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## Opiate-addicted Parents in Methadone Treatment: Long-term Recovery, Health and Family Relationships

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### Abstract

Few studies follow the lives of opiate-addicted parents. We examine a 12-year follow-up of 144 parents in methadone treatment and their 3- to 14-year-old children. Parent mortality was high. Among survivors, drug use and treatment, incarceration, residential and family disruptions, and health problems were common. Moderate and long-term recovery were associated with consistent methadone treatment, further education, employment, and fewer relationship disruptions. Earlier depression, deviant friends, and poor coping skills predicted continued drug problems. Thus, interventions should include treatment for depression and build skills for avoiding and refusing drugs, coping with stress, and maintaining recovery-supportive friendships.

### Keywords

opiates; family; long-term follow-up; longitudinal

### Introduction

Few studies follow the life experiences of opiate-addicted adults. Almost all studies to date have focused on clinical samples which consist primarily or entirely of men. In a 30-year follow-up of male narcotic addicts, mortality was high, and periods of abstinence and relapse as well as chronic physical and mental health problems were common among those still living.<sup>1, 2</sup> Similarly, in long-term follow-ups and retrospective accounts of male and female heroin addicts, relapse to use was high, the cost to health was apparent,<sup>3, 4</sup> and unemployment was fairly common.<sup>5</sup> Very little is known about the life course of opiate-addicted parents specifically.<sup>6</sup> Most research on addicted parents has examined pregnancy and childbearing among women,<sup>7</sup> or has focused entirely on the effects of drug- or alcohol-abusing parents on their children,<sup>6, 8, 9</sup> with little attention paid to the life experiences of the parents over long periods of time.

In the current study, we investigate how drug abuse and recovery may be related to other life experiences of parents and their families over time. Our purpose is to describe the experiences of opiate-addicted parents and, when possible, connect the extent of their recovery to their health, work, and family lives. We describe opiate-addicted parents by using their reports of drug use, treatment and abstinence, arrests and incarcerations, physical

and mental health, employment, homelessness, and their marriage and parent/child relationships.

This report is based on data from 130 families who participated in the clinical trial of Focus on Families (FOF), an intervention designed to prevent both relapse to drug use among the parents and initiation or escalation of substance use and other problem behaviors among their children. Male and female methadone clients with children between the ages of 3 and 14 years were recruited from 3 methadone clinics in the Seattle, WA area. Initial interviews were conducted with the methadone client parents (n=144) and their children 4 times over a 3-year period (1991 - 1995) as part of the evaluation of the Focus on Families (FOF) intervention. Early findings showed short-term reductions in opiate use by parents and some promising trend-level reductions in behavior problems among the children.<sup>10-13</sup>

Approximately 12 years later (2005), nearly 99% of parent participants and 98% of their children were located.<sup>14</sup> Long-term follow-up interviews<sup>8</sup> with the children (most of them young adults by then) revealed a significant reduction in the likelihood of developing a substance use disorder among the male children whose families received the intervention compared to controls. The female children were not similarly protected.

## Methods

### Participants

Participants in FOF were recruited from 3 Seattle-area methadone clinics beginning in 1991. To be eligible, one parent had to be in methadone treatment for at least 3 months and live with at least one child between 3 and 14 years of age at baseline. Only the parent in methadone treatment was interviewed, although the interview included questions about non-methadone-treatment involved partners. In a few cases, both parents were in methadone treatment and in these cases both parents were interviewed (14 families). Over the course of 2.5 years, the project enrolled 130 families which included 144 parents and 177 children. Families were randomly assigned to the intervention or control group and completed a baseline interview. The intervention was targeted at reducing relapse and improving parenting practices and included parent training groups and home visits/case management. Post-intervention interviews were conducted when participants assigned to the intervention condition had just completed the intervention (approximately 5 months later), and follow-up interviews were then conducted 6, 12, and 24 months after treatment completion (about 2.5 years after enrollment). The 2-year follow-up interviews were completed in August of 1995. Completion rates for parents were 94% at the post-intervention 6-month follow-up, and 92% at the 12- and 24-month follow-ups. Children age 6 and older were interviewed at each assessment. Attrition was slightly higher for children, with 86% of eligible children completing the 24-month follow-up interview (see Catalano et al. 2007<sup>12</sup> for a description of the intervention and summary of findings from the original study).

Every effort was made to interview all parents and children from the original study at the long-term follow-up, including those who did not complete interviews at the earlier time points. Interviews were conducted between April 2005 and June 2006. Of the 144 parents in the original sample, 142 were located (98.6%), 34 were deceased (24%), 5 refused (3.5%), 3 could not be reached (3.5%), and 100 (69.4%) were interviewed.<sup>14</sup> The demographic characteristics of the sample of parents at baseline are shown in Table 1. Seventy-four percent of the parents in the original sample were women, 78% were white, 17% were black, and 4% identified as other or mixed race. Of those interviewed at the time of the long-term follow-up, 80% of the parents were women, 67% were white, 16% were black, and 17% identified as other or mixed race. Changes in the demographic make-up of the sample were

due to higher mortality rates among men than women and an increase in the number of people who self-identified as mixed race.

The average age of children at baseline was 8.21 years (SD = 3.89). Average age at follow-up was 22.02 (SD = 3.83). At the long-term follow-up, 29% of the children were high school age, 37% were emerging adults (19 - 24 years old) and 34% were young adults (25 - 29 years old). Fifty-five percent were male. Those who completed the long-term follow-up interview (n = 151) did not differ from noncompleters (n = 26) in terms of race; gender; age; experimental condition; or cigarette, alcohol, or marijuana use at baseline.

The in-person interview took approximately 90 minutes and included a mental health assessment of current and past (10 years) diagnostic criteria (from the Composite International Diagnostic Interview; CIDI);<sup>15</sup> 16 a 10-year life history calendar; and a urine sample to test for substance use. Participants were paid \$60 to complete the data collection. Interviewers asked survey questions aloud and entered answers onto a laptop computer using a computer-aided personal interviewing program. Sensitive questions were completed by the subject directly onto the laptop to provide privacy. For participants who were incarcerated, we either waited until they were released to complete the interview or applied for permission from the corrections system to conduct the interview at the correctional facility.

A life history calendar (LHC)<sup>17</sup> was used to gather information regarding respondents' health service utilization, drug treatment, incarceration, employment, and marital status over the past 10 years. The primary advantage of using the LHC is that it helps the respondent relate to the timing of events, both visually and mentally. It facilitates the recording and coding of detailed events and data which would be more difficult to obtain with a traditional questionnaire. It allows both the respondent and the interviewer to easily recognize any inconsistencies in timing of events. Measures from the LHC are noted where used.

In addition to the interview and LHC, a problem-solving skills assessment was conducted. The Problem Situation Inventory (PSI)<sup>18</sup> presents hypothetical opportunities for drug use and other stressful situations with friends and family. Participants' responses to questions about hypothetical situations were audio recorded and were later coded for skillfulness of the responses.

At the end of the interview, participants were asked to provide a urine sample which was immediately mailed to a lab for drug screening. The samples were screened for evidence of recent amphetamines (amphetamine and methamphetamine), cocaine/metabolites, opiates, marijuana metabolite, and phencyclidine. In order to ensure no false positive results, all positive results were retested using Gas Chromatography / Mass Spectrometry.

## Measures

**Risk and protective factors**—The original study included measures of risk and protective factors for drug relapse at baseline and at 12- and 24-month follow-up. We included 5 factors as correlates of recovery in this study. Nine symptoms of depression<sup>19</sup> were scored as present or absent for more than a 2-week period over the past year and then summed. Examples of symptoms include loss of appetite, feeling blue, etc. Family conflict<sup>20</sup> was the mean of 3 items (how often family argues, family members get upset with each other, and are critical of each other) rated on a 5-point scale. Sources of social support were counted as present or absent across 10 domains and were summed. Examples of domains of support include family, friends, neighbors, doctors, clergy, etc. Deviant friends<sup>11</sup> were assessed by asking about the parent's 4 closest friends, and in each case, if that friend used heroin, other illegal drugs, or broke the law (yes = 1, no = 0). Scores were

averaged across friends. Coping skills were assessed using the Problem Situation Inventory (PSI),<sup>18, 21</sup> which presents hypothetical opportunities for drug use and other stressful situations with friends and family. The PSI uses a formula to create scores for the skillfulness of responses. Level of exposure to the intervention was indicated by the number of intervention sessions attended as reported by the intervention specialist.

*Demographic variables* such as race, age, gender, and level of public assistance were obtained from the respondent in the long-term follow-up survey.

*Recent drug use* was based on self-reported use of marijuana, cocaine or coke, amphetamines, benzodiazepines, party drugs, and opiates. If urine tested positive for one of these substances, the participant was counted as using, whether self-reports confirmed use or not. History of drug problems and treatment were collected using the LHC. For each year, respondents were asked if they had a drug problem in that year, what type of drug(s), if they were in drug treatment that year, and what type of treatment(s). Washington State criminal records were used to determine adult criminal charges. Only charges not dropped or not acquitted were considered. Years in which respondents were incarcerated were reported on the LHC. Smoking was assessed in the survey as: (1) An occasional or social smoker, (2) A moderate smoker (less than 1 pack per day), (3) a heavy smoker (more than 1 pack per day), and (4) smoking history.

*Recovery status* was based on recent drug use, history of drug problems, and history of incarceration. Long-term recovery was defined as no recent drug use (self-report or urinalysis [UA]) and no drug problems or incarcerations for at least 10 years (LHC data). Moderate recovery was defined as no recent drug use and no history of drug problems or incarcerations in the past 5 years.

**Health and mental health**—Mortality was determined through public records, and death certificates were obtained for all but 4 cases. We report the primary cause of death only. Depression was assessed based on criteria in the Diagnostic and Statistical Manual (DSM IV) using The Composite International Diagnostic Interview (CIDI).<sup>15, 16</sup> Survey questions were used to measure mental and physical health problems. Items included, “How many days in the past month would you say your physical health was not good?” and “How many days in last month would you say your mental health was not good?” Survey questions were also used to assess prescription drug use (‘During the past year have you taken any prescription drugs for any health problems?’) and the number of different types of drugs prescribed (follow-up question, ‘How many different prescription drugs have you taken?’). The LHC included questions about chronic health problems, hospitalizations, and serious accidents in each year.

**School and employment**—LHC data were used to assess whether respondents had attended school full time or been unemployed in the past 10 years. Survey questions were also used to determine the rate of unemployment in the last year (“In the past year, how many paid jobs did you have?”).

**Residential status**—The LHC included questions about whether the respondent moved each year and how many times they moved that year. Additionally, respondents were asked in each year whether they had any time when they did not have a regular place to live. If so, homelessness was indicated for some time in that year.

**Family composition**—Changes in marital status and having additional children were assessed using questions from the LHC. Information about parent-child relationships and family functioning was gathered from the children. Follow-up surveys and life history

calendars were conducted with 85.3% of the original sample of children. Of the 151 interviewed, 116 were children of at least one of the parents we interviewed at the long-term follow-up, providing reports on 95 of the 100 parents interviewed. Measures from these interviews included the years in which the child lived with their opiate-addicted parent (from the LHC). Surveys included a family support scale<sup>22</sup> with 9 items answered on a 6-point scale (Cronbach's alpha = .83). Family cohesion<sup>20</sup> was assessed on the survey using 7 items with the same 6-point response scale (Cronbach's alpha = .89). Items from the teen/adult children survey were also used to measure physical abuse ("I believe I was physically abused by my parent or caregiver" and "My parent or caregiver hit me so hard it left bruises or marks.").

Qualitative data were gathered using an open-ended question at the end of the survey. "Finally, I'd like to ask you to tell me in your own words about who you are now. How would you characterize yourself and your life?" If the respondent was unsure how to respond, the interviewer offered this prompt. "Say you haven't seen a friend in several years. What would you say to them about yourself to bring them up to date?" All responses were reviewed by 2 investigators.

## Results

### Recovery, Drug Use, and Treatment

As noted in the measures section, in order to meet the criteria for recovery, one had to have reported no drug problems or incarcerations on the LHC, no 30-day drug use on the survey, and have had a clean UA. Of the 144 parents in the original study, 34 (24%) had died. Nineteen (13.2%) appeared to meet our criteria for recovery for at least 10 years. Another 14 (9.7%) met these criteria for 5 to 10 years. Ten (7%) could not be characterized on recovery because they could not be located or contacted. The remaining 46% of the original sample did not meet our criteria for recovery because they experienced continuous or intermittent drug use or incarceration.

### Correlates and Predictors of Recovery

Results regarding recovery are based on the 134 parents who could be classified, assuming those who died cannot be considered recovered. Women were more likely to be in moderate or long-term recovery than were men (30.30% vs. 8.57%,  $X^2 = 6.58$ ,  $p = .015$ ). Consistent methadone treatment was associated with long-term recovery. Those reporting 10 years of stable methadone treatment were 4 times more likely to be in long-term recovery (29.3% vs. 7.5%,  $X^2 = 11.05$ ,  $p < .001$ ). The themes of family (especially children and grandchildren) and drugs came up frequently in respondents' self-descriptions. Parents in recovery often cited their children and/or grandchildren as the important focus of their lives now. Spirituality or religious beliefs were also mentioned as a source of strength and support. Work, school, and volunteering were listed among their accomplishments.

Several risk factors for relapse were examined from data collected as part of the original study (depression, social support, family and domestic conflict, friends' drug use, and coping skills). Of these, depressive symptoms at the 12-month follow-up, association with deviant friends at 12- and 24-month follow-up, and poor coping skills at 24-month follow-up were significantly correlated with drug use reported over the last 10 years. Correlations ranged from .18 to .35, suggesting moderately increased risk of drug use associated with these relapse factors.

## Drug Use

Of the parents who reported no drug problems in the past 10 years ( $n = 37$ ), over a third ( $n = 16$ ) self-reported using illegal drugs in the previous 30 days and did not consider this a problem. Forty-nine percent of parents interviewed reported some illegal drug use in the past 30 days (see Table 2 for types of drugs used).

Almost all respondents (95% of both men and women) had smoked in their lifetime. About a fifth had not smoked in the past year, or considered themselves ‘nonsmokers’ (18.8% of women and 20% of men, NS). Twenty-one percent of both men and women smoked more than a pack per day at the time of the long-term follow-up interview.

A majority (79%) reported use of prescription drugs for health problems, which is high compared to the general population, in which 47% reported using prescription drugs in the past month.<sup>23</sup> The number of different types of drugs ranged from 1 to 25. Men were less likely than women to report 5 or more different types of medications (13% of men vs. 46% of women,  $X^2 = 5.21$ ,  $df = 1$ ,  $p = .02$ ). Use of a variety of prescribed drugs was somewhat higher for those parents who were in 5 to 10 years of recovery (5.5 different drugs in the past year on average) than those not in recovery (mean = 3.0) or in longer term recovery (mean = 4.3). Whether this indicates illicit drug use for self-medication among those still using, or the use of prescribed drugs to ‘get high’ on the part of those in apparent recovery is not possible to determine.

## Treatment

Forty-one percent of the parents reported participating in some form of drug treatment every year, and 32% were in methadone treatment every year. Methadone treatment was intermittent for 43% of the sample. No gender differences were found in treatment patterns.

## Incarceration

Arrests and convictions were common (90% had some WA state criminal record in the past 10 years), and periods of incarceration over the last 10 years were reported by 54% of parents interviewed, compared to a lifetime prevalence rate of arrests in the United States of 3%.<sup>24</sup> Jail time was more common among the women than men (57.5% vs. 40%), but not significantly so. Of the 54 respondents who reported incarceration, 40 (74%) were in jail for 3 years or less. Incarceration of 5 years or longer was less common ( $n = 11$ , 20.3%). Of those reporting lifetime arrests, most reported being arrested more than 10 times (63% of men and 52% of women, NS). Ten percent reported having been arrested 50 or more times (21% of men and 7% of women). Criminal records indicated an average of 20.7 charges ( $SD = 26.10$ ) among those with records. Forty-five percent of those interviewed had at least one felony drug dealing (delivery) charge.

## Mortality and Physical and Mental Health

Mortality among the addicted parents was high. Thirty-two (25%) of the 130 families experienced the death of the addicted parent, and in 2 cases both parents had died before the long-term follow-up interview (34 deaths total). For comparison, mortality in the general population of Washington State was 7.5% in 2005 and 14.8% among heroin users in the Seattle metropolitan area.<sup>26</sup> Overdoses accounted for about a third of the causes of death in our sample ( $n = 11$ ). Other causes of deaths included 3 cases of hepatitis, 1 AIDS, and 1 malnutrition, which may also be due to drug use. There were 2 deaths due to accident, 4 due to cancer of various forms, and 4 due to some form of heart problem. Four deaths were due to other causes (kidney failure, stroke, and respiratory problems). Death certificates could not be obtained for 4 of the deceased participants (2 confirmed with public records and 2

confirmed by close relatives). Although most of those who died were women, men in the sample were more likely to die (37% of men vs. 19% of women).

Physical and mental health problems were common for those still surviving. About two thirds of surveyed parents (65%) reported at least 1 day in the past month when their physical health was not good (mean days = 11.28, SD = 12.38), and a quarter of them reported poor physical health every day (no gender difference). This compared to the general population in Washington State, with 86.5% of adults reporting that their general health is good, very good, or excellent, and only 3.5% reporting poor health.<sup>25</sup> Sixty-four percent reported some chronic health problem in the past 12 months. More than half of the sample reported at least 1 overnight hospital stay in the last 10 years (63.8% of women, 40% of men,  $X^2 = 3.73$ ,  $df = 1$ ,  $p = .07$ ). About a third reported at least 1 serious accident (26 women, 8 men, NS).

Mental health was also compromised. Forty-eight percent met DSM III criteria for a major depressive disorder in the last 10 years. Depression was significantly more common among the women (54% vs. 25%,  $X^2 = 5.30$ ,  $df = 1$ ,  $p = .02$ ). This finding compares to a lifetime prevalence rate for the general public of 13.2% for men and 20.2% for women.<sup>27</sup> Seventy-three percent reported at least 1 day in the previous 30 when their mental health was not good. Twenty-one percent felt their mental health was not good every day (mean days = 12.47, SD = 11.53). This is a high compared to the general population in Washington (mean days of mentally unhealthy days = 3.3).<sup>28</sup> Women were somewhat more likely to report any poor mental health days (76% of women vs. 60% of men, NS).

Health was an important theme among this largely middle-aged sample. Those in recovery often cited being healthy as a goal they felt they were achieving. However, many felt they were not doing well physically or emotionally. Medical problems, loss, depression, anxiety, paranoia, and drug relapse were mentioned in response to our open-ended question.

### Education and Employment

Twenty percent of surveyed parents reported being in school full time at some point over the past 10 - 12 years (18 women, 2 men, NS). Parents who reported going back to school were more than twice as likely to be in moderate to long-term recovery as those who did not (50% vs. 20.18%,  $X^2 = 17.22$ ,  $p < .001$ ).

Unemployment was common. At the time of the interview, 52% reported no employment in the past year (55% of women and 40% of men, NS), compared to the unemployment rate for Washington State, which was 5.5% in 2005.<sup>29</sup> Forty-one respondents (35 women, 6 men, NS) reported no time in the past 10 years in which they were employed more than 30 hrs/week for at least 9 months. Age was not related to the probability of joblessness; however, length of recovery was. Seventy-nine percent of parents in long-term recovery reported some full-time employment in the past 10 years, compared to 64% of those in 5 - 9 years of recovery, and 52% of those not in recovery ( $X^2 = 4.55$ ,  $p = .10$ ). Work came up in response to our open-ended question, but often respondents said that they were looking for work, or not working because of health problems.

### Residential Mobility and Homelessness

We examined the life history calendar for evidence of residential and relationship changes. We found that 89% experienced some residence change in 10 years (range = 0 - 24, mean # home changes = 3.73, SD = 4.45). Women were significantly more likely to report a residential change (92.5% vs. 75%,  $X^2 = 5.0$ ,  $p = .04$ ), but no more likely to report frequent moves (4 or more in 10 years). Thirty-six percent reported at least one year in which they did not have a regular place to live. There were no differences by gender. Four parents

reported being homeless during the entire 10-year period and were homeless at the time of the long-term follow-up interview. Parents in long-term recovery were less likely to report homelessness (5.3%) compared to those in shorter term recovery (35.7%) or those still using (44.8%,  $X^2 = 10.0$ ,  $p = .007$ ). The subject of housing came up frequently in the self-assessments. Some reported they were looking for housing while others mentioned having bought a home as a significant positive event.

### Marriage and Family Relationships

Changes in marital status occurred for 38% of parents (17 marriages, 10 divorces, 13 separations, 1 reconciliation, and 12 reported being widowed) during the 10-year period (no gender differences). Parents in moderate or long-term recovery were less likely to experience relationship transitions (21.12% vs. 46.27%,  $X^2 = 7.93$ ,  $p = .02$ ). Fifteen mothers and one father reported births of additional children in the past 10 years.

About half of the children who were interviewed reported not living with their addicted parent at least some of the time before they were 18. However, close to 60% reported living with the addicted parent at some time after age 18, suggesting in most cases that parent-child ties were not completely broken. Given the difficulties experienced by these parents detailed above, we wanted to understand how children would report on their experiences living with their parents. When asked a series of questions about family cohesion and support over the last 10 years, the teens and young adults indicated on average that their opiate-addicted parent sometimes or almost always listened, tried to understand, made them feel loved, and provided emotional and practical support (7 items on a scale from 1 to 6, mean = 4.5, SD = 1.01). On a scale of family cohesiveness, ratings were slightly lower (7 items, scale 1 to 6, mean = 4.15, SD = .83), and particularly low on items about wasting time at home (mean = 3.2, SD = 1.37), volunteering to do household tasks (mean = 3.73, SD = 1.39), and having a group or family spirit (mean = 3.77, SD = 1.41). Parents rated the items on this scale at a similar level (mean = 4.2, SD = .99), but parents and their children only moderately agreed in their assessment of family cohesion ( $r = .34$ ,  $p = .004$ ). Seventeen (19%) of the 90 young adults (over 18 years at the follow-up interview) reported physical abuse, and physical abuse was negatively related to child and parent reports of family cohesion ( $r = -.51$  and  $-.27$ , respectively).

### Discussion

This study documents the ongoing negative consequences of opiate addiction on addicts and their families. Detrimental results can arise directly from the drug abuse, or as a byproduct (e.g. poverty, incarceration, residential instability). Studies detail both psychological and physical neglect and health risks, as well as domestic violence and imprisonment for children of addicts.<sup>30</sup> Many parents persisted in treatment either consistently or intermittently and achieved periods of cessation from drug abuse. However, about half continued to report serious drug problems. By characterizing the level of recovery each parent achieved over the previous 10 years, we found that about 23% of the sample achieved some moderate to long-term recovery. Those in recovery were more likely to report staying consistently involved in treatment, particularly long-term methadone treatment. Women were more likely to be in recovery than men and recovery was associated with continued education and employment. Not surprisingly, it was also associated with less homelessness and fewer marital transitions.

Mortality was high, and similar to that reported for narcotic-addicted men convicted of crimes and court ordered into drug treatment at a similar age.<sup>1</sup> In the 12 to 14 years since the beginning of the original study, about one third of the parent participants had died. As found



in similar studies,<sup>1</sup> accidental poisoning or drug overdoses were the most common causes of death.

Several cautions are important when examining these data. First, our sample was recruited from methadone clinics and the life experiences for this group may be substantially different from those of opiate-addicted parents who never enter methadone treatment. Second, the measure of long-term recovery is a retrospective measure over a 10-year period using the life history calendar. We did attempt to confirm recovery by examining current self-reported drug use and urinalysis results. The possibility of occasional drug use (or lapses) may not have been fully captured by the reported data. Third, attrition from mortality and the small number of surviving parents in moderate to long-term recovery (n = 33) prevented tests of comprehensive statistical models predicting long-term recovery or relapse.

Overall, however, this study fills an important gap in the literature by providing a window into the lives of parents struggling with drug addiction. Our study shows similar negative long-term outcomes for opiate-addicted parents in methadone treatment as other studies have found for more general populations of drug addicts and methadone clients. Because children are involved and continue to have ties to their drug-affected parent, alternative treatment modes, such as residential family facilities, may provide more stability for families while parents are in treatment.

If we want to reduce the long-term consequences of parents' addiction on their children we must recognize that most children will remain connected to their parents. Strategies that provide support for children of parents in treatment are sorely needed. It is also clear that these children need long-term support throughout childhood and adolescence if they are to overcome the risks due to their parents' addiction. Very few of the children were doing well at the long-term follow-up. As previously reported,<sup>9</sup> only 24% of the children met criteria for functional resilience by being constructively engaged in school or work, not having abused drugs, and avoiding criminal charges in the last 5 years. It is important to note that the only significant predictors of functional resilience were gender (females were more likely to be resilient) and early signs of behavior problems. Parenting skills are significant predictors of early behavior problems.<sup>31, 32</sup>

Important additional drug treatment implications follow from these data. First, this study adds to a large body of research supporting the use of long-term methadone treatment for opiate addiction.<sup>5, 33</sup> Those reporting 10 years of stable methadone treatment were 4 times more likely to be in long-term recovery. Second, we found early measures of depression significantly correlated to later drug abuse, suggesting the importance of mental health services for depression in treatment settings.<sup>34</sup> Third, association with deviant friends and poor coping skills, particularly drug-avoidant and refusal skills, were also related to continued drug abuse. Treatment should include a skills training component with a focus on skills for maintaining recovery-supportive friends, as well as problem-solving skills related to drug refusal and avoidance. Fourth, if these findings are found to generalize to other parents in methadone treatment, we need to develop better approaches to treatment of parents addicted to opiates. Future research should focus how these families navigate the multiple transitions in and out of drug use, treatment, jail, and relationships, and adapt treatments to both minimize multiple transitions and equip parents and their family members with skills to minimize the negative effects of these transitions on their health and wellbeing. Parents may need extra supports compared to others in treatment.

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**Table 1**Demographic and Baseline Characteristics of the Original *Focus on Families* Sample of Parents

|   | 48.48 (M) | 5.71 (SD) |
|---|-----------|-----------|
| Age as of 1/1/05                                  | n         | %         |
| Experimental condition                            | 82        | 57        |
| Female  | 106       | 74        |
| Ethnicity   |           |           |
| White   | 112       | 78        |
| Black   | 25        | 17        |
| Other   | 3         | 2         |
| Mixed   | 4         | 2         |
| Baseline data                                     |           |           |
| Receiving Aid to Families with Dependent Children | 59        | 41        |
| Employed in the 6 months prior to baseline        | 49        | 34        |
| High school graduate                              | 111       | 77        |
| Lived with a spouse or partner                    | 90        | 63        |
| Married   | 30        | 21        |

M = Mean

SD = Standard Deviation

**Table 2**

Percentages of 30-day Drug Use by Type Reported at Long-term Follow-up of Parent Participants in *Focus on Families*

| Drug type          | Male | Female | Total <sup>a</sup> |
|--------------------|------|--------|--------------------|
| Marijuana          | 30   | 12.5   | 16                 |
| Cocaine/crack      | 40   | 26.0   | 29                 |
| Other amphetamines | 5    | 2.5    | 3                  |
| Benzodiazepines    | 30   | 10.0*  | 14                 |
| Opiates            | 45   | 24.0   | 28                 |
| Any                | 70   | 44.0*  | 49                 |

<sup>a</sup># equals % since sample size = 100

\* p < .05

**Table 3**

Percentages by Gender of Key Outcomes for Parent Participants in the Long-term Follow-up of *Focus on Families*

| Summary variable                  | Male | Female | Total |
|-----------------------------------|------|--------|-------|
| N                                 | 20   | 80     | 100   |
| Use of heroin in past year        | 50   | 29     | 33    |
| Drug treatment in past 10 years   | 80   | 84     | 83    |
| Methadone treatment in past year  | 80   | 74     | 75    |
| Incarcerated in past 10 years     | 40   | 57     | 54    |
| Chronic health problems past year | 65   | 63     | 64    |
| Major depression (CIDI)           | 25   | 54*    | 48    |
| Employed in past year             | 60   | 45     | 48    |
| Homeless in past 10 years         | 30   | 37     | 36    |

\* significant gender difference  $p < .05$