (Fiske & Taylor, 1984). Participants' attributions for what could be termed a success (i.e., abstinence in the face of temptation to use cocaine) were more internal, stable, and global than attributions for an unsuccessful outcome (hypothetical relapse) and a less successful outcome (hypothetical slip). Such an attributional style is "self-serving" in that it can be characterized as "taking credit" for the abstinence. An example of an attribution in which an individual "takes credit" for the outcome of abstinence is "I was able to resist the temptation to use because I want to keep my job." Such an attribution ascribes importance to attributes of the individual and is presumed to persist over time and across different situations.

This finding is remarkably similar to the attributional

pattern found in an investigation of causal attributions for hypothetically tempting situations made by non-drug-dependent individuals (Pier, Crawford, DeWolfe, 1990). This sample also made self-serving attributions in which they "took credit" for positive, successful outcomes and utilized external, unstable, specific attributions to explain hypothetical unsuccessful outcomes. In both the cocaine dependent sample of the current study and the non-drug-dependent sample mentioned above, participants understood the cause of success to be something characteristic of themselves - a cause which was internal, stable, and global.

In contrast, the cocaine-dependent sample, as well as the non-drug-dependent sample, tended to explain unsuccessful outcomes by utilizing attributions which tended to be more external, unstable, and specific. This pattern can also be viewed as self-serving, in that the responsibility for the relapse or slip is explained by such statements as, "My boss put me in a bad mood by picking on me unfairly." In contrast to attributions made for the successful outcome, the attributions for unsuccessful hypothetical outcomes focus on the actions of others or circumstance, on a discrete, limited period of time, and on a specific, isolated situation.

Fiske and Taylor (1984) argue that external, unstable, and specific attributions for unsuccessful outcomes such as relapse or slip protect the individual's self-esteem. By locating the cause of a slip or relapse in others or in

circumstances, the individual is spared negative self-scrutiny. Viewing the slip or relapse as caused by unstable factors permits the individual to argue that this was an isolated mistake which is unlikely to happen again. Finally, by using specific rather than global attributions to explain a slip or relapse, the individual is able to explain and understand the use of cocaine without negating other areas of success and strength that may not be related to drug use, such as occupational functioning, artistic talents, capacities as a friend, spouse, or parent.

In contrast to the above reasoning that attributions are self-serving and protective, it has been suggested that self-blame might actually result in the perception of <u>increased</u> ability to control future negative, unsuccessful outcomes (Bradley, et al., 1992; Schoeneman, et al., 1988). Both of these groups of authors point out the importance of differentiating behavioral from characterological self-blame as discussed by Janoff-Bulman (1979). Bradley et al. (1992) summarize that blame directed at one's specific, controllable behavior is thought to be adaptive and to allow for better coping in the future through enhanced perception of control. Self-blame which is focused on characterologic factors, however, is thought to be maladaptive, leading to increased hopelessness and reduced coping behaviors. As researchers continue to address the question of attributional style and coping (in this case relapse prevention), it would be helpful

to keep Janoff-Bulman's (1979) distinction in mind.

In addition to a consistent pattern of findings with regard to the internal, stable, and global attributions for hypothetical outcomes, participants as a group perceived the hypothetical abstinence outcome as significantly more intentional, expected, and controllable compared to the hypothetical slip and relapse outcomes. This is consistent with the findings discussed above, in that the individual can be seen as "taking credit" for the successful outcome - it was intended, expected, and under control of the individual. This is in contrast to the hypothetical relapse and slip outcomes, which were perceived as much less intended, expected, and controllable compared to the hypothetical abstinence outcome. It is clear how, like the internal, stable, and global dimensions, the pattern of intentional and expected attributions is very much self-serving and not consistent with what one would predict according to the AVE. The finding that participants saw these outcomes as less controllable was, however, consistent with predictions stemming from the AVE. According to the AVE, negative outcomes would be perceived as being more expected and less amenable to personal control. The opposite pattern was found for the hypothetical outcomes. It was as if participants were saying, "If I am successful and remain abstinent in the face of temptation to use cocaine, I must have intended to do so, I expect to do so, and I am able to exert control over this outcome. If, however, I relapse or

slip in the face of temptation, I certainly did not intend to do so, did not expect it, and had little control over these outcomes."

Of these dimensions, only the hypothesis that unsuccessful outcomes would be seen as uncontrollable was supported by the data. Individuals in treatment did perceive the hypothetical relapse and slip outcome as a less controllable outcome than the hypothetical abstinence outcome. The issue of perceived control warrants close consideration, especially in light of recent research by Bradley and his colleagues, whose findings strongly implicate perceived controllability over and above the other attributional dimensions (Bradley, et. al., 1992). In that study, opiate addicts who perceived greater personal control over past or future (hypothetical) relapses were more likely to abstain and to limit lapses that did occur so that these were less likely to evolve into full blown relapses. Conversely, a perceived absence of control over past and future relapses increased the likelihood that subjects would be classified as relapsers rather than lapsers.

It was hypothesized that participants would make attributions that differed on the various dimensions for the hypothetical relapse versus hypothetical slip outcome conditions. More specifically, it was expected that participants would make attributions for the hypothetical relapse that were more internal, stable, global, intentional,

expected, and uncontrollable compared to the hypothetical slip outcome. However, remarkably little difference was found between the causal attributions for these two outcomes. Participants rated the causes of these hypothetical outcomes as being nearly identical in the extent to which they were internal, stable, intentional, and expected. The mean global ratings for the relapse and slip, though not as close as for the other dimensions, did not differ significantly. The only dimension in which participants made differential attributions for the hypothetical relapse and slip was how controllable the outcome was perceived. As hypothesized, participants viewed the hypothetical relapse outcome as less controllable compared to the hypothetical slip outcome.

The lack of differentiation that participants demonstrated with regard to attributions for hypothetical relapse and slip raises the question of whether or not these individuals in treatment discriminate between a relapse and a slip, or if both are viewed as relatively equivalent, unsuccessful outcomes. This is an important question because it has become clear that a pivotal goal of the relapse prevention stage of treatment is to get patients to understand that relapse is a process and that one lapse is not equivalent to full blown relapse (Marlatt & Gordon, 1985; Millman, 1988; Washton, 1988). A central strategy in accomplishing this goal is to modify the attributional process in order to prevent or at least minimize the extent to which patients utilize

attributions which tend to exacerbate the risk of full blown relapse following a slip. This effort necessarily entails understanding that relapse and slip are not a unitary phenomenon, but are discrete. These data underscore the importance of this facet of treatment because they strongly suggest that, at least for many individuals in treatment, relapse and slip are not seen as causally distinct events from each other.

As noted, the exception to this was the finding that participants rated the hypothetical relapse to be less controllable compared to the hypothetical slip. This is consistent with predictions of the AVE in that the relapse is perceived as beyond control and therefore likely to continue unchecked. Perceiving the relapse as beyond one's control, the individual may well cease trying, experience increased hopelessness, and feel like a failure, all of which serve to limit the potential for arresting the relapse process. The slip, however, is seen as potentially more amenable to the exertion of control by the individual, though to a lesser extent than abstinence.

It was hypothesized that participants who have been in treatment previously would make attributions for their actual relapse that are more internal, stable, and global, and would perceive this outcome as more intentional, expected, and less controllable compared to the hypothetical abstinence and slip conditions. As with the comparison of hypothetical relapse

and hypothetical abstinence, the result of the comparison of attributions for the actual relapse and hypothetical abstinence was contrary to what was hypothesized. Even when evaluating an actual relapse experience, participants in general continued to use self-serving or "face-saving" attributions which theoretically would decrease the risk for full blown relapse. Though no significant differences were found for the internal, global, or expected dimension, participants rated the cause of their own relapse as less stable, less intentional, and less controllable compared to the hypothetical abstinence outcome. In addition, the nonsignificant trend for the internal, global, and expected dimensions was consistent: the means of these ratings were higher for the hypothetical abstinence than the actual relapse, though not at a level that is statistically significant. The advantages of such an attributional style to explain an actual relapse are the same as those discussed for the hypothetical relapse. Namely, the individual focuses on the circumstances or behavior of others and thus lessens the extent of any negative self scrutiny.

As hypothesized, participants did make attributions for their relapse that were indicative of a tendency to perceive the actual relapse as less controllable compared to the hypothetical abstinence outcome. This finding is consistent with predictions stemming from the AVE; that is, patients who had experienced a relapse would tend to view it as an event

primarily outside of their control. Thus, as suggested by Bradley et al. (1992), the dimension of control appears to be a variable which consistently supports the AVE relapse model of Marlatt and Gordon (1985). Participants who have been in treatment previously perceived their most recent relapse to be relatively uncontrollable. Instances of attributions for real and hypothetical relapse or hypothetical slip to internal, stable, global, intentional, and expected factors were rare. The participants in this study consistently utilized attributions which were much more self-serving.

Methodological limitations may explain the failure to support the hypotheses related to the AVE model of relapse. The current data were obtained from participants' considerations of hypothetical outcomes and retrospective recall of their most recent relapse. Though this approach provides for a useful description of the kinds of causal attributions which patients make for various outcomes, it does not permit the comparison of <u>actual</u> relapse, slip, and abstinence or the comparison of individuals who differ in the extent to which they are successful in navigating the hazards associated with the risk of relapse. Sampling attributions longitudinally, in a prospective fashion, during periods of abstinence, at moments of lapses, and the following return to abstinence or full blown relapse would provide a valuable contribution toward a more complete understanding of the role of attributions in the continuum from complete abstinence to

lapse and on to full blown relapse. In an effort to obtain insight into the relationship between attributions and this continuum, further analyses were conducted investigating the relationships among depression, number of treatments, guilt, and length of abstinence with participants who have been in treatment previously.

The body of literature on depression and attributions suggests that depressed subjects would make attributions for negative events which are more internal, stable, and global compared to nondepressed subjects (Metalsky, et al., 1982; Seligman, et al., 1979; Zautra, Guenther, & Chartrier, 1985). It was hypothesized that the level of depression reported by an individual would be positively correlated with the extent to which internal, stable, and global attributions are made for hypothetical relapse and slip and actual relapse outcomes. The present results offer partial support of this hypothesis. Consistent with the literature on depression and attributions for negative life events, participants in this study who were more depressed as assessed by the BDI made attributions for the hypothetical slip that were more stable and global. Additionally, there was a positive correlation between increasing levels of depression and ratings of the hypothetical slip as an intentional and expected outcome. Somewhat surprisingly, there was a negative correlation between depression and how intentional the actual relapse was perceived. Subjects who were more depressed viewed the actual

relapse as less intentional than those who were less depressed. This would appear to reflect less self-blaming (seeing the relapse as not intentionally caused), although it could also be construed to reflect a minimal amount of self-efficacy or feeling of actively directing one's behavior that often accompanies depression. No significant relationships were found between depression and attributions for the hypothetical relapse or abstinence outcomes.

Nevertheless, these findings, with the exception of the negative correlation between depression and intentionality for relapse, are consistent with the idea that depressed subjects are less likely to use the self-serving biases discussed earlier in which responsibility for unsuccessful outcomes (in this case a slip) is disavowed, with the cause being seen as circumstances, behavior by others, and so on. In this instance, subjects who were more depressed were found to be unlikely to make self-serving or self-excusing causal attributions when asked to imagine a hypothetical slip.

Results from a 2x4 factorial ANOVA also lent support to the hypothesis that level of depression would be related to attributions. Participants from the "high depression" group (BDI $\geq$ 11.5) showed a near-significant trend to make attributions which were more stable for actual relapse compared to those subjects in the "low depression" group (BDI $<$ 11.5). "High depression" subjects also made attributions for actual relapse which were significantly more global

compared to the "low depression group." Again, these findings suggest that depressed individuals are more unlikely than non-depressed individuals to make self-serving or excusing attributions for a relapse. Since stable and global attributions for unsuccessful outcomes have been related to an increased risk of relapse (Marlatt & Gordon, 1985), these data relating depression and stable and global attributions should alert one to the possibility that level of depression can serve as a clue to identifying patients who may be at an increased risk for relapse. In light of the theoretical and empirical evidence that depression and attributions for negative and positive events are related (Gong-Guy & Hammen, 1980; Seligman et al., 1979), those who would work with individuals in treatment for cocaine dependence and other addictions must be vigilant to the possibility that the depressed patient's causal attributions may be of such a nature as to enhance the likelihood of relapse.

It should be noted that the median score on the BDI was 11.5 and the mean was 15.4, both of which are indicative of mild mood disturbance (Burns, 1980). It is possible that people who are more severely clinically depressed might evidence a more dramatic relationship with regard to the nature of attributions for successful and unsuccessful outcomes in the treatment of cocaine dependence. Additional research with individuals in treatment for cocaine dependence who are clinically depressed would be helpful in clarifying

what additional information can be gleaned about attributions and risk for relapse when the level of depression is truly high. It might well be that as the level of depression reaches moderate to severe levels, the attributions for relapse and slip become even more stable and global and one begins to see an effect on the internality dimension as well. The answers to these questions await future research.

If certain kinds of attributions predispose an individual to relapse following a lapse, then it seems logical that these individuals would have been in treatment more often in the past (treatment becomes necessary as they are unable to limit the lapse and full blown relapse ensues). It was hypothesized that persons in treatment for the first time would make attributions for actual relapse, hypothetical relapse, and hypothetical slip that are less internal, stable, and global, and that they would perceive these outcomes as less intentional, expected, and uncontrollable compared to subjects who have been in treatment previously. In contrast, however, correlational analyses failed to reveal any systematic relationship between number of previous times in treatment and attributions for the unsuccessful outcomes of actual relapse, hypothetical relapse, or hypothetical slip. Surprisingly, there was not a statistically significant correlation between the number of previous treatments and the nature of causal attributions made for any of the attributional dimensions (internal, stable, global, intentional, expected,

controllable) for any of the outcomes (actual or hypothetical relapse, hypothetical slip, hypothetical abstinence).

The lack of a significant correlation here may reflect the fact that, until the group of patients in treatment for the first time completes treatment and has the opportunity to remain abstinent, to lapse, or to relapse completely, one cannot predict accurately the nature of causal attributions for various treatment related outcomes. For example, it may be that a person in treatment for the first time will experience a full blown relapse immediately upon completion of the treatment program. He or she may make attributions which are nearly identical to the individual in treatment for the tenth time. Still, it is surprising that there was not a significant correlation between number of treatments and attributions, given that a larger number of previous treatments logically suggests more relapses, leading to the hypothesis that a relationship between number of treatments and attributional style would be found. As alluded to earlier, one method of clarifying this puzzle would be to conduct a prospective, longitudinal study in which attributions are collected during times of abstinence, on the occasion of a lapse(s), and during full-blown relapse. This would provide truly distinct relapse and lapse groups and would avoid some the problems of retrospective attributions such as errors and biases in recall and changing attributions over time (i.e., the individual could have a certain

attributional pattern at the time of the lapse, but if data are collected weeks or months later, this attributional pattern may have changed, either consciously or without the individual's awareness).

It was hypothesized that for participants who have been in treatment previously, there would be a negative correlation between the length of the most recent abstinence and the degree to which attributions for actual relapse were internal, stable, global. In essence, the expectation was that individuals who relapsed quickly would have made different attributions for this relapse from people who remained abstinent longer. Multiple regression analyses with length of abstinence, number of treatments, and guilt related to relapse as independent variables failed to predict the extent to which attributions for that relapse were internal, stable, global, or the extent to which the relapse was perceived as intentional, expected, or controllable. Additionally, t-tests comparing "short relapsers" to "long relapsers" failed to reveal any significant differences in the manner in which the two groups made causal attributions for the relapse. It may be that there is no relationship between the length of relapse and the nature of causal attributions as these data suggest. With the use of a retrospective questionnaire, however, it is important to recall that attributions can change and that biases and limitations in memory may minimize the extent to which recollection of causal attributions is accurate.

It was hypothesized that persons described as significant others (S.O.'s) of the individuals in treatment would attribute causality for real and hypothetical outcomes differently than the people in treatment. The prediction was that S.O.'s would make attributions that were more internal, stable, global, intentional, expected, and controllable for the actual and hypothetical relapse and hypothetical slip outcomes compared to participants in treatment, but that S.O.'s would make less internal, stable, and global and intentional, expected, and controllable attributions for hypothetical abstinence compared to those in treatment. Though many of the differences did not reach statistical significance, 22 of 24 differences were in the predicted direction. S.O.'s tended to perceive the hypothetical relapse as a more expected outcome compared to persons in treatment. For the hypothetical slip, S.O.'s made attributions which were more global and more stable at a near-significant level. Taken together, these significant and near-significant findings suggest that S.O.'s attribute more blame and responsibility to the person in treatment for unsuccessful outcomes than the individual in treatment is willing to accept. The S.O.'s view of the hypothetical relapse or slip is characterized by the belief that these unsuccessful outcomes are caused by factors that are characteristic of that person and which persist over time.

This finding was in part anticipated because of the

actor-observer effect, which is the tendency to view other people's behavior as stable (Fiske & Taylor, 1984). Beyond the actor-observer effect, however, the principle of hedonic relevance suggests that, as active observers of the patient's relapse, the significant other is even more likely to attribute the cause of a relapse to the personal disposition of the patient. Cunningham, Starr, and Kanouse (1979) discovered that the actor-observer effect was markedly heightened when the individual making the attributions was an active observer and the event had a substantial negative valence for the observer. The authors state that "... the actor-observer effect may hold true particularly for blameworthy or socially undesirable events..." (Cunningham, Starr, & Kanouse, 1979, p. 1150).

Applying these findings to the present study, the S.O. can clearly be considered an active observer; that is, relapse or abstinence on the part of the treatment recipient can have profound effects for the S.O. as well. Additionally, it is intuitively appealing to suggest that, having witnessed a number of attempts at treatment and repeated relapses, the S.O. will begin to attribute more blame and essentially to be harsher on the individual in treatment regarding the causes of relapse. In fact, the data do suggest that such a process may happen. In addition to the S.O. versus subject differences, correlational analyses revealed there was a strong positive relationship between the number of times a subject has been in

treatment and the extent to which the S.O. made attributions for relapse which were internal, stable, and expected. These findings are illustrated in the following comment regarding a subject's relapse: "He started using again because he has no willpower and never will. You had to know that this was going to happen again - it always does." Thus, the more times a S.O. has to endure a relapse with a patient, the more likely it is that he or she will begin to use blaming attributions.

Treatment recipients were found to make attributions for the hypothetical abstinence outcome that were significantly more internal compared to S.O.'s and to perceive this outcome as more expected and controllable. It seems that not only do the S.O.'s blame the treatment recipient for unsuccessful outcomes to a greater extent than the treatment recipients do, they are also less willing to give credit to the treatment recipient for successful outcomes (abstinence) than the treatment recipient is willing to accord him or herself. Given these findings, one might expect to hear a S.O. saying to his or her treatment recipient partner, "You relapsed because you have no will power, but when you were unexpectedly abstinent for awhile, you were probably just lucky."

The statistical power to find these and other potential effects was seriously limited by the fact that only 10 S.O.'s responded by returning usable questionnaires, and only five of these 10 were from a pair with a subject who had been in treatment previously; five were from a pair in which the

subject was in treatment for the first time. Given that 22 of the 24 differences between significant others and subjects in treatment were in the predicted direction, it is plausible to suggest that future research which obtains a larger significant other sample may find that at least some of these differences represent significance or they may reveal other significant findings; therefore the findings of this study should continue to be interpreted cautiously, but they do suggest that future research should continue to address the role of the S.O. and his/her attributions. It would be particularly interesting to investigate how attributions made by a S.O. compare at each stage (abstinence, lapse, relapse) with attributions made by the patient in a prospective study.

In considering the types of attributions made, the congruence or incongruence of attributions made by the patient and significant others must be addressed. This suggests the potential usefulness of family, couples, and perhaps even group therapy in relapse prevention. Therapy in these modalities might be able to assist the patient and others in arriving at an accurate understanding of a lapse and the relapse process and to enhance the ability of all concerned to learn from the relapse process. Indeed, Heath and Stanton (1991) note the importance of including family therapy in the comprehensive treatment of drug addiction. They point out that the importance of the family in the genesis, maintenance, and treatment of the addictions has become well known. These

authors suggest that family interactive processes especially are frequently involved in the exacerbation of the addictive process (Heath & Stanton, 1991). Since we base our behavior largely upon our understanding, including causal understanding, of our own and other's behaviors, one can see the powerful interactive influence which causal attributions can exert in the family system. Causal attributions of various persons in the patient's life are important components to understanding more completely the relapse process and merit further attention from researchers working in chemical addictions treatment.

Some methodological short-comings of the present study have already been discussed. Of these, the lack of prospective data which contrasts lapsers with relapsers is perhaps the most serious. Utilization of data regarding number of treatments and length of abstinence is thought to have compensated at least in part for this limitation. Future research in causal attributions and cocaine dependence should seek to follow a cohort over time in order to compare abstainers, lapsers, and relapsers.

It appears that most research efforts in the relapse process have gone to understanding how attributions for a lapse influence the likelihood of subsequent abstinence or relapse. It might be very interesting to examine the nature of causal attributions for prolonged abstinence without lapses. This might provide clues to what cognitive coping

skills abstainers employ to deal successfully with stressful and risky situations.

Selection bias is clearly a concern in this study. A substantial proportion of patients approached about volunteering for the study refused to do so. It was not possible to collect any data on those who refused to participate, so it is not known how possible differences in demographics or treatment variables between those who consented to participate and those who did not might have affected the results of this study. The vast majority of possible significant other participants (51 out of 61) refused to participate. It is unclear how this self-selection problem may have affected the results of this study, but further replication, especially with regard to the significant other findings on larger samples, is clearly desirable. Related to this is the small sample of significant others. These interesting and potentially important findings need to be replicated with a larger sample size of significant others.

Finally, this study involved a good deal of reading and participants frequently asked for clarification. Many became confused when reading the hypothetical scenarios, needing to be reminded that the outcomes were different. Because of the need for frequent assistance with this sample population, random ordering of the instruments was not employed. Random ordering of the measures was tried out on a small pilot group and it was decided that it only introduced more confusion.

Unfortunately, the combination of somewhat limited reading skills for some participants, possible lack of interest, and possible order effects may also constitute nuisance factors which could have affected the results in unknown ways.

Conclusion

In summary, the results of the present study have suggested that the attribution patterns used by cocaine dependent persons in treatment are not like those used by depressed individuals to explain a negative life event. Despite hypotheses to the contrary, participants in treatment for cocaine dependence consistently made self-serving attributions for hypothetical and real outcomes involving the risk of relapse, taking credit for successful outcomes but avoiding responsibility for unsuccessful outcomes. In contrast, however, significant others, as predicted, made attributions which were more blaming for unsuccessful outcomes and less willing to bestow credit for successful outcomes. The extent to which they made "blaming" attributions appeared to be strongly related to the number of times the significant other has witnessed treatment for cocaine dependence and subsequent relapse. An increased awareness of the implication of significant others and the importance of their attributions in understanding the relapse process and ultimately improving relapse prevention is an important contribution of the present study.

The consistent findings of this study with regard to the extent to which participants viewed hypothetical and real outcomes as intentional, expected, and controllable supports the contention that these are dimensions which warrant closer scrutiny in the study of how attributional processes may affect the relapse process (Bradley, et al., 1992; O'Donnell, 1984). The present study indicates that patients made self-serving attributions along the intentional, expected, and controllable dimensions just as they did on the internal, stable, and global dimensions, though with mixed results on the control dimension. Thus, a depressive attributional style may not be that critical to prediction relapse and a "normal" attributional style may do nothing to prevent relapse. Though the attributional pattern revealed in this study for treatment recipients is the same as found with non-dependent persons, it may be that the degree of self-serving bias seen in cocaine-dependent persons provides clues as to how attributions can be useful in understanding the relapse process. Thus, clinicians may find it useful to help the patient examine the accuracy of their attributions and the ways in which biases interfere with their ability to achieve and maintain an abstinent lifestyle, though at this point this notion is very speculative.

Despite the aforementioned methodological problems, the results of this study provide some encouragement for the continued investigation of the role of causal attributions in relapse with cocaine dependent individuals. Potential new

directions for research which stem from the current study include the role of attributions made by significant others and the importance of the dimension of perceived control in high risk situations.

APPENDIX A

Demographics Questionnaire

_____
Code Number

1. How old were you on your last birthday?_____

2. Are you male (1) or female (2)?_____

3. What is your marital status? (check one)
___a. single ___b. divorced ___c. widowed ___d. married

4. What is your race/ethnicity?
___a. Black/African American ___b. Caucasian ___c. Hispanic
___d. Asian ___e.Other_____

5. What is the occupation of the main provider in your family?
(check one)
___a. Executive, doctor, dentist, lawyer
___b. Manager/owner of a large business
___c. Administrator, businessperson, or semi-professional
___d. Clerical or salesworker or technical worker
___e. Semi-skilled laborer
___f. Unskilled laborer
___g. Unemployed for one year or more

6. What is the highest education level the main provider in your household has completed? (check one)
___a. Graduate education
___b. College degree
___c. One year or more of college without degree
___d. High school diploma
___e. Some high school
___f. Grade school diploma
___g. Less than eight grade

7. How many people live in your household?_____

APPENDIX B

Adapted Addiction Severity Index

Code Number _____ Date _____

1. Please indicate your use of any of the following drugs. In the blanks provided, write the number of days you have used the drug listed over the past 30 days, and the number of years and/or months you have used the drug over your entire life. For example, if over the past 30 days, you drank beer on 20 of those days, you would write "20" on the line under "Days".

	Past 30 Days Use	Lifetime Use	
	Days	Years	Months
Alcohol - any use at all	___	___	___
Alcohol - to point of being drunk	___	___	___
Heroin	___	___	___
Methadone	___	___	___
Other opiates (morphine, Demerol, Dilaudid, etc.)	___	___	___
Barbiturates	___	___	___
Sedatives (e.g., Librium, Valium)	___	___	___
Cocaine	___	___	___
Amphetamines (speed)	___	___	___
Marijuana	___	___	___
Hallucinogens (e.g., LSD, mescaline)	___	___	___
Inhalants (e.g., solvents, glue sniffing)	___	___	___

More than one
substance per day ___ ___ ___

Which substance is the major problem? _____

How long was your last period of not using this drug? (check)

__ never had time when not using
__ less than one week
__ one to four weeks
__ one to six months
__ six to twelve months
__ more than one year

How long ago did this period of not using end? (check)

__ never had time when not using
__ less than one week
__ one to four weeks
__ one to six months
__ six to twelve months
__ more than one year

What is the longest amount of time you have ever gone without using?

__ never had time when not using
__ less than one week
__ one to four weeks
__ one to six months
__ six to twelve months
__ one to two years
__ two to five years
__ more than five years

How many times have you:

Had alcohol d.t.'s (shakes, saw things, etc.) ___
Overdosed on drugs ___

How many times in your life have you been treated for:

Alcohol abuse (inpatient) ___
Drug abuse (inpatient) ___
Alcohol abuse (outpatient) ___
Drug abuse (outpatient) ___

How many of these were detox only?

Alcohol ___
Drug ___

How much money would you say you spent in the last 30 days on:

Alcohol ____
Drugs ____

How troubled have you been in the last 30 days by alcohol problems: (circle one number)

1 2 3 4 5 6 7
Not at all troubled ... Extremely troubled

How troubled have you been in the last 30 days by drug problems: (circle one number)

1 2 3 4 5 6 7
Not at all troubled ... Extremely troubled

At this time, how would you rate your relationship with your closest friends and family members? (circle one number)

1 2 3 4 5 6 7

very satisfying and without stress ... very unsatisfying and stressful

APPENDIX C

Beck Inventory

Code Number _____ Date _____

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.

2 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.

3 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

4 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

5 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all the time.

6 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

8 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.

9 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10 0 I don't cry anymore than usual.
1 I cry more than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

11 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.

12 0 O have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

13 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

14 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.

15 0 I can work about as well as before.
1 It takes an extra effort to get started doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18 0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19 0 I haven't lost much weight, if any lately.
1 I have lost more than 5 pounds.
2 I have lost more than 10 pounds.
3 I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less:
_____yes _____no

20 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems, that I cannot think about anything else.

21 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

APPENDIX D

Prospective LCRASQ

prospective Relapse Questionnaire

_____

(Relapse) Code Number

_____

Date

A. Below are listed six make-believe situations that you might encounter after quitting use of cocaine. All of these situations result in a return to use of cocaine at your level of use prior to entering treatment. Please imagine yourself in each situation as vividly as possible and think about why you would have used cocaine in each situation. While there may be many causes or explanations for use of cocaine in each situation, please pick only one -- the major cause or explanation that applies most in your case. Please write this cause in the blank provided after each situation and then answer the questions that follow. To summarize, please:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the major cause of your use of cocaine in the situation if it happened to you.
3. Write the major cause in the blank provided.
4. Answer the questions that follow.
5. Go on to the next situation.

YOU HAVE BEEN FEELING SLIGHTLY DEPRESSED AND THINK THAT USING COCAINE WOULD HELP YOU FEEL BETTER. YOU USE COCAINE AND BEGIN TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances						Totally due to me

___ 3. In the future if you use cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE AT A PARTY WITH FRIENDS, SEVERAL OF WHOM USE COCAINE. YOU USE COCAINE AND BEGIN TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you use cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present						Will always be present

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation						Influences all situations in my life

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none						total control

YOUR EMPLOYER HAS YELLED AT YOU FOR A MINOR MISTAKE. YOU FEEL UNJUSTLY CRITICIZED AND ARE ANGRY. YOU USE COCAINE AND BEGIN TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances						Totally due to me

___ 3. In the future if you use cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE FEELING BORED AND RESTLESS WITH NOTHING TO DO. YOU USE COCAINE AND BEGIN TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you use cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU HAVE AN ARGUMENT WITH SOMEONE CLOSE TO YOU AND YOU ARE UPSET. YOU USE COCAINE AND BEGIN TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you use cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE ELATED TO RECEIVE A PROMOTION AND BONUS AT WORK AND FEEL LIKE CELEBRATING. YOU USE COCAINE AND BEGIN TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is the cause of your using cocaine something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you use cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use, or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

Prospective Relapse Questionnaire

(Slip/Abstinence) Code Number

_____ Date

B. Below are listed six make-believe situations that you might encounter after quitting use of cocaine. All of these situations result in use of cocaine, followed by a return to abstinence. Please imagine yourself in each situation as vividly as possible and think about why you would have slipped in each situation and then regained abstinence (i.e., used cocaine in this one instance, but then did not use again). While there may be many causes or explanations for each situation, please pick only one -- the major cause or explanation that applies most in your case. Please write this cause in the blank provided after each situation and then answer the questions that follow. To summarize, please:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the major cause of your slip in the situation and recovered abstinence if it happened to you.
3. Write the major cause in the blank provided.
4. Answer the questions that follow.
5. Go on to the next situation.

YOU HAVE BEEN FEELING SLIGHTLY DEPRESSED AND THINK THAT USING COCAINE WOULD HELP YOU FEEL BETTER. YOU USE COCAINE ONCE BUT THEN STOP USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you have this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE AT A PARTY WITH FRIENDS, SEVERAL OF WHOM USE COCAINE. YOU USE COCAINE ONCE BUT THEN STOP USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you have this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present						Will always be present

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation						Influences all situations in my life

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none						total control

YOUR EMPLOYER HAS YELLED AT YOU FOR A MINOR MISTAKE. YOU FEEL UNJUSTLY CRITICIZED AND ARE ANGRY. YOU USE COCAINE ONCE BUT THEN STOP USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances						Totally due to me

___ 3. In the future if you have this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE FEELING BORED AND RESTLESS WITH NOTHING TO DO. YOU USE COCAINE ONCE BUT THEN STOP USING.

1. Write down one major cause

___ 2. Is this cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you have this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU HAVE AN ARGUMENT WITH SOMEONE CLOSE TO YOU AND YOU ARE UPSET. YOU USE COCAINE ONCE BUT THEN STOP USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you have this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in thi situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE ELATED TO RECEIVE A PROMOTION AND BONUS AT WORK AND FEEL LIKE CELEBRATING. YOU USE COCAINE ONCE BUT THEN STOP USING.

1. Write down one major cause

___ 2. Is the cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people o circumstances					Totally due to me	

___ 3. In the future if you have this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation				Influences all situations in my life		

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

prospective Relapse Questionnaire

(Abstain) Code Number

_____ Date

C. Below are listed six make-believe situations that you might encounter after quitting use of cocaine. However, in this instance, these situations do not result in use of cocaine at all. Please imagine yourself in each situation as vividly as possible and think about why you would have resisted using cocaine in that situation. While there may be many causes or explanations for resisting the use of cocaine, please pick only one -- the major cause or explanation that applies most in your case. Please write this cause in the blank provided after each situation and then answer the questions that follow. To summarize, please:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you feel would be the major cause of your resisting the use of cocaine in the situation if it happened to you.
3. Write the major cause in the blank provided.
4. Answer the questions that follow.
5. Go on to the next situation.

YOU HAVE BEEN FEELING SLIGHTLY DEPRESSED AND THINK THAT USING COCAINE WOULD HELP YOU FEEL BETTER. YOU DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you resist using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation						Influences all situations in my life

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none						total control

YOU ARE AT A PARTY WITH FRIENDS, SEVERAL OF WHOM USE COCAINE. YOU DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances						Totally due to me

___ 3. In the future if you resist using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present						Will always be present

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOUR EMPLOYER HAS YELLED AT YOU FOR A MINOR MISTAKE. YOU FEEL UNJUSTLY CRITICIZED AND ARE ANGRY. YOU DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you resist using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE FEELING BORED AND RESTLESS WITH NOTHING TO DO. YOU DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you resist using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU HAVE AN ARGUMENT WITH SOMEONE CLOSE TO YOU AND YOU ARE UPSET. YOU DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you resist using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

YOU ARE ELATED TO RECEIVE A PROMOTION AND BONUS AT WORK AND FEEL LIKE CELEBRATING. YOU DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is the cause of your not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if you resist using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in my life	

___ 5. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did you have?

1	2	3	4	5	6	7
none					total control	

APPENDIX E

Retrospective LCRASQ

Retrospective Relapse Questionnaire (Relapse)

_____
Code Number

_____
Date

Description of Cocaine Use

This form is to be completed if, upon completion of a treatment program for cocaine dependence, you used cocaine again. Please answer the questions that follow.

1. Setting where cocaine was used **the first time** following treatment (check one)

___ home
___ work
___ friend or relative's house
___ bar, party or restaurant
___ car
___ alone
___ with other people
    ___ number of other people present
    ___ number of other people using cocaine
___ other (please describe):

2. Time elapsed since discharge before cocaine was used (check one)

___ less than 24 hours
___ 1 to 3 days
___ 4 to 6 days
___ 1 to 2 weeks
___ 2 to 4 weeks
___ 1 to 6 months
___ more than 6 months

3. Time of day when cocaine was **first** used following treatment (check one)

___ morning (6am to noon)
___ afternoon (noon to 5pm)
___ evening (5pm to 11pm)
___ night (11pm to 6am)

4. How did you obtain cocaine the **first** time following treatment? (check one)

___ someone offered it to you without you asking for it
___ you bought it
___ you asked someone else for cocaine
___ other (please describe) _____

5. Please describe any inner thoughts or emotional feelings (things within you) which triggered your need or desire to use cocaine.

6. Please describe any circumstances, situations, or events (things around you or that happened to you in the outside world) which triggered your need or desire to use cocaine.

7. a. What would you say is the MAIN CAUSE OR REASON for using cocaine that **first** time following treatment?

_____

_____

_____

b. Is this cause due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
totally due to other people or circumstances						totally due to me

c. In the future will this cause again be present in a similar situation? (circle one number)

1	2	3	4	5	6	7
will never again be present						will always be present

d. Is this cause something that just influences cocaine use, or does it also influence other areas of your life? (circle one number)

1	2	3	4	5	6	7
influences just this particular situation						influences all situations in my life

e. How much did you intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

f. How much did you expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all						a great deal

g. How much control over this outcome did you have?

1	2	3	4	5	6	7
none						total control

8. Did you focus on any <u>thoughts</u> or <u>images</u> to try to resist using cocaine? ___yes ___no

If yes, please describe:

9. Did you take any <u>actions</u> to try to resist using cocaine? ___yes ___no

If yes, please describe:

10. Just prior to using cocaine, how much were you feeling in control of yourself? (circle one number)

1	2	3	4	5	6	7
very little in control						very much in control

11. How guilty were you feeling about using cocaine immediately after using cocaine? (circle one number)

1	2	3	4	5	6	7
not at all guilty						extremely guilty

12. In terms of the situation in which you **<u>first</u>** used cocaine after treatment, please indicate the degree to which the situation was stressful to you. (circle one number)

1	2	3	4	5	6	7
not at all stressful						extremely stressful

13. Following the **<u>initial</u>** use of cocaine after treatment, did you use cocaine again? ___yes ___no

14. Please indicate which of the following best characterizes your process of relapse (check the **one choice** that best applies to **your** experience).

___ a. slip (one instance of use), followed by immediate relapse (return to regular use)
___ b. slip, followed by periodic use, and over time full relapse
___ c. slip, followed by periodic use, but did not return to regular use
___ d. slip, followed immediately by abstinence (used cocaine only one time and then stopped)
___ e. other (please describe)

_____

_____

15. Between this present treatment and your last treatment, what was the longest period of time that you were not using? (check)

__ never had time when not using
__ less than one week
__ one to four weeks
__ one to six months
__ six to twelve months
__ more than one year

APPENDIX F

PARTICIPANT CONSENT FORM

Project Title: Cocaine Dependence: Causal Attributions for Relapse

Principal Investigator: James W. Pier, M.A.

Sponsor: Isiaah Crawford, Ph.D.

As a participant in this study, you will be asked to complete a battery of questionnaires. Some of the questions ask for personal information regarding your experiences with cocaine use, and others ask you to consider make-believe situations involving use of cocaine. Your participation will require one to one and a half hours of your time.

Participants in this research may gain insight into their experience of drug use, treatment, and relapse. This research will add to knowledge of cocaine dependence, and may suggest questions for future research and treatment. While unlikely, it is possible that participation in this project may cause some anxiety on the part of participants. If this occurs, subjects will have the chance to discuss this with the experimenter, and will be encouraged to discuss this with those involved in their treatment.

Please be assured that your responses to all questions will be strictly anonymous. Your name will not appear on any of the questionnaires and the consent form that you sign will be kept separate from the actual questionnaires. The code numbers on the questionnaires are only to ensure that each set of questionnaires stays together.

Following your completion of the questionnaires, you will be asked to request a "significant other" (someone close to you such as a spouse, family member, lover, close friend) to fill out some questionnaires nearly identical to those you will have completed, dealing with your use of cocaine and some other make-believe situations involving cocaine use. This person will be asked to complete the questionnaires and to return them in an adressed, postage paid envelope. Their name will not appear anywhere on the questionnaires.

We hope that you will feel free to complete all the questionnaires. Participants may, however, choose not to answer specific questions or to discontinue participation at any time without penalty. Should you decide not to participate, or to discontinue your participation at any time, this decision will have no bearing or consequence with regard to your treatment.

If you have any questions or concerns about this investigation, please feel free to ask the experimenter. Thank-you for your participation.

_____ _____

Participant's signature Date

APPENDIX G

prospective Relapse Questionnaire
(Relapse)

_____
Code Number

_____
Date

A. Below are listed six make-believe situations that your "significant other" might encounter after quitting use of cocaine. All of these situations result in a return to use of cocaine at the level of use prior to entering treatment. Please imagine your significant other in each situation as vividly as possible and think about why he or she would have used cocaine in each situation. While there may be many causes or explanations for use of cocaine in each situation, please pick only one -- the major cause or explanation that applies most in this case. Please write this cause in the blank provided after each situation and then answer the questions that follow. To summarize, please:

1. Read each situation and imagine vividly your significant other in that situation.
2. Decide what you feel would be the major cause of his or her use of cocaine in the situation if it actually happened to him or her.
3. Write the major cause in the blank provided.
4. Answer the questions that follow.
5. Go on to the next situation.

YOUR SIGNIFICANT OTHER HAS BEEN FEELING SLIGHTLY DEPRESSED AND THINKS THAT USING COCAINE WOULD HELP HIM/HER FEEL BETTER. HE/SHE USES COCAINE AND BEGINS TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of using cocaine due to something about your significant other or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if he or she uses cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS AT A PARTY WITH FRIENDS, SEVERAL OF WHOM USE COCAINE. HE/SHE USES COCAINE AND BEGINS TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other using cocaine due to something about him/her, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if he/she uses cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation				Influences all situations in life		

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER'S EMPLOYER HAS YELLED AT HIM/HER FOR A MINOR MISTAKE. HE/SHE FEELS UNJUSTLY CRITICIZED AND IS ANGRY. HE/SHE USES COCAINE AND BEGINS TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other using cocaine due to something about him/her, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other uses cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS FEELING BORED AND RESTLESS WITH NOTHING TO DO. HE/SHE USES COCAINE AND BEGINS TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other using cocaine due to something about him/her, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other uses cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER HAS AN ARGUMENT WITH SOMEONE CLOSE TO HIM/HER AND IS UPSET. HE/SHE USES COCAINE AND BEGINS TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other using cocaine due to something about him/her, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other uses cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS ELATED TO RECEIVE A PROMOTION AND BONUS AT WORK AND FEELS LIKE CELEBRATING. HE/SHE USES COCAINE AND BEGINS TO USE REGULARLY AGAIN.

1. Write down one major cause

_____

_____

___ 2. Is the cause of your significant other using cocaine something about him/her, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other uses cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use, or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

prospective Relapse Questionnaire
(Slip/Abstinence)

_____
Code Number

_____
Date

B. Below are listed six make-believe situations that your "significant other" might encounter after quitting use of cocaine. All of these situations result in use of cocaine, followed by a return to abstinence. Please imagine your significant other in each situation as vividly as possible and think about why he/she would have slipped in each situation and then regained abstinence (i.e., used cocaine in this one instance, but then did not use again). While there may be many causes or explanations for each situation, please pick only one -- the major cause or explanation that applies most in this case. Please write this cause in the blank provided after each situation and then answer the questions that follow. To summarize, please:

1. Read each situation and vividly imagine your significant other in that situation.
2. Decide what you feel would be the major cause of this slip in the situation and recovered abstinence if it happened to your significant other.
3. Write the major cause in the blank provided.
4. Answer the three questions that follow.
5. Go on to the next situation.

YOUR SIGNIFICANT OTHER HAS BEEN FEELING SLIGHTLY DEPRESSED AND THINKS THAT USING COCAINE WOULD HELP HIM/HER FEEL BETTER. HE/SHE USES COCAINE ONCE BUT THEN STOPS USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if he/she has this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of your significant other's life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in his/herlife	

___ 5. How much did your signficant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS AT A PARTY WITH FRIENDS, SEVERAL OF WHOM USE COCAINE. HE/SHE USES COCAINE ONCE BUT THEN STOPS USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other has this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER'S EMPLOYER HAS REPRIMANDED HIM/HER FOR A MINOR MISTAKE. HE/SHE FEELS UNJUSTLY CRITICIZED AND IS ANGRY. HE/SHE USES COCAINE ONCE BUT THEN STOPS USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other has this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS FEELING BORED AND RESTLESS WITH NOTHING TO DO. HE/SHE USES COCAINE ONCE BUT THEN STOPS USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other has this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER HAS AN ARGUMENT WITH SOMEONE CLOSE TO HIM/HER AND IS UPSET. HE/SHE USES COCAINE ONCE BUT THEN STOPS USING.

1. Write down one major cause

_____

_____

___ 2. Is this cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other has this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS ELATED TO RECEIVE A PROMOTION AND BONUS AT WORK AND FEELS LIKE CELEBRATING. HE/SHE USES COCAINE ONCE BUT THEN STOPS USING.

1. Write down one major cause

_____

_____

___ 2. Is the cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other has this experience in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences cocaine use and abstinence or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

Prospective Relapse Questionnaire
(Abstain)

_____
Code Number

_____
Date

C. Below are listed six make-believe situations that your "significant other" might encounter after quitting use of cocaine. However, in this instance, these situations do not result in use of cocaine at all. Please imagine your significant other in each situation as vividly as possible and think about why he/she would have resisted using cocaine in that situation. While there may be many causes or explanations for resisting the use of cocaine, please pick only one -- the major cause or explanation that applies most in this case. Please write this cause in the blank provided after each situation and then answer the questions that follow. To summarize, please:

1. Read each situation and vividly imagine your significant other in that situation.
2. Decide what you feel would be the major cause of your significant other resisting the use of cocaine in the situation.
3. Write the major cause in the blank provided.
4. Answer the three questions that follow.
5. Go on to the next situation.

YOUR SIGNIFICANT OTHER HAS BEEN FEELING SLIGHTLY DEPRESSED AND THINKS THAT USING COCAINE WOULD HELP HIM/HER FEEL BETTER. HE/SHE DOES NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your not using cocaine due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other resists using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in his/her life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS AT A PARTY WITH FRIENDS, SEVERAL OF WHOM USE COCAINE. HE/SHE DOES NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other not using cocaine due to something about him/her or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other resists using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER'S EMPLOYER HAS YELLED AT HIM/HER FOR A MINOR MISTAKE. HE/SHE FEEL UNJUSTLY CRITICIZED AND IS ANGRY. HE/SHE DOES NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to me	

___ 3. In the future if your significant other resists using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS FEELING BORED AND RESTLESS WITH NOTHING TO DO. HE/SHE DOES NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other not using cocaine due to something about him/her or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other resists using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER HAS AN ARGUMENT WITH SOMEONE CLOSE TO HIM/HER AND IS UPSET. HE/SHE DO NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is this cause of your significant other not using cocaine due to something about him/her, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other resists using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

YOUR SIGNIFICANT OTHER IS ELATED TO RECEIVE A PROMOTION AND BONUS AT WORK AND FEELS LIKE CELEBRATING. HE/SHE DOES NOT USE COCAINE.

1. Write down one major cause

_____

_____

___ 2. Is the cause of your significant other not using cocaine due to something about you or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
Totally due to other people or circumstances					Totally due to him/her	

___ 3. In the future if your significant other resists using cocaine in a similar situation, will this cause again be present? (circle one number)

1	2	3	4	5	6	7
Will never again be present					Will always be present	

___ 4. Is this cause something that just influences not using cocaine or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
Influences just this particular situation					Influences all situations in life	

___ 5. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 6. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
not at all					a great deal	

___ 7. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none					total control	

APPENDIX H

Retrospective LCRASQ

Retrospective Relapse Questionnaire (Relapse)

_____
Code Number

_____
Date

Description of Cocaine Use

This form is to be completed if, upon completion of a treatment program for cocaine dependence, your significant other used cocaine again. Please answer the questions that follow to the best of your ability.

1. Setting where cocaine was used by this person **the first time** following treatment (check one)

___ home
___ work
___ friend or relative's house
___ bar, party or restaurant
___ car
___ alone
___ with other people
    ___ number of other people present
    ___ number of other people using cocaine
___ other (please describe): _____
___ I don't know

2. Time elapsed since discharge before cocaine was used (check one)

___ less than 24 hours
___ 1 to 3 days
___ 4 to 6 days
___ 1 to 2 weeks
___ 2 to 4 weeks
___ 1 to 6 months
___ more than 6 months
___ I don't know

3. Time of day when cocaine was **first** used following treatment (check one)

___ morning (6am to noon)
___ afternoon (noon to 5pm)
___ evening (5pm to 11pm)
___ night (11pm to 6am)
___ I don't know

4. How did your significant other obtain cocaine the **first** time following treatment? (check one)

___ someone offered it to your significant other without him/her asking for it
___ your significant other bought it
___ your significant other asked someone else for cocaine
___ other (please describe)

_____

_____

___ I don't know

5. Please describe any inner thoughts or emotional feelings (things within your significant other) which might have triggered your significant other's need or desire to use cocaine.

6. Please describe any circumstances, situations, or events (things around your significant other or that happened to him/her in the outside world) which triggered your significant other's need or desire to use cocaine.

7. a. What would you say is the MAIN CAUSE OR REASON for your significant other using cocaine that **first** time following treatment?

_____

_____

_____

b. Is this cause due to something about your significant other, or something about other people or circumstances? (circle one number)

1	2	3	4	5	6	7
totally due to other people or circumstances						totally due to him/her

c. In the future will the cause you indicated on question 7a be present in a similar situation? (circle one number)

1	2	3	4	5	6	7
will never again be present						will always be present

d. Is this cause something that just influences cocaine use, or does it also influence other areas of his/her life? (circle one number)

1	2	3	4	5	6	7
influences just this particular situation						influences all situations in life

e. How much did your significant other intend for this outcome to occur in this situation?

1	2	3	4	5	6	7
a great deal						not at all

f. How much did **you** expect this outcome to occur in this situation?

1	2	3	4	5	6	7
a great deal						not at all

g. How much control over this outcome did your significant other have?

1	2	3	4	5	6	7
none						total control

8. Did your significant other take any actions to try to resist using cocaine?
___yes ___no

If yes, please describe:

9. Following the **initial** use of cocaine after treatment, did your significant other use cocaine again? ___yes ___no

10. Please indicate which of the following best matches your significant other's process of relapse (check the **one choice** that best applies to **your significant other's** experience).

___ a. slip (one instance of use), followed by immediate relapse (return to regular use)
___ b. slip, followed by periodic use, and over time full relapse
___ c. slip, followed by periodic use, but did not return to regular use
___ d. slip, followed immediately by abstinence (used cocaine only one time and then stopped)
___ e. other (please describe)

_____

_____

11. Between this present treatment and your significant other's last treatment, what was the longest period of time that your significant other was not using? (check)

__ never had time when not using
__ less than one week
__ one to four weeks
__ one to six months
__ six to twelve months
__ more than one year

APPENDIX I

SECONDARY PARTICIPANT CONSENT FORM

Project Title: Cocaine Dependence: Causal Attributions for Relapse

Principal Investigator: James W. Pier, M.A.

Sponsor: Isiaah Crawford, Ph.D.

As a participant in this study, you will be asked to complete a battery of questionnaires. Some of the questions ask for personal information regarding the nature of your relationship with a person who is in treatment for cocaine dependence (e.g., spouse, friend, known for how long, etc.), and who has asked you to participate in this research. Other questionnaires will ask you to answer questions about this person's cocaine use, and some ask you to consider some make-believe situations involving use of cocaine by this person. Your participation should require approximately 45 minutes, and will hopefully contribute to an understanding of cocaine dependence and how we can better treat it.

Please be assured that your responses to all questions will be strictly anonymous. Your name will not appear on any of the questionnaires and the consent form that you sign will be kept separate from the actual questionnaires. The code numbers on the questionnaires are only to ensure that each set of questionnaires stays together.

Following your completion of the questionnaires, you will be asked to return them in an adressed, postage paid envelope that is provided for you. A separate, postage paid envelope will be provided in which you will be asked to return the signed participant consent form.

We hope that you will feel free to complete all the questionnaires. Participants may, however, choose not to answer specific questions or to discontinue participation at any time without penalty. Should you decide not to participate, or to discontinue your participation at any time, this decision will have no bearing or consequence with regard to the treatment of the person who has requested your participation.

If you have any questions or concerns about this investigation, please feel free to ask the experimenter by calling 203-573-7210. You may leave a message, and the experimenter will return your call to discuss at length any questions you may have.

Thank you for your participation.

_____ _____

Participant's signature Date

Dear _____:

I, _____, have volunteered to participate in a research project examining factors related to cocaine dependence. I have given the researchers your name as someone who might also participate. I hope that you will.

This research is looking at the process of relapse with people in treatment for cocaine abuse. Participants in treatment will be spending about one hour filling out questionnaires that ask about real and imaginary situations involving the use of cocaine.

As part of their participation, patients were asked to request that an important person close to them also fill out some questionnaires that ask for information about the patient's use of cocaine. _____ has selected you and is requesting your help. You will also be asked to fill out a questionnaire that asks how you are feeling today. It should take you 45 minutes to complete the questionnaires.

If you agree to participate, please carefully read and sign the enclosed participant consent form. Place the consent form in the **small**, addressed, stamped envelope and mail it. After completing the questionnaires, place the questionnaires, **without putting your name on them**, in the **large**, addressed, stamped envelope, and mail it. It is important that you do not put the materials in the same envelope, or put your name on the questionnaires, so that we will be unable to know who filled out what forms. This makes sure that the information you provide remains **strictly confidential**. We hope that this will allow you to complete the questionnaires candidly and openly.

If you have any questions, or would like to discuss the research, please call me at 203-573-7210 or 203-272-6349. Leave a message, and I will return your call. Thank-you.

James Pier, M.A.
Loyola University of
Chicago

Participant's signature

Data Sheet: Significant Other

Code Number _____

1. Please place and "x" in front of the term that best describes your relationship to the person in treatment for cocaine dependence.

___ husband
___ wife
___ mother
___ father
___ sibling (brother or sister)
___ relative (aunt, uncle, cousin, in-law, etc)
___ employer
___ co-worker
___ friend

2. How long have you known this person?

___ 0-1 year
___ 1-5 years
___ 5-10 years
___ 10-15 years
___ more than 15 years

3. Please circle the number that best describes how you currently feel about your relationship with the person in treatment:

1 2 3 4 5 6 7

Very happy Very unhappy

Name: Date:
Address:

Dear _____:

Recently, your name was provided by _____ as someone who might be willing to participate in a research project investigating the problem of relapse in the treatment of cocaine dependence. You were mailed a packet of questionnaires, along with addressed, stamped envelopes in which to return the materials.

If you have not yet considered this project, please allow me to encourage you to participate in this research. It will require roughly one half hour of your time, and may go a long way toward improving our knowledge of one of the most important issues in the treatment of cocaine dependence.

Please read the letter and instructions which were enclosed in the packet you should have received one week ago, and if you are willing, complete the consent form and questionnaires and return them in the envelopes provided for you. Additional copies of these materials are enclosed in case they are needed. If you have already participated, please disregard this letter and accept my sincere thanks for your valuable contribution to this research.

Sincerely,

_____

James Pier, M.A.
Loyola University Chicago

APPENDIX J

Debriefing Statement

Educational Feedback to the Participants in the Research Experiment, "Cocaine Dependence: Causal Attributions for Relapse."

The purpose of this experiment was to investigate the relationships among the types of causal attributions persons make regarding both real and imagined relapse, the experience of relapse and abstinence, previous treatment, and depression for persons in a cocaine abuse treatment program and a significant other.

All participants in treatment were administered a demographics questionnaire, a drug use history questionnaire, and a questionnaire assessing level of depression. Participants were also administered a questionnaire designed to measure the types of causal attributions persons make when thinking about potential instances of cocaine use following treatment for cocaine dependence, with three different outcomes (no use, use with return to abstinence, and relapse to regular use). Those participants who had been in treatment previously also were asked to complete a similar questionnaire which explores the actual experience of the participant's relapse and the types of causal attributions they made in this situation.

Significant other participants were administered the questionnaires regarding hypothetical relapse, and if applicable, acutal relapse as well. They were also administered a questionnaire assessing level of depression.

It was hypothesized that persons in treatment more that once will be more depressed, and will make more internal, stable, and global attributions about real and hypothetical relapse than persons in treatment for the first time. It is also hypothesized that persons in treatment and their signficant others will differ in their attributions for relapse, with persons in treatment making less internal, stable, and global attributions. Finally, the degree to which participants perceived the various outcomes as intentional, expected, and controllable was assessed. Statistical analyses of the data were employed to determine whether or not support for the hypotheses was found.

It is hoped that these results will facilitate an understanding of the relapse process, and suggest future research questions and intervention strategies.

Your participation is greatly appreciated.

APPENDIX K

Summary of Nonsignficant Results Regarding the Influence of Demographic Variables on Causal Attributions

One-way ANOVA's for Race

Hypothetical Relapse

Internal Attributions			
Source	df	MS	F
Between measures	1	29.12	0.69
Residual	59	42.05	

Stable Attributions			
Source	df	MS	F
Between measures	1	83.19	0.90
Residual	59	92.73	

Global Attributions			
Source	df	MS	F
Between measures	1	213.21	2.99
Residual	59	71.29	

Intentional Attributions			
Source	df	MS	F
Between measures	1	299.15	3.12
Residual	59	95.72	

Expected Attributions			
Source	df	MS	F
Between measures	1	191.87	1.73
Residual	59	110.93	

Controllable Attributions			
Source	df	MS	F
Between measures	1	172.93	1.41
Residual	59	122.97	

Hypothetical Slip

Internal Attributions			
Source	df	MS	F
Between measures	1	25.01	0.27
Residual	59	91.98	

Stable Attributions			
Source	df	MS	F
Between measures	1	108.95	0.93
Residual	59	116.78	

Global Attributions

Source	df	MS	F
Between measures	1	351.76	3.17
Residual	59	111.02	

Intentional Attributions

Source	df	MS	F
Between measures	1	180.589	1.39
Residual	59	130.11	

Expected Attributions

Source	df	MS	F
Between measures	1	484.10	3.79
Residual	59	127.59	

Controllable Attributions

Source	df	MS	F
Between measures	1	147.09	1.07
Residual	59	137.47	

Hypothetical Abstinence

Internal Attributions

Source	df	MS	F
Between measures	1	2.49	0.038
Residual	59	64.78	

Stable Attributions

Source	df	MS	F
Between measures	1	100.02	0.89
Residual	59	112.57	

Global Attributions

Source	df	MS	F
Between measures	1	50.806	0.59
Residual	59	85.422	

Intentional Attributions

Source	df	MS	F
Between measures	1	2.67	0.035
Residual	59	74.48	

Expected Attributions

Source	df	MS	F
Between measures	1	13.00	0.12
Residual	59	106.71	

Controllable Attributions

Source	df	MS	F
Between measures	1	8.26	0.074
Residual	59	111.91	

Actual Relapse

Internal Attributions

Source	df	MS	F
Between measures	1	0.20	0.064
Residual	59	3.16	

Stable Attributions

Source	df	MS	F
Between measures	1	4.25	0.68
Residual	59	6.22	

Global Attributions

Source	df	MS	F
Between measures	1	0.18	0.033
Residual	59	5.42	

Intentional Attributions

Source	df	MS	F
Between measures	1	0.36	0.065
Residual	59	5.658	

Expected Attributions

Source	df	MS	F
Between measures	1	0.70	0.10
Residual	59	7.02	

Controllable Attributions

Source	df	MS	F
Between measures	1	0.46	0.079
Residual	59	5.76	

One-way ANOVA's for Occupation

Actual Relapse

Internal Attributions			
Source	df	MS	F
Between measures	2	0.68	0.209
Residual	29	3.26	

Stable Attributions			
Source	df	MS	F
Between measures	2	3.46	0.57
Residual	29	6.07	

Global Attributions			
Source	df	MS	F
Between measures	2	3.71	0.70
Residual	29	5.33	

Intentional Attributions			
Source	df	MS	F
Between measures	2	0.04	0.007
Residual	29	5.61	

Expected Attributions			
Source	df	MS	F
Between measures	2	4.06	1.47
Residual	29	2.75	

Controllable Attributions			
Source	df	MS	F
Between measures	2	5.24	0.96
Residual	29	5.48	

One-way ANOVA's for Educational Level

Actual Relapse

Internal Attributions			
Source	df	MS	F
Between measures	3	3.31	1.084
Residual	28	3.07	

Stable Attributions			
Source	df	MS	F
Between measures	3	0.831	0.13
Residual	28	6.44	

Global Attributions			
Source	df	MS	F
Between measures	3	1.05	0.20
Residual	28	5.35	

Intentional Attributions			
Source	df	MS	F
Between measures	3	7.025	1.41
Residual	28	4.998	

Expected Attributions			
Source	df	MS	F
Between measures	3	1.17	0.19
Residual	28	6.12	

Controllable Attributions			
Source	df	MS	F
Between measures	3	10.00	2.019
Residual	28	4.98	

APPENDIX L

Summary of Nonsignificant Findings Regarding the Influence of Treatment Facility on Causal Attributions
One-way ANOVA's for Treatment Facility

Hypothetical Relapse

Internal Attributions			
Source	df	MS	F
Between measures	4	23.12	0.54
Residual	55	43.18	

Stable Attributions			
Source	df	MS	F
Between measures	4	84.42	0.91
Residual	55	93.15	

Global Attributions			
Source	df	MS	F
Between measures	4	75.26	1.02
Residual	55	73.54	

Intentional Attributions			
Source	df	MS	F
Between measures	4	112.76	1.15
Residual	55	98.14	

Expected Attributions			
Source	df	MS	F
Between measures	4	148.26	1.35
Residual	55	109.71	

Controllable Attributions			
Source	df	MS	F
Between measures	4	146.08	1.20
Residual	55	122.21	

Hypothetical Slip

Internal Attributions			
Source	df	MS	F
Between measures	4	85.44	0.94
Residual	55	91.23	

Stable Attributions			
Source	df	MS	F
Between measures	4	67.84	0.56
Residual	55	120.20	

Global Attributions			
Source	df	MS	F
Between measures	4	66.54	0.56
Residual	55	118.63	

Intentional Attributions

Source	df	MS	F
Between measures	4	80.17	0.60
Residual	55	134.66	

Expected Attributions

Source	df	MS	F
Between measures	4	193.18	1.50
Residual	55	129.30	

Controllable Attributions

Source	df	MS	F
Between measures	4	88.47	0.63
Residual	55	141.21	

Hypothetical Abstinence

Internal Attributions

Source	df	MS	F
Between measures	4	123.73	2.088
Residual	55	59.36	

Stable Attributions

Source	df	MS	F
Between measures	4	49.12	0.42
Residual	55	116.98	

Global Attributions

Source	df	MS	F
Between measures	4	71.13	0.83
Residual	55	85.83	

Intentional Attributions

Source	df	MS	F
Between measures	4	201.14	3.14
Residual	55	63.96	

Expected Attributions

Source	df	MS	F
Between measures	4	191.41	1.94
Residual	55	98.85	

Controllable Attributions

Source	df	MS	F
Between measures	4	141.24	1.31
Residual	55	107.89	

APPENDIX M

Summary of Nonsignificant Results Comparing Attributions Made by Inpatient and Outpatient Participants

Comparisons for Hypothetical Relapse

Attribution/Perception	df	t-score	p
Internal: Inpatient vs. Outpatient	59	0.70	N.S.
Stable: Inpatient vs. Ouptatient	59	-1.34	N.S.
Global: inpatient vs. Outpatient	59	-0.80	N.S.
Intentional: Inpatient vs. Outpt.	59	0.11	N.S.
Expected: Inpatient vs. Outpatient	59	0.94	N.S.
Controllable: Inpatient vs. Outpt.	59	-0.51	N.S.

Comparisons for Hypothetical Slip

Attribution/Perception	df	t-score	p
Internal: Inpatient vs. Outpatient	58	-0.014	N.S.
Stable: Inpatient vs. Outpatient	58	0.46	N.S.
Global: Inpatient vs. Outpatient	58	1.13	N.S.
Intentional: Inpatient vs. Outpt.	58	0.97	N.S.
Expected: Inpatient vs. Outpatient	58	1.73	< .10
Controllable: Inpatient vs. Outpt.	58	-0.82	N.S.

Comparisons for Hypothetical Abstinence

Attribution/Perception	df	t-score	p
Internal: Inpatient vs. Outpt.	58	0.34	N.S.
Stable: Inpatient vs. Outpatient	58	0.84	N.S.
Global: Inpatient vs. Outpatient	58	0.58	N.S.
Intentional: Inpt. vs. Outpt.	58	1.50	N.S.
Expected: Inpatient vs. Outpt.	58	-0.54	N.S.
Controllable: Inpt. vs. Outpt.	58	-0.74	N.S.

Comparisons for Actual Relapse

Attribution/Perception	df	t-score	p
Internal: Inpatient vs. Outpt.	31	-0.38	N.S.
Stable: Inpatient vs. Outpt.	31	0.25	N.S.
Global: Inpatient vs. Outpt.	31	0.98	N.S.
Intentional: Inpatient vs. Outpt.	31	-0.80	N.S.
Expected: Inpatient vs. Outpt.	31	-1.86	< .10
Controllable: Inpt. vs. Outpt.	31	0.23	N.S.

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VITA

The author, James W. Pier, was born in Munich, Germany, on May 12, 1963. His family returned to the United States in 1965 and he attended Marquette University High School in Milwaukee, Wisconsin, graduating in May, 1981. He graduated cum laude with a Bachelor of Arts degree in psychology from Boston College in May, 1985.

Following graduation, the author worked for the Massachusetts Department of Mental Health as a mental health worker and research assistant for two years. Following this employment, the author enrolled in the Clinical Psychology Doctoral Program at Loyola University Chicago.

To date, he has completed 72 hours of graduate credit and his Master's Thesis, Cocaine Dependence: The Relationship of Causal Attributions and Relapse. Clinical training has included a one year clerkship at the Charles I. Doyle, S.J. Center of Loyola University, a nine month clerkship at the Counseling and Developmental Services Center of Loyola University, a nine month Neuropsychology Clerkship at the Charles I. Doyle, S.J. Center, and a twelve month pre-doctoral internship in clinical psychology in the Department of Psychiatry, Yale University School of Medicine. The author taught a course in the Psychology of Addiction in the spring semester, 1991. In September, 1992, the author began a post-doctoral fellowship in clinical neuropsychology at the Institute of Living, Hartford, CT.

APPROVAL SHEET

The dissertation submitted by James W. Pier has been read and approved by the following committee:

Dr. Isiaah Crawford, Director
Assistant Professor, Psychology, Loyola

Dr. Alan DeWolfe
Professor, Psychology, Loyola

Dr. R. Scott Tindale
Associate Professor, Psychology, Loyola

Dr. James Johnson
Professor, Psychology, Loyola

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation in therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Date Director's Signature